Designing Digital Feedback Technologies

Exploring New Forms of Citizen Engagement in Public Services

Andy Dow

A thesis submitted in partial fulfilment of the degree of
Doctor of Philosophy in Computing Science

School of Computing, Newcastle University
September 2019

Abstract

This thesis is an exploration of the design of digital feedback technologies that promote new forms of citizen engagement in the production of public services. It draws on public policy documents, health and social care literature and socially engaged work within Human-Computer Interaction (HCI) to inform the design of new digital feedback systems. Novel feedback systems were produced to explore how digital tools may capture peoples' views and opinions, while investigating citizen participation in service innovation. It is an exploration and examination of the emerging public sector spaces of coproduction and cocreation that focuses on how those facing marginalisation, such as citizens with a learning disability or special educational needs (SEN), can come to have a voice in care service design and delivery.

Three case studies were conducted with community partners: Case study one describes my work as part of a steering committee collaborating with local government staff, voluntary sector workers and parents of children with SEN in designing an online directory of services. Case study two reports my collaborations with charity organisations to design a digital feedback system, *ThoughtCloud*, for capturing and sharing the views and opinions of users of care services with a learning disability. Case study three documents my work with young people with SEN in designing and trialling a mobile application, *Appraise*, supporting them in shaping service provision through novel evaluation processes. These technologies were designed in partnership with users of care services, iterated through in-the-wild testing and evaluated through observation and stakeholder interviews.

The contributions of this work include: learning that emphasises the importance of designing digital feedback systems that are accessible and legible across diverse stakeholders; how the use of video and audio media as feedback can alert us to the provenance of the data collected and create evidence of citizen participation in consultation; the need for developing sensemaking tools that can help surface narratives and support perspective sharing; and a description of the concept of 'middle-out' design as a means to practically framing the voluntary service sector design space.

Acknowledgements

I would like to thank Patrick Olivier and Pete Wright without whom I would not have had the opportunity to complete a PhD. Unreserved extra special thanks must go to John Vines without his vision, insight, encouragement and tireless support the work reported in this thesis would not have been possible. A big thank you also goes to Rob Comber for many enlightening conversations and much creative wisdom, working with both John and Rob has been a real pleasure and I've always felt extremely lucky to have such a fantastic team in my corner. A very big thanks to Kyle Montague for taking the reins, providing technical support, advice and guidance that ensured this thesis made it to the finish. I would also like to thank Rob Wilson for broadening my horizons beyond HCI and sharing much wisdom. Similarly, a huge thank you to Andrew Monk for taking an interest in the work and being a mentor to me, our countless conversations were invaluable. Thank you also to Toby Lowe, for taking the time to share his unique views and working hard to help lift this work above and beyond.

I am extremely grateful to the people and the organisations that took part in this research. So many gave freely of their time and worked very hard on the designs and in the field trials that were integral to this work. To all of those I would like to say a huge thanks. I'm especially grateful to Liz and Nick at Skills for People, to Donna and Gail, Naomi, Teresa, Glenn and Mike. You are inspiring individuals and I have learned an immeasurable amount from you all.

To Tom Bartindale, a massive thanks for introducing me to the Digital Interaction Group in the first place and all the wonderful people there, without making this link and providing vital support and mentorship in the early days, none of this would have happened. To the Digital Civics people: a special thanks, especially to my amazing cohort. Amongst them, particular thanks must go to Emma, Angelika, Matt, Nikolai, Jan, Vidya, Helen and Reem. And of course, extra special thanks to Ian Johnson and Zander Wilson whose friendship and support over the years has meant a lot to me and ensured that I made it to the end in good humour.

As to the rest of Open Lab: Roisin, Dave, Clara, Samantha, Seb, Rob, Tom, and Dan most have been fantastic over the years in one way or another and for this, I thank you all. Particularly I want to thank Shauna Concannon and Austin Toombs. You guys were so encouraging and helped me to believe that I could make it and get it all done.

Finally, I would like to thank my brother and sister, as two of my favourite people, and my Mum and Dad for their unceasing belief and inexhaustible supply of love.

This work is dedicated to my wife Kellie, to Rosie and Harris, their love and support mean more to me that I can put into words. I am thankful every day for you all.

Table of Contents

Figures

Tables

Chapter 1. Introduction

1.1 Overview

This research is conducted in the context of significant social care reform in the UK public sector[1]. Social care in the UK represents a wide range of services from caring for older people to supporting adults with learning disabilities, physical and cognitive impairments, mental health problems, and their carers (Bell et al., 2010). Local governmental authorities—who have historically been the primary providers of social care services—increasingly commission voluntary and community sector organisations (VCOs) to provide social care services (National Audit Office, 2014; Milbourne, 2010). This is occurring alongside other government reforms to legislation regarding social care service delivery which privileges citizen involvement in choosing which care services they use, and the gathering of feedback about experiences of these services (*Children and Families Act*, 2014; *Care Act*, 2014). These acts mandate that accessible and reliable information be provided by local government concerning what services are provided in local areas. In sum, these acts represent an on-going shift towards person-centred approaches to health and care service provision in the UK that privileges independent choice and citizen control. However, while citizen feedback is seen as a critical component of these changes, thus far there has been little study of how feedback from those using care services might be captured, presented and responded to in a meaningful and pragmatic way.

In the UK in recent times innovation in public service provision has emphasized a strategy of 'digital by default' (Yates et al., 2015), to the exclusion of certain populations such as those with learning disabilities. Concurrently, attitudes to citizen participation in the development and delivery of public health and social care services have evolved to emphasize that the person using care services should take a central role in this process, yet significant challenges remain around how even the lowest levels of involvement can be practically achieved (Ocloo & Matthews, 2016). This PhD research explores how digital technologies can both be designed and configured to capture the opinions and experiences of people using care services, as well as how this opinion data (which

[1] "those parts of the economy that are either in state ownership or under contract to the state, plus those parts that are regulated and/or subsidized in the public interest." (Flynn, 2007)

I call *feedback*[2] for the remainder of this work) can be used as a means to drive service improvement. By working with local government bodies and co-producing digital feedback systems with a variety of VCOs, this work addresses issues faced when capturing, exploring and listening to the views of citizens with learning disabilities, young people with special educational needs (SEN) and other groups of citizens facing marginalisation through personal circumstance. The technologies created as part of the research address challenges that some populations face with traditional methods of feedback giving as well as the challenges faced by VCO organisations in collecting and using feedback at a time of austerity. It aims to understand the qualities required of such systems to support people in having a voice and explores processes that might lead to meaningful involvement in the design and delivery of services.

Specifically, this research explores how digital technologies can be designed to capture citizen feedback about services in situ (where services are delivered and experienced) and support people, such as VCO staff, volunteers and other sector stakeholders, in working with this information. It considers what is involved in the use of these technologies, for example, what skills are required by staff or volunteers working for VCOs, the barriers for real-world use and how such technologies can embed within or support existing practice. Consideration is given to systemic issues within the voluntary sector that both limit the way digital feedback technologies are used and contradict the values held by VCO care organisations. Finally, it interrogates long-held values within HCI that emphasise participatory approaches to design and, following those methods, designs technologies with citizens in the spaces and places within the community that are familiar to them.

1.1.1 Labelling citizens as clients and consumers

The rise of Managerialism within social care and the widespread adoption, under the direction of central government in the UK, of the methods of New Public Management in the running of public services has seen users of care services become labelled at times as 'clients' and, more recently, 'consumers' (Clarke, 2006). Since the late 1990s and New Labour's 'third way', there has been a creeping privatisation within the sector, which has led to a mixed economy of service provision where the user of care services has become termed 'service user' (Heffernan, 2006). As a result, this is the language used by the organisations and people involved in this research. Since language is

[2] I define and use the term **feedback** throughout this thesis to mean the experiences, opinions and views of people using care services (Tritter & McCallum, 2006).

one of the ways that power is exerted and reproduced, often to the repression of particular groups, I avoid the term 'service user' within this thesis preferring to use the term citizen where possible (Agre, 1994). In order that I adopted and shared the language of the communities and organisations within which I was working, the use of the term service user has been unavoidable in the past. However, concerning this potential for disempowerment, I have decided not to use the term throughout this thesis. Within HCI it is common to adopt a person-first approach to language when working with people with disabilities (Meissner et al., 2017), to that end in place of the term service user I instead use: 'person using care services' or some variation. In some academic writing, service user has been used interchangeably with 'consumer' (Simmons et al., 2009). However, this term is a problematic one since it is antithetical to the values of equity and social justice held by the VCOs with which I have collaborated and as a result, I use the word 'citizen' instead for all the rights and freedoms it implies.

1.2 Research Context

The research in this thesis explores the design of digital feedback technologies created in collaboration with public sector workers, the staff and volunteers of VCOs as well as with citizens that use care services. Different technologies were produced and tested for their efficacy as feedback systems as well as for their potential role in empowering citizens and creating new ways for them to be involved in how services are delivered. It responds to shifts within the care sector, where it is increasingly common for users of health and care services to be consulted on and take a central role in the design, development and, more recently, the commissioning of services (Evans et al., 2015).

In nations where such services are publicly funded and state governed (Oliver et al., 2012), the active involvement of citizens in how health and care services are delivered has become a key feature of provision. In the UK, government policy stipulates that those who regularly use certain services take a central role in determining the form that service provision should take (Greenhalgh et al., 2010). Since 2007 the greater involvement both of the user and the general public in service provision within the UK National Health Service (Barnes & Cotterell, 2011) has been enshrined in policy as a duty for statutory bodies and includes the gathering of views on local government social care services (Greenhalgh et al., 2010). More recent acts of parliament—such as The Care Act and the Children and Families Act—have stipulated that information on local service provision should not only be collected in an easily accessible, up-to-date repository but that some form of feedback should be collected around this information as well (*Children and Families Act*, 2014; *Care Act*, 2014).

The feeding back of opinions and experiences of users of care services to those who provide services is an integral feature of most service evaluation, improvement and commissioning processes. Also, in certain domains—such as those where vulnerable or marginalised groups receive support for their health and care—the collection and response to feedback is also a mechanism whereby people can have their voices heard (Tritter & McCallum, 2006). The desire to give voice to citizens and actively involve them in the design of services is often enshrined in the mission statements of VCOs, especially those delivering care services. Yet, despite this, many voices are still excluded (Milewa, 2004) and, while feedback is routinely collected, it is often done so in a tokenistic fashion instead of contributing to meaningful user participation in service innovation (Barnes & Cotterell, 2011).

Feedback from users of care services giving their opinions and experiences of community care services represents the principal mechanism whereby people can have their voices heard by those that provide such services (Tritter & McCallum, 2006). However, it has been argued that feedback is often used perfunctorily rather than contributing to meaningful user participation (Barnes & Cotterell, 2011). For care organisations, especially those oriented towards the provision of care in the not-for-profit or community sector, there is often a commitment to giving those citizens (who are vulnerable or marginalised) a voice (Drake, 1996). Many such organisations are founded on and driven by values stemming from social justice in disability activism (Oliver et al., 2012) and demonstrate a commitment to lobbying for direct policy changes that ensure equality of access and opportunity. These organisations are often committed to a philosophy of being user-led too, which might mean inviting those using services to be committee or board members involved in guiding service provision.

While it is often desired, direct participation can be challenging in settings where many people have a physical or learning disability or significant care needs (Drake, 1996). Furthermore, increasingly such services, even if charitable and not-for-profit in nature, operate within a competitive environment where many organisations are experiencing cuts to funding. Considering the often highly limited human and financial resources of such organisations (Breckell et al., 2011), and their need to evidence metricised outcomes to report to and attract funders, indirect forms of engagement tend to take prominence (CQC, 2013; Edwards, 2002) as these produce the quantitative 'evidence' which commissioners demand (Lowe & Wilson, 2015). However, such forms of engagement—like surveys, questionnaires, or interviews—can be quite problematic and exclusionary for many of the populations that rely on and use such services (Gilbert, 2004; Alzheimer's Society, 2010). As such, despite the values of such organisations, limited time, resources and the need to acquire funds can lead to significant barriers to citizen involvement or the giving of feedback by a proxy (Kroese et al., 1998).

How feedback is collected, accessed and reported then represents an opportunity to see many of the ideas and ideals of civically oriented HCI research be translated into practice. The study of innovative digital technologies for capturing public opinion is well established within HCI literature (Brignull & Rogers, 2003; Golsteijn et al., 2015; Koeman et al., 2015; Golsteijn et al., 2016; Taylor et al., 2012; Vlachokyriakos et al., 2014; Do et al., 2015). Projects range from designing and trialling bespoke, situated technologies deployed at the site of civic engagement, capturing opinion through a variety of mediums from simple button presses to interactive videos, to scraping data from social media, and having conversations about pertinent civic issues at scale. Often the focus has been on giving a greater amount of people a role to play in civic participation and capturing their voices in new and richer ways. However, less has been done to explore how such technologies could capture the voice and opinion of marginalised groups, such as those with a learning disability, who are often not accustomed to having their voices heard, either through challenges they face in communicating or dismissive attitudes that assume incoherence or disinterest.

There has been extensive work within HCI into collecting public opinion using a variety of situated displays and web-based platforms (Golsteijn et al., 2015; Koeman et al., 2015; Brignull & Rogers, 2003; Goncalves et al., 2014, 2015; Balaam et al., 2015; Garbett et al., 2016). Others working with a variety of citizens' groups have foregrounded the potential for collecting data on issues of community importance in ways that are more community driven (Taylor et al., 2012; Vlachokyriakos et al., 2014). Such systems, support bottom-up approaches to deliberative processes, for example bringing communities together around specific issues and giving citizens the tools to organise, communicate and advocate for change themselves. The work in this thesis extends this learning, applying it within a VCO care context to foster inclusivity, dialogue and participation.

There has been an expansion in work within HCI on issues related to civic matters as research and design projects take a 'turn to the local' (Olivier & Wright, 2015). Examples of this work explore improving citizen involvement in consultation (Koeman et al., 2015) decision making (Johnson et al., 2017), around expressing matters of local concern (Taylor et al., 2012), or to support the formation of communities and publics around specific topics (Le Dantec, 2012; Crivellaro et al., 2014) as well as new forms of activism (Asad & Le Dantec, 2015; Massung et al., 2013b). These projects demonstrate how digital tools, configured in various ways, can quickly engage citizens in-situ, collect opinion and elicit experience, and use these as part of social advocacy and civic decision making. Much of this work results in the production of new civic technologies designed to support greater participation and collaboration with citizens and is often connected to a specific issue or concern. These tools seek to empower citizens in such a way that through the recording and sharing of their common experience that pragmatic results may ensue regarding local provision, for example in mapping friendly places to breastfeed (Balaam et al., 2015). Building on this information there is further potential for local government or municipal bodies to become involved, and recent work demonstrates how this information can be made meaningful and relevant for public bodies to affect change (Simpson et al., 2017).

The ongoing challenge for HCI researchers is then to explore ways for civic technologies that value citizen participation and empowerment to be embedded into the practices of organisations providing services to citizens. It is further to question the role of HCI in furthering specific political agendas that wish to demonstrate the semblance of greater citizen participation while at the same time justify cuts to public service provision. Both of which are cogent matters of concern at a time in the UK when recent acts of parliament stipulate a legal requirement for community-led participation that demonstrates engagement with, consultation on and feeding back around matters relating to service provision (*Children and Families Act*, 2014). Such legislation, along with its enactment, is central to this work and makes up part of much larger reforms to care service delivery across the country. The work in this thesis is, therefore, an opportunity to study some of these issues of relevance to HCI in these contexts.

1.3 Research Questions

The main research question this thesis investigates is as follows:

How might digital feedback systems be designed that enable users of care services to participate in shaping service provision?

I break this overarching question down into four sub-questions to synthesise an overview of the important aspects of feedback technologies highlighted by the work. The following section introduces the three sub-questions followed by a short description.

1.3.1 Research question 1

How can digital feedback systems be designed to capture the views, opinions and experiences of users of care services?

In addressing this question, the design work in this thesis explores the necessary affordances of digital technologies that might make them better suited to capture the views and opinions of certain populations of citizens. This includes not only design decisions applicable to the technologies, but also an exploration of the environmental factors in which such systems are used and how they may be configured to support feedback capture as well.

1.3.2 Research question 2

How can digital feedback systems be configured to support meaning-making, sharing and learning from collected feedback?

This question is concerned with what happens to digital feedback once it is collected and how digital feedback systems can support organisations such as VCOs in annotating (e.g. adding descriptive meta-data), curating (e.g. surfacing and highlighting the most relevant material collected) and reporting (e.g. sharing outcomes with service providers and citizens) feedback data. To answer this, various prototypes were produced and used in field trials involving a variety of stakeholders. Feedback was collected through diverse means with captured data being reviewed by staff, volunteers and citizens, shared widely with relevant parties such as co-workers, volunteers or associated organisations and applied to service development.

1.3.3 Research question 3

> *How can digital feedback systems become integrated with and support the work of VCOs?*

For this question, I explore the broader processes concerning feedback, the processes by which feedback is collected and how it is used as part of the work of VCOs. This involves, exploring the challenges of using digital feedback data within established feedback processes that are not designed to accommodate or make use of such data.

1.3.4 Research question 4

> *How can digital feedback systems empower and amplify the voice of particular groups of citizens?*

This final research question investigates the opportunities for leveraging digital feedback technologies as tools to empower citizens in having a say about the design and delivery of services that are important to them.

1.4 Thesis Structure

The work reported in this thesis is structured in the following way:

Chapter 2 - Background and Related Work

In this chapter I introduce the social care context in which this work sits, discussing how service delivery is increasingly provided by a mixed economy of VCOs. I also discuss the relevant government policy that requires that citizens are consulted about service delivery, as well as exploring the changing nature of how services are funded and governed. I then describe the numerous projects from the Human-Computer Interaction (HCI) literature dealing with a diverse range of civically oriented work examining new ways that citizens can play a role in public matters and the governing of public services. This work addresses how different system configurations have been trialled, often in a real-world setting, while exploring more participatory methods for designing 'with', as opposed to 'for' a diverse range of publics interested in specific political and social issues.

Chapter 3 - Research Approach

In this chapter, I explain and justify the research approach followed and describe the methods used in the different case studies. I introduce Participatory Design as the principle design approach followed, and at times adapted, to foster the inclusion of participants in a series of different design activities. Moreover, I justify and ground the work reported, by first explaining how HCI as a field increasingly approaches civic technology design. I then discuss Action Research and Participatory Action Research and the importance of these as orientations to inclusive and accessible research and design, especially when working with collaborators in politically charged, value-laden and sensitive settings. These different approaches were built on iteratively as the research evolved, incorporating lessons learned from the work done. As a result, there was a constant reorientation of the researcher from at first being a participant-observer to becoming a participatory action researcher volunteering alongside sector workers.

Chapter 4 - Designing an Online Public Services Directory

This chapter deals with the first case study whereby I was involved as a 'critical friend'[3] in a design process to produce a new online public services directory. The creation of the directory was mandated by new public policy regarding citizen involvement in the commissioning and production of public services for young people with special educational needs (SEN). The study charts the challenges and difficulties of a public sector design process involving different stakeholders from across the public and voluntary sectors. Findings show how feedback, and other challenges for the sector, can benefit from collecting and sharing the experiences of young people with SEN and their families who are in direct contact with care services. This chapter highlights some of the limitations to designing with bureaucratic organisations like local government which can appear reticent to share service information sourced from community partners and citizens. Moreover, this case study identified the voluntary sector as a site of innovation for service delivery and resulted in links with VCOs delivering services to people with disabilities.

Chapter 5 - Designing and Prototyping a Digital Feedback System

[3] "A **critical friend** can be defined as a trusted person who asks provocative questions, provides data to be examined through another lens, and offers critiques of a person's work as a friend." (Costa & Kallick, 1993)

This chapter is one of two chapters concerning *ThoughtCloud* a lightweight digital feedback capture system that was co-produced with staff and volunteers at a VCO providing care services to people with disabilities. ThoughtCloud is a tablet-based application (app) created in response to challenges that VCOs face in collecting peoples' feedback and designed to address problems certain citizens face in giving feedback through traditional methods, for example, filling in paper-based forms or returning postal surveys. This was achieved by offering simple Likert-type scale questions and audio and video recording as a means for people to share their thoughts. Using off the shelf mobile technology, ThoughtCloud was configured to be affordable, flexible and easy to use for quickly capturing feedback at the point of service delivery. Following a short set of field trials, ThoughtCloud was assessed for its efficacy as a feedback capture and reporting system. This led on to a further study involving an iterated version of the ThoughtCloud system being used by a greater number of VCOs providing care services in a variety of settings.

Chapter 6 - Deploying ThoughtCloud with Multiple Organisations

The second of two case studies concerning ThoughtCloud is described in this chapter. Based on findings from the first case study, ThoughtCloud was iterated and a new prototype was produced with a corresponding website created where VCO staff could log in, review, comment on and share the feedback material being collected using the app. This new version was trialled over a longer period to explore how it embedded within or complimented existing feedback processes as well as studying the use practices that emerged around it. Findings showed how, while there was a good deal of 'hoovering up' or collecting of feedback at events and activities, there was less engagement with the feedback once it was uploaded to the website. Exploring this led to insights regarding a miss-match in values between what VCOs state in terms of interest in the views of their user population and how they failed to engage with the feedback. The VCOs involved, in the main, were seen to cherry-pick data, revealing pressures they face in complying with forms of evidence-based outcome practices common across the sector.

Chapter 7 - Designing and Prototyping with Users of Care Services

This chapter is one of two chapters concerning *Appraise,* a mobile-based digital feedback capture system designed with young people with Special Educational Needs (SEN). Appraise was designed to support young people in the task of evaluating certain services, predominantly those that were funded publicly and of interest to participants. Using a participatory approach, Appraise was designed with young people to support them in capturing feedback materials, audio recordings, images and video clips, about services that they attended as part of evaluation visits. Appraise responded to challenges young people with disabilities face in undertaking evaluations of particular events, and explored ways for them to collect material regarding, and enter into dialogue with each other about, youth service provision. Following a lengthy design process Appraise was developed and trialled. In workshop settings, young people curated and commented on the material they collected, working to produce an interactive web-based report that could be sent to service providers for review. Findings reveal the challenges of communicating ideas related to service evaluation to young people more interested in taking part in activities than assessing them, while also suggesting scope for systems like Appraise to collect material for, and facilitate discussion about, young peoples' experiences of particular services.

Chapter 8 - Exploring Appraise through Stakeholder Interviews

This chapter, the second of two comprising the case study into the design of Appraise, explores how a variety of stakeholders connected with the Appraise design process view both the system and the related challenge of involving young people in service evaluation. This involved conducting a comprehensive set of interviews with service providers, VCO staff and volunteers as well as senior public sector officials closely involved in supporting the young people in their work as service evaluators. Moreover, through interacting with web-based reports produced by the young people using the Appraise app, service providers discussed the efficacy of systems like Appraise for generating ideas for the improvement of future service provision. Findings suggest that, while many sector workers see much value in listening to young people, they can be overly directive regarding that which they want feedback about, making them at times dismissive of the youth voice. However, through engagement with web reports, service providers were able to garner some ideas about service improvement and could envision entire processes involving the material collected that could be valuable in different aspects of their work.

Chapter 9 - Discussion and Future Work

In this final chapter the findings from the case studies into the three digital feedback systems, The Local Offer, ThoughtCloud and Appraise, are synthesized and discussed to answer the research questions and suggest some directions for future work. The discussion is organised around how feedback capture systems utilising video, image and audio capture might be designed and used to collect feedback materials in diverse and complicated settings, how digital feedback systems can be configured to help organisations make more of the feedback data that they are collecting and finally addresses some wider structural and systemic issues raised when newer and more open forms of user-led feedback intersect with traditional forms of feedback more commonly used to satisfy simplistic forms of metricised outcome-based measures. This also includes highlighting challenges specific to capturing feedback in this way, in terms of privacy and safeguarding, as well as opportunities for such systems to support reflective practices and to support forms of citizen activism concerning complex social issues.

1.4.1 Thesis map

Chapters four to eight in this thesis concern three case studies into three distinct digital feedback systems. For clarity the figure below (Figure 1) presents a map of the case studies as they are split up across the chapters, highlighting how the study into the different systems contributed to answering the research questions.

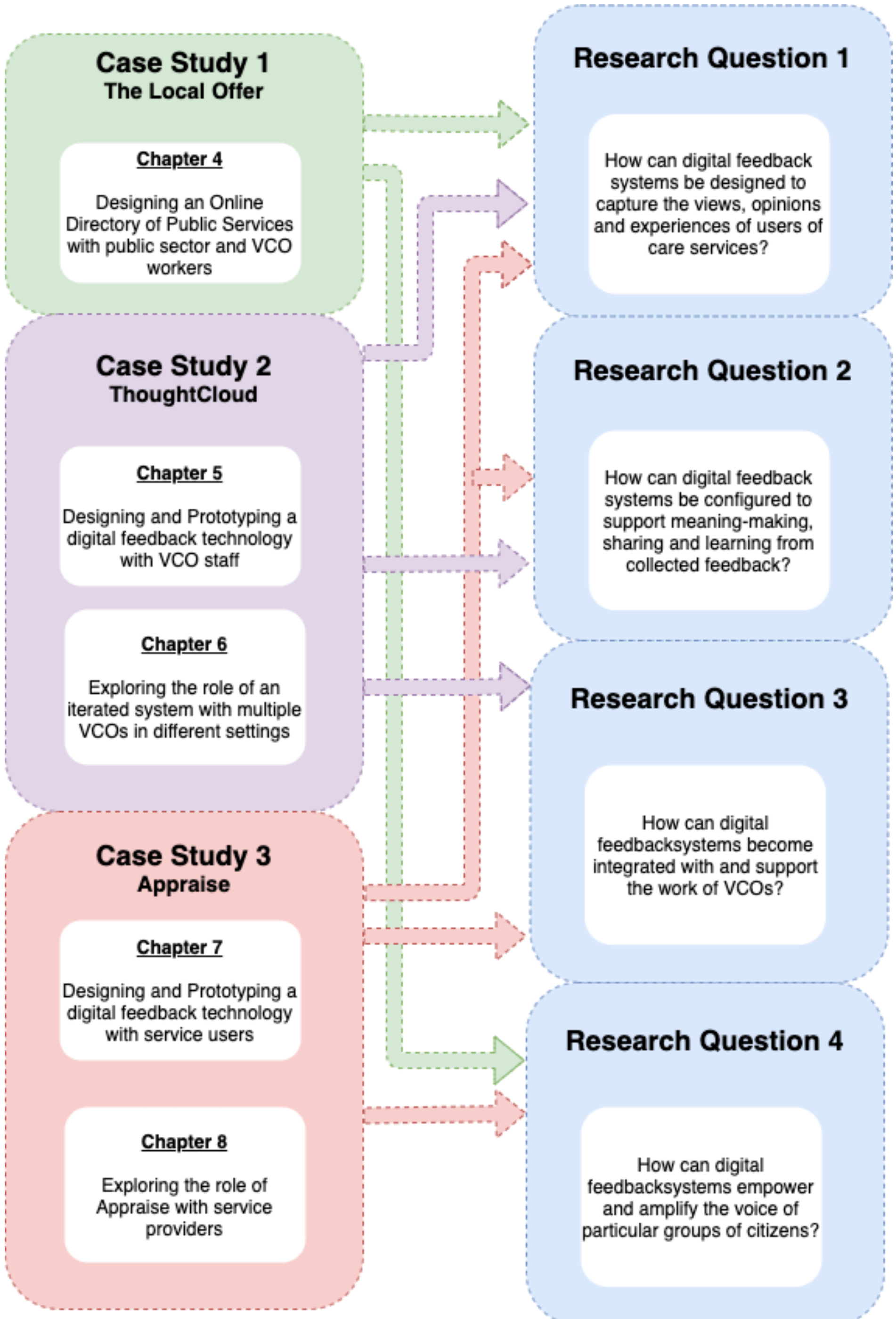


Figure 1: Thesis Map showing case study and chapter structure in relation to digital systems studied and relationship to research questions

1.5 Main contributions

The work in this thesis offers both an exploration of how the public sector approaches new forms of feedback capture as well as design implications for two digital feedback systems leveraging audio and visual capture methods that were used in diverse in-the-wild contexts. The primary contribution concerns an exploration of new ways in which citizens can participate in how public services are delivered. This offers empirically grounded insights into both the design affordances of such systems as well as the contextual challenges that mean that there are limitations to how citizens' voices captured using such technology can be meaningfully operationalised for service improvement.

The discussion chapter offers specific contributions derived from this research and discusses them in detail. In sum, these contributions concern:

- Two novel digital feedback systems: ThoughtCloud and Appraise.

- How the use of digital feedback systems leveraging visual and audio capture can make feedback processes more transparent and accessible both for VCOs and the people that make use of their services, while simultaneously creating opportunities to create ongoing records of citizens and their changing experiences over time.

- That sensemaking tools for digital feedback should be configured to be inclusive and accessible and promote understanding between a variety of stakeholders working from different perspectives while maximising opportunities to both surface and share feedback 'narratives'.

- That properly integrating digital feedback tools into the work of VCOs means doing so in ways that both 'complete the feedback loop' and supports the documenting and reporting of engagements between different civic groups such as local government and grassroots organisations.

- It presents a description of the design space between bureaucratic structures, like local government, and smaller organisations, typically VCOs, that are increasingly responsible for delivering public services and characterises this space as 'middle-out'.

1.6 Prior Publications

The research in this thesis has directly extended the investigation into the design and implementation of civically oriented digital technologies in HCI. Three empirical chapters are based on published work contributing design knowledge with respect to digital feedback technologies designed for use with people with disabilities and young people with SEN. Specifically, chapters four, five and six correspond to three first authored publications in the following way:

Chapter 4 - Designing an Online Public Services Directory

Andy Dow, Rob Comber, and John Vines. 2018. Between Grassroots and the Hierarchy: Lessons Learned from the Design of a Public Services Directory. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18). ACM, New York, NY, USA.

Chapter 5 – Designing and Prototyping a Digital Feedback System

Andy Dow, John Vines, Rob Comber, and Rob Wilson. 2016. ThoughtCloud: Exploring the Role of Feedback Technologies in Care Organisations. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16). ACM, New York, NY, USA, 3625-3636.

Chapter 6 – Deploying ThoughtCloud with Multiple Organisations

Andy Dow, John Vines, Toby Lowe, Rob Comber, and Rob Wilson. 2017. What Happens to Digital Feedback?: Studying the Use of a Feedback Capture Platform by Care Organisations. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA, 5813-5825.

Further knowledge and ideas arising from this thesis were disseminated at conferences, in the form of both presentations and workshops, as well as publication in a leading industry magazine:

Simon Bowen, Peter Wright, Alexander Wilson, **Andy Dow**, Tom Bartindale, and Robert Anderson. 2020. Metro Futures: Experience-Centred Co-Design at Scale. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20). Association for Computing Machinery, New York, NY, USA, 1–13. DOI: https://doi.org/10.1145/3313831.3376885

Andy Dow, Rob Comber, and John Vines. 2019. Communities to the left of me, bureaucrats to the right…here I am, stuck in the middle. Interactions 26, 5 (August 2019), 26-33. DOI: https://doi.org/10.1145/3351735

Roisin McNaney, John Vines, **Andy Dow**, David Green, and Peter Wright. 2018. Enabling the Participation of People with Parkinson's and their Caregivers in Co-Inquiry around Collectivist Health Technologies. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18). ACM, New York, NY, USA, Paper 491, 14 pages. DOI: https://doi.org/10.1145/3173574.3174065

Austin L. Toombs, **Andy Dow**, John Vines, Colin M. Gray, Barbara Dennis, Rachel Clarke, and Ann Light. 2018. Designing for Everyday Care in Communities. In Proceedings of the 2018 ACM Conference Companion Publication on Designing Interactive Systems (DIS '18 Companion). ACM, New York, NY, USA, 391-394. DOI: https://doi.org/10.1145/3197391.3197394

1.7 Chapter Summary

In this chapter, I have briefly introduced the VCO care sector context in which this research sits and given an overview of the design work conducted throughout this PhD thesis. I have described the activities undertaken to explore the research questions as well as the methods and approaches taken in this work. The research questions were introduced and the overall structure was explained as well as discussing changes to the research approach which were justified in relation to the ongoing learning that took place from one case study to the next. The next chapter focuses in more detail on changes to social care policy, on how VCO work is funded and assessed, and discusses a range of civically oriented HCI work on which the work in this thesis builds.

Chapter 2. Background and Related Work

2.1 Introduction

In this chapter I provide an overview of the relevant literature relating to the involvement of users of care services in the provision of public care services, including public policy documents and reports written by third sector organisations. The chapter begins with an introduction to social care in England, setting the scene for the design work carried out in this thesis. I focus on services relating to the provision of support, advice and advocacy work with young people and adults with a learning disability and the challenges voluntary and community sector organisations (VCOs) face in collecting, collating and acting upon the feedback from such groups. I then discuss some further challenges for feedback in these spaces, especially concerning VCOs working with people with a learning disability and examine its relationship to how organisations evidence and report the work that they do from the literature on the field of New Public Management (NPM). I explain how VCOs providing social care services are funded and how they evidence the outcomes of their work. This leads to a discussion of the potential role and importance of reflective practice within such organisations and participatory evaluation as a more nuanced means for learning about and improving service provision.

Relevant HCI research is then introduced with an emphasis on that concerning both the capturing of public opinion and exploring new modes of citizen participation in civic matters. This is followed by a review of work exploring technology design within challenging social contexts such as civic engagement for activism and designing with underserved populations. Finally, the chapter concludes with an overview of research reflecting on collaborations with VCOs within HCI. This focuses not just on participation in technology design but on the social values of justice, equity and democracy that are central to such collaborations and influence how people with a disability come to have a voice in services that are important to them.

2.2 Social Care in England

This research is situated within the context of social care service provision in England at a time of continual funding cuts and issues with resourcing. In reports commissioned by the UK government, the National Audit Office defines adult social care as: "*Care and support services to help with personal care and practical tasks to adults who need it due to physical disabilities, learning disabilities, physical or mental ill-health,* *or old age."* (National Audit Office, 2014). In England, such services represent an investment of £21 billion of public funds in 2016/17 on Adult Social Care, with an additional spend of £10 billion on Children's Social Care (Charlesworth et al., 2018). State service provision is split between Adult Services on the one hand and Children and Young Peoples' Services on the other. Adult services focus on mechanisms to support independent living including accommodation options and support with everyday living, while for young people, education, appropriate guardianship and safeguarding are prioritised.

Social care is a term used to convey the delivery of a variety of services to people with support needs commonly stemming from issues relating to old age, having a learning or physical disability, injury through accident, or a long-term physical or mental illness (National Audit Office, 2018). It also involves a vast amount of both funded formal and informal care and support provided by family and friends (Daly & Lewis, 2000), which forms a much wider economy of social care. Examples of service provision could, therefore, range from long-term residential care for older people to supporting individuals with a severe learning disability living in their own home within a given community.

A recent report by the Care Quality Commission (CQC) states that there has been a sharp decline in care standards owing to the, "U*nprecedented demand and financial challenge for health and social care, driven by the growing numbers of older people in need of care and support, and those with complex health and care needs*." (CQC, 2016). Additionally, despite spending a record-setting amount on social care service provision, significant cuts to the social service budgets of local government mean that often service providers must continue to find ways of doing more with less (Karanikolos et al., 2013). Moreover, funding cuts have driven a set of reforms to the legislation regarding social care service provision (discussed in more detail in the next section 2.2.1) as central government austerity measures seek cost-saving alternatives within all departments.

This research is conducted in collaboration with the VCOs which form one part of the social care economy. Specifically, I work with organisations involved in the delivery of services to people with learning disabilities and young people with special educational needs (SEN). The services provided by such organisations may include providing advocacy and advice, as well as running support groups, befriending services, social groups or hosting leisure activities. Adults with a learning disability may struggle with everyday tasks and require significant support to look after themselves. Similarly, young people and children with SEN often require extra support at school or attend special schools and make use of community services where they can socialise with other young people with SEN in a safe environment. Importantly, the range and type of available services are impacted by policy and legislation drafted by central government and executed by local government authorities usually in the form of councils. In the next section, I take a more detailed look at reforms to the legislation of such services, and what some characterise as a crisis in social care.

2.2.1 Policy and reform

Current social care service provision in England is seen by some as being in crisis (Ferguson & Lavalette, 2013). This is driven by a variety of factors that include little financial investment, changes to the lives of citizens (e.g. they are living longer) and a lack of a coherent strategy from successive governments more interested in cost saving through austerity (Karanikolos et al., 2013). While for many of us, the direct impact on our own care may not critically impact our living conditions until we are at the end of our lives, for people with a disability the case is rather more urgent. To date, the latest government policy concerning a comprehensive social care strategy is now nearly twenty years old (Valuing People, 2002). While repeated announcements and white papers have led to little in the way of enduring or meaningful change. Simultaneously, legislation from other parts of government is having a very real impact: The Localism Act (*Localism Act*, 2011), where power has been increasingly devolved to regional structures (making do with much less investment and a competitive market in service delivery) and changes to how government benefits are provided (the introduction of Universal Credit). It has been noted that both of these disproportionately impacts citizens with learning disabilities and their families who both rely on service provision in this new landscape as well as on government benefits for their income (Hamnett, 2014). More recent government legislation, including the Localism Act but also the Care Act (*Care Act*, 2014) and the Children and Families Act (*Children and Families Act*, 2014) puts the onus on local government to assess support needs of individuals and ensure their wellbeing. Recently the Health Foundation has published a summary of the impact of such reforms on social care in England where they cite that: quality and access is not keeping pace with need, that not enough is being invested financially and that reform should be about design as well as doing better public engagement (The Health Foundation, 2018).

Amongst the new Acts are specific policies directing that certain services are delivered using digital technologies (*Children and Families Act*, 2014), meaning that the stipulation that such resources should exist and be maintained by the councils across England is mandated in law. One specific part of the legislation introduces the Local Offer which requires local governments (of which there are 418 across the UK) to publish online details of health, education and social care provision for young people with SEN. However, the Local Offer as described in this new legislation is intended to be much more than just an information provision tool. The Local Offer mandates that local governments must engage in an open and transparent process of participation with groups and individuals who might benefit from or have a stake in local service provision—namely, children and young people with SEN, their parents and families, and local non-state care service providers. Furthermore, Local Offer platforms need to provide space for the submission of comments and feedback related to service provision, and these must then be made publicly available. Additionally, the online presence of the Local Offer is required to be underpinned by frequent local consultation and engagement activities—such as workshops, feedback events and forums—where further feedback can be collated and made publicly available. Thus, this legislation has the potential to support new forms of citizen-led commissioning of services, and through the continuous collection and publication of feedback about local services, identify gaps in provision or lead to new services being created.

Importantly for this research, the introduction of the Local Offer is synchronous with a growing interest in HCI research studying technology for citizen engagement in civic issues. It represents the formalisation in government legislation issues concerning technologies for empowerment and participation, long discussed in HCI literature. This literature takes as its focus the way technology could be used to reconfigure relationships between users of services, the state and care organisations such as VCOs through user-generated content based on the actual lived experiences of citizens. As such, the development and implementation of Local Offers presents an important site where some of the values and commitments of civically orientated HCI research might be translated into practice and scaled. Furthermore, the Local Offer requires ongoing cooperation with multiple organisations, as well as potentially disparate local government departments and members of the academy as well as a reconfigured notion of the involvement and participation of the user.

2.2.2 Citizen involvement in service design

In this section, I discuss how the participation of users of care services is configured in social service contexts—covering both adult social care and young person's care. Reforms such as those noted above take the changing role of users of care services within service provision as a central concern. It is increasingly common for users of services to be consulted on and take a central role in the design, development and, more recently, the commissioning of services (Evans et al., 2015). The active involvement of citizens in such processes has become a key feature of health and care sectors, especially in nations where such services are publicly funded and state governed (Oliver et al., 2012). In the UK, this has resulted in government policy stipulating that those who regularly use certain services take a central role in determining the form that provision should take (Greenhalgh et al., 2010). Since 2007, the greater involvement the general public in service provision within the UK's National Health Service (Barnes & Cotterell, 2011) has been enshrined in policy as a duty for statutory bodies and includes the gathering of views on local government social care services (Barnes & Cotterell, 2011). The Equality Act (*Equality Act*, 2010) legislates that local government authorities are responsible for bringing together both disabled and non-disabled people while connecting young people with a disability to their peers. As a result, frameworks and programs exist that seek to involve young people in the assessment and evaluation of service provision (Department of Health, 2004) establishing criteria by which a service might be assessed as efficacious or not. More recent acts of parliament—such as the Children and Families Act, introduced above, have stipulated that information on local service provision should not only be collected in an easily accessible, up-to-date repository, but that some form of feedback should be collected around this information as well (*Children and Families Act*, 2014).

How adults with a learning disability and young people with SEN can be supported to participate in service design, review and development is an ongoing subject for debate, with local governments turning to digital technologies to explore more accessible and flexible means to collect data on local service provision (Mollerup et al., 2016). Too often this simply involves putting a form onto a website, excluding people that may struggle to communicate their views via such methods (Gilbert, 2004). A significant additional barrier is the continued cuts to the funding of local government services which have seen the closure of entire departments within local governments (Youdell & McGimpsey, 2015). For example, the youth departments so important for galvanising groups of interested citizens into action around specific issues, a very time-consuming task that is often in danger of being an exercise tokenism (Ocloo & Matthews, 2016). Young people may spend many years of time and effort taking part in council run groups and see no evidence of change in the services on which their opinions are sought (Walsh et al., 2012).

The UK is not alone in privileging citizens as a valuable resource for consultation in the delivery of care planning, with a similar ethos found in Australia and advocated by the World Health Organisation (Bee et al., 2015). Unfortunately, while official rhetoric identifies, "*Patients as users whose voices should be listened to in order to ensure responsive services*" (Barnes & Cotterell, 2011), in reality, there is a lack of direction around how this might practically be achieved. In the UK this has led to an environment where, "*Despite [a] supportive policy context, progress to achieve greater involvement is patchy and slow and often concentrates at the lowest levels of involvement."* (Ocloo & Matthews, 2016). Involvement can be configured in different ways from users being on the boards of services of which they make use and consulted to help direct the future direction and goals of organisations, to talking to people and filling in forms to gather their feedback about service provision.

2.2.3 Voluntary and community sector organisations (VCOs) and social care

What is defined as social care and how it is configured and funded is a matter of ongoing debate in the UK. Recently, this has concerned whether social care should, or should not, be funded jointly with the National Health Service (Thorlby et al., 2018). In recent years, social care spending has come to eclipse that of the expenditure on the NHS (Thorlby et al., 2018). It comprises a range of organisations, straddling the public, private and voluntary sectors. Increasingly, VCOs play an important role in delivering certain services. Small to mid-size community-based organisations often provide support services to people with a learning disability within a specific geographic location on a not-for-profit basis. Such organisations typically operate as Community Interest Companies (CICs), a special type of limited company which exists to benefit the community, or as charities registered with the Charities Commission[4] and subject to regulation by the Care Quality Commission (CQC). They are often founded on values stemming from social justice in disability activism and demonstrate a commitment to lobbying for direct policy changes that ensure equality of access and opportunity. At the same time, these organisations are often committed to a

[4] https://www.gov.uk/government/organisations/charity-commission

philosophy of being user-led, which in some cases means that users of care services are committee or board members, guiding service provision accordingly.

To deliver social care services, these organisations rely on a combination of funding contracts with local government, applying for funds from private or charitable trusts, philanthropy, private donations as well as networks of volunteers. A significant amount of this funding is received from state sources or local government, such as a city council or clinical commissioning groups (CCGs). Funding is often awarded on a project by project basis, meaning that an individual application will be made which outlines a specific set of goals and outcomes to be met which are then stipulated to be dependent on the successful bid. Additionally, they require to budget for other ongoing overheads that require to be funded from these individual awards of funding, for example, costs related to their premises, administration costs, and paying staff wages. This means that a large portion of staff labour is directed specifically to the acquisition of funding, and many hours that could be spent working with people directly is occupied with staff writing bids which at times are unsuccessful, yielding little for the invested time.

2.3 Care Services and Feedback

Feedback is an important part of how VCOs gather information concerning the experiences people have of the services they provide, products they sell or events that they run (Peters, 1993). Digital technologies are increasingly playing an important part in the capture, storage and analysis of feedback. For many organisations feedback feeds into and forms an important part of Customer Relationship Management (CRM) tools, which are increasingly sophisticated pieces of software relied upon by organisations of all kinds to better understand their clientele. Organisations also look to social media platforms such as Twitter (Patino et al., 2012), Facebook (Branthwaite & Patterson, 2011) and TripAdvisor (Brown, 2012) to gain insight on peoples' experiences of certain services and products. All of this, of course, pales in comparison to the vast wealth of data that Facebook, and Google collect about their users and sell to advertisers motivated to 'know' their consumers in greater depth. It is a dominant consumer model so successful that these have become some of the most influential companies in the world and drawn criticism for its cynical use of psychology and manipulation to generate profit (Lanier, 2018).

While the idea of gathering feedback from customers is common practice for commercial organisations, it is also becoming an important feature of health and social care service provision (Barnes & Cotterell, 2011). Literature within the field of public and voluntary sector policy and management highlights how feedback is an important component for increasing the accountability of service providers to their users (Greener, 2008; Simmons et al., 2009). Within the context of social care, feedback plays an important practical role in the working of local government services, charities and other VCOs (Kroese et al., 1998). It helps organisations understand how the services they offer are working, and develop, improve or commission new services based on information received (The Children's Partnership, 2015). Feedback also helps organisations market what they do to the wider community to attract new people (Lovejoy & Saxton, 2012) and provides a means to demonstrate that they are worthy of continued funding (Fischl & Saxton, 2014).

Collecting feedback itself can come with substantial challenges for certain organisations, however. For VCOs busy providing social care services, regular feedback collection can be overwhelming, given they exist in an environment where resources are scarce. A lack of resources can greatly impact their capability to collect data from people using their services, and even further limits their ability to make sense of, report on and respond to any feedback received (Breckell et al., 2011). As a result, the collection of feedback is often piecemeal, using a variety of methods including interviews, focus groups, postal surveys or simple forms completed after participating in an event or using a service (CQC, 2013; Edwards, 2002).

There are also challenges associated with gathering feedback in the context of care regardless of sector. Methods such as surveys or questionnaires have low response rates, or may not be completed until a long period after using an organisation's services (Edwards, 2002). There are also challenges in terms of 'who' is enabled to provide feedback, as methods typically seen as valid or objective can be exclusionary to individuals with certain disabilities or impairments. For instance, individuals may have difficulty with reading or writing, struggle to maintain attention upon a specific task, or struggle to recall relevant experiences (Gilbert, 2004; Alzheimer's Society, 2010). Where people require assistance in giving feedback, this might lead to views not being represented as they wish or being provided by proxies or representatives (such as family members or caregivers). This can raise questions around validity, tokenism or the misrepresentation of peoples' opinions and views (Lewis & Porter, 2004). Furthermore, those who use and rely on certain services may be reluctant to offer constructive or critical feedback (Kroese et al., 1998), or feedback may be discounted as being illogical, irrelevant, or incoherent (Booth & Booth, 1996). As such, while the rhetoric of gathering and acting on feedback speaks to an ethos that 'everyone has a voice' and active citizenship, the means with which feedback is typically gathered and responded to means certain groups are excluded (Milewa, 2004).

Increasingly services, even those that are charities or not-for-profit in nature, operate within a competitive environment where many organisations are experiencing cuts to funding. Considering the often highly limited human and financial resources of such organisations (Breckell et al., 2011), and their need to evidence metricised outcomes to report to and attract funders, indirect forms of engagement tend to take prominence (CQC, 2013; Edwards, 2002). These are often also seen as producing the quantitative 'evidence' which commissioners demand (Lowe & Wilson, 2015) – an issue I will return to in the next section. However, such forms of engagement—like surveys, questionnaires, or interviews—can be quite problematic and exclusionary for many of the populations that rely on and use such services (Gilbert, 2004; Alzheimer's Society, 2010). As such, despite the values of such organisations, limited time, resources and the need to acquire funds can lead to tokenistic involvement or the giving of feedback by a proxy (Kroese et al., 1998).

Correspondingly, feedback that is collected must feed into the wider pool of data providing evidence that outcomes from funded projects are being met (Bovaird, 2014). Feedback collected as evidence is then configured and reported in line with stipulations written into funding contracts and agreed as part of contractual obligations. Focusing on collecting feedback as per the requirements of funders leads to a situation where that feedback is gathered and presented in ways that best reflect the outcomes emphasized by the funders involved whatever the actual outcome of a project (Lowe & Wilson, 2015). Therefore, VCOs that rely on particular funding streams for their continued existence have a vested interest in collecting and sharing feedback that reflects positively the good work that they are doing and shows how it closely aligns with agreed project goals put in place before the project has been carried out at the acquisition of funding phase. This complicates an organisation's relationship to feedback, since they are under pressure to collect the 'right kind' of feedback, i.e. feedback that reflects well on the organisation and its work.

This creates a tension in the motivation for collecting feedback in the first place and the use to which it will be put. On the one hand, it is being collected as a means to evidencing outcomes, a dictum of the New Public Management approach used by Government when it comes to running public service organisations. On the other, feedback from users of care services is also supposed to give voice to people, especially the case for VCOs committed to being led by those users. Exploring the design and role of technologies for collecting feedback is then also exploring their relationship to these two paradigms of feedback. Therefore, both New Public Management and Reflective Practice are central to the work reported in this thesis and discussed in more detail below.

2.3.1 New public management

Within the public service sector, New Public Management (NPM) approaches have been increasingly adopted since the 1990s (Hood, 1991). For Hood, NPM is foremost an ideology and can be reduced down to the "three M's": markets; managers and metrics (Hood, 1991). Under NPM public organisations are run more like businesses, for example, using incentives to motivate managers and relying on competition between different providers to drive down costs while increasing value for money. As a method for managing important public services it has been criticised for its lack of accountability (Ewan et al., 2002). It is underpinned by a consumerist ideology which reimagines citizens as consumers and organisations as part of a market within which these consumers can have their pick (Cumella, 2008). There is, within NPM, a belief that the marketplace created will 'keep providers honest' since the citizen-consumers will have the freedom to pick and choose from the relatively more or less attractive options available. In reality, however, this view has been criticised because it creates the opportunity for producers to act in bad faith, "*In the world of public services […] producer interests can range unchecked since consumers are locked into monopoly provision and unable to exercise choice.*" (Clarke, 2006)

Gruening provides an exhaustive list of the qualities of NPM, importantly listing: competition; performance measurement and increased use of information technologies as undisputed characteristics (Gruening, 2001). The idea of performance measurement within social interventions is a controversial one, as critics question the possibility of satisfactorily measuring positive impact in a metricised way. However, this is a critical challenge as funding is awarded based on the outcomes that are achieved against predefined metrics. In practice, for example, this becomes a task of counting the attendance of people at a given activity, when a more appropriate measure of success might be a measure of improvement in the quality of life or wellbeing for a given individual or group. However, quantifying something as complicated as an individual's quality of life is a difficult task, requiring much resource and expertise, for example, standardized instruments for measuring generic health status within healthcare such as the EQ-5D[5]. This can have the unintended consequence of, instead of focusing worker energies on better outcomes for people using their services, that the actual tasks that staff at organisations providing social care services are set are driven from producing a certain kind of data about the work that they do under a payment by results ethos. Hereby, "*workers become focused on how to produce the required performance information*." (Lowe & Wilson, 2015).

NPM as a mode of organisation management and service delivery, therefore, encourages organisations to demonstrate user engagement in ways that appear to be legitimate but in reality, affirm more tokenistic approaches to involving users in service appraisal and (re)design. Moreover, Lowe and Wilson suggest that in some cases organisations will produce the required outcome data whether it exists or not, creating a situation where the system itself is being, in their words, 'gamed' (Lowe & Wilson, 2015). In other words, a situation where organisations have learned the rules of outcomes-based performance management and manipulate the system for their advantage.
In executing user engagement in this manner organisations can lose sight of the potential for their users to offer valuable input and opinion that might help to improve services. Such input creates resource through which practitioners might helpfully reflect on their own work too and new efforts for listening to the populations served would also enmesh better with the values that they hold that speak to inclusion and emphasise users as organisation leaders. Moreover, it could feed into formalised cycles of reflective practice common in education and social work. I discuss reflective practice in more detail in the next section, offering it as another view on the potential uses for feedback within public sector service provision.

Research in this domain is also by necessity politically charged and, in executing these kinds of engagements with stakeholders, HCI researchers have found reason to suspect that government motivations for involvement in the development of innovative civic technologies have more to do with advancing the neoliberal marketization of services, i.e. through NPM, than inclusivity

---

[5] https://euroqol.org/

(Simonsen, Jesper Robertson, 2013). This is especially so in the UK, at a time of austerity politics, where cuts in the staffing of public services are often rationalised by a Localism agenda that seemingly offers greater citizen control (Meegan et al., 2014) and comes with the prospect of new digital tools that support communities in 'doing things for themselves'. Connecting the literature of NPM and HCI research conducted in the public sector there is a sense that while NPM represents the neo-liberalisation of public and non-profit sector services through metrics, that technology research and design with organisations working in this space do not come to represent the neo-liberalism of civics through use of technology.

2.3.2 Co-production in NPM

Since the late 00's there has an enthusiasm for co-production in public services for its potential to improve public services and impact both outcomes and value for money (Horne & Shirley, 2009). The concept of co-production in public services, however, dates back over 40 years. Writing in 1981 Parks noted that, "*The concept of co-production of public services has captured increased attention as a potential means of increasing the effectiveness and efficiency of local government*." (Parks et. al, 1981). This move to frame people as 'consumers' and 'producers' to use Parks' terminology has been concurrent with a shift in the role of users of care services within health and social care provision which values the citizens as the experts in their own lives and care and what that can teach organisations about how services should be delivered. More broadly, the idea of co-production has a clear focus, "*on the role of individuals or groups in the production of services.*" (Brandsen & Pestoff, 2006). As such the adoption of NPM, with its reliance on third sector organisations delivering services within a competitive marketplace, emphasises services that are co-produced, namely between government and VCOs.

While the term has come to represent more inclusive forms of service production, and the involvement of citizens in how services are delivered, internationally it has come to mean different orientations of citizens and organisations involved in the production of services. For example, on the European continent, it refers to a far more grassroots enterprise amounting to, "*the growing organised involvement of citizens in the production of their own welfare services.*" (Brandsen & Pestoff, 2006). In the UK it is more likely to mean patient involvement in government-led steering groups collaborating on the interpretation of new social care legislation or greater patient involvement in shaping service delivery within the National Health Service. This is evidenced in government policy which calls for greater personalisation in health and social care service delivery (Ferguson, 2007).

This, in turn, means looking at different ways of configuring involvement which might mean more direct forms of participation with citizens providing services for themselves, but which more often means that people are solicited for their feedback about how a particular service is operating and how it might be improved.

In reality, however, co-production and the ambition to involve users in the production of services has been observed by some to fall short of the goal of creating vastly improved, more cost-effective services at the behest of greater inclusion (Barnes & Cotterell, 2011). The expectation that money can be saved through the better tailoring of services, a key priority at a time of austerity politics, is central to the rhetoric extolling the virtue of co-production. While this means an increase in consultation and feedback, the data collected is often less applied to service development and innovation than it is used for demonstrating that agreed metricized outcomes or targets are being achieved. This is because, under NPM, priorities become skewed to bias particular types of evidence of more use in the negotiation of service delivery contracts agreed with local government. This creates a problem for more meaningful forms of co-production since contracts are often awarded in advance of services being delivered. Moreover, this is not appropriate for certain forms of care service delivery, for example, where provision might need to be tailored to certain populations. Similarly, certain outcomes from such contracts, for example, befriending and socialisation that is often more meaningful to particular groups, will resist measurement through simple metrics and statistics.

2.4 Reflective Practice

Reflective Practice (RP) is the idea that by reflecting on the experiences of one's practice that learning is derived that feeds into future practice. It is underpinned by the belief that experience of a situation or activity is only one part of how we learn from such experience and that an important part of learning and development is achieved through reflection, an idea that can be traced back as early as John Dewey writing over a century ago (Dewey, 1933). RP has been described as a process of, "*paying critical attention to the practical values and theories which inform everyday actions, by examining practise reflectively and reflexively [which] leads to developmental insight*." (Bolton, 2010). It brings together both theory and practice to promote a cyclical process of having experience and through thought and reflection, generating and reinforcing learning about human endeavours. The philosopher and professor in urban planning, Donald Schön, introduced the concept of the "reflective practitioner" as a practitioner that uses reflection as a tool for revisiting experience to learn from it within their professional practice (Schon, 1983).

RP has been found valuable in the domains of education and healthcare as well as in social care. In education especially it is considered vital for helping students make direct links between theory and practice (Jaspar, 2013). Moreover, digital tools such as video have gained traction in, and been practical for, supporting interactions creating a positive impact on relationships between students (Kennedy et al., 2011). For health professionals, RP has been evoked as a way of tackling the emphasis in that field on life-long learning, where professionals are required to maintain an understanding of the current trends and developments in modern medicines, treatments and diseases (Hendricks et al., 1996). Within social care, RP has been used in the training of new social workers where reflective practise is used to help practitioners identify shortcomings in their workflows, such as the amount of time spent at a computer as opposed to working with people face to face (Fallis, 2014).

For the research in this thesis, RP offers an alternative perspective on the use of feedback within VCOs where feedback can become more than a means to collect simple metrics. As a practical response to some of the challenges posed by NPM described above, it is an opportunity to collect the materials upon which reflection might be based. Reflecting on who is involved in a given conversation about services and service provision, for example, becomes important. Meanwhile, Wenger has shown how 'communities of practice' are fruitful sites around which workers, staff or people belonging to a given care organisation can come together in 'situated learning' (Lave and Wenger, 1991) and support each other in shared and collaborative reflections on practice (Wenger, 1999). Within the context of this research, this means understanding families, organisations, workers, and volunteers and foregrounds trust and accountability as critically important.

Moreover, within HCI there has long been an interest in exploring not only what we mean when we talk about reflection (Eric P S Baumer et al., 2014) but also in studying the ways digital technologies might promote reflective practices in a wider range of settings (Eric P S Baumer et al., 2014). For example, in designing and innovating around digital tools based on photography (Goncalves et al., 2015); or the use of video and audio recording to capture the practices of workers, professionals and citizens alike in a variety of settings for learning and development (Manuel et al., 2017). This is coupled with an increased interest in experience centred approaches in design within HCI which have brought with them an acknowledgement that, "*Reflection on experience has the potential to improve learning and practice, through enabling understandings gained from one's experience and consequently better future choices.*" (Sas & Dix, 2009).

RP has also found relevance within the HCI research on which this thesis builds, including reviewing digital methods of engagement and participation as well as within larger-scale municipal projects intended to impact public policy and interventions within health care and the voluntary sector. This literature is discussed in more detail in section 2.5. However, first I describe how certain modes of Reflective Practice, for example, Participatory Evaluation, can engender trust and accountability within communities whilst producing material on which to base evaluations of professional practice and service delivery.

2.4.1 Participatory evaluation

Within academia, inclusion in research design has been facilitated through approaches grounded in Participatory Evaluation (PE). PE is the cooperative practice of evaluation, and its principal value is found in supporting research participants to have a meaningful say in how research is designed. For example, Cousins and Earl (Cousins & Earl, 1992) have shown how participatory methodologies can have productive application in organisational learning while others demonstrate its relevance in creating positive outcomes for particular populations, for example, or for galvanising communities into action around specific issues (Diez, 2001). Spiel et. al describe how PE is underpinned by a pragmatic use practice and characterised by a transformative agenda. Importantly, they highlight how, "*In technology contexts both [these] agendas converge – especially with marginalised user groups.*" (Speil, 2017). Moreover, they underline how PE is poorly represented in HCI, and note examples of projects where key principles are violated. They argue that this is a missed opportunity for the field since, in their view, there is the potential to tie it to Participatory Design (Bjorgvinsson, 2010) and Action Research methods (Hayes, 2011).

The work in this thesis draws from PE for precisely this agenda convergence and ethos of participant collaboration in an evaluation. It deals with exploring new forms of participation for disenfranchised groups in the design of systems that aim to support them in the evaluation of public services. How certain populations come to have a voice in the design of service provision is a long-standing question for social movements and incorporates discourses about forms of social justice (Dombrowski et al., 2016). These matters are particularly cogent to the context within which this work is situated for its attempt to address the inclusion of those that often struggle to have their voices heard in matters relating to systems and processes that directly affect their lives.

2.5 HCI and Civic Engagement

Literature in public services research and organisational management discuss a shift from transactional to relational modes of organising service delivery, reframing the relationship between people and the state, a common trope of modern 'austerity politics' and public service delivery. Similar motivational strategies can be seen to underpin work within HCI that concerns the design of civic technologies, often finding work that involves a collaborative element that is driven by designing for participation in civic action, services or matters of concern to particular communities. HCI is filled with examples of civically oriented work, from understanding social movements such as *Hollaback*! (Dimond et al., 2013), to designing technologies for groups facing specific challenges *MobiAssist* (Unbehaun et al., 2017), to having a practical impact in the infrastructures of the urban environment such as *OneBusAway* and *Cycle Atlanta* (Christopher A Le Dantec et al., 2015). These are just a few examples that show how research into digital platforms can be done at a local level in collaboration with civic organisations and, at times, produce digital systems of practical import. Moreover, they offer groups of citizens the chance to contribute data to a resource which in turn becomes relevant to a wider set of people.

The value of doing things with community actors and stakeholders underpins and drives this type of work. Many such projects share a philosophical touchstone in their evoking of the work of John Dewey (Dewey, 1933) to make sense of and frame their overall approach to participation. Key to this is Dewey's articulation of 'publics' as a way of understanding the formation and organisation of groups involved in the work. Similarly, John Carroll and Mary Rosson recognise that civic work such as this cannot be confined to the laboratory and frame the local community as a 'living laboratory' presenting, "*A rich context for understanding challenges and possibilities of information technology.*" (Carrol & Rosson, 2013) That there are responsibilities to involve the wider community in all aspects of the research, moving beyond simply having them be users in a traditional user-centred approach, but guiding the topics covered, the methods used and thinking about new ways of communicating the outcomes of that research (Taylor et al., 2013).

2.5.1 Civic technologies

There has been an expansion in work within HCI on issues related to civic matters where the emphasis is on addressing community issues of importance to particular populations (Olivier & Wright, 2015). Often this involves the design and use of digital systems as a form of intervention, hereafter 'civic technologies': a digital technology with a civic purpose. Examples of civic purposes are various, ranging from designing technologies to improve citizen involvement in consultation (Koeman et al., 2014) and decision making (Steibel, 2012); to new interfaces to help with expressing matters of local concern (Taylor et al., 2012); or supporting the formation of communities and publics around specific topics (Dimond et al., 2013). These projects demonstrate how digital tools, configured in various ways, can quickly engage citizens in-situ to collect their opinion and capture their experience, in turn creating data for use as part of social advocacy or civic decision making. Importantly, they also offer an alternative channel of communication or organisation that operates in parallel to 'official' channels of debate or action (Brooker et al., 2015). They may afford citizens the means to self-organise around issues that they identify as important to them, particularly when it comes to citizen activism (Massung et al., 2013a) which can either be complementary to legitimate forms of action (Kuznetsov et al., 2011) or seen to be illegitimate by authorities (Asad & Le Dantec, 2015). This represents a shift in the relationship between the citizenry and the governing bodies and public organisations that surround them, a reorientation not only in how services are delivered but in how citizens are conceived of in relation to them. Hereby reconfiguring the, *"power relations between citizens, communities and the state*." (Vlachokyriakos, et al., 2016)

While the end goal of many of these projects is in new knowledge concerning the production of new civic technologies, Balestrini et. al (Balestrini et al., 2017) are critical of these kinds of researcher-led engagements with communities, especially those designed to support greater participation and collaboration with citizen actors. Moreover, tools seeking to empower citizens through the recording and sharing of their common experience are often poorly integrated with existing practice (Manuel et al., 2017), struggle to create data of a form that becomes relevant for public bodies (Simpson et al., 2017) and create their own specific challenges, such as sustaining work beyond project timescales (Taylor et al., 2013). The development of information services for specific underserved populations (Balaam et al., 2015), the use of data generated by such services to support advocacy and service improvement (Morrissey *et al.*, 2017), the bringing together of diverse groups of actors and creation of publics around digital data and information (LeDantec & Fox, 2015) and the bridging of gaps between consultation exercises and decision making (Johnson et al., 2017) are all ongoing matters of concern for those researching civic technologies.

However, by contrast, much of the community-oriented projects run by local government bodies often come from a top-down agenda set by central Government in the form of legislation. Indeed, for it is challenging for researchers supporting organisations of any kind to engage in new practices and processes that are grassroots, bottom-up, or advocate for specific groups. For example, in deploying *PosterVote,* a lightweight tool to capture public opinion on matters of concern to activist groups, researchers reported suspicion about data captured by the system for its provenance and relevancy (Vlachokyriakos et al., 2014). Similarly, Johnson et. al describe difficulties in actioning digitally collected consultation data, citing a lack of social capital for citizens or 'buy-in' from public bodies as limiting factors (Johnson et al., 2016). Difficulties have been found in how such data might impact government policy, with insufficient organisational support (Hou, 2016) and the complexity of civic bodies often noted as (Boehner & DiSalvo, 2016)(Boehner & DiSalvo, 2016)(Boehner & DiSalvo, 2016)(Boehner & DiSalvo, 2016)particular challenges (Asad & Le Dantec, 2017). Therefore, there is a growing acknowledgement that embedding new digital systems into municipal processes is extremely complicated and offers a significant challenge (Simpson et al., 2017).

2.5.2 Capturing feedback and public opinion

Of direct relevance to this research is how researchers in HCI have explored how digital technologies might be designed and configured to capture feedback and public opinion. This has involved solutions exploring the use of bespoke and situated systems (Golsteijn et al., 2015) as well as exploring how existing, large scale social networks might be leveraged to canvas opinion on widely shared cultural events (Brooker et al., 2015). This has been driven by the shift to widely available networking infrastructures, as well as the reduction in price and increased availability of mobile and ubiquitous technologies such as IoT connected devices. As a result, more people are familiar with such technologies than ever before, bringing new opportunities to embed digital technologies in a much wider variety of spaces and places. This comes with the potential and scope to both capture a wider range of data as well as fostering the inclusion of those that might struggle with tasks such as reading and writing. For example, by capturing images, videos, and audio recordings alongside simple text interfaces.

Much work in this space has been conducted in the context of public interaction, for example, Brignull and Rogers' *Opinionizer* (Brignull & Rogers, 2003) was designed to entice people at social gatherings to share their thoughts and opinions through a public display. Golsteijn et al.'s *VoxBox* (Golsteijn et al., 2015) capitalised on playful physical engagement and tangible interaction techniques. Both of these works highlight how people are willing to provide feedback in-situ, while issues to do with social embarrassment and being publicly observed remain (Brignull & Rogers, 2003; Goncalves et al., 2015). More specifically related to the public service and civic context of my work, Taylor et al. (Taylor et al., 2012) and Koeman et al. (Koeman et al., 2015) provide examples of bespoke yet simple voting systems that allow members of a community to respond to questions about their local area. Evaluations of both of these systems observed a large amount of engagement, highlighting the benefits of lightweight voting mechanisms to engage a wide range of people in giving their opinion on their local area.

Taking this further, Vlachokyriakos et al.'s *PosterVote* (Vlachokyriakos et al., 2014) aimed to support community activists by providing simple paper posters augmented with hardware to collect opinion from others. Activists could use these posters to set specific questions of their own choice, to use the evidence collected from the posters to apply pressure to local governmental authorities. Importantly, they demonstrate how the simple interface of the poster encouraged engagement, even amongst those less familiar with digital technology. However, there was found to be a lack of trust in the very simple data collected using the system due to a lack of data provenance, which led people to challenge its authenticity. More promising is how *Photovoice* (Wang & Burris, 1997) used photography to capture and create the materials for discussion about local issues and help people have their say in the way in which their communities were run and developed. Taking this further, recent work has investigated how structured video capture can create data 'things' of use in debates around issues in neighbourhood planning (Manuel et al., 2017). These projects, as well as work on electronic food diaries (Kitamura et al., 2009) and activity logging for experience reminiscence (Elsden et al., 2016), show the increased potential for digital systems to support citizens in collecting and reflecting on a myriad of experience data previously unavailable to them.

While the above examples are important to draw from for this research, there is sound reason to assume that some of these systems and their design features might be inappropriate for the context of this research. For example, the reliance on custom-built technologies that are not necessarily easy for non-experts to install and configure without technical expertise. An example of this is *VoxBox* which relies on access to laser cutting tools as well as expertise in electronics to construct and configure (Golsteijn et al., 2015). This is an issue that Goncalves et al. (Goncalves et al., 2014) highlight in discussing how organisations using new digital systems may incur additional financial costs or be left baffled by unexpected and hard to interpret results. Furthermore, while common commercial social media platforms such as Twitter provide opportunities for people to comment on cultural events (Brooker et al., 2015) or direct feedback to service providers (Qiu et al., 2010), they may be inaccessible to those using health and care services or inappropriate given the potential for sharing sensitive matters publicly. Moreover, Vines et al. (Vines et al., 2015) highlight how, in health and care domains, online feedback services tend to lack critical mass and also suffer from issues related to provenance.

An exception to this is Hook and colleagues' investigation of the role of video as a medium for capturing experiences of community care project events in collaboration with voluntary sector partners (Hook et al., 2015). They worked with individuals such as young people at risk of problem outcomes, unemployed adults, people with special educational needs, and people with health conditions to create video documentation of project activities to communicate what individuals gained from their involvement in the project. Participants were invited to review recorded data, supporting reflection on their experience of the project and creating a rich picture to illustrate their journeys to event organisers. This was of use in communicating what participants had gained from the project to funders and those evaluating the work. Hook et al. highlight how simple digital technologies can be used to evidence the invisible work that goes on in social care spaces and emphasises the power of digital technologies, particularly video, as a medium for capturing rich data about experiences of project events.

2.5.3 HCI and the voluntary sector

Within HCI the increasing interest in collaborative research conducted with VCOs and the broader voluntary sector is reflected in researchers coming together to share experiences and challenges in an exploration of strategies for this kind of work (Strohmayer et al., 2018). Not-for-profit contexts can be characterised as sensitive spaces necessitating engagement with populations of people, often with the cooperation of gatekeepers, and organisations working with their own specific population of users. Collaborating with VCOs, therefore, means that researchers work across a variety of heterogeneous spaces. For example, researchers working with people experiencing homelessness, substance abuse or experience of the criminal justice system might work closely with an organisation providing support services to such citizens (Le Dantec & Edwards, 2008). This could involve working with staff, volunteers and users of services in design work to identify and address context-specific challenges such as capturing the lived experience of urban homelessness (Le Dantec & Edwards, 2008); running more in-depth, explorative workshops in challenging settings to understand citizens' relationships to digital technologies (Strohmayer, 2015); developing personal digital artefacts with and as a response to the experiences of groups accessing VCOs services (Clarke et al., 2013); working to explore volunteering support within organisations (Voida et al., 2012); or exploring opportunities for organisational accountability and transparency (Marshall et al., 2016). Often these projects are underpinned by a desire to offer direct support to staff members, volunteers, or users of the organisations involved in the collaboration.

These examples of projects in which researchers work in tandem with VCOs involve developing better tools to tackle specific challenges, as well as exploring how to reconfigure such tools through better understanding the practices of the organisations. For example, some have explored the use of open data in collecting the necessary evidence base in support of applications for funding (Mendel & Brudney, 2014) while others have focused on directly supporting the infrastructural requirements such organisations need to ensure continued operation (Merritt et al., 2012). In encountering this vast heterogeneity of work with VCOs, researchers have characterised them as 'shapeshifters' with ill-defined and fluid boundaries that are increasingly blurred (Saeed, 2014). With such a fluid and changing environment, academics such as Voida et. al report how they have even been drawn into furthering or supporting the work of organisations (Voida et al., 2015). This raises questions regarding how projects impact organisation work in different ways as well as how the additional resources provided, often on a temporary basis, can be maintained after projects come to an end.

Further, there is work that has begun to examine how social justice oriented design practice is an essential framing when considering how, "*technology is designed and developed, how policy impacts information and communication practices and experiences, and how marginalization and oppression impact people's experiences of and practices with technology.*" (Dombrowski et al., 2016). Dombrowski and colleagues discuss how traditional systems and approaches are not designed with the diversity of the populace in mind, and how this lack of inclusion can negate an individual's engagement with such systems. However, they offer strategies for inclusion in the design of digital technologies embedded in a social justice orientation. Dombrowski et al. also outline, "*the multiplicity of stakeholders, power relations, and the unevenness of social and political systems*" as the key concerns of social justice. The work in this thesis is similarly motivated by the objective of enacting 'more equitable social change' through an inclusive approach that facilitates the voicing of multiple values by stakeholders who might not have previously been able to contribute in a meaningful way (e.g. tokenism).

Entering into my collaborations with VCOs and public sector care service providers, the work in this thesis builds on prior similar projects such as those discussed above, while also providing tools that might be sustainable and scalable for use in the long-term. This was achieved by exploring designs for technology that allowed communities of people to adapt and reconfigure them as they saw fit. As with (Vlachokyriakos et al., 2014), the focus is on the design of technologies that facilitate the organisations, and in some cases, citizens themselves to pose questions (commission feedback), deploy devices (collect feedback), and make use of the results (action and respond to feedback)—rather than having these processes be facilitated and led by local government or teams of researchers.

2.6 Chapter Summary

In this chapter, I have introduced the context within which this research has been conducted: namely a public sector space governed by a mix of parliamentary policy and rigidly structured funding practices which demand specific behaviours from organisations delivering services to populations reliant on social care service provision, particularly VCOs. I have shown how capturing the voice of citizens is both central to how certain organisations operate while also being problematic, especially when working with those people with a learning disability who may struggle with reading and writing and for whom filling in forms is not possible. This challenge is central to the work presented in this thesis.

Academics and professionals working in public health such as (Barnes & Cotterell, 2011) have written extensively about the difficulties of capturing the user's voice, whilst new public management scholars have shown how the way the public sector in England is organised impacts the behaviour of VCOs, particularly concerning feedback. However, work within HCI has increasingly explored public engagement technologies that create new opportunities for citizen input and debate, while at the same time examining the formations of publics and capturing debate that is both community-driven and visible to a wider set of stakeholders than ever before. I build on this work to explore more accessible forms of digital feedback systems that are designed collaboratively with VCOs and citizens. Before discussing the design activities and field trials, the following chapter describes the research approach followed and justifies the decisions to use certain methods in the pursuit of the design and assessment of novel feedback technologies.

Chapter 3. Research Approach

3.1 Introduction

In the previous chapter, I have described social care service provision in England and introduced important reforms to government policies regarding how services are both delivered and subsequently evaluated. I discussed relevant aspects of health and care literature regarding citizen participation in care service design as well as offering a critical perspective on the limitations of outcome-based practices as found in the literature about New Public Management. The discussion then moved to design literature in HCI related to civic-oriented projects, with a particular focus on the participatory practices used by researchers when designing civic technologies. Finally, I described the complex relationships and spaces we find when working with voluntary and community sector organisations (VCOs).

In this chapter, I describe the methodological approach taken in this thesis, explaining the overall study design and the methods used to analyse and make sense of the collected data. I begin by introducing the primary mode of inquiry, Participatory Design, a methodology with its theoretical foundation in constructivism (Spinuzzi, 2005), discussing what it is and its historical roots before describing its use in complicated settings such as care organisations. I then describe common design practices in the field of human-computer interaction (HCI), building on the tradition in HCI of participatory methods combined with 'in-the-wild' field trials for evaluation. This leads on to a discussion of Action Research, an important component of Participatory Design and a justification for, and description of, this "*orientation to inquiry*" (Reason & Bradbury, 2008). I then move on to discuss the qualitative data analysis method used, thematic analysis, as my particular mode of interpretation of the data and position myself within the tradition of interpretivist research, whilst outlining its applicability. This chapter closes with a review of the ethical considerations and procedures followed while conducting the design and data collection activities central to the research as a whole.

3.2 Participatory Design

"*What distinguishes participatory design from related approaches such as user-centred design is that the latter supposes only that the research and design work is done on behalf of the users; in participatory design, this work must be done with the users.*" (Iivari, 2004)

The research reported in this thesis follows an approach inspired by the values and philosophy that underpin Participatory Design (PD), values that closely align with those held by the organisations and stakeholders occupying social care spaces within which the studies reported here were conducted. PD as a methodology in HCI originates in the Scandinavian tradition of co-operative design in workplaces. Originally it concerned involving workers in the design of information and communication technologies (ICTs) and technology-enabled systems that, increasingly, they made use of in their work. It, therefore, came with a set of design processes aimed at including people in design through participation in workshops, design groups, and associated activities to foster participation. Overall, it represents a shift to designing with the end-user, framing them as experts and involving those users more directly in designing new technologies. This was also considered a practical way of producing systems that were better suited to the contexts in which they were being used, since: "*Users are not just answering questions in an interview… but are asked to step up, take the pen in hand*." (Simonsen, Jesper Robertson, 2013)

PD also comes with a set of principles which include empowerment, accessibility and democracy. Scholars have framed PD as a continuation of the revolution in citizens' rights throughout the latter half of the twentieth century, for example, the civil rights movement (Pilemalm, 2018). Partly, it was also a response to the changing working conditions workers faced as computing technologies became more commonplace in workplaces from the 1970s onwards, and the perception that the increasing mechanisation of work settings was disempowering for some. This prompted, "*concern from workers and their unions that they would no longer have control over their roles and duties or that these roles would be deskilled or replaced altogether*." (Vines, Clarke, et al., 2013). Power then is an issue central to the discourse surrounding PD as an approach, and one relevant to the studies undertaken throughout this research, since it involves designing with community partners delivering services to people often viewed as disenfranchised through having a disability.

Over the decades, PD has had to be adapted to a changing use context as both the workplace and the technologies used there were transformed. Across the 80s and 90s the use of ICTs in the workplace greatly increased, shifting from a mainframe model to one that was more decentralized. Similarly, there was a shift in emphasis as modes of working required tools for greater productivity and usability coupled with team-based cooperation and collaboration. This shift saw a wider group of stakeholders getting involved in design, with managers and senior staff working collaboratively with co-workers and colleagues. There was new thinking about where in the design process end-users should be involved, leading to circumstances where more empowered staff members, i.e. supervisors, worked alongside those they supervised. Through PD efforts can be made to configure participation in inclusive ways that seek to rebalance disparities in power, adhering to PD's underlying democratic values. For example, when researchers worked with Scandinavian trade unions in the UTOPIA project with the stated design goals of addressing democracy at work, the quality of work and education for local development (Ehn, 1989).

For PD in the last two decades, there has been a growing diversity in the types of locales, populations and issues where the approach is used. This has widened discussion around the challenges of involving people who may be disenfranchised in design work. This includes highlighting how methods have to be adapted to ensure goals and aims are reiterated, that the purpose of an activity is made clear (Lewis & Porter, 2004) and that the voices of all participants are heard and not dominated by a small number of individuals or just those who like to speak on their behalf. More recently it has been observed how PD is less in touch with its explicitly political roots than it is a template for designing with a variety of users across different contexts (Halskov & Hansen, 2015). At the same time, there has been a dissection of what 'participation' means, with scholars exploring how and why people come to be involved in participatory activities in the first place (Vines, Clarke, et al., 2013).

The use of PD within HCI projects, especially those with a civic focus, has been one strategy for mitigating the challenges of articulating civic issues of relevance to communities (LeDantec & DiSalvo, 2013; Disalvo et al., 2014) and understanding the tensions at play in involving publics around those issues. This is of particular relevance to the research in this thesis which is concerned with designing with whole communities assembled around issues of civic and social importance to people with a disability. For example, Bødker et al.'s (Bødker & Zander, 2015) work in unpicking notions of participation in municipal collaborations complicates the notion of democracy present in such design spaces, while alerting us to the importance of timing to interventions. Expanding this, work within the Malmo Living Labs highlights how the proper infra-structuring of civic projects means fostering a fluid 'constellation of alignment' across contexts (Björgvinsson et al., 2010). This frames Universities, for example, as agnostic spaces in between conflicting actors as well as highlighting the shortcomings of designing to a hegemonic consensus. This is one reason why PD approaches have been central to many technology research projects in civic contexts for their equitable design practice ensuring democratic involvement in innovation (Björgvinsson et al., 2010), and also why it is the primary approach drawn from in the research reported here.

Spiel et al. describe their PD work with Autistic children and link it to Participatory Evaluation (2.4.1), emphasising the importance of meeting children at their level of ability (Spiel et al., 2017). While Thieme et al. stress the importance of good working relationships and the value of 'champions' when designing with women with a learning disability in challenging settings (Thieme et al., 2016). Lewis and Porter argue for thinking through the position of people with a learning disability, framing the inclusion of their voice as a matter of their rights as citizens (Lewis & Porter, 2004). Not only does this mean pitching activities and inquiry at the correct level but viewing the process of design through the lens of social justice. To this end, Lindsay et al. synthesise some working practices that ensure that design work is both equitable and appropriate for those taking part (Lindsay et al., 2012). In their work, they build on the social model of disability and extend consideration to the challenges posed by a society that 'makes a person disabled'. It then becomes a social responsibility of the researcher to ensure that such rights are extended to those with which they are working, not only to include their voice but to reflect people's preferences and expertise in the decisions made regarding study design.

3.3 Ethnography

As an approach ethnography is a practical means of collecting and recording data about people and their behaviour within a specific social and cultural context (Atkinson, 2001). Its roots are in anthropology, where it was initially used to generate insights regarding the day to day lives of people living in small, non-Western societies and is now used in nearly all applied social sciences. Historically, the emphasis has been on fieldwork and the in-depth, often long term, participation of the researcher in a social setting (Silverman & Marvasti, 2008). As such it provides a means to understanding and interpreting people and what they do in their everyday setting. Ethnography has been critical in data collection and analysis for its ability to capture both people's behaviours as well as their perspectives on their actions and the actions of others. Through a variety of tried and tested methods including observations, interviewing and interpretation it aids understanding of actions and events in context (Goncalves et al., 2015), affording researchers a rich picture of the context that they are studying. Ethnographic methods are considered by some to be a critical part of the qualitative data collection toolkit, especially in complicated contexts relating to state-run care services as well as within anthropology, psychology and sociology (Kawulich, 2012).

Lucy Suchman has demonstrated the power of such approaches for many within HCI (Suchman, 1987). This was achieved by undertaking what has been described as a: "*detailed analyses of the methodical ways in which people organize action and interaction in situ*" (Crabtree et al., 2009). Researchers have since repeatedly demonstrated the applicability of ethnographic approaches both in generating new system designs as well as new perspectives on human actions, collaborations and achievements. For example, Pritchard and Vines report on a long-term ethnographic investigation into a community of hip-hop artists in South Africa, highlighting the role digital technologies play in their lives and how a lack of access can negatively impact many aspects of the community there (Pritchard & Vines, 2013). While Bell et al. describes its use in opening up new and more fruitful spaces for design and making within familiar domestic settings (Bell et al., 2005). What comes from doing ethnography in PD projects is in doing the pragmatic work of both understanding a design context alongside the derivation of design implications. Dourish describes the relationship of ethnography to PD thus, *"For PD, ethnography may have been an expedient tool rather than an intellectually motivated approach, and indeed PD has always emphasized a pragmatic, multi-method approach.*" (Dourish, 2006).

The work in this thesis builds on this tradition of facilitating and supporting the participation of people in a situated context in design work, often producing and testing prototypes. Ethnographic methods have been central to this process, for their suitability to capture a rich picture and developing an understanding of a complicated design setting. In the context of this research, the site for ethnographic investigation has been the premises of organisations involved in the delivery of care services to people with a learning disability or young people with special educational needs. I will discuss this in greater detail in Chapter 4, first describing my work as a 'critical friend' in a public sector design process. Later, I began volunteering, working with users of care services on a weekly basis. This was especially important in the formative stages of design not only in terms of eliciting design requirements but in evolving my understanding of the immediate environment. This allowed me to extend my knowledge of the wider landscape of care in which the work of my collaborators was being done. Key to this was also an Action Research approach, which became increasingly relevant as I progressed through different studies, and which I discuss further in the following section.

3.4 Action Research

Action Research (AR) has its historical roots in the 1940s where it was first given the name by Kurt Lewin who described it as, "A *pioneering approach toward social research which combined generation of theory with changing the social system through the researcher acting on or in the social system*." (Susman & Evered, 1978). In moving to an AR approach Lewin was responding to the significant social problems of the era such as the rise of fascism in Europe and anti-Semitism. Concurrently in Europe, the Tavistock Institute was exploring ways of researching with prisoners of war seeking to be repatriated following the cessation of hostilities in World War 2 (Susman & Evered, 1978). In both cases, there was an acknowledgement of the limitation of positivist approaches to research when it comes to complex social problems. This was combined with a need for practical outcomes for communities of people, as well as outcomes that were well suited to the populations they served.

More recently, in defining AR Reason and Bradbury describe the approach as being an interactive process of inquiry that tackles problem-solving in a collaborative context (Reason & Bradbury, 2008). It is characterised by the continual switching between practical design work done with participants, such as workshops and related design activities, to more systematic forms of data collection such as interviews and focus groups, as well as reflecting on collected data (Bertelsen, 2000). This involves forms of data collection often including elements of observation and ethnographic techniques (Glesne & Peshkin, 2006), discussed above, that are well suited to collecting context-specific data on which to cumulatively build knowledge and feedback into the practical design activities being undertaken. This forms a process where data collecting and theorising occur cyclically, with each activity feeding into another all while learning is shared and synthesized into an, "*emergent developmental form*" (Reason & Bradbury, 2008) (See Figure 2). As a result, AR was identified by early practitioners of PD as a practical means of working with participants with no knowledge of the systems they were involved in designing (Spinuzzi, 2005).

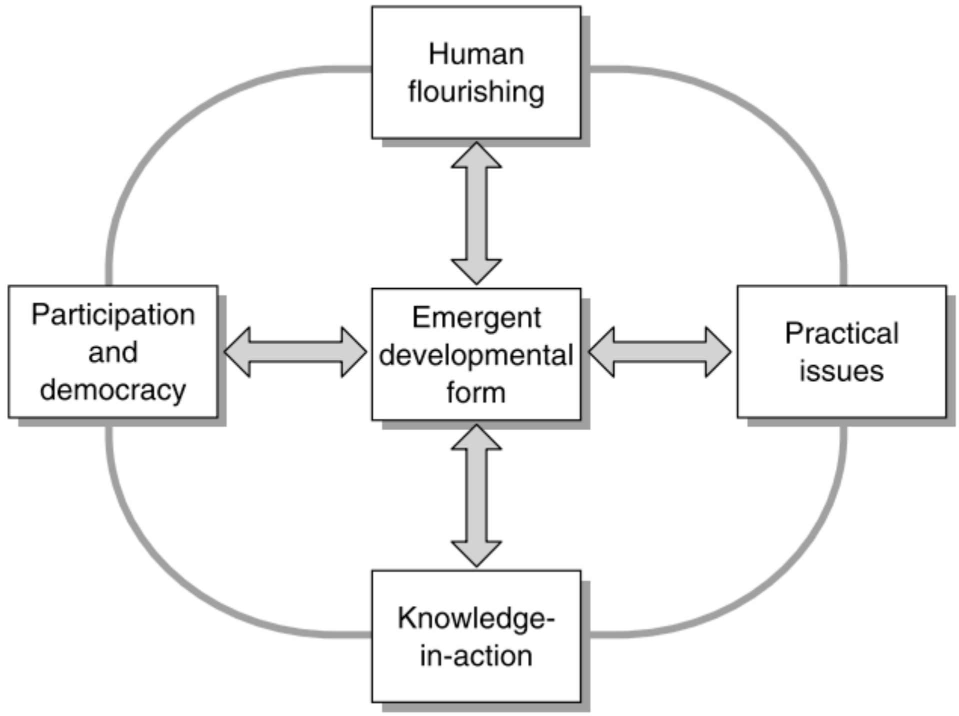


Figure 2: Action Research from Reason & Bradbury (2008)

The principle relevance of AR in this research is its orientation to an investigation that takes as its focus working with people in their everyday setting to produce pragmatic solutions to real problems (Hayes, 2011). Central to this is that inquiry is conducted collaboratively and democratically with knowledge being co-constructed, created "with" people as opposed to "for" them (Hayes, 2011). In a practical sense, this means coming to an organisation or community and being prepared to work with them to set the research focus and agenda. Importantly, it is about participants having ownership of the process and recognizing that certain challenges come with that. This is of particular relevance in my work within public care service provision, where there is often the desire to include citizens' voices in decisions that directly impact their lives even in the face of significant challenges. By adopting an AR orientation to design research and creating cycles of action (e.g. ideation workshops, trialling prototypes) and reflection (workshops critiquing prototypes), participant voices are heard alongside that of researchers in designing digital systems. Importantly, there is a commitment central to AR that speaks to an agenda not just of change, but of *improving* the situation being studied (Hayes, 2011). This agenda is value-driven, emphasising that researchers and participants should understand each others' perspectives and that proposed solutions have a beneficial effect. This is a critical part of this research that seeks to design sensitively with a community, creating feedback technologies that not only work for the purpose that they were intended but also that such technologies are invested with the values important to the community. For example, often organisations working in social care in England will emphasise social values such as democracy, transparency, accountability and a commitment to everyone having a voice. This is something I address through carefully considering how participation is configured as part of the work reported here and why Participatory Action Research (PAR) was also adopted.

3.4.1 Participatory action research

A broadening of notions of participation within AR can be traced to the shipping industry in northern Europe, particularly Norway, in the 1960s. At that time the industry was undergoing a great deal of change and academic consultants, working within it, sought to bring their research skills and scientific approaches to designing new operational models in response to a falling number of seafarers (Walton & Gaffney, 1989). New legislation had also been passed to allow smaller numbers of crews, and what was called a contact group was formed to explore new organisational principles and the impact on company policy. Through an existing connection with researchers, academics formed part of this contact group along with union representatives, members of shipowner institutes and workers from government bodies. The main point of which was to, "*break with highly specialized –Taylorist – forms of work organization to replace them with forms giving the workers more autonomy in terms of decision-making rights, possibilities for learning and for the development of social relationships in the workplace.*" (Reason & Bradbury, 2008). Working together and at the site of experimental in-situ field trials, it was noted how the integration of researchers enhanced the quality and validity of knowledge being produced for its relevance and contribution to the public domain.

Participatory Action Research (PAR) is then an orientation of AR which emphasizes the participation of the people most directly affected by the outcomes of a project. In PAR everyone taking part is conceived of as a "co-learner" (Reason & Bradbury, 2008), and as such together with the researchers, the people involved in the study, "*participate actively with the researcher throughout the research process from the initial design to the final presentation of results and discussion of their action implications.*" (Whyte et al., 1989). PAR requires that the people taking part are both shaping the direction of the work and involved in working with the outcomes. This means that they are equally involved in everything from defining the research questions to collaborating in how the data collected is analysed. Importantly, PAR, like AR, emphasises the importance of pragmatic action or social impact as the primary goal of a project, while making participants integral to the delivery of change.

There are real practical reasons for adopting a PAR orientation to research. It can be employed to communicate information potentially difficult for participants to discuss openly or meaningfully and be a means to introduce challenging concepts sensitively, for example in telling uncomfortable truths to authorities (Kemmis, 2006). Within HCI the relevance of PAR has been demonstrated in practical examples of its use in civic projects. For example, Asad et al. working in civically engaged projects at the city scale demonstrate its relevance for, "*designing for civic encounters where community engagement is a primary concern for designing systems and processes that support broad civic interaction.*" (Asad et al., 2017). While, in Balestrini et al.'s work in developing a framework for a city commons they discuss the applicability of a PAR approach within civic projects (Balestrini et al., 2017). In practical terms, this meant using, "*a simple unified structure that is easy to follow, communicate and enact by experts and non-experts*." (Balestrini et al., 2017) as well as thinking about ways to maintain the participation of people across time, particularly when they may not be available to take part in all phases of the research. A common issue when working with people with disabilities who may face challenges managing unpredictable aspects of their lives, such as the availability of support workers or family members. Tanabe et. al have described how, "reasonable accommodations" can be made by taking a PAR approach to researching alongside people with disabilities (Tanabe et al., 2018).

Taken together, I sought to follow a more engaged, participatory research approach (Hayes, 2011) where I pursued opportunities to work more closely with participating organisations, often in an embedded manner. Continually, I tried to orient the direction and goals of the work to the goals and values of those participating, be they individual users of care services, VCOs or government bodies. To this end, extensive fieldwork has been undertaken that has involved working with VCOs over extended periods. As a result, there were times when I was a volunteer, a facilitator, a supporter and even the source of continuity for one group as a leader left to go on maternity leave and I had to explain the history of the group to the incoming leader, continuing a tradition already recorded and established within AR where, "*The researcher role has provided continuity, sometimes serving as the social memory when turnover occurs.*" (Walton & Gaffney, 1989) Where participant roles, including my own, have been fluid and constantly in flux, cycling through, "*the different roles researchers play—researcher, confidant, advocate, interloper, invader, and collaborator.*" (LeDantec & Fox, 2015)

This section discussed participatory methods in HCI such as Participatory Design, and their use as part of a researcher's toolkit that includes ethnographic methods, Action Research and Participatory Action Research approaches. I have described the use of Participatory Action Research as well as its relevance to the work discussed in this thesis, namely that the research has been designed to emphasize participation in many forms, that fosters inclusion and reflects the values of the organisations and communities within which it was conducted. Moreover, such participatory approaches, as opposed to strictly user-centred ones, have been crucial to the work reported in this thesis because they address understanding the broader social and political context within which civic services are delivered.

All of the studies undertaken in this thesis involved working with multiple stakeholders, in a variety of settings that are both fluid and complex. Common to these settings however was the delivery of care services to people with disabilities or special educational needs, often by VCOs. The organisations delivering such services are dedicated to involving the users of their services in all aspects of design and development of that delivery. As such, it was necessary to adopt an approach to design that was sympathetic to the goals and values of these organisations. Not only would that ensure equitable involvement of managers of organisations alongside users of services, but I was driven to take an inclusive approach so as not to exclude citizens often disenfranchised through a lack of support to participate in society.

3.5 Case Study Approaches

I adopted a case study approach to understanding how different digital feedback technologies can play a role in the work of public organisations, VCOs and users of care services. Case studies have shown great value across multiple domains and disciplines in the social sciences ranging from psychology to education, as well as in social science and social work. Creswell defines the case study:

"*A qualitative design in which the researcher explores in depth a program, event, activity, process, or one or more individuals. The cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time*." (Creswell, 2013)

They are invaluable for researching a given context in great depth through their flexibility and inclusion of a broad range of investigative practices. Moreover, by building on one case study and feeding learning into the next, it is possible to identify areas of interest while ensuring the relevancy of future directions of study. In this way, case study approaches allow for the creation of knowledge that is fitting with a constructivist tradition, rejecting assumptions about reality that can be limiting and reductive, especially in complex social settings such as those found across each of the studies discussed here (Stake, 1995).

There are three case studies in this thesis, with each presenting an opportunity to study the design and use of a different feedback system across a variety of organisations and different care settings. These include, (i) Case Study 1 – The Local Offer, the design of a public services directory; (ii) ThoughtCloud – a situated feedback capture application and website; (iii) Appraise – a mobile application for capturing material about services to create reports about service provision. Each of these three case studies is described in more detail in the following section.

3.6 Research Design

In constructing a design for the research activities undertaken in this thesis, it was critical to use methods appropriate to working in public sector service delivery contexts. Such contexts are both extremely value-laden and politically charged involving as they do a broad range of stakeholders, each with their own perspectives. The setting also involves people that are often excluded, either from having their voices heard at the level of local or national Government or from specific services offered by VCOs in their locality and may require significant support to facilitate their participation. As I have discussed in the previous chapter, the structure of organisations delivering services can be fluid, and 'shapeshift' (Voida, 2011) through different sets of circumstances driven by internal and external changes (2.5.3). Moreover, staff and volunteers that the sector depends on change roles often, move between organisations or may leave entirely, meaning that there is a constant 'churn' of people and their role concerning their work there. Therefore, an approach was required that was flexible enough to accommodate busy lives while making the most of opportunities to access particular groups. Methods needed to be adaptable and easily refined at short notice and according to individual circumstance. As noted, the nature of participation in each of the studies undertaken was configured differently. Below I describe an overview of how the methods introduced above were employed within and across the different studies. All of these studies are concerned with technology design in some form.

A significant challenge addressed in this thesis pertains to how digital technologies that allow new modes of feedback capture and use struggle to embed within existing feedback workflows already configured to operate in a particular way. To explore this, I chose to carry out a set of interventions within the study setting. These involved designing and testing new digital systems while studying and shaping the processes required for organisations to effectively use such systems. As a designer and engineer of software systems, this aligns with my strengths since the strongest tools I have at my disposal are the skills to co-create, co-develop and test new digital technologies. Moreover, as a researcher committed to social change—following an Action Research orientation driven by the ambition of improving the conditions found within the study setting, an interventionist approach was a practical means of achieving the twin goals of: (i) producing and testing new digital feedback systems; (ii) making those available to organisations and citizens for practical use. This was done to mount an investigation into how new digital feedback tools could and would be adopted and appropriated in-the-wild. Importantly, it was crucial to build and test those systems in collaboration with staff, volunteers and users of care services, creating opportunities for independent use of the technologies over time. This allowed for the in-depth exploration of multiple new feedback systems to be carried out with myself as a co-investigator, embedded in a complicated and evolving setting.

I describe the interpretative methods used in more detail later in this chapter (Section 3.7). The research design in this thesis is configured to recognise that the work done offers implications beyond those applicable to new technologies, but rather, along with the production of new tools, it represents an investigation into a specific context. In this, I draw from Wilson et al.'s characterisation of research as an investigation into the, "*swampy lowlands of practice*." (McLoughlin et al., 2013) while following Taylor's description of, "*HCI's disciplinary turn 'out there'.*" (Taylor, 2011)

3.6.1 Overview of approach

In combining the methods, approaches and orientations to the research described in sections 3.2 – 3.5, I followed McLoughlin and Wilson, whose design of various socio-technical systems across heterogeneous public service sector delivery contexts relied on being able to reconfigure their approach in response to changing conditions. Their shifting roles and changing methods:

"*Reflected the fact that the 'leg work' involved was both grounded in 'real-life' problems and the 'lived experience' of front-line public service delivery and was part of attempts to produce service innovation through the design, deployment and use of new digital technologies.*" (McLoughlin et al., 2013).

The work in this thesis proceeded similarly (Figure 3), and began by designing a new type of online directory of public services with a mix of care professionals, local authority workers, volunteers and family members of young people with SEN. In this I operated as a participant-observer, using ethnographic methods to record and capture the work done by a heterogeneous set of stakeholders all working to a common cause. Initial fieldwork helped frame a deeper exploration of the priorities and motivations held by stakeholders involved the sector as well as highlighting some of the challenges within the care sector regarding feedback. The following case studies, two and three, then followed AR and PAR, iteratively evolving the configuration of participation throughout the design phase where prototype feedback technologies were produced. Finally, the data were synthesised and analysed using qualitative methods, shown in the diagram as a post-design phase. However, in practice, each phase merged with another as learning was derived and built upon.

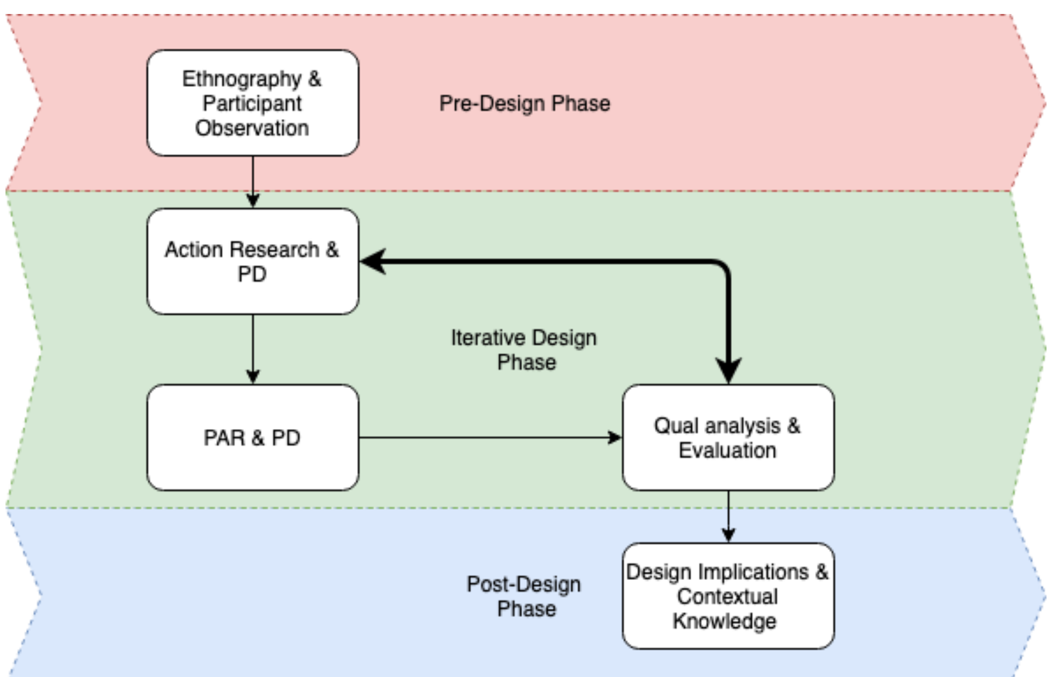


Figure 3: Overview of Approach

3.6.2 Case study 1 – the Local Offer

Chapter 4 concerns my involvement with a city council steering group assembled to produce an online public services directory listing service provision for young people with special educational needs (SEN). The production of the directory was stipulated by a new Act of Parliament, The Children and Families Act (*Children and Families Act*, 2014). This new service directory was to be called The Local Offer. The steering group was composed of a broad section of stakeholders, including members of the local council, workers from charity organisations, organisers from schools working with children with disabilities as well as parents of children with SEN. The group met regularly to review the progress of the system's design and to feed their experiences into the decisions being made about its final configuration. What began as an opportunity to create a more innovative form of service delivery that sourced data about local service provision from community members was readjusted to reproduce the kind of service directories that had gone before it. Over a year observing the work of the group, and assisting them in running public events and workshops, I was able to chart the ambitions and the hopes of the group members and ultimately their successes and failures as hopeful innovation gave way to an exercise in box-ticking. However, the participation and engagement with stakeholders involved in this work led to relationships being formed with VCOs involved in different aspects of care service delivery and created opportunities for my working with them long after the initial project was completed.

3.6.3 Case study 2 – ThoughtCloud

The second stage of my PhD research involved two studies into the design and evaluation of *ThoughtCloud*, a lightweight, digital feedback capture technology. The initial design and limited deployment of an early version of the ThoughtCloud feedback platform is described in detail in Chapter 5, along with the findings from a field trial conducted with two different organisations: one a charity providing a range of services to people with a learning disability with whom the concept underpinning ThoughtCloud was developed; the other a local cinema offering film screenings especially aimed at people with dementia. This is followed by Chapter 6, in which a longer-term field trial of an iterated version of ThoughtCloud is discussed. The system was iterated based on findings from the initial field trial and then evaluated with four charity organisations over five months. Through this cycle of design, evaluation, iteration and deployment, ThoughtCloud was refined for use by a range of organisations. These chapters report the methods used to design, develop and evaluate the system as a practical technology for the collection of feedback.

This required a shift in approach and orientation which changed to my being a researcher engaged in design with key stakeholder organisations, working directly with management and volunteers of a VCO. The nature of the engagement changed also and followed an Action Research approach to begin investigating how we could work together in design research. Drawing on the ideals of Participatory Design, we co-designed an initial prototype of a digital feedback technology. This prototype was evaluated through field trials and workshops, which explored not just the implications for the designs of such systems but also the systemic challenges to incorporating the use of such technologies within the work of VCOs. However, in a project designed to capture and amplify the voice of citizens with learning disabilities the input of users was conspicuously absent. Findings from the study suggested that technologies that placed the power of new digital technologies in favour of organisation managers and staff meant that little was done with feedback collected.

3.6.4 Case study 3 - Appraise

The final study of this research involved the design and trialling of another feedback capture platform which came to be called *Appraise*. Like the ThoughtCloud study, the initial design of this new feedback platform is described in detail in one chapter, Chapter 7, in which I describe working with various groups of young people involved in the evaluation of local service provision. This is followed by Chapter 8 in which a group of stakeholders were interviewed to evaluate the usefulness of the platform as a means of generating data for service improvement and development. The system was iteratively developed through a series of prototypes trialled at events, services and activities run specifically for young people. Through this cycle of design, evaluation, iteration and deployment, Appraise was refined for use by a range of organisations. Following participatory evaluation and Quality Improvement concepts, methods were used to design, develop and evaluate the system as a practical technology for the collecting and reporting of user feedback as well as an evaluation process within which the technology sits.

As a way of tackling both of these issues, my orientation to the research context and the participants shifted once more, finally to designing with teams of young people working as service ambassadors on behalf of themselves and their peers. Thus, shifting towards a more strongly PAR approach as I moved to design directly with users of services, a natural progression from the trajectory followed throughout the case studies. This involved conducting design activities with young people in carefully designed workshops and developing those iteratively along with prototypes of a new mobile feedback technology. While at the same time taking part in the regular activities of the design groups, attending monthly meetings and going along with them to celebration events such as summer breaks and Christmas parties. In this way methods and approaches were adapted and revised as learning was produced with each feeding into one another methodically. In this, I followed others working in complex multi-stakeholder settings, for example, McLoughlin and Wilson who evoke the concept of 'bricolage' to frame how different methods may sit together and be reconfigured in relation to one and other (McLoughlin et al., 2013).

3.6.5 Recruitment

Recruitment for the studies as part of the thesis was dependent on the specific case study being conducted. In the first instance, recruitment came as a result of working in a directly engaged, participatory way with a collection of VCOs and local government workers on The Local Offer project. This created links beyond that initial group, meaning that other organisations connected by the broader VCO network were made aware of the research being conducted. This led to invitations to speak about and disseminate information relating to the work being undertaken which then led to other organisations requesting to take part. Recruitment, therefore, took on a 'snowballing' quality where others were added as and when they had the time or inclination to take part. This is a strength of following a more explicitly participatory type of research orientation and working within or across community organisations as key collaborators. Where recruitment is not factored in the same as it is when doing a lab-based study or even doing some forms of Participatory Design (Lindsay et al., 2012). In this respect participants were not recruited but were those people that 'showed up'. Participation then was often either a request on the part of an organisation or one of their connections, or a happy accident.

3.6.6 Contextualisation of approach

Overall, the approach taken evolved and developed from one study to another changing responsively to the setting. As discussed above, section 3.3, an ethnographic approach was initially followed to develop a rich understanding of the design context and shape the research. At all times I was studying the various work that people did and how they did it to apply that learning to produce digital systems for testing. This aligns with the tradition of in-the-wild field studies in HCI

(Taylor et al., 2018). The use of ethnographic methods in HCI research is often oriented to the practical task of design implication extraction through '*ethnomethodologically-informed ethnologies*' (Crabtree et al., 2009). However, as I moved from the ThoughtCloud case study, which involved designing with organisation management and volunteers, to designing Appraise, where the design work was conducted with young people that made use of services, my approach became hybridised as prototypes were created and introduced. These prototypes were developed and tested under observation, and this learning was built on through iterative cycles of development.

Since it has been noted that design implications might be derived through ethnographic techniques alone, arguably the testing phase could have been omitted (Dourish, 2006). Thus, an alternative way of conducting this research would have been to forgo in-the-wild field trials in favour of a longer-term, more in-depth ethnographic study of the various organisations and people involved. However, carrying out a detailed ethnography is time-consuming both for the researcher and the participants and would have led to engagement with a narrower set of VCOs. Additionally, I have discussed at length how VCO organisations can be limited in resources and have explained how the resulting systems produced were intended for practical use to bring about positive change, helping them in the important work that they do and creating new channels for citizens to be heard. Carroll observes how the field study of prototypes is more consistent with systems engineering and design for its involvement of a range of stakeholders including the end-user working with the technology in context (Carroll, 1997). Without the intervention of the technology itself for trialling in the setting, neither would it be possible to iterate the technology based on field trial results nor capture the specific challenges relating to how these new technologies become embedded in the practices of particular organisations over time. While pure ethnographic approaches have been used in HCI for the deeper understanding they offer of peoples' behaviour and experiences in a given setting (Obrist et al., 2008), Dourish argues that, in some cases, carrying out an ethnography for design implications can be a reductive and limiting use of an extremely powerful approach (Dourish, 2006). In the research in this thesis ethnography is, therefore, drawn on for the contextual knowledge that it provides and for its application in shaping the research at the outset, creating a foundation on which to build the prototyping and field trial work that comes after.

3.6.7 Summary of research design

In this section I have stated my overarching approach across all of the case studies in this thesis, explaining how they feed into one another, and how they tackle similar questions about participation and inclusion of users of care services in public service design and delivery and the design of digital tools that could better facilitate this participation. The level of participation was configured depending on the groups with whom I was working and the nature of that participation in terms of practical activities and exercises being altered to make an appropriate fit. As such, while the research reported in this thesis may not in itself be strictly an example of Participatory Design, and may more appropriately be thought of as co-production, it does have a lot in common with the values that it represents through being oriented towards giving greater control to those who use certain services to shape their design.

3.7 Qualitative Data Analysis

Analysis of the data collected across all of the activities discussed above was conducted at key stages throughout the research. For all studies, this involved the analysis of extensive audio-recorded and transcribed interview data and field notes from my observations of design practices or prototypes in use. Where systems design was concerned, data was collected from workshops that shaped the design of the systems as well as data collected via the systems from field trials. All of this data was variously combined at the key points mentioned and analysed systematically using Thematic Analysis (Braun & Clarke, 2006).

3.7.1 Thematic analysis

Thematic analysis (TA) is the process of coding and thematically organizing data, which within this research was gathered from interviews and workshops with participants, ethnographic inquiry as well as field-notes and participatory observation sessions (Braun & Clarke, 2006). TA has its historical roots in the Heideggerian tradition of hermeneutics and interpretivism that holds that knowledge, especially that which is inductively derived from the study of social systems, is constructivist in nature. This has been an epistemological approach prevalent in HCI since the 1980s (Winograd & Flores, 1986). As such, it is orientated in opposition to the positivist and rationalist positions that assume objectivity that is impossible for researchers working in complex social environments within which they are embedded. In this way: "*Thematic analyses move beyond counting explicit words or phrases and focus on identifying and describing both implicit and explicit ideas within the* *data."* (Guest et al., 2012). TA is a practical and rigorous way of dealing with data from a diverse range of sources and inductively coding and theming content in ways that meaningfully interrogate different aspects of the context under study.

Henwood and Pidgeon note how TA applies to data drawn from a wide range of data sources and even for research following a mixed-methods approach for which they coin the term 'theoretical agnosticism' (Henwood & Pidgeon, 2004). The resulting flexibility in combining different data sources makes it a rigorous method for making sense of a mix of qualitative methods (Braun & Clarke, 2006). For example, it is particularly effective for making sense of participant experience as reported by them from their point of view, data which can be particularly nuanced and for which TA has shown practical import for capturing and describing intricacies (Guest et al., 2012). In this way, TA is more adept, for example, than Discourse Analysis, for making sense of a wider range of data sources collected within 'messier' contexts, while collating and deriving themes from variegated data sources.

Braun and Clarke outline a six-stage process for using TA: "1. Familiarise self with data 2. Generate initial codes 3. Search for themes 4. Review themes 5. Define themes 6. Produce report." (Braun & Clarke, 2006). Within each of the case studies discussed in this thesis, each of these stages was followed accordingly. Specifically, coding was carried out on primary data sources: transcripts from recordings of semi-structured interviews and transcripts of audio recordings of workshops. The process followed varied slightly from study to study depending on changes to circumstances and factors beyond the researcher's control. For example, changes to my supervision team or availability of colleagues, or changes to those who were able to help out at workshops. Similarly, while most studies rely heavily on the extensive use of interview data, others draw primarily from workshops carried out with people participating in design activities. The specificities regarding these variations are described in the individual chapters where the studies are introduced. However, broadly the same inductive analysis approach was followed in terms of progressing through each of the six stages outlined by Braun and Clarke.

In practical terms, the final analysis approach followed mapped to each of the six stages in the following way: (1) Familiarisation took place through the researcher listening to audio recordings of interviews and transcribing these interviews; (2) Code generation was done by hand, in the first instance by the lead researcher working with printed out, physical copies of transcripts of the semi-structured interviews and workshops; (3) Codes were then transferred to post-it notes where they could then be grouped into themes on large poster boards, often hanging beside the researcher's main workspace for long periods, where they could be returned to, reworked and discussed with colleagues and supervisors. (4) Themes were reviewed collaboratively, and often discussed in meetings with both colleagues and supervisors connected closely with the research; (5) Resulting themes would be defined at the conclusion of this process, often the conclusion was indicated when the researcher attempted to write about a theme and in doing so was able 'road test' it as a theme of value or relevance to the work; (6) The conclusion of this writing about and testing of the final themes often formed the basis for reports, which in turn could be shared, reviewed, revisited and developed. This process was followed for all of the data sets analysed across all of the studies.

3.7.2 Methodological limitations and mitigations

Regarding the limitations to the research discussed in this thesis, as has been noted, interpretivist methods have the potential for being subject to researcher bias. As a result, it is hard to generalise from these kinds of studies given the reliance on personal interpretation and the inescapable influence of the values held by the researcher. Indeed, it is these same values that motivate the researcher in working and designing with particular populations as opposed to others. Furthermore, the organisations and participants themselves are strongly aligned to values that speak to social justice, equity for all citizens and the concern for some members of the community to access and realise the full set of rights afforded them by society. For many participants involved in this research, supporting people to have equal opportunities and the prospect of a fulfilling life is their motivation for working with people with learning disabilities. As a result, their interpretations can be associated with a high degree of trustworthiness and honesty and allow an exploration of a wide range of issues encountered in the study space. For example, when the presence of multiple, at times conflicting, perspectives competing to resolve complex social issues leads to diverse interpretations regarding the enacting of government policy.

In response to this, researcher reflexivity has been the focus of more recent work published, exploring the link between the researcher's identity and assertions being made about the collected data (Braun & Clarke, 2019). In doing so Braun and Clarke highlight the importance of self-reflection by researchers at all stages of their work. This is also a limitation of ethnographic research, that I am limited and bounded by the assumptions that I hold. As such it is important for researchers to examine and reflect on their social positionality and consider how that position and status impacts the research. Therefore, it should be stated that my own identity, as the principal researcher in this work, is that of a middle-aged, white, heterosexual Scotsman that does not identify with having any kind of disability. While I have taken measures to represent the participants fairly with due diligence and care, I acknowledge that my understanding of the lived experience of disabled people is limited by my social positionality. I have, however, taken measures to ensure the user's voice was able to come through as much as possible. For example, in the way I conducted and interpreted the interviews, ensuring to emphasise the 'real' voice of the user at all times. This meant drawing out those things that they are describing, paying attention to how they described specific things and where they put particular emphasis to understand what is important to them.

Finally, the activities reported as part of this research are being conducted principally to inform design or to generate ideas for designs and to test them out in context. At no point am I claiming that the discussion points are general truths. Importantly, at every stage, I am being careful about the conclusions that I draw or even framing them as such, however, I remain continuously looking for ideas to inform design, the good and the bad and their relation to, and interaction with, the design context. Through collaboration with my supervisors, two of whom were instrumental in helping me to access the organisations that begun this research, data coding was continually checked, and differences highlighted for discussion. Similarly, with care professionals, where one chief executive of a VCO was closely involved in reviewing designs and advising on issues of ethical concern. These latter issues are discussed in more detail in the next section.

3.8 Ethics

Any type of research poses challenges to ensure adherence to proper ethical standards, however working in a disability context requires careful consideration as well as professional oversight. The studies involved working with people with learning disabilities and young people with Special Educational Needs (SEN) which offers many specific ethical challenges. Disability research ethics sits within the broader frame of research ethics and university ethics board procedures reflect this, with additional scrutiny for those projects that involve working with potentially vulnerable people. All of the research activities undertaken were subject to stringent internal ethics board review and no action or design activities were undertaken until ethical approval was granted. This included, for example, carefully considering how videos, audio recordings or photographs captured of participants were handled by both the researcher and the technologies under study. After being reviewed by an ethics board, approval was granted such that sufficient consideration had been given to how data was safely transmitted and securely stored.

A context-specific ethical challenge that was identified was that relating to consent. Especially since there were participants considered by some to lack the capacity to consent to take part. In this, I deferred to the judgement and ethical practices of the gatekeeper organisations on whom I was relying for access to participants in the first instance. These organisations were staffed by workers and volunteers, many of whom were care professionals with years of experience, that were experts and leaders in their fields of service delivery, advocacy and support service provision. A practical implication of this was that at any time when there may have been a question of safeguarding or a point of privacy, it was possible to speak with or be in touch with one of these professionals to ensure participant safety was emphasised throughout. Concerning participant consent, using the benefit of this experience, they decided on the best way to proceed regarding the inclusion of particular individuals on a person by person basis. In this way, they decided who could consent for themselves, who required approval from a family member, support worker or guardian and who should not be included at all.

There has been criticism of gatekeeper organisations working in such a way for the assumptions that underlie these decisions and the impact that it has on peoples' choices: "*Such challenges can result in the effective denial of individual agency and in the construction of potential participants as incompetent to make informed decisions, outcomes with which researchers—unwittingly or otherwise—may be complicit*." (Heath et al., 2007). From a legal point of view, they are answerable to the regulator, the Charity Commission, the government body charged with, among other things, holding charities to account. We might reasonably infer that such oversight would lead to rigorous ethical practice. Unfortunately, the Commission has faced criticism of its own, with some at the highest levels of government calling for its abolition. Helpfully, Heath et al. outline strategies for mitigating the impact on personal agency and suggest people work collaboratively to support inclusive practice and make sure that activities are explained in a way that participants can understand, "*ensuring an understanding of what participation will involve and the specific methods to be adopted*." (Heath et al., 2007). Taking this further, the Mental Capacity Act (*Mental Capacity Act*, 2005) offers a framework for: "*best interest decision* *making*". This can be a tool for exploring the most practical way of eliciting and obtaining consent with participants, their family members or carers, social workers or advocates, allowing for inclusion in an ethically viable way. Horner-Johnson also shows that people with a learning disability can give consent on their own behalf in most cases as long as they are given a sufficient level of appropriate support (Horner-Johnson & Bailey, 2013).

The process of applying such frameworks can be laborious and adds to the over-extended workload of organisations already struggling with a lack of access to sufficient resources. Working directly with organisation staff, their continual concern over whose image they could use for promotional material or social media was clear from our many conversations and revealed how seriously they took their responsibilities. They also held signed consent forms obtained from anyone from whom they could reasonably get permission, otherwise, they went to great lengths to ensure that images of unconsented people would not appear and reviewed this consent from time to time. This amounted to a *process* model of consent whereby it could be withdrawn at any stage without question and it was adhered to in all of the studies reported in this thesis as well. Participants were informed that they could withdraw their participation at any time and have their data deleted and were assured that for which there would be no repercussions. All of which pivots around notions of trust that are at the heart of the voluntary care sector in the same way that they are central to proper and ethical research practice.

Finally, this research required that I spend a significant amount of time on the premises of VCOs. To ensure my safety throughout the projects undertaken, at all times my whereabouts were known to my supervisors or colleagues. I was in touch to report my movements to ensure that at all times a high level of safety was afforded to all.

3.9 Chapter Summary

In this chapter, I have given a detailed overview of the orientation to research in the studies that comprise this thesis. Beginning with an introduction to PD, I have described how the values that underpin this methodology have guided the design activities undertaken. Moreover, I have discussed ethnography, AR and PAR as the specific orientation to the inquiry conducted and described how this orientation has been adapted between the case studies as contexts, participants and research priorities shifted. I then introduced TA as the principal, interpretivist method by which sense was made of the data collected from a variety of diverse sources. Finally, I concluded with a discussion of the ethics procedures followed and considerations for conducting this research in a manner befitting the context. In the next chapter, I introduce the first case study, a large piece of civic engagement work involving a variety of public and voluntary sector stakeholders which informed the participatory and collaborative work that was done in the case studies that follow.

Chapter 4. Designing an Online Public Services Directory

4.1 Introduction

In the previous two chapters, I introduced the literature relevant to the context of social care, design and HCI that underpins the work in this thesis. This included, in the previous chapter, the description and justification of the methods used throughout the studies undertaken. Chapter 2 discussed the reforms to health and social care legislation that motivated a shift in how information about care services is collected, disseminated and shared between voluntary sector organisations, families, special schools and other stakeholders. The relevant part of this legislation is known as 'The Local Offer': described as an online information directory comprised of searchable information about care service provision in a given geographic area for young people with a disability. I will build on this in this chapter by reporting on the first stage of fieldwork and data collection conducted as part of the research. The fieldwork involved my participation on a steering group convened to enact the new legislation and bring the Local Offer into being for one local authority in the North East of England. This steering group included 10 members of the local government authority, each from different departments as well as two representatives of a local college, two parents of children with special educational needs (SEN) and two representatives of voluntary and charity sector organisations (VCOs) working to support young people with a disability.

Through my involvement with the steering group, I was able to mount an exploratory study of the challenges when designing within a complex network of stakeholders involved in different aspects of care commissioning, advocacy and service delivery, particularly where resources are increasingly scarce. Data collection included gathering field notes at various public consultation events, the meeting minutes of the steering committee itself and interviews with a broad selection of the steering committee members.

4.2 Acting as a Critical Friend

My involvement in this work was initiated through being invited to a steering group meeting following a meeting with local government workers. Initially, the invite to the group was for university researchers that could act as 'critical friends' (Costa & Kallick, 1993), attending monthly meetings, providing constructive feedback and helping generate ideas for designing and implementing the Local Offer platform. Over time that changed as group members required advice and help with public engagement activities and facilitating workshops. As the development of the first version of the platform started to reach its conclusion, the steering group asked for help in documenting aspects of the group's work to ensure lessons learned were captured. To that end, I was able to capture the nuances of interactions between those different stakeholders, both at steering group meetings and elsewhere in field notes. The analysis of this data was critical to understanding the design context, and crucial to informing the design work that would follow on from it, i.e. the outcome of the design of the city's Local Offer website (Figure 4), as well as the subsequent feedback systems that were designed as part of this research.

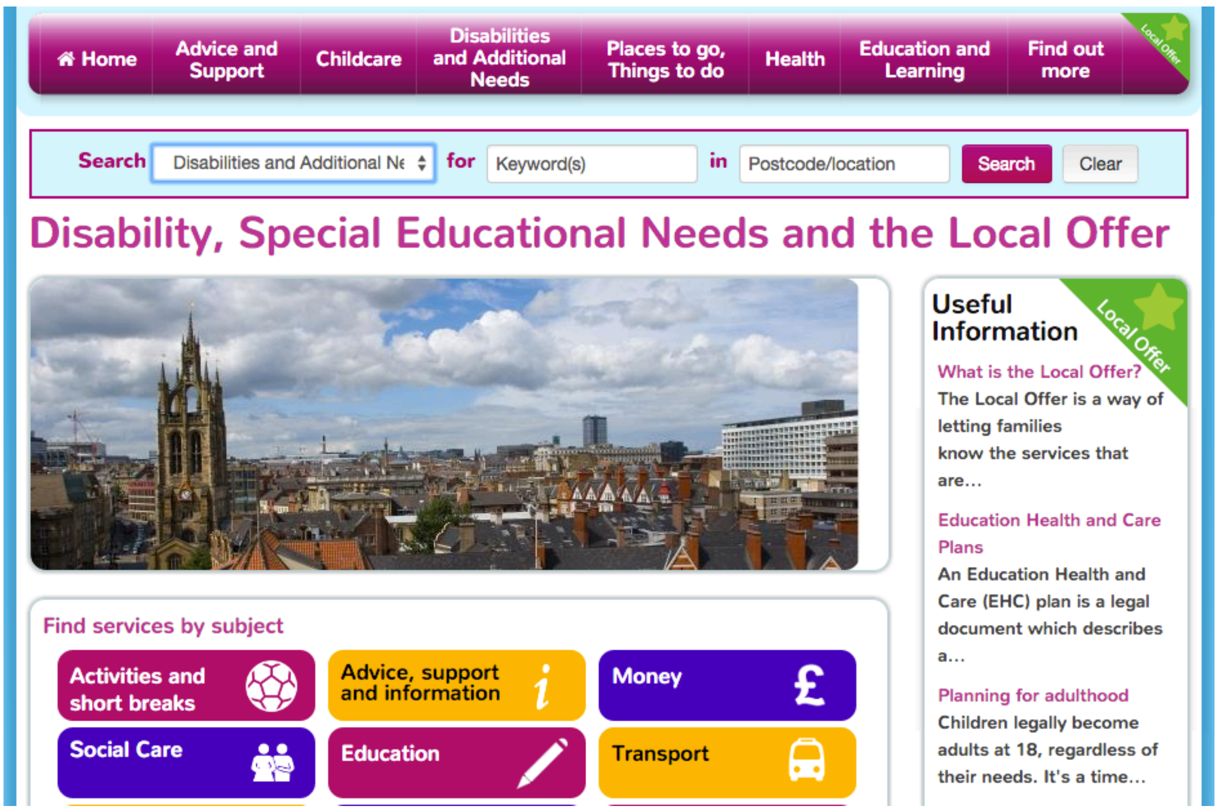


Figure 4: Front page of the final Local Offer website

This chapter concludes with a discussion of the design challenges faced when creating a digital public services directory even in the context of favourable and progressive legislation. I build on this to refine and identify priorities for the remainder of the research. I also discuss some of the challenges that were identified and my developing understanding of the overall design context in which public bodies and VCOs work with people with disabilities.

4.3 Study Design

As noted above, my involvement with the steering group was initially to act as a 'critical friend' and was an opportunity to capture as much about the process surrounding the Local Offer's design and implementation as possible. This principally involved going to and taking part in monthly meetings of the Local Offer steering group. To study the Local Offer's implementation process, activities were structured to maximize the capturing of qualitative data in a dynamic setting. Data collection involved three main activities: (i) Conducting, transcribing and analysing semi-structured interviews capturing the views of experienced public and voluntary sector service workers and staff and the parents of young people with a disability; (ii) Carrying out ethnographic work, by planning and observing public engagement events, capturing field notes about my observations and conversations during workshop activities and (iii) drawing on publicly documented meeting minutes from steering group sessions.

In this way, I was able to explore the diverse perspectives present in the production of the Local Offer public services directory. It also allowed me to build a detailed picture of the context within which the design process was taking place, becoming more familiar with the actual operation of networks within this space. For example, understanding the relationship of families to public services like special educational needs schools or city council support workers; the relationship between grassroots charity organisations, and their workers, to more bureaucratic local government structures and the complex network of relationships between all of these groups. As a result, I was able to observe the actions of the entire steering group, both at public events, which were partially supported by academic staff, and at regular meetings of the steering group that were held monthly. Throughout that time, I was able to collect a diverse array of data which I detail below.

4.3.1 The Local Offer steering group

The steering group was charged with directing the design of the Local Offer to be an online digital resource. It was made up of care professionals, workers from the local authority and other public organisations and VCOs, as well as parents convened to influence and oversee its development. This formed a design group composed of 19 people, including myself and two other staff members from the University (my first and second PhD supervisors). The steering group was formed at the instruction of a senior public worker at the city council responsible for the platform's implementation. The inclusion of certain specific individuals, both employees of the local authority and workers from VCOs, was attained through word of mouth between public and voluntary sector workers at meetings where they worked together. As such, the group represented a diverse, heterogeneous committee of stakeholders. Of this diverse range of workers, many gained the experience necessary to obtain their public positions through work in the voluntary sector, moving freely between grassroots organisations and public bodies. Indeed, at least one of those individuals working for the local government at the time of the research has now returned to a voluntary sector organisation, emphasising the 'churn' of public and voluntary actors.

4.3.2 Data collection

Throughout the 12 months the steering committee existed, meetings were held monthly. The university research team attended 7 of the meetings. Minutes of each meeting were also taken by the deputy chair of the group, which reported on discussed items, documented actions tagged to individual steering group members and were agreed upon following each meeting and reviewed at the start of the next. As the Local Offer programme was tied to public services, these notes were publicly archived should anyone beyond the committee wish to examine them. The field notes from being at sessions and meeting minutes provided invaluable data about the processes of development of the Local Offer and documented the various challenges and issues group members and other stakeholders encountered during the project. In particular, it offered privileged insights into the tensions group members faced in advocating for users of care services, giving voice to families and in interpreting the SEN legislation. The system was also being developed in consultation with senior public sector officials at the local city council and a SEN oversight board which had the responsibility of ratifying decisions made by the steering group. As a result, it revealed aspects of the wider local government landscape within which the project sat, giving insight beyond the steering group itself. This revealed tensions within and without the group, between different members internally, but also with external government departments, where action or lack of action led to disagreements around ways of doing things and people feeling like certain activities were out of scope for their job role.

Over time our involvement as critical friends changed to helping group members with public engagement activities and facilitating workshops. As the development of the first version of the platform started to reach its conclusion, the steering group asked for help in documenting aspects of the group's work to ensure lessons learned were captured. The latter appeared to be of great importance as regards the new parliamentary acts that were being introduced, all of which had a similar scope to the Local Offer but for different populations and citizen groups.

4.3.3 Semi-structured interviews

At the end of the design process, following the public publishing of the completed Local Offer platform, it was possible to conduct interviews with 7 members of the steering group. Semi-structured interviews were selected for their potential to investigate the different motivations and behaviours of the variety of stakeholders involved (see Figure 5 for the interview schedule). Some were care professionals working for some years at the local authority, while others had experience of working with young people with SEN as staff at charities. There was also the chance to speak to a parent of children with SEN, a particularly vocal member of the steering group. Semi-structured interviews would also allow a more guided exploration of contextual factors highlighted from field notes and meeting minutes analysis. Moreover, drawing further from this analysis, I was able to direct the interviews in ways that allowed for a deeper exploration of the perspectives of care professionals working in the social care sector for many years.

Interview protocol for Local Offer steering group members

Purpose of Interviews

To talk with members of the Newcastle SEND Local Offer steering group about their involvement in the setting up of the Local Offer over the last 18 months. The focus is on how they became involved, what they have done, what challenges they encountered and what they see as the most important future direction of the Local Offer.

Schedule

1. Could you just introduce yourself for the recording?

2. Could you tell me a little bit about the work you do?

3. Talking specifically about the Local Offer, could you tell me how and when you first heard about it?

4. Thinking back to this time, how did you feel when you first heard about it – did you think it would change the way in which you or others have to work?

5. How did you get to be involved in the steering group?

6. Could you tell me some of the main things you were involved in, or responsible for, in getting the Local Offer established?

7. Were there specific challenges or problems you encountered in getting the Local Offer off the ground?

8. For you personally, what does a successful Local Offer look like?

9. How has citizen feedback on services been set up through the Local Offer and how does that work at the moment?

10. Can you tell me how the Local Offer has worked in relation to the commissioning of new services?

11. What would you have done differently if you could have started the Local Offer project again?

12. What do you feel is the most important direction to take the Local Offer in, in the future?

13. And, to finish off, what do you think is the biggest threat to the Local Offer being a success?

Figure 5: Local Offer Interview Schedule

Interviews were, therefore, informed by insights drawn from the analysis of field notes and meeting minutes, reflecting on interactions at group meetings, and other workshop materials were collected at public events as well as at workshops with VCOs offering support services to people with a learning disability and their families. These semi-structured interviews lasted between 47 and 92 minutes and were conducted with a cross-section of the steering group members (n=7). Of these members (see Table 1 for summary) interviewed, four were members of the local authority; two were family and young person workers that had experience of working within grassroots, VCOs; and one parent of children with SEN that was also a member of a parents' forum organisation. These interviews were a chance for group members to reflect on their experiences of the meetings, activities and events they had taken part in over the preceding year. Specifically, interviews concerned how members had come to be involved in the steering committee; their reflections on the nature of the policy reforms related to SEN and the Local Offer development process; as well as their thoughts on the outcomes from the entire design process, including the efficacy and value of the final design and its reflection of the principles enshrined in the legislation which led to its creation.

Participant Code	Affiliation	Role
VSW1	Voluntary Sector Worker	Disability Worker
VSW2	Voluntary Sector Worker	Advice and Support Worker
VSW3	Voluntary Sector Worker	Parent
CW1	Council Worker	Family Information Service
CW2	Council Worker	Disability Worker
YSW	Youth Service Worker	Young people with disabilities team lead
SSW	Special Schools Worker	Senior advisor for special schools

Table 1: Interviewee professional roles and organisation affiliations

4.3.4 Data analysis

The collected field notes made across the various events, the group meeting minutes and interviews were used as one corpus of data on which thematic analysis (Braun & Clarke, 2006) was conducted. As discussed in section 3.7.1, TA is agnostic of theoretical framing and applicable to data collected from a range of data sources. Through the initial proess of coding data, and clustering them into early themes, interview protocols were created. These interviews were then read and transcribed by me which produced several codes applicable to what the participant was saying. These codes were again clustered into initial themes that captured the discourse and shared issues across all of the data. At this point, these were shared with two other colleagues where agreements and disagreements in interpretations of data led to the refinement of codes and themes. At this time codes were debated, resulting in new themes that were added and the data then re-clustered accordingly. At the end of this process, I returned to the data and began writing the report about these themes before passing this back to the same to colleagues to check once more. This process resulted in six themes that describe the results of the analysis each of which is described in more detail below.

4.4 Themes

In this section, I discuss the different themes resulting from the analysis of the data corpus. These include stakeholder motivations and aspirations for the new Local Offer platform; the importance of getting 'buy-in' from relevant parties; and a discussion of the concerns and suspicions reported by some of the participants about the government legislation itself. I then describe issues group members highlighted concerning feedback and how they imagined that would work as well.

4.4.1 Motivations and aspirations

For the steering group members, they were in many cases motivated to be involved with the group because of strongly held aspirations rooted in the policies around the Local Offer which they saw as being emancipatory and empowering to parents and their children: "*it has to be very much something that parents and young people can have control over, can add to, can comment on*." (VSW1) Moreover, they represented an extremely wide range of current and historic professional and personal experience of working with young people with SEN. For example, some were involved in direct service provision such as working for special schools in education or in providing support services such as advice on service provision in a given area or advocacy work. Others were involved through their association with peer advocacy groups or forums for parents of children with SEN. As a result, there was a wide range of expertise available, as well as differing perspectives, priorities and hopes for what the system could be.

Early on in the process, there was optimism and enthusiasm for innovation around how the Local Offer could support young people and families to find information about services for themselves. At early meetings of the steering group, it was agreed that 'choice, empowerment and cooperation' should be the tagline to which the system aspired. An experienced voluntary sector Advice and Support service worker explained what, in her view, the Local Offer was about:

"*It is about that whole inclusion thing and that is what the Local Offer is about for me. It is about everything from the specialist end of service right down […] It is about opening everything up and providing the maximum amount of choice and the maximum amount of availability to as many people as possible.*" (VSW2)

The council employee principally responsible for implementing practical changes to the Local Offer website echoed this optimism:

"*It should be dynamic. This idea of it being a moving reflection of what is actually existing in the city that you have to engage with […] it is about having hold of that information, about feeding information into that website, about extracting information from that website and about engaging with it.*" (CW1)

Instead of creating a static directory of services group members aspired for it to be more interactive, giving people the chance not just to get the information about services, but also to contribute their knowledge and experience through engagement with it. The aspiration for something dynamic and evolving was repeated by the chair of the group: "*How can it be a tool that is useful for them and empowers them in a more creative way than just a website?*" (YSW). This idea of the system being 'more than' a website, having an empowering, community-led aspect was common and represented taking the new legislation and interpreting it in the best possible light. CW2, a social worker at the council with many years of experience specialising in working with young people with SEN saw it as reaffirming long-held professional views:

"*I think we need to reach out and do different things with folk, and we need to work with other people locally in their areas, or within their schools, or wherever it is that's the most comfortable place for them – within their homes.*" (CW2)

CW2 was not alone in interpreting the legislation in a way that emphasized learning from collective community knowledge: "[the] *Local Offer, it's very much about that. How can we look at that community wealth?*" (VSW1). For both, there is real value in drawing on the knowledge held by the community and finding new ways to harness and share that knowledge, something that CW2 observed as a community strength: "*I think people do word of mouth much more in this world.*" (CW2).

4.4.2 Shaping the Local Offer

As discussed in the previous section, the interview participants had strongly held values concerning their aspirations for the new legislation and how that legislation would be enacted through the system under consideration. Their aspirations were driven by strongly held values about the treatment of people with a disability. In particular the ability for people to access important services that would not only support their families in caring for them but help them to participate in society in different ways. It was, therefore, a key challenge throughout the design process to find ways of enacting the values behind these aspirations and, as such, they were manifested in decisions made during meetings.

Questions arose around what types of information should be included in the Local Offer, particularly concerning what types of service should be included in its list of information. This was an issue discussed often at meetings and public events, with people explaining that the services meeting the needs of people with disabilities were not always those provided by formal care services: "*It might be your local community centre, it might be an artist that works down the road, but all these are networks and people that if you spoke to them might actually support you to do something different with your child or young person."* (VSW1) Sometimes those places that afforded families the kind of support that they were looking for or that provided the most appropriate environment for a family member with a disability were private businesses located in the community: cafes with good access and welcoming staff or cinemas minded to run events targeted at specific groups. In many peoples' views, these were often considered 'the best-kept secrets in the city'.

Across stakeholders, there were differing perspectives on what was appropriate to include and whether those included should be more readily identifiable as 'special' services or whether it should include anything where young people with SEN would feel able to access and participate. This was stated by a parent who was both a parent carer of children with SEN as well as a parents' forum member: "*Parent carers felt that they wanted, you know, a place where they could get information and other things, and this just wasn't just special education needs."* (VSW3). Council workers agreed and saw the risk in limiting the scope of the types of services that were included: "*[T]he danger of doing it that way is that it just becomes service land. It becomes what professionals know rather than a conversation about what needs to change sometimes*." (CW2). This enmeshed with the concept of a new type of system that wasn't just a static directory listing the same old familiar services, similar to what had gone before and proven to be challenging to maintain. Instead, the group embraced thinking that would lead to the creation of a more interactive space encouraging dialogue and knowledge sharing about the services available across an area, both formal and informal. Unfortunately, as the Local Offer slowly came together and timelines had to be revised, the scope of what was achievable appeared to group members to be becoming narrower:

"*A lot of stuff people use perhaps isn't on… I think what we are doing is with the Local Offer because the Local Offer is all about special educational needs and disabilities, we are not really bringing in what's actually happening or that other stuff and that's more important*." (VSW1)

As meetings progressed, there was a notable shift in emphasis away from championing innovation to ensuring that the 'right' information appeared in the Local Offer which at the very least should cover 'the basics': "*The thing about the schools is its they have to be on. Otherwise if they are not* […] *then the local authority would have been penalised*." (VSW1). This represented a key change in the attitude of the group and was indicative of a move away from something which had a much wider scope of possibilities. Possibilities that both reflected the values of many group members and would potentially lead to a system that was much more transformative. Not only in terms of the kinds of services being shared but also in how information about service provision is collected and disseminated. Rather the emphasis was turning to one of ensuring the relevant boxes were being ticked, boxes that they felt under pressure from local government to tick.

Partly, this was a result of having to work to strict timescales and a feeling that, despite the group managing to come together every month, that there was little evidence of much progress being made on the actual system itself. As a result, there was a view that time was running out to ensure that even the most minimally viable product was delivered, which also had other ramifications for the development of the system, as the question of who would build it rapidly required addressing. To answer this, group members turned to a software company that already held a contract with the council and was providing resources for other local authorities in the region, about which CW1 observed: "*Certainly in the period of time that we had to do what we had to do it seemed that was a good solution*." (CW1). Critically, it was seen to be a cost-saving measure as well, "b*ecause it was going to be cheaper than starting afresh*." (VSW1). This accomplished two things: first it handed some of the interpretation of the legislation off to another council's vision, as the platform now being 'bought in' was designed to another authority's initial specification; and secondly it imposed limitations, raising tensions around specificity for their own solution and adopting a generic, off the shelf system.

4.4.3 Getting buy-in

There were further limits for the steering group in terms of working with and across different departments of the local authority, many of whom did not see the Local Offer as a priority since it wasn't part of their job. As the chair of the group reflected, getting 'buy-in' from relevant departments and individuals was a constant struggle: "[We] *really struggled with getting buy-in from other departments that weren't represented on the local offer* [steering] *group.*" (YSW). This was not just a problem in terms of people giving their time to provide information for the Local Offer but also in managers agreeing to resource the work properly. Even the steering group itself was not immune from being critically under-resourced meaning that members had to find time to squeeze in tasks along with their regular workload:

"*I would suddenly be meeting for lunch and having business lunches, in the only time where we could discuss what was coming next and following up actions and stuff like that. That was the biggest pressure, because it was a bolt on, on top of everything else you still had to do*." (YSW)

This was unfortunate since the Local Offer was a project that required the significant input and effort of a wide range of stakeholders both inside and outside of the council. Partly, the problem was thought to be a lack of understanding of the legislation generally. VSW2 remarked regarding the schools that they were trying to engage:

"*You will find a lot of people in schools who don't understand … I would challenge you to find anyone in school who understood the Education Act and what it said in its entirety*." (VSW2)

There was, further, the suggestion that, within the local council, disparate departments were lacking in their engagement with the project and that this manifested in an ongoing struggle for cooperation from and between them:

"*That's really messy. It's much easier within the local authority than it was, but it's still difficult. You still need protocols and agreement within the local authority, so we still struggle."* (CW2)

For the group members, this appeared as though they were not being listened to, and applied pressure that could ultimately result in rifts within the steering group itself:

"*People that were within [the] group were very disgruntled. It was a real shame because it was almost like we were going to lose parents [or] our voluntary sector colleagues."* (VSW1)

As a result, there were frictions between notions of participation, how community led the overall project actually was and the processes of public authorities. Meeting minutes from across the study period evidence the ongoing battles group members faced. There are references to getting additional administration staff to support the development of the new site, it failing to appear on several occasions, and when it does the worker is only able to assign two days of their time. What's more, within months of the group convening, the original chair had to take a step back due to time pressures resulting from an unmanageable workload: "*The Local Offer Group… was struggling because they had somebody managing it who really didn't have the capacity to manage it*." (VSW1). More critically, the person most directly responsible for implementing changes to the system, CW1, was moved to another department following the launch of the platform after the twelve months consultation period. About which the group's replacement chairperson commiserated:

"*[Regarding Anon's] departure: I was sat in a meeting already this week and that was raised as a concern […] And I know that all you need is two or three months, things go adrift*" (YSW).

A point reinforced by CW1, who acknowledged that:

"*One of the key strengths that the steering group had […] were these key individuals who felt embedded in the process and signed up to the offer willing to champion the processes for me.*" (CW1)

Despite this, there was no guarantee that those individuals would be able to maintain their commitment. Given the goal of using the system to identify gaps and fill them, however, perhaps the failure to get buy-in from the commissioning department was most critical, a concern that I will return to.

4.4.4 Concerns and suspicions

As time progressed and frustrations grew, there emerged suspicion surrounding the new act, despite its positive tones, as being a resourcing and efficiency exercise, directed by a central government intent on austerity: "*Part of the problem was the way the government handled the whole reforms bit*." (VSW2) In interviews there was a continual concern expressed about cost-saving and cuts: "*I think the background is council cuts.*" (YSW) A voluntary sector worker blamed these cuts for having created gaps in service provision, directly related to the kind of gaps the Local Offer aimed to fill, such as in services offering advice, guidance and signposting to families: "*Quite a lot of those* [participation worker] *posts are cut* […] *the Children's Right's team all got cut alongside Youth Service and Play Service*" (VSW1). Moreover, efficiency savings and their effects were seen as a countrywide problem:

"*The problem I think we've got is that nationally local authorities have been squeezed and squeezed with budgets and we will end up with commissioners and that's all that will be left."* (VSW1)

Steering group members, many of whom were also council workers, reported the impact on their departments: "*There used to be 12* […] *Now it is pretty much me with a little bit of support."* (CW1). As such, over time the group members and other stakeholder started to question whether this new legislation was part of a cost-cutting strategy:

"*There's a limited pot of money. It's about making the most effective use of resources and having a real attempt to improve those services*." (SSW)

The Local Offer's principle utility then becomes it needing fewer staff members for signposting citizens to services. This was linked with the perception that it could be, "*low cost, no cost* […] *getting people thinking about taking ownership and being in control of their own lives*" (VSW1). Here cost saving is a result of shifting work to individuals depending on the services and the assumption that networked technologies provide the capacity for them to collect and share their knowledge.

The Local Offer and platforms like it then become viewed as a way of reallocating human work to computers, however, the group was finding that this was a false economy. Increasingly, they understood that digital systems need updating and that collecting the information to go into them was a formidable task. As concerns grew, it was also starting to be seen as unrealistic:

"*The Local Offer is one of those lovely ideas […] that has been dreamt up on a piece of paper and it looks lovely in theory, but the actual practicalities on the ground are very different."* (YSW)

This was in contrast to the more ambitious elements expected of the system, elements that some feared were not being addressed:

"*There's also supposed to be this whole thing of identifying the gaps in the provision and getting the feedback and being a much more interactive thing, that for me, my fear is, that's going to get lost in [anon] and basically, tick [a] box*." (YSW)

In this way, knowledge is captured, and aggregated and even used to, "*see where the gaps are in services provided in order that people will then identify those gaps and start to provide the services that are missing.*" (VSW2) While ambitious, these system qualities were mandated by the new legislation. Unfortunately, the legislation did not stipulate how this was supposed to be achieved. As the Local Offer came together across the weeks, the realities of the work involved in identifying such gaps, much less filling them, started to become apparent to the group members:

"*There is a whole extra level of research that needs to then [be] done because somebody needs to work out if there is a gap and that doesn't sit anywhere. There have been a couple of them that I have received for the amount of work that it takes to do that and the duty to get back to the person who has told you about it in the first place and broker them into services."* (CW1)

Here the tensions between experienced voluntary and youth disability workers, certain motivated council staff members and senior council management come into relief. For some, the reforms are viewed as an opportunity to innovate, creating efficiency savings while providing the relevant service information for disabled children and their families that help them to live the life they want. By contrast, the council appears as an inflexible bureaucracy providing limited resources to support the steering group while making sure that they comply with the minimum asked of them by national Government: "*I think sometimes people who have worked for councils have worked in a certain, sort of, very autocratic way. It can be very hard for them to change.*" (VSW1)

4.4.5 Feeding back and commissioning processes

Collecting feedback was part and parcel with the Local Offer and was identified as a way of addressing the challenge of identifying gaps in service provision. However, this needed consideration in terms of how it would fit with established commissioning processes, those processes by which new services are divined and green-lit to be financed or brought to the public: "*[How] feedback is going to work and how that links to commissioning is the real and present challenge really*." (CW1) This was in line with the idea of the Local Offer and the legislation defining it. That it should provide data to feed into decision making regarding service provision. In this way the Local Offer would establish a conduit through which people could participate in identifying gaps in provision which in turn would generate data upon which the local authority could commission services that were responsive to a specific, and evidenced, need.

VSW1 who had experience of both the voluntary sector and the local authority was doubtful that the Local Offer would so easily be integrated with the existing commissioning processes: *"It's not very fluid. The way they commission things it has to be like this, it has to be like that and it's not open to change or accepting."* (VSW1). Moreover, there was an understanding that commissioning is led by the funding that is available: "*As money becomes available the charities are right there looking at what is the money being funded for. We are not actually being user-driven."* (VSW2). Yet further, there were fears around the public forum and opening up the platform to comment and feedback:

"*I don't think we're going to open up the website to people to write comment, are they? […] I think local authorities are really wary. I don't know what [anon] is like, but I think they're really wary about something where it's a public forum."* (CW2)

The intention behind these platforms is to stimulate discussion, debate and awareness around gaps in service provision while highlighting where services are currently under-supported. However, the extent to which this was achievable was unclear as there are anxieties about the public nature of this activity and how individuals and organisations are unsure how they would be able to respond to these new innovative practices.

Importantly, innovation itself was viewed suspiciously and conceived as something that could represent risk-taking: "*I think people are very scared to try and be innovative unless it's within a certain parameter.*" (VSW1). However, innovation is what it would take to ensure that those that require to participate can participate. This could apply to new methods and processes that would be required to make sure that the appropriate person would 'sign-off', for example, on new data required to keep the Local Offer up to date: "*That function doesn't exist as such, so it ends up a low priority item of work to be done in a very senior person's in-tray almost without exception*." (CW1)

Despite the enthusiasm for bottom-up engagement, given the scale of current commissioning processes within the council, there was scepticism about how the Local Offer could ever feed into established commissioning processes: "*I don't know that in a way the Local Offer would have any impact on those reviews which are commissioning of big services."*(SSW)

Taken together, this related set of issues are specific to digital platforms like the Local Offer and demonstrate the complicated temporal element involved, where what is offered locally is dynamic and changes very quickly. This underlines the point that even if there were resources to support these types of new activities there is no guarantee that they would be sustained over time, a point that I expand upon in the next section on the final theme.

4.4.6 Making it sustainable

Traditionally, the local authority is in the business of enacting policy handed down to it. The legislation concerning the Local Offer was, from one perspective, seen as something to satisfy central government and then move on: "*We see a legal duty, and we jump to do something, and then, 'Oh, we've done that now.' We don't think about how it needs to change, and evolve, and how it needs to become more involved with folk*." (CW2). This was more exemplar of a perspective and attitude of bureaucratic box-ticking than any sort of innovation:

"*The problem is when you work for an organisation that is absolutely so many people on a really senior level that just want to have things they can tick off the list, it's very hard for them to move their thinking*." (VSW1)

Further, there is a sense of a managerial attitude that is both reductive and limiting. VSW2 reaffirms this, while helpfully identifying the site where the real work is located: "*Clearly from the local authority's perspective it is a list of jobs to do* […] *the actual working out happens somewhere between grassroots and the hierarchy*." (VSW2) People from the steering group were critical of this kind of attitude, and how inappropriate it was for the task in front of them:

"*I think that that's been our downfall really because I think it's very much seen as start a task and finish. I think that was a big, big mistake, because it's almost firmly lodged in people's brains that's how it is."* (VSW1)

Establishing the Local Offer was seen as a job that had to be done. This equally came through at the steering group meetings where there was anxiety around the group being taken apart at the end of the 'implementation' process and the local authority not seeing the Local Offer as an activity that needed ongoing support. The group chair reported how quickly it dissolved when its work was seen to be complete: "*And then, of course, the group was disbanded and it's like, whoosh! And it's ceased to be part of my job. I mean it's just unbelievable*." (YSW)

A critical point is the issue of resourcing following the implementation of the Local Offer, addressing what happens outside of the time frame after the steering group had completed its work and the service was up and running. It would need consideration to ensure sustainability, CW1 at the council remarked of previous projects over which she had seen: "*It really wasn't long ago and it seemed once the project had finished and it had dropped off people's radars it just seemed very futile*." (CW1) Reflecting on this, others observed how it had been hamstrung from the beginning:

"*The Local Offer didn't come with any extra money I know we had the initial grant, but it doesn't come with long term, sustainable funding, and I think that is the biggest weakness in it because to maintain a website needs staffing."* (YSW)

This is an issue of the great amount of work that comes into curating and generating 'information' in the first place. Or equally the impact of it not being up to date, something which was noted by a senior social worker almost as soon as it had launched: *"The first time I used it, something I showed them was inaccurate, so that doesn't help* […] *I suppose getting confidence in it will be the thing."* (CW2). There were issues around being able to place trust in it and the continued engagement around feedback and future commissioning and the 'participation' activities needed to be properly resourced. However, with the public sector continuing to contract, and certain posts no longer existing, it was hard to see how this was going to be achieved.

4.5 Discussion

The Local Offer was a small part of a much larger reform concerning the education, health and care provision for young people with SEN. Importantly, it represented an enormous shift in official thinking about how information about local service provision is collected, shared and disseminated. Through a persistent engagement in the design and development process of one local authority's

Local Offer platform the nexus of values, relationships and compromises that accompany a complicated multi-stakeholder service delivery process were observed. The process as a whole involved working with stakeholders from a variety of local authority departments, care and education providers and parent organisations each with their own values, priorities and perspectives. The Local Offer, as written into legislation, is a piece of well-intentioned public policy, the implementation of which would be to the social good of many young people and their families, incorporating their views and creating benefit from their experience and knowledge for the wider community. However, as we have seen, translating that legislation into a functional system is difficult, fractious and at times frustrating for those involved. The results highlight tensions between a passionate grassroots commitment to the inclusive vision of the legislation and systemic issues that mean that local authorities are beholden to box-ticking compliance. In the following sections, I expand upon these tensions and discuss their relationship to digital technology design and deployment in a challenging setting.

4.5.1 Designing in multi-stakeholder, public sector settings

The results of this initial exploratory study underline that, even with prominent members of a local government body involved, and favourable legislation in place, contextual limitations mean that innovation gives way to bureaucratic box-ticking and the delivery of, at best, a minimally viable product. While it is easy to recognise the value of many of the ideas the Local Offer aimed to have authorities implement, public-policy engagements have enough history in town planning (Brattgård et al., 1996), public health (Simpson et al., 2017), and other areas (Pierre, 1998), to suggest that such efforts may ultimately be fruitless – at least at scale and with consistency. Moreover, there is an evident tension between scaling capacity down at the behest of continual cuts to service provision and trying to support the kind of community participation that the Local Offer system implies. In part, this is down to a misapprehension that a digital solution would provide a replacement for the human work that had gone on in the service delivery space before. Local government workers acted as though a digital system could replace the work of advice and support workers, help discover gaps in provision to ensure that future services were attending to well-defined needs and save money in the process. There was no acknowledgement that this was impractical from a design perspective, such a system would take much more time to develop and implement. Neither was it acknowledged that it was deeply problematic from a practice perspective, as it would require the reshaping of how services were currently commissioned and delivered and require a whole new set of staff with specific expertise to make it work. The fact that such a design task is something with which the methods of HCI research would doubtless be able to help represents a missed opportunity for the council, having researchers on hand and in their midst.

A major challenge faced by the steering group that I worked with was negotiating the values of participation and engagement purported to be central to the Local Offer and how the implementation of a 'successful' platform was measured. Based on its underpinning aspirations, we might have assumed success would be gauged on documentation of the process of engagement around the development of the platform, the content of this engagement and indeed the quality of information gathered related to local provision. However, top-down indicators of success focused on documentation of numbers of people at events (rather than what was learned from those events), whether the 'right' type of information from the 'right' sorts of local services was available and that the platform was online, stable and up-to-date by a specific time. This demonstrates that policy is not uniquely the problem but also the methods and processes employed in enacting that policy. As others have discussed, organisations have to be seen to be compliant with specific outcome measures or face penalisation (Lowe et al., 2016). The problem is the processes that exist for measuring what is a success or failure around the policy and not what the policy itself set out to achieve.

However, to address some of the evident challenges discussed it would be advisable to examine how citizen participation in processes of engagement is not just documented for reporting but for making visible to citizens themselves how their input and work is being used, processed and incorporated. In other words, we need to facilitate processes whereby systems help identify, trace and track citizens' participation, experience and opinions, creating citizen data for use by decision-making structures and exploring its role in service improvement. In this way, HCI could support citizen evaluations of whether they feel that a local body has consulted, for example, and evidence their role in the dialogue that they have had with them around issues of local importance. In doing so, we may shift away from service design measured against potentially simplistic measures or outcomes and instead support participation that is led by citizens in a properly supported digital process

One view on these issues would be that the reason why the Local Offer was so challenging to assess was a lack of tools and techniques for the team to draw upon and evidence the participatory nature of the endeavour. There might be opportunities here to explore the design of simple tools that allow those involved in consultation activities to not just facilitate dialogue between relevant citizens, groups and professional workers but as per (Johnson et al., 2017) to capture and record these to inform the next stages of decision making. Or for users of care services to record and share feedback about their experiences of particular services. After all, a stated purpose of the Local Offer platform was for it to act as a means for collecting feedback so that future services could be more responsive to local needs. One way of visualising how feedback processes relating to the Local Offer were imagined to operate is shown in the diagram below where the different elements of the process are separated and the control over those elements highlighted using different colours (Figure 6). With such a small amount of agency afforded to users of care services, it is perhaps not a surprise that little feedback was captured by the system. We shall return to this diagram following each of the case studies in this thesis to examine how agency and power shifts with the introduction of each of the feedback technologies being studied.

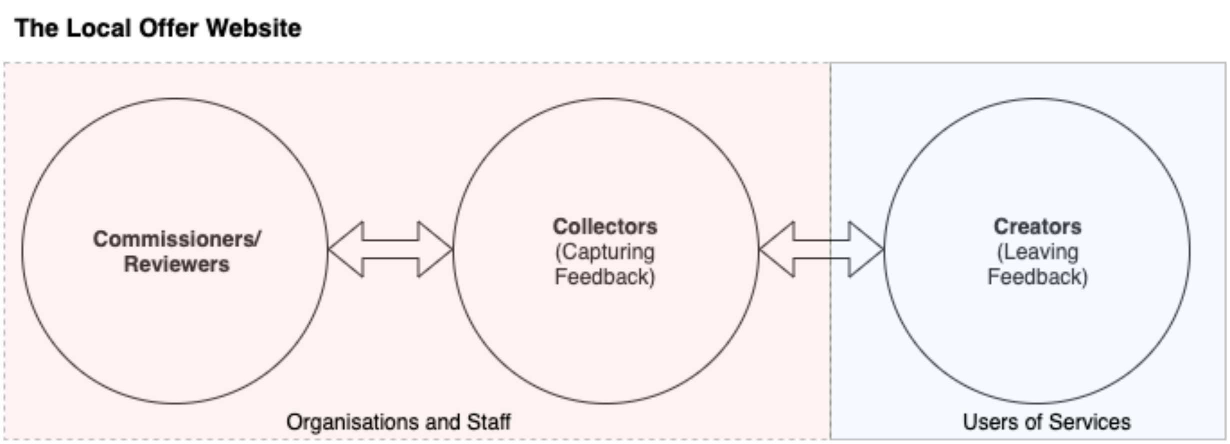


Figure 6: Organisation staff control both the LO website and how it captures feedback from users of care services

4.5.2 Between grassroots and the hierarchy

The study into the Local Offer reaffirms that designing in multi-stakeholder contexts is challenging, especially where the behaviour of larger, more bureaucratic organisations leads to tensions between local authority structures and grassroots activists working, in some cases for the council, in others for VCOs. Importantly, I also observed the appetite and energy for exploring technology exhibited by VCO workers. Similarly, the local authority applied itself to designing new technology at the behest of new legislation but there was not sufficient time, resource nor communication across such a tiered organisation to capitalise on it. Often innovation in care sector service provision is driven by VCOs that are funded directly through contracts with the council and can reconfigure their workforce and practice more efficiently and easily. From my work with the steering group, I was able to both observe these practices as well as see how such contrasting ways of working were in tension with each other as the Local Offer design project progressed. The result of which was a failure to live up to the citizen-led ideals of the new legislation and the production of something similar to what had gone before: another online services directory.

Working with the people on the Local Offer steering group it had been clear that there was much hope and potential for how the new legislation could be used to create something new. A service directory with additional qualities that allowed community participation in ways new digital networked technologies were uniquely placed to provide. A host of attendant benefits would then follow, enabling users of care services to have a voice in the services on which they relied. By collecting and responding to feedback submitted through the website, users would be reporting on what was working, what wasn't and helping to identify where there were shortfalls in service provision. Such data would be an invaluable resource not only for helping to develop existing services but also in determining where to target new services and could ultimately feed into the commissioning of new services. Finally, the steering group had also expressed a hope that data collected in this way would broaden 'the offer' to young people and families in terms of the amount and diversity of services recommended to them, including more informal provision options. Indeed, there was the idea that a service worthy of the name 'The Local Offer' would be just that, a resource of services, organisations, places and spaces that were on offer locally, irrespective of whether they were provided by 'official' vendors. In the new legislation, they saw the opportunity to find out what worked for young people with a learning disability and their families, to capture this information and to share it widely. Yet despite these aspirations, the service directory that was created was not fit to be used in this innovative way.

Partly, this failure was down to bureaucratic pressures that meant that the process of designing the Local Offer lapsed into an exercise in box-ticking. Fortunately, in the conversations of the steering group, in working with families at public consultation workshops and meeting VCO workers, even from the directives of the new legislation itself, there was the recognition that digital technologies represented opportunities for new ways of doing things. New ways to capture the voice of users of care services, to share that voice and to learn from it. This amounts to the exploration of new modes of citizen participation, something with which civically oriented HCI research is increasingly concerned (Balestrini, 2015).

4.6 Chapter Summary

In this chapter, I have discussed the results of a 12-month study where researchers, including myself, participated in the design, development and implementation of a Local Offer digital platform. The findings reaffirm that sites of consultation are dynamic, fluid and messy. Uniquely in this study, the presence of new government legislation was a guiding principle providing a locus for conflict around individual interpretations of that legislation. This highlights tensions that arise when legislation is enacted and translated through the values of grassroots organisations and citizen groups working with inflexible bureaucratic hierarchies. It also suggests opportunities for the role of new digital technologies and HCI research in this context. Efforts that should seek to support citizens and government bodies to share and make sense of their diverse perspectives.

In the next chapter, I discuss the design challenges faced by introducing a novel digital technology to address some of the issues mentioned here. Since participation in design in this study was extensively managed by the local authority, in the next I work more closely with VCOs to understand and explore novel ways to promote user participation while creating community-driven resources to impact service improvement.

Chapter 5. Designing and Prototyping a Digital Feedback System

5.1 Introduction

In the previous chapter, I discussed the design and implementation of the Local Offer, an online public services directory mandated by new legislation. Through my participation with the steering group creating it, I observed how stakeholders from a variety of organisations involved in care service delivery were motivated by aspirations to give voice to users of care services. Moreover, there was the potential that capturing this voice could create data for service improvement or the commissioning of new services as well as revealing 'gaps' in provision. In this chapter, I build on the notion of capturing the voice of citizens as a means to service providers deliver better services. At the same time, I explore the potential for digital systems to support care sector organisations in doing this. This was achieved through working with Voluntary and Community Organisations (VCOs), one of which I was introduced to at a public event during the Local Offer study (Chapter 4).

In this chapter, I describe the designing, prototyping and testing of a new digital feedback system, *ThoughtCloud*. ThoughtCloud is a lightweight digital feedback capture and presentation system designed collaboratively with a VCO, SmartSkills, providing care services to people with a learning disability. At SmartSkills there was enthusiasm among management and staff members for working collaboratively on the design of a new digital feedback system. Working with their staff and volunteers yielded opportunities for design work leading to the creation of the ThoughtCloud system. An initial ideation phase was followed by some field trials of a prototype of the system with two different organisations. This culminated in a series of interviews conducted to evaluate the system, following the completion of the field trials. This chapter ends with a discussion of the use of the system: drawing on use statistics, observational field notes and semi-structured interviews. I begin by discussing the design of ThoughtCloud in more detail in the following section.

5.1.1 Scoping the design space

SmartSkills is a VCO that provides services to people with a range of disabilities including advocacy, skills development workshops, care planning sessions, social events and befriending and referral services. Initial discussions with staff and volunteers involved exploring the methods by which feedback was usually collected. This included a mixture of form filling, questionnaires and remembered anecdotal quotes often collected piece-meal as an afterthought. There was also discussion of more creative ways the organisation used to capture peoples' experiences of the services that they provided. This included 'diary-room' style video capture where people could give their feedback to a camera in a private room, as well as lightweight means of voting about whether a session or activity had been good, bad or okay using post-it notes and sticking them to walls at the entrances of rooms. However, such methods were unsuitable for long-term use, requiring as they did extra resource and time to plan and execute.

This initial phase lasted approximately three months and culminated in the production of the first ThoughtCloud prototype, see timeline for summary (Figure 7). It involved meetings with management, trustees and volunteers and participatory observation of sessions and activities they ran. During this time, I also volunteered for SmartSkills for one day a week. This initial phase of engagement was an opportunity to be sensitised to the organisational routines of SmartSkills. It also provided opportunities to make first-hand observations of feedback processes within the organisation, and for design proposals for new feedback systems to be developed and discussed.

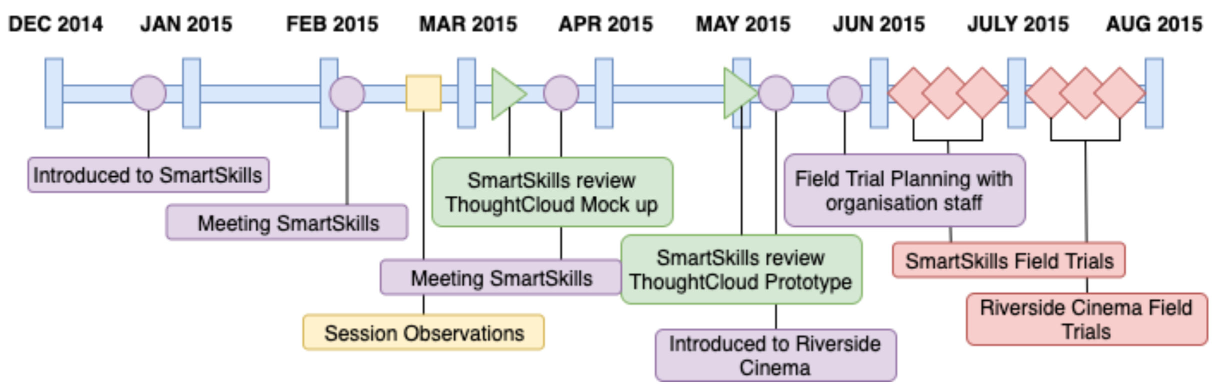


Figure 7: ThoughtCloud development timeline, from initial meetings, through prototyping to field trials

Following further discussion with senior staff members, it was thought that certain modes of feedback capture that they relied on, especially those that involved reading and writing, could be inappropriate for certain individuals. Similarly, some of the more creative ways of collecting feedback mentioned previously could be recreated using different aspects of mobile digital technologies equipped with both touch screens and front and back-facing cameras. For example, designing a system that would allow users to quickly leave a video comment regarding an event or activity that they had attended. The problem of mobile technology being relatively scarce within the population of people that regularly made use of their services was raised as a barrier. Finally, a suggestion was made that a tablet could be mounted on a stand and situated where activities were taking place. It was expressed that such a technology need be no more sophisticated than: "*an iPad on a stick*." As such the design of a feedback system using a large tablet mounted on a stand commenced, and a was mock-up produced for staff and volunteers to interact with. This process was repeated producing a high-fidelity prototype running on Android-based hardware. At this time the system became known as ThoughtCloud for its role in capturing peoples' thoughts and storing them on a remote server in the 'cloud'.

5.1.2 Designing a digital feedback system

As a result of my initial scoping activities conducted in collaboration with SmartSkills staff members and to build on the learnings discussed in the previous chapter about designing for feedback capture, ThoughtCloud was created to be a situated, digital feedback system for gathering feedback and opinions from those who used SmartSkills' services. While it was created with my collaborators at SmartSkills, the design of ThoughtCloud also builds upon learning from previous work in HCI on situated displays for feedback and voting (e.g. (Brignull & Rogers, 2003; Taylor et al., 2012; Vlachokyriakos et al., 2014; Golsteijn et al., 2015)) to offer a portable system that requires a minimal level of technology or expertise to set up and operate. ThoughtCloud was produced to be a lightweight, flexible system that is useable in-the-wild by VCOs in a diverse range of settings. While the system was designed specifically with SmartSkills, at an early stage it was imagined the system would be of value to similar organisations.

Early on in the exploratory fieldwork, it became clear that while SmartSkills were aware of the importance of feedback, they struggled to collect it on an ongoing basis. Feedback was principally gathered using paper-based forms and surveys similar to those described previously. The process of completing surveys was considered time-consuming, sometimes requiring sessions to finish early, using up time that might be spent working with people. SmartSkills' experiences of using postal surveys suggested they were very costly to conduct and would frequently lead to very low response rates. There were also challenges associated with how the people SmartSkills provided services for were enabled to respond to questions in an independent manner. Often it was common for volunteers, peers and family members to give considerable support to people completing surveys or even answering on their behalf.

Fieldwork also suggested that how organisations like SmartSkills operated meant that a feedback system needed to be flexible and reconfigurable. Over the course of a day, they ran several different types of sessions in multiple locations within their building or at different sites. As such, feedback mechanisms needed to be lightweight—both physically (i.e., easily and quickly deployable and mobile) and technically (can be quickly set-up and used by volunteers with little to no technical expertise). At this stage, paper-based (Vlachokyriakos et al., 2014) and multi-modal (Koeman et al., 2015) situated systems were considered. Bespoke systems such as (Golsteijn et al., 2015; Taylor et al., 2012) were discounted as their specificity potentially excluded being easily deployable across a range of events and locations. Similarly, paper-based systems were discounted since prompts and questions would not be easily updatable.

Finally, fieldwork also highlighted the need to have some flexibility in the range of feedback mechanisms provided. For some individuals who participated in SmartSkills services, there would be a need for very simple ways of providing feedback—perhaps through a touch of a button or a selection of one of a small number of options in response to a simple prompt. Some were enthusiastic about 'having their say' but required careful guidance and facilitation from others in sharing it. As such, certain forms of feedback might express this provenance better than others (e.g., audio and video vs. text and Likert-type scales). Supporting this type of diversity of response format would also add additional layers of flexibility for organisations.

Moreover, ThoughtCloud was created to respond to challenges faced by organisations that depended on collecting evidence of their work to satisfy funding contracts. Such organisations operate in an environment where they compete for the same pots of money with other organisations providing similar services. Often money is dependent on contracts with local government organisations such as local authorities facing cuts to funding from central government. As a result, VCOs can lack extensive financial resources, technical expertise and time. ThoughtCloud was, therefore, designed to be used on an ongoing basis by staff members and volunteers with only minimal experience of digital technologies to continually add to a growing archive of collected feedback.

5.1.3 ThoughtCloud android application and tablet stand

The prototype ThoughtCloud system comprised of two basic components: a touchscreen tablet application used to collect feedback and a browser-accessible web portal that allows those who wish to 'commission' feedback to both configure their account and, following the collecting of feedback, review the feedback received. Both of these components are described in detail below.

Feedback is collected using an application created to run on any Android tablet. During the field trial, the application ran on a 10.1-inch tablet mounted on a lightweight tablet stand. A touch-screen tablet was chosen as they provide a range of additional accessibility functionalities for people with disabilities that could be made use of if needed (Shah, 2011), while also offering a flexible way of presenting different questions, prompts and types of screen-based feedback.

The interface for the Android application was designed to be very simple. While the proposed final design would be configurable by anyone via the administration panel, I configured the system to evaluate the initial prototype. The tablet application invited people to provide three forms of feedback: a simple Likert-type scale (using 4 'smiley' faces) in response to a question related to their experience of the event or service followed by an option to provide spoken or video feedback. The Likert scale (Figure 8) was introduced to provide a light-touch and simple 'way in' for people to provide feedback. It was also a very easy entry point to the device for people and was a cultural reference point for many already familiar with similar systems e.g. in airports. The audio and video recording feedback features were intended to provide an opportunity to give more detail about the rating and thought to be more accessible for people who struggled with reading and writing.

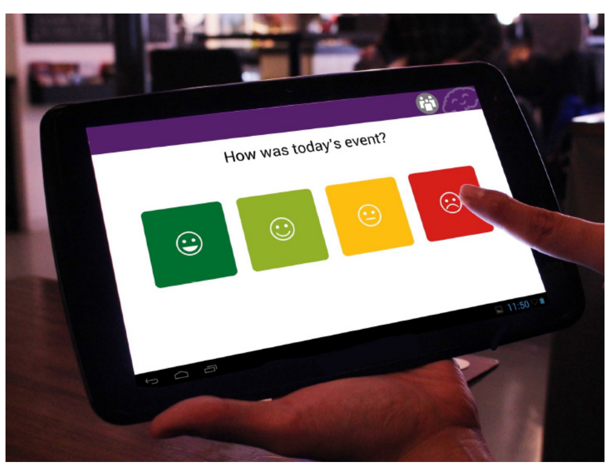


Figure 8: Likert display on the ThoughtCloud app

5.1.4 ThoughtCloud website

The ThoughtCloud website was created in the form of a mock-up for the study (Figure 9). As such, a commissioning panel was proposed that would allow managers, trustees, staff and volunteers within organisations to log in and configure their ThoughtCloud event. Creating a new feedback event would involve setting the questions and prompts to be displayed on the screen of the tablet at the time of collection. First, the panel asks commissioners to set the question to be displayed above the 'smiley face' Likert-type scale. They then have the option of enabling the collection of further feedback by either video or audio or both. Further prompts are set at this stage too with the option for event organisers to set multiple questions from which the system will select randomly.

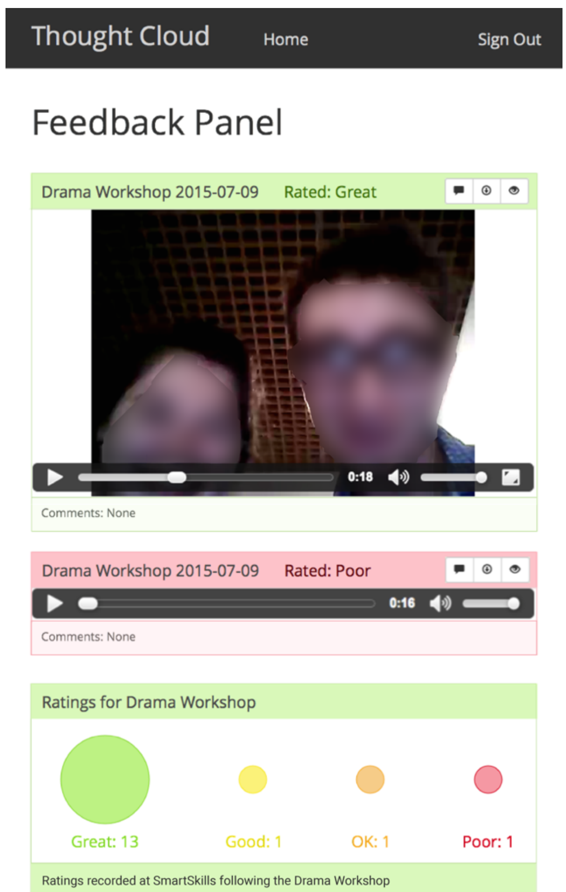


Figure 9: ThoughtCloud feedback panel on the website

The feedback panel was also accessed through the ThoughtCloud website, providing the opportunity for commissioners to view and review feedback received. The feedback panel is designed to be used following events and displays a repository of Likert-type ratings, voice and video feedback captured from the ThoughtCloud event. Alongside this data, there is a text box that allows commissioners to write both private and public comments on specific pieces of feedback. Private comments were included to provide opportunities for individual pieces of feedback to be annotated with additional information or for flagging feedback to colleagues, for example when it was thought necessary for it to be followed up with some additional action. The public comment box was provided for the organisation to provide responses that would be published alongside the feedback on the public website for the event. This came from the earlier stated desire to encourage discussion and dialogue between those using and those running care services—while also providing an opportunity for those who gave feedback to see in what ways it has been appreciated or taken on board.

Finally, once reviewed or commented on, the feedback panel allows individual submissions of feedback to be flagged as sensitive or as public depending on their appropriateness (as deemed by the commissioner). However, this option was not fully implemented as part of the website mock-up for the initial field trial study to ensure participant data was not accidentally published online.

5.2 Study Design

Following the design and development of ThoughtCloud, the system was evaluated through field trials with two organisations providing services to users of care services. This was followed by a series of semi-structured interviews conducted with feedback commissioners. As discussed, through the development phase, it was determined that organisations should be able to pose questions about the activities and services that they provide and gather data in the form of ratings, video or audio messages. The production of a prototype of the tablet application allowed observations to be made of the ThoughtCloud system in use, while the mock-up of the web portal allowed for feedback received to be analysed, and participants to be engaged in interviews about their use of the system around the value of comments received about their organisation.

5.2.1 Field trials

Field trials of the technology were carried out with SmartSkills and a second organisation, Riverside Cinema, that ran special screenings for socially excluded groups: e.g. events for people with cognitive impairments, dementia and their caregivers. Both organisations used the ThoughtCloud prototype to gather feedback at six separate events and activities. Introducing the second organisation was an opportunity to explore and understand the role that feedback technologies like ThoughtCloud may play in different organisations in a wider variety of settings. Over two months, ThoughtCloud was used as part of the evaluation of 6 regular events (3 at SmartSkills and 3 at Riverside Cinema). The field trials were designed to investigate how it helped staff and volunteers in organisations to (i) commission feedback about services, activities and events they run; (ii) capture both structured and unstructured feedback from those taking part in activities and events or using a service; and (iii) review feedback to assess, improve and expand their services.

For each of the events and sessions, I had prior contact with the groups and had discussed the aims and objectives of the project with those who took part in the sessions. This was done to ensure that everyone using or supporting the use of the system understood not only how to use the system but that it was capable of recording and sharing audio and video data with the parent organisation collecting the feedback. At the start of sessions, I briefly explained the system following which any engagement with the system was led by the organisers of the event(s). At this stage, it was explained that anyone not wishing to share their opinions or give feedback or who felt uncomfortable with the technology should not feel obliged to. As such, as is common with feedback collection generally, those participating were self-selecting.

Before the field trials, I worked with each of the organisations to help determine the questions to be added to the system. Through a series of meetings, questions were produced that would be suitable for a range of contexts and event types. For both organisations, an initial question was displayed above the Likert ratings on the first screen: "How was today's session for you?" Following this, ThoughtCloud was configured to randomly select an additional question from a bank each time a new person provided their feedback, giving people the option to leave a video or audio message in response to it. Each organisation was, therefore, able to add questions to the bank that were appropriate for their audience.

All recordings were carefully managed with feedback only being accessible to staff with safeguarding responsibilities for the people participating. Collected data was held on a secure server and was only accessible via a UserID and password. Further, the system was supervised at all times either by staff members, volunteers or researchers who ensured those providing feedback were comfortable in doing so and that any inappropriate or sensitive messages could be swiftly identified. For this study, I did not seek to publish feedback in any public way, but I did set out to explore this in interviews.

5.2.2 Observed use

As discussed above, part of the reason for conducting field trials of the prototype was to create opportunities to observe the system being used in the wild. This comprised two main stages: (i) observing the use of the tablet application at events about which feedback was being collected; (ii) observing feedback commissioners interacting with the collected feedback as it was presented to them through the ThoughtCloud website. In the first case, where feedback was being collected, where possible I attended these events and activities (discussed in more detail below) while feedback was being collected using the app. This was to ensure that I was on hand to resolve any issues with the application and was simultaneously a chance to make field notes about user interactions. Field notes were later written up in more detail creating a rich description of the deployment for analysis. Particular attention here was paid to exploring the efficacy of the tablet application as a means to collect feedback. The barriers to giving feedback were noted as well as were the positive aspects of giving feedback in this way. Similarly, thought was given to how different conditions affected the leaving of feedback specifically thinking about the impact of more public forms of recording, instances where users of the service were supported by event organisers or where family members 'put words in the mouth' of loved ones.

Three of the planned deployments were conducted at sessions run by SmartSkills. For two of these events, the tablet was attached to a tripod and placed next to the door, collecting responses at the end of the session as people participating in sessions left the room. I was present on these occasions offering support when required. At the third deployment, the tablet was placed outside of the room where the session was taking place, and the session facilitator supported interactions. For the first deployment at Riverside Cinema, the app was preloaded onto 3 tablets and placed at different points around the café at the venue to capture feedback as participants exited the building. However, the system went largely ignored until volunteers assisting in the deployment removed the tablets from the stands and approached people directly, often while seated at a café table. Thus, for the remaining two deployments at Riverside, the stands were not used, with participants being handed tablets directly to increase the number of responses. At these times, tablets would be passed between family members attending the events together. This created opportunities for people to give feedback in groups, sometimes supporting a loved one with cognitive impairment (Figure 10).

Figure 10: Supporting each other to give feedback using ThoughtCloud

5.2.3 Semi-structured interviews

Following the six deployments of the tablet application, the recordings and ratings were loaded into the mock-up ThoughtCloud website. In this way, the captured feedback was presented to 5 members of staff who commissioned the feedback via ThoughtCloud in the first place. Two of these participants held senior management positions at a VCO (SM1 & SM2); while a further two were Disability Advocates, delivering care services (DA1 & DA2); the final participant was a Marketing Officer (MO) at a local cinema providing screenings for people with cognitive impairment (See table 2 for a summary). For each of these sessions, I was present to guide and support them in their interactions with the website. These participants were asked to review the feedback received and talk aloud (Lewis, 1982) as they interacted with the system. Participants highlighted both the opportunities and challenges related to the system by discussing how they felt about different interaction affordances and made suggestions about what was missing.

Participant Code	Role	Affiliation
SM1	Senior Manager	Voluntary Sector Organisation
SM2	Senior Manager	Voluntary Sector Organisation
DA1	Disability Advocate	Voluntary Sector Organisation
DA2	Disability Advocate	Voluntary Sector Organisation
MO	Marketing Officer	Private Organisation providing services to people with a cognitive impairment

Table 2: Summary of interviewee professional role and organisation affiliation

The semi-structured interviews about the system were an opportunity to expand on these insights while they were fresh in their mind. However, they were also designed to focus on how they may respond to feedback individually and as an organisation, and how they envisaged systems like ThoughtCloud fitting into organisational practices. In total 5 interviews lasting between 15 minutes and 1hr 11mins were conducted with five different individuals, each paid members of staff from the two organisations involved in the field trials (See Figure 11 for interview schedule). All interviews were recorded and transcribed.

Interview protocol: Digital Feedback Study

Purpose of Interviews

To discuss the design of the feedback system with organisation staff members and explore its efficacy as a tool for communicating the feedback collected, leading to design insights for future iterations. Additionally, to understand how their organisation has orientated to the use of such a system and how it can enmesh or be adapted to fit with their feedback practices.

Schedule

1. Can I ask you to introduce yourself for the recording?
2. Could you say how your organisation benefits from feedback?
3. Can you briefly outline how it currently acquires and analyses feedback?
4. I'd like to understand more about how the feedback collected with ThoughtCloud might be used and get your thoughts on the mock-up of the website designed to present it, would you mind taking a look?
5. As you use the website could you talk out loud about what you are doing as you are working and describe any thoughts you have?

6. Now that you have reviewed all of the feedback, what are your thoughts about collecting feedback in this way?
7. Do you feel that people have answered the questions that you have wanted more feedback about?
8. Can you think of anything that is missing from the system that you would like to see included?
9. Can you see how the system might play a role in feeding back into service provision, for example improving existing services or creating new ones?
10. Are there any final comments or remarks that you would like to make?

Figure 11: ThoughtCloud Interview Schedule

5.2.4 Data analysis

Data collected throughout the deployment included quantitative data about user interactions with the system but was otherwise predominantly qualitative. Key to understanding how feedback systems such as ThoughtCloud could be meaningfully used in a diverse range of care environments was observing, recording and analysing its use by professionals and users of care services at the site of service delivery. Field notes about interactions with the device were a large part of capturing this data and, as discussed, were taken at each deployment. Following events, field notes were compared and discussed with supervisors and colleagues that had assisted in the field trials to inform a consensus about the broad themes that could describe the data. This process was repeated once I had written up the notes into a richer description of the observed events. Transcriptions of the interviews described above were read over and inductively coded. Again, codes were shared and refined with the same colleagues before being grouped into larger themes and discussed at meetings once more. A thematic approach was taken to analysing the entire corpus of data with each stage being checked and discussed with other researchers for consistency and relevance (Braun & Clarke, 2006). The analysis of the data from the commissioner interviews was driven by an interest in understanding how the feedback was operating, how usefully it is structured and presented, and how it might be used by the commissioners in future.

A total of 45 pieces of audio and video feedback were gathered across all of the events where ThoughtCloud was used. Drawing inspiration from Goncalves et al. (Goncalves et al., 2015), the audio and video feedback was analysed not to assess the quality of the events or sessions but rather to explore the types of comments and feedback provided to understand the efficacy of ThoughtCloud. By systematically working through each of the recordings, I was able to categorise feedback based on the content of their comments. It was, therefore, possible to get an overall idea of the broad types of feedback that users felt appropriate to leave using the system with the majority of comments fitting into a relatively small range of categories. Once again, this systematic categorisation was checked by colleagues, allowing discussion around points of contention, for example, where feedback could reasonably be described by more than one of the codes given an effort was then made to agree on a primary code of the most relevant fit. These categories are described in more detail below along with a more detailed discussion of the final themes.

5.3 Findings

The events and activities where feedback was collected were attended by 169 people, from children aged less than 14 to adults aged 60+. As such, there was a very high degree of heterogeneity across those that used ThoughtCloud, from young people with severe physical disabilities to older people with cognitive impairments who required a great deal of assistance in leaving feedback. Throughout the deployments, ThoughtCloud recorded a total of 121 interactions with more than a third (37.2%) of users leaving a recording, totalling 16 video and 29 audio messages (see Table 3 for a summary). All those who provided feedback had taken part in the events to which their feedback referred either as a direct participant or in a supporting capacity. In the following sections, I discuss the findings from the analysis of the data, organising them around three main themes: different types of feedback provided; overall impressions of interactions; and the ways staff and volunteers made sense of and responded to the feedback received.

Field Trial	Attendees	Total Ratings	Videos	Audio	Great (%)	Good (%)	Okay (%)	Poor (%)
1	8	6	0	4	50	50	0	0
2	12	16	6	4	81.25	6.25	6.25	6.25
3	11	11	5	3	54.5	9.09	27.27	9.09
4	42	66	5	5	28.79	28.79	25.76	16.67
5	30	2	0	0	100	0	0	0
6	66	20	0	13	95	5	0	0
Totals	**169**	**121**	**16**	**29**	**51.24**	**20.66**	**17.36**	**10.74**

Table 3: Summary of all interaction with ThoughtCloud including Likert-type ratings recorded, and number of videos and audio recordings made.

5.3.1 Types of feedback provided

It was notable how, more often than not, those providing feedback would ignore the questions ThoughtCloud posed to them. Sometimes this was due to the aforementioned supported use. In other cases, participants would give a more freeform style of feedback, primarily reporting what was on their minds. This was reflected in the content of the recordings, of which there is an overview below. Recordings are here discussed under the primary code given to them during analysis. While 24.4% of recordings were categorised under multiple codes, here we discuss feedback in relation to the primary code identified.

Glowingly positive reviews (62.2%)

The most prevalent type of feedback received across the six events were highly positive reviews of the event or session participated in. These commentaries were typically short with an average duration of fewer than 20 seconds. They were not necessarily very detailed, reporting how *'fantastic'* an event had been and how they *'loved'* the organisation that had run the event. It was common for people to say they had a *'good time'* or that events were *'fun'* and *'exciting'*. A small number of these positive reviews were articulated in more detail: one person stated how he would be, *'bored without it'*. Another individual talked at length about how important the VCO was to their daughter.

Descriptive reporting of the event or activity (13.3%)

There were other cases where feedback described the activity that had taken place. These feedback submissions were in some cases short and summative. In one such example, a participant stated that she had completed a lot of knitting while at the same time having a lovely cup of tea. Others were much longer, describing in great detail what had happened during the event that day. In one of these, a participant listed the names of everyone who had attended the session, commenting on the absence of regulars. Similarly, another listed her entire learning from the course she had been attending to date. These literal descriptions amount to a detailed reporting of the event attended rather than addressing specific concerns or opinions that they held regarding the event itself.

Felt experience (6.67%)

A further category of feedback involved participants reporting their feelings regarding their experience of the event attended. An example of this was when one participant reflected that she had enjoyed the session for the sense of community it had brought her. Another reported that she felt that everyone in attendance had been kind to her. However, on one occasion a participant used this as an opportunity to report feelings of being *'picked on'* by a particular individual at the session, then going on to say that she was being *'picked on by everybody else'* as well.

Suggestions for improvements (6.67%)

The final type of feedback recorded was that concerning thoughts and ideas around how services could be improved or developed. These comments were primarily in response to the question asking how the event could have been improved—as such, these were the only set of comments that were identifiable as responding directly to the prompting of the system. For example, one family member commented that the space where an event was held was too cold asking if this could be *'addressed in future'*. In other cases, participants made suggestions for *'changing'* or *'expanding'* the types of activities done in sessions, for example, if there could be more opportunities to get involved in filmmaking in the drama class.

Miscellaneous use (11.1%)

On four occasions the recording failed for a variety of reasons. For example, participants were not always ready to give feedback and stopped the recording early without saying anything. On another occasion the recording captured the tablet falling from the stand.

5.3.2 Overall impressions of providing feedback

This theme deals with the overall view of how the ThoughtCloud app was used to collect feedback, with consideration being given to how people oriented to the act of leaving feedback as well as how organisation staff adapted the system to make better use of it.

Cueing and ignoring

It was notable how the way the device was physically situated at the events greatly impacted on peoples' willingness to provide feedback. At two sessions, the device was situated at the exit point of the space where the session was being run. On one of these occasions, people queued and provided their comments one at a time chatting while they waited for others to finish. During the initial trial at Riverside Cinema, however, the device was physically situated around the exit points and was mostly ignored by participants. Those running these events noticed this, quickly removed it from its stand and handed it to people to use. On most occasions, the providing of feedback was self-initiated by those attending. However, at the Riverside Cinema sessions, it was also observed that the organisers would hand the tablet to specific individuals they wanted to get feedback from. The device was then passed around between small groups of people socialising with each other or handed back to staff who would then pass it on to the next person. This seemed to have a dual effect on peoples' participation in giving feedback. First, seeing others talk to it, give their ratings, and pass it along installed some confidence, making some individuals feel more comfortable. At the same time, it also placed some social pressure on giving feedback. It was notable how, when passing the device around person-to-person, it appeared to be much harder for individuals to 'say no' when many others had already taken part.

Barriers to giving feedback

The majority of those attending sessions were able to use the system and provide feedback independently—albeit with occasional difficulty due to unfamiliarity with touch-screen devices. There were a small number of instances, however, where people struggled to give any unprompted feedback. In one case, at a film screening, an individual was unable to recall details about the event that he was leaving feedback about. He was eventually able to leave feedback, but only through prompting and support from a family member. Given the earlier review of literature, such situated support from others is not surprising—and indeed, such interactions were characteristic of many of the recordings made, with 24 (53%) evidencing some kind of support from another party. I discuss this in more detail below.

Supported use

While feedback was received from participants of the events, support was often provided by a family member, support worker or even the event organiser. The level of this support was diverse. In some cases, it included family members gently directing those providing feedback to specific buttons to press to help them move through the screens. Sometimes, this support would involve pointing towards specific responses (e.g. the "very happy" face) over others. In other cases, the prompting was verbally explicit with one family member heard to say: *"You enjoyed the film, say it"* during a recording. In this specific case, the participant relied almost entirely on a family member to leave feedback. In another example, one of the event organisers brought people one-by-one to the ThoughtCloud system. She would then go on to 'interview' them in front of the device while it was recording. In this case, those attending were not responding to the questions on the screen, but rather responding directly to the questioning of the staff member, which often deviated significantly from the questions being posed by the device at that time.

5.3.3 Sensemaking and using feedback

While in many cases ThoughtCloud was used in ways that were not initially anticipated, those who commissioned the feedback still found great value in the feedback received. In the following sections, I discuss a range of insights and interpretations around making sense of and using the feedback.

Interpretation and identification

As commissioners reviewed the feedback received through the ThoughtCloud website as part of the semi-structured interviews carried out, they listened to the audio and watched the videos closely. On some occasions, commissioners found it challenging to interpret why people were saying what they said: *"Is she making a joke or she thinks that she's on TV? […] I think it's a joke."* (SM1)*; "What did he say? […] I wish my other care worker was here?"* (DA2). They would listen over some comments several times to make out what was being said. This was particularly challenging for some of the audio-only pieces of feedback, where mumbling or incoherent speech made the act of interpretation more difficult.

Quite often, participants were able to directly identify the people speaking in the clips: *"I know their voices because I've been here for so long"* (SM1). This would often lead to associations between comments with what they knew of them: *"That's really significant for her."* (SM2); *"Ah, that's [anon], yes he's always full of energy."* (SM1). This also allowed them to recognise when it was a carer or family member speaking on another's behalf: *""That's the disabled person's dad that's speaking."* (SM2).

Authenticity and feedback

As noted earlier, participants giving feedback often failed to explicitly respond to the questions ThoughtCloud prompted them with. However, the feedback received was still considered valuable. The free-talking nature of some of the feedback was hugely appreciated due to its authentic nature: *"That was qualitative data at the very best. Because it's not in any way shaped by the organisation asking a particular question or trying to marshal her thoughts* […] *she's got an entirely a blank canvas."* Here, SM2 was commenting on viewing one of the long, descriptive comments a participant had left—a comment that was unstructured and described what they had done at that session. There was an acknowledgement that, given the range of abilities and experiences among those using SmartSkills' services, it would be hard to carefully structure comments. How ThoughtCloud had been used epitomised this: *"if they've got something on their minds, they have to talk about whatever it is that's in their head"* (DA2). In some cases this meant it did not matter if the recordings did not relate to the subject of the session, activity or the question posed—they revealed other insights about that individual, their wishes and desires, and what they gained in using the services the organisation provided:

"Part of what she is feeding back there [relates to] *one of the students helping her* […] *to increase her employability.* […] *Eventually, she'd like to be a support worker.* […] *So, what she's referring to there in part is not the drama* [but] *her other role at Skills. 'I like being a volunteer' she's called a volunteer cleaner."* (SM2)

These comments were contrasted sharply with those that were clearly facilitated by another person: *"feedback from this is prompted. It's clearly different* […] *we have to be thoughtful about that."* (SM2). This was reflected on further when discussing the different ways questions might be posed and the impact this may have on leading people to particular responses: *"'Did you enjoy it?', we know that people will say yes. So, yes, there's maybe some learning about being less directive."* (SM2). This view was echoed when reviewing feedback where family members were either commenting on behalf of another or were asking very leading questions: *"The coaching* [prompts by a family member] *on the first one wasn't great."* (MO). However, the commissioners felt that the system did make the level of authenticity more visible—whether comments were being directed, mediated, or coming from an individual themselves, was made clear.

Appreciating and sharing feedback

The overwhelmingly positive comments were very well received by both of the organisations. Commissioners would verbally react to these stating, *"that's very good to hear"* (DA1) and, *"oh they've all thought it was great. So, you see that's fantastic for us."* (SM1). While much of the positive feedback was short and simple, they were still considered important because of how challenging these organisations often found it to gain any sort of feedback and comments from people. While reviewing her feedback, MO commented that, *"it can be difficult to get feedback* […] *sometimes the things that you are asking them about have already gone out of their mind by the time you're asking them."* She went on:

"immediate feedback like this is excellent to let them just make that feedback right away." This was echoed by DA2: *"having that tablet there for whenever people wanted to say something, it was so much more immediate."* As such, simple and immediate comments like these allowed the commissioners to recognise that they were on *'the right track'*, they were *'doing things that were appreciated'* and *'valuable to some'*. In one prominent example, a lady who was a selective mute (an anxiety disorder whereby a person who otherwise can speak may choose not to) left the room when feedback was being given by others. However, upon returning to the room, she asked for the tablet and spoke, quietly, into it leaving a voice comment. This was considered *'unbelievable'* by the organisers, whose prior experience with this individual was that of near-total silence for the duration of attended activities. They went on to contextualise her comment in a wider narrative of her time with them:

"She as an individual has travelled a personal journey from when she first came, to as you say virtually not talking, to now feeling that it's a safe place where she's comfortable that she's able to volunteer feedback and that feedback is so positive. So, at an individual level that is brilliant." (SM2)

This narrative contextualisation was critical in articulating the perceived value that this participant was seen to be gaining from the service. This reinforced a sense that the organisation was helping this person appropriately and sensitively: *"what we have been doing has produced some dividends for this person and that* [recording] *is evidence for it* […] *That is like gold dust."* (SM2).

While the recordings were useful to the commissioners, they did raise questions around what they would do with such positive comments. A first step would be to ensure that those who help run and volunteer for the organisation get a chance to see it:

"Just showing that at a team meeting would be really validating to our staff as well. […] *It's like getting a box of chocolates and sharing all of them"* (SM1).

In using the metaphor of the recordings being like a *'box of chocolates'* that would then be *'shared around'*, SM1 articulated the importance of feedback to build morale and camaraderie among volunteers and staff, showing that their effort is valued. It was also considered critically important to demonstrate that these comments were listened to and give feedback on the feedback: *"it's really important that when people give this feedback, another way they know they've been listened to. They get some, 'You* *said we did..."'* (SM2); *"I feel as though I now want to post a return video saying thanks, and we're going to keep the Drama session going as you all love it so much!"* (SM1).

Taking responsibility

As noted previously, in one recording a participant articulated a feeling of being bullied by another person. This raised extensive discussion for commissioners when reviewing the feedback. A primary concern was whether this individual knew who the feedback went to, "*do they know it's going to me, sitting here and seeing this?"* (SM1). There was also an acknowledgement that this individual often experienced such feelings, however, this was not to mean the comment should be dismissed: *"she is absolutely experiencing it that way."* (SM2). When reviewing this clip on the feedback panel, the first commissioner to see it '*flagged'* it to register it as *'sensitive'* feedback, adding a private comment underneath stating how this needed to be *'followed up'*. They went on to explain:

"I wouldn't wade in and do something really heavy because I just need a bit of clarification. [...] *I'll probably talk to the person leading that activity and try and work out what's gone on or talk to the person who left that comment."* (SM1)

Situations like this appear to have at least two implications for how organisations facilitated and dealt with feedback through the system. First, it was important to make opportunities for these types of critical, and potentially highly sensitive, comments to be made. In this case, there was a concern that the comment was made in a semi-public space in the building, potentially with others overhearing it: *"The person who is in charge of the tablet has some role in offering a more secure environment to feedback if that's what somebody needs or wants."* (SM2). A further concern was then how processes would be developed to sensitively support a timely response to such issues: *"I want to pass that feedback to the person who left that comment because they thought they were mistreated."* (SM1). Second, it raised questions around who should have access to such comments. In one respect the organisations wanted to be transparent and make recorded feedback available to all, with MO commenting: *"I don't think I'd want to hide the bad stuff."* (MO). However, there was an acknowledgement that different levels of access should be built into the feedback panel, specifically citing cases where feedback was about a staff member, volunteer or other regular user of their services.

Building audiences and acquiring resources

From the outset, there was a desire to use the feedback and comments people provided for acquiring resources and funds for events to continue to be supported. Throughout the commissioner interviews it was clear that the videos were seen to offer huge potential for adding to faceless reports and funding bids, communicating precisely '*who*' would benefit from more work being funded: *"It puts a face on people, and says, 'Yes, we want some money and these are the people'."* (DA1).

There was also a stated desire to use feedback as part of marketing material to *'build an audience'* and *'get more people involved'* in what they do. Commissioners, therefore, saw great potential in using '*glowingly positive reviews*' in future social media campaigns: *"I think we definitely want to share some of this stuff through social media with people."* (SM2). Both organisations envisaged using the videos not just on social media but embedding them on their website as *'testimonies'* to build new audiences. However, it was acknowledged that a considerable issue here would be gaining consent to translate feedback into such public commentaries.

5.4 Discussion

ThoughtCloud was a response to the concerns held by VCO organisations about new government acts stating that citizens need to be provided improved information and ways to give feedback on local care service provision. Through collaboration with care professionals, the ways in which feedback processes might be embedded within those organisations were explored. ThoughtCloud was envisaged as a tool to simplify existing burdensome (or non-existent) processes of feedback collection and presentation. As in (Goncalves et al., 2014), with ThoughtCloud came new forms of work for collaborators surrounding its deployment, management and maintenance. Although collaborators critiqued their existing feedback practices for consuming time with users of their services, ThoughtCloud also used up contact time at the end of sessions and required time and effort for commissioners to review and respond to feedback. Despite this, the technology was well-received compared to more established, paper-based alternatives.

In the following sections, I draw from these findings to identify specific issues, both in reference to the role of feedback in VCOs specifically and in the design of feedback technologies more generally.

5.4.1 Making more of unstructured feedback

Although ThoughtCloud was designed to generate feedback that responded to specific prompts and questions posed on the device, field trials also highlighted the importance of harnessing unstructured spoken feedback. With this, I refer to instances where people were motivated to share their thoughts on matters other than that about which they were being specifically questioned. This involved them simply narrating their experience of what had happened in the session, what they had done or even just talking about their day. While this was surprising, much of the spoken feedback did touch on a broad range of the types of insight and topics that VCO and commercial organisations often request and require feedback about (Fischl & Saxton, 2014; The Children's Partnership, 2015). Furthermore, unstructured responses were very well received by collaborators. Such feedback was seen to provide richer accounts of personal experience of the services they provided and how people saw themselves as members of a community. While the practical task was to gather opportunistic feedback at the physical event, the scope was observed to record and understand how people are developing over time concerning their participation in the activities provided. This may be as simple as seeing the same people regularly return to the events run, but it might also be a way to gauge the social and emotional development of those who take part. This process is a lengthy one that is specific to individuals and contains uncertain outcomes that operate across a trajectory of continual development.

These findings have also shown how ThoughtCloud can capture moments illustrative of peoples' personal journeys and the progress the organisation is making with them. While the unstructured feedback was seen as a positive, it also starts to highlight the potential of systems like ThoughtCloud as being a tool in reflective practice for organisation staff and volunteers to review how they go about supporting people. Education researchers have highlighted the value of video as a tool for self-reflection both on learning and on interactions with others (Kennedy et al., 2011), and one might imagine ways in which video-based feedback could act as a similar resource. Reviewing content might not just be about questions such as 'how is this person?' and 'what did they learn today?' but 'how did I ask those questions?', 'was I too leading?' and 'what can I do better?'. Likewise, if such systems were embedded physically in the places and spaces where services are experienced, then there would be opportunities not only for organisation workers but caregivers, friends, and family who often 'speak for' those they care for to reflect in a similar vein. What was clear, however, was how, for this to become a possibility and be explored in more depth, the

ThoughtCloud prototype would require continued development to offer a more robust user experience that could reasonably be facilitated without the continual presence of the researcher.

5.4.2 Roles and responsibilities

The field trial of the ThoughtCloud prototype also highlights the value of embedding feedback technologies (and by association voting and consultation technologies in general) within an organisational context. Prior studies of situated voting and feedback systems have noted that they are often employed in ways disconnected from decision-making processes; this can lead to a feeling of not being heard (Taylor et al., 2012), a disconnection between consultation and action (Vlachokyriakos et al., 2014) or mistrust due to a lack of integration with organisational practices (Harding et al., 2015). In this case, despite the trial being short, it was possible to see how the introduction of feedback into these care environments supported new practices within the collaborating organisations. The action taken around the reporting of an individual feeling bullied is a case in point. Here the commissioner indicated that there would be a follow-up action motivated by the feedback collected. This required more than just taking the feedback at face value and involved them talking to other staff to gather their perspectives of this individual's experience of the session. The staff were already aware of challenges surrounding this individual's experience of social events, however, that their feelings were captured on ThoughtCloud formalised the responsibility of the organisation to investigate the matter further and made them accountable to doing something about it. This raises several important considerations for feedback technologies in care contexts and VCOs more generally.

Foremost, it highlights the importance of interpreting feedback in context. Fortunately, in this field trial, those reviewing feedback were able to perform this contextualisation; however, this may not always be possible (for example, if those reviewing are relatively new to the organisation, or if the feedback comes from someone new to that organisation's services). One implication for future versions of systems like ThoughtCloud then would be that it should provide ways for feedback to be annotated by a wider set of volunteers and staff to give more contextual detail over time. The use of ThoughtCloud also highlighted the importance of establishing and building in roles and associated responsibilities for members of organisations within feedback systems. Considering the potential for sensitive issues being expressed, it's important to ensure that feedback is at first only accessible to individuals with specific care and safeguarding responsibilities. However, it may be beneficial to design into systems like ThoughtCloud a ‘feedback review’ process whereby multiple members with such responsibilities are invited to review submitted content. This would have several benefits. The visibility of feedback and its review status across multiple people would make visible feedback that is lacking a response or still requires reviewing across an organisation. This may support greater accountability (i.e., providing motivation to be seen to be responsive). The wider sharing of feedback might also foster the sharing of an individual’s experiences across multiple projects, activities or services within an organisation—potentially supporting more tailored individual support for users of services, or at least an understanding of what might be and might not be working for them. Finally, feedback review across multiple responsible staff would build flexibility into the system and account for the fluid and often ill-defined roles and duties of staff and volunteers in VCOs. Therefore, further development of the ThoughtCloud website, where feedback is posted for review and sharing would require tackling design decisions that reflected these important challenges.

5.5 Chapter Summary

In this chapter, I have reported and discussed how ThoughtCloud was designed to provide VCOs with feedback to support and develop service provision on an event-by-event basis. However, in evaluating ThoughtCloud as used by both those attending events and those running them, we see how VCOs with a broad set of social goals have a diverse array of responsibilities to those they care for. How the system was used also alerts us to the challenges and opportunities for digital feedback systems being used within a VCO care context. The importance of staff members and volunteers using the system having a defined role and associated set of responsibilities in relation to the data that it collects is a key consideration, guarding against safeguarding issues being missed and encouraging them to be dealt with accordingly.

In the next chapter, I describe developing a new version of the system that was both more robust and easier for VCOs to use autonomously. This was done to ensure that there were more opportunities to capture unstructured feedback and investigate ways it could be embedded into the practice of organisation workers. Also, it was a chance to build in new tools affording annotation by a wider set of staff and volunteers while expanding its user base to other VCOs that had become familiar with it through the field trials reported here.

Chapter 6. Deploying ThoughtCloud with Multiple Organisations

6.1 Introduction

In the last chapter, I built on the work discussed in chapter 4 by introducing *ThoughtCloud,* a feedback capture tool designed with a Voluntary and Community Organisation (VCO) to address some of the issues with data capture concerning service provision in the care sector. This involved the design and testing of a prototype, produced and evaluated for its efficacy as a feedback collection tool. Field trials were limited in scope both by the inclusion of just two VCOs and the immature state of the technology. The field trials were, however, successful in demonstrating the efficacy of the system. Staff and volunteers not only engaged with it as a feedback collection tool but also, in reviewing feedback data with staff, there was the suggested potential for the system to enmesh with other areas of organisational practice. For example, as a tool for self-reflection on personal practice, as an incident recording and reporting mechanism or for tracking outcomes with specific individuals across time.

To explore the use practices of ThoughtCloud in greater depth, an iterated version of the system was produced, and a study designed to trial it over a longer period in a more diverse range of settings. I investigate in more detail the roles simple feedback technologies can play in VCOs while exploring contextual challenges impacting its use. This chapter discusses the iteration of ThoughtCloud and a more extensive follow-up field trial. The new version allowed care staff more control and autonomy, for example, they were able to configure feedback collection events, set questions and choose display options. A new website was also created, supporting organisation staff to log in, review, annotate, and share and respond to specific instances of collected feedback. Staff and volunteers at four VCOs participated. They were introduced to ThoughtCloud and used it to complement or replace traditional feedback methods.

The following section provides an overview of the main design decisions involved in redesigning the ThoughtCloud prototype for use in further field trials. Then each of the stages involved in engaging with staff and volunteers, introducing them to the system and supporting them to collect and review feedback, is discussed and described in more detail.

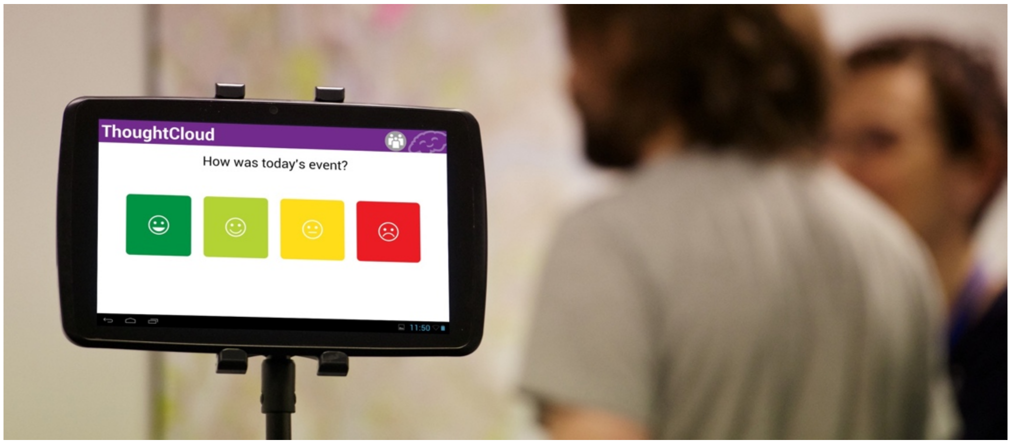


Figure 12: ThoughtCloud in use on a tablet stand

6.1.1 Re-designing ThoughtCloud

As previously discussed, ThoughtCloud was originally designed to be a simple, lightweight system for collecting feedback from users of care services using an application running on an Android tablet. Observing the diverse range of uses from the previous field trial, it was clear that flexibility of use was important since the tablet had been set-up at events in a range of ways, including being placed on a stand at entrance or exit points (Figure 12) being handed around to people, or being placed in private spaces. Moreover, ThoughtCloud was intended to respond to the inappropriateness of traditional feedback collection methods for certain populations of citizens using care services.

In the previous chapter, findings highlighted enthusiasm for the technology from volunteers and staff for the simple way it enabled people to 'talk to' people who organise and oversee events, projects and services. It was found that the system made practices of mediating feedback explicit (by showing this in audio or video clips) and provided ways to observe individual user gains over time. The importance of timely responses to feedback was similarly highlighted, especially responding to feedback of a sensitive nature. Defining specific roles and responsibilities for staff who administer, review and support others in the use of the system was also found to be important. Finally, the earlier field trial highlighted the benefits of sharing feedback among staff and volunteers.

Before the field trial reported in this chapter commenced, ThoughtCloud was developed further. Features were added motivated by the previous findings, ensuring its suitability and robustness to be operated by organisations across a longer period (twelve weeks) with a larger number of diverse care organisations. This was an opportunity to explore its use at many more sessions in a variety of settings, examining in greater detail how ThoughtCloud supports existing and emerging practices of collecting and responding to feedback. In the next section, I describe the design decisions that were made and how they were translated into features that directly responded to these earlier findings.

6.1.2 Developing the ThoughtCloud android app

An initial priority was to develop features that facilitated the use of ThoughtCloud without the direct support of the researcher. For the tablet app, this focused on including functionality for system admins to create new feedback events, which would suggest default settings for questions to pose to users. An event editing panel was therefore introduced, allowing for new feedback events to be created. Moreover, this meant that the system was much more flexible since the attributes of such events could be reconfigured while events were underway. The application was also redesigned to work offline, allowing it to be useable in different settings i.e. where no Wi-Fi network was either available or accessible. This meant that event organisers did not have to worry about whether a venue had a Wi-Fi connection or getting access to passwords to configure it. Organisers did not then have to worry about the technical skill of the volunteer or staff member operating the tablet either. A manual sync feature was also introduced, allowing data collected on a tablet to be synced to a remote server when a Wi-Fi connection was available. The application would save the collected data locally and could then send it to the server at a later time at the press of a button. This made the ThoughtCloud Android application 'off-line first', a common design pattern of modern mobile applications. Importantly, it meant that event organisers did not need to worry about 'missing out' on feedback captured during a live event and that they could be confident about that whether there was a Wi-Fi connection or not.

The final ThoughtCloud Android app comprised 10 different screens, ranging from a list of available ThoughtCloud events, created by the user, through to a 'thank you' screen displayed when feedback had been recorded (See Figure 13 for a full annotated walkthrough). ThoughtCloud was built using the Android Studio IDE as a native Android app. Collected media files, when synced from the tablet, were uploaded to cloud storage at Amazon S3[6] using secure and encrypted transfer protocols. There they could be securely stored and later accessed by the ThoughtCloud website when being viewed by organisation staff responsible for the system's use.

---

[6] https://aws.amazon.com/

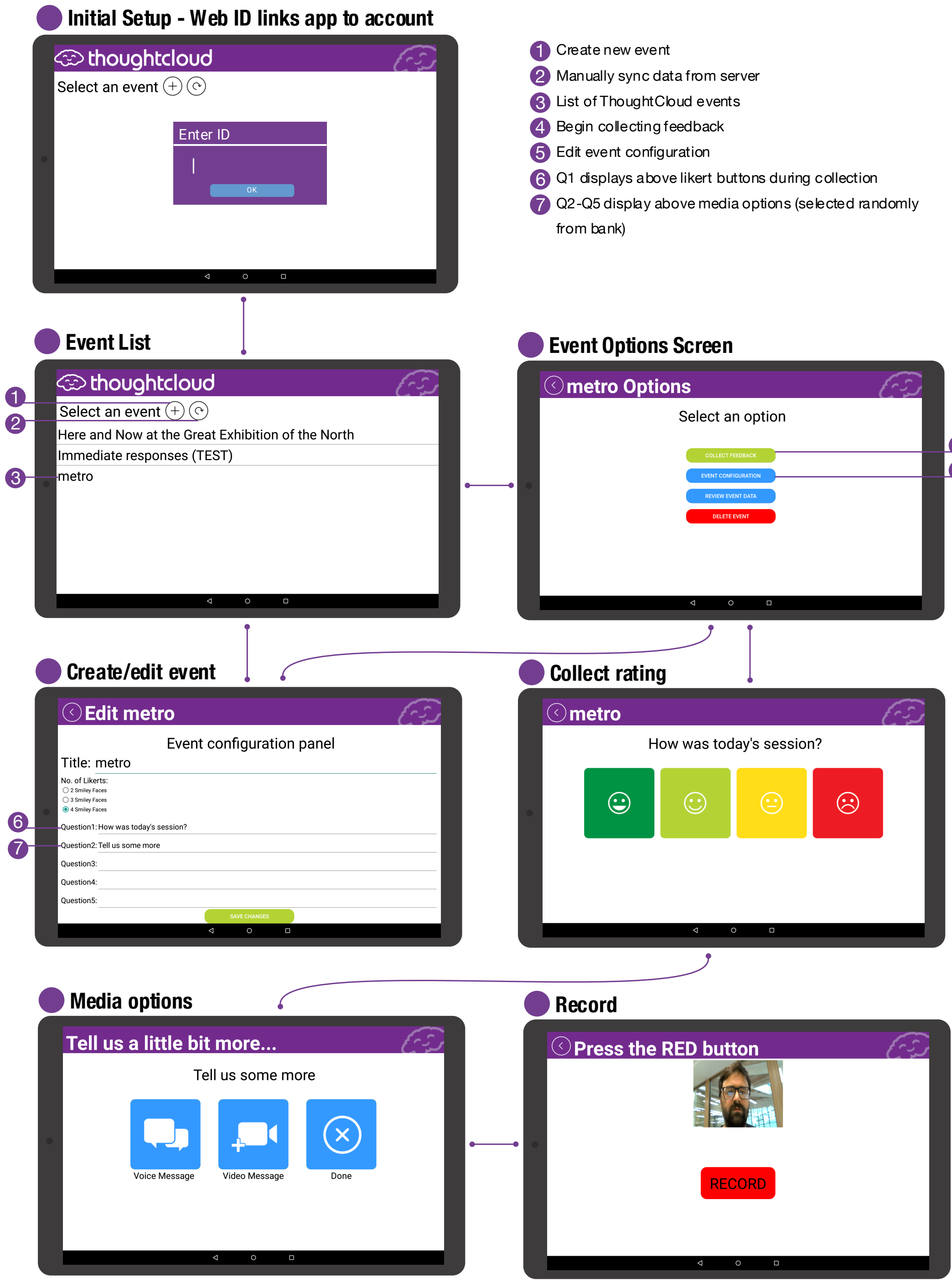


Figure 13: ThoughtCloud Android App - Annotated Walkthrough

6.1.3 The ThoughtCloud website

The ThoughtCloud website was built using Flask[7], a micro web framework written in Python. It ran as an application in a container hosted on an Apache webserver within Open Lab at Newcastle University. As a Flask app, written in Python[8], it made use of the Werkzeug[9] utility library and the Jinja[10] templating language to dynamically generate browser consumable Html pages. The Flask app was both a secure environment where users could log in to review the feedback collected and an API designed to serve the Android app used to collect feedback. Through the API, data could be securely shared between the Android app and the SQL database sitting behind the website. The database held all data in relation to collected feedback, information about the user accounts created by the organisations using the system and associated meta-data assigned to the different media files created when audio or video feedback was recorded. As discussed previously, all such media files were held in Amazon S3 cloud storage where they could be accessed by the website.

A focus of the development was on creating a website where feedback collected using the Android app could be reviewed, shared with other staff and volunteers and, given sufficient permissions, published online. This was in response to the value that organisations found in sharing the feedback data within the organisation collecting it which was seen as a chance to celebrate and highlight successes. The administration page that was added (Figure 14) included a configuration panel that allowed users to create an account for their specific organisation making them the 'system admin'. Admins were able to configure feedback events, set questions and choose the number of Likert-type ratings they desired. Once the new feedback event was configured, this could then be synchronised to the tablet application to begin data collection. It would then become their responsibility to ensure that the tablet or tablets were available at an event, that there were staff members available to collect the feedback, as well as thinking through the opportunities within a given event to collect the feedback. Once the feedback was collected, it was then up to them to review the feedback as it appeared on the website, as the tablets were synchronised during or following a feedback collection

---

[7] https://flask.palletsprojects.com/en/1.1.x/

[8] https://www.python.org/

[9] https://palletsprojects.com/p/werkzeug/

[10] https://jinja.palletsprojects.com/en/2.11.x/

activity. There was additionally the option for them to share this responsibility with other staff members, however, this would require deciding on which staff members or volunteers that it would be appropriate to grant these particular permissions.

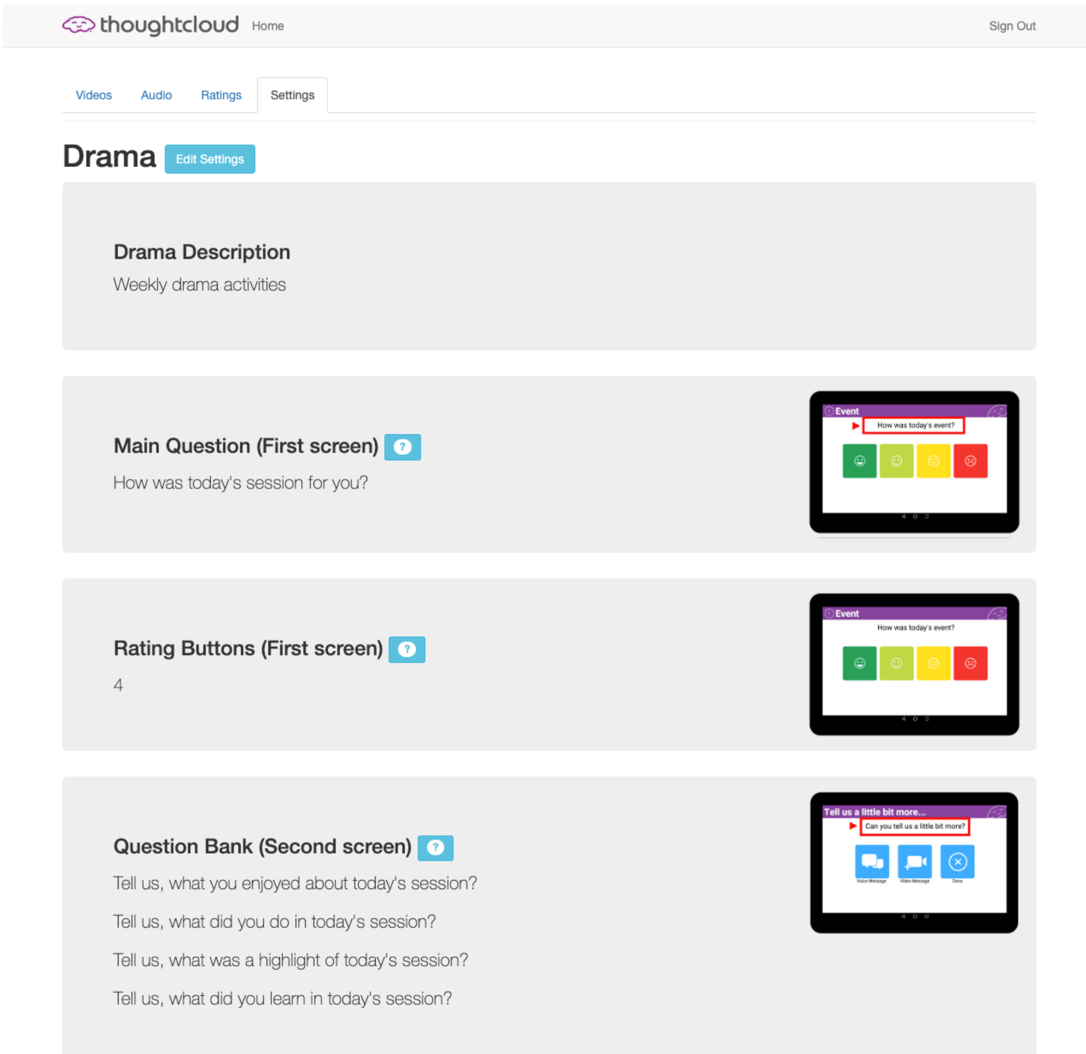


Figure 14: Event configuration panel, ThoughtCloud website

This type of sharing option was designed to have tiered access functionality, giving the system admin the ability to manage who else had access to ThoughtCloud data as well as managing which content was visible to which user. This was identified as important in the previous field trial since the potential for people to leave sensitive information was noted in the case where a user reported an incidence of bullying. Managers, therefore, retained the power to grant access to others working in the organisation by inviting them first to have a profile within the ThoughtCloud website and then giving them access permissions appropriate for their role within the organisation. It had, as discussed, been identified that sharing with other staff members and volunteers within the organisation was desirable. This was made possible through admins being able to create these additional user accounts and assigning them a reduced set of permissions. To ensure that no sensitive data was shared with staff that were not granted access, each piece of recorded media was made private by default and had the option to be made 'viewable' by staff members with a lower level of access should system admins deem this to be acceptable.

New ways of sorting, searching and visualising feedback were created too (Figure 15). Recurring events could be sorted by date, which was highly desirable for managing collected data, especially once there was a considerable amount of it. Similarly, a flexible tagging feature was added for video and audio feedback, meaning that clips could be labelled with a particular tag, for example, a person's name. Animated pie charts were added to make the quantitative data from the Likert-type ratings more easily understandable with a breakdown of the numbers listed below. These features, combined with secure data transfer between clients, servers and media repositories, ensured that ThoughtCloud was a robust system that was both usable and secure.

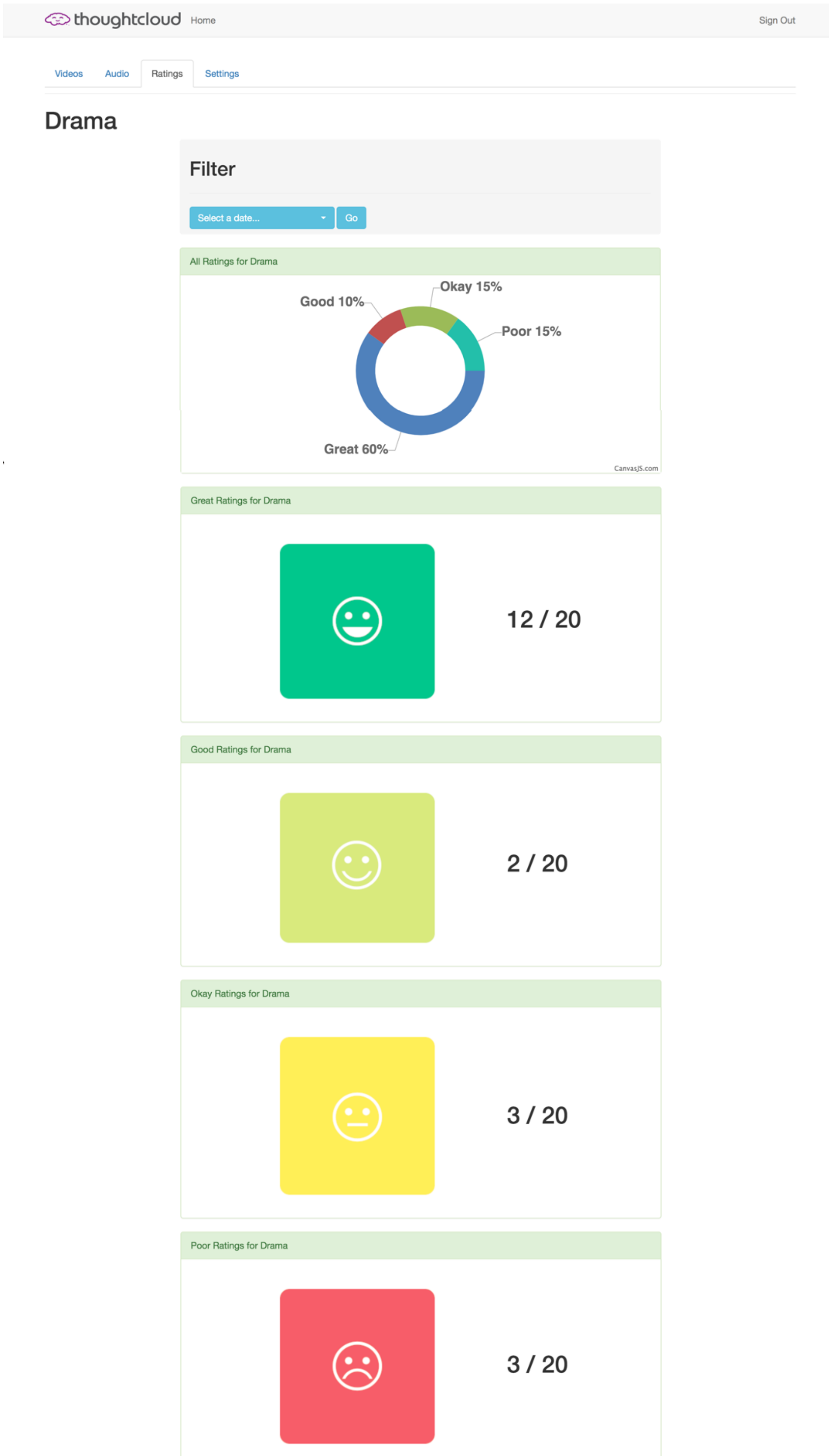


Figure 15: Filtering and visualizing data collected

6.2 Study Design

To evaluate the redeveloped version of ThoughtCloud I conducted a four-month field trial where the system would be used by four VCOs providing similar services to diverse populations of people with a disability. Connections to these organisations were made through my continuing work with SmartSkills, for example, one organisation was based on the same premises. I was introduced to the others through working with social care providers and via existing connections I had with the local city council. Trials involved four organisations providing care services to people with a variety of disabilities, including young people with Special Educational Needs (SEN), adults with both physical and learning disabilities and older people with cognitive impairment. Throughout field trials, I conducted interviews with staff and volunteers that used ThoughtCloud before, during and after its deployment.

6.2.1 Field Trials

As discussed, field trials were important to mount an in-depth study of how ThoughtCloud might be used across a range of settings, with VCOs operating at different scales and providing different types of services. Larger organisations tended to work primarily out of a central building where the majority of their activities and events where ThoughtCloud was used took place. The smaller organisations held a mix of indoor and outdoor activities or ran sessions in different locations, for example, capturing feedback about day trips to annual festivals (Figure 16) or occasions. One result of the ThoughtCloud app being used at a much larger number of events and activities was that it was not always possible for myself to observe the system being used. However, where possible I would be present to make notes about how feedback was being collected and how people were interacting with the system. In some cases, this involved going on pre-arranged field trips to conventions at other times making visits to the premises where the organisations were based.

Figure 16: Capturing feedback in the canteen at an annual ScreenCon event

6.2.2 Participating organisations

Each of the organisations that took part in the longer field trial were different sizes with most making use of volunteers in some capacity. They ranged from having nearly 150 staff and volunteers at Young People First (YPF) to one-person operations like Horizons (H) in which the chief executive was also the principal service provider. The four organisations that took part in the study were as follows: 1) *SmartSkills* (SS) which provide advocacy, referral, befriending services and leisure activities for people with various disabilities and ages ranging from young people in their late teens to older adults; 2) *Bright Times* (BT) which provide leisure and social activities to people with learning disabilities of all ages; 3) *Young People First* (YPF) who work with young people (up to 25 years old) in care and with special educational needs; and 4) *Horizons* (H), an organisation working in care homes with people with dementia (see Table 4 for a summary). Each of these organisations was previously aware of the work with ThoughtCloud, recognised feedback as vital to their everyday work with vulnerable people and had approached the researcher with a request to use ThoughtCloud.

A primary contact at each organisation was identified to act as the system's admin, taking responsibility for managing their organisation's account. They were taken through the steps of creating an account for their organisation on the ThoughtCloud website as well as the relevant aspects of the system including how to use the tablet application; create an account and userID; setting passwords for access; and how to configure feedback collection events and review and share feedback with additional users. At this initial meeting events and activities were identified where the system would be used to collect feedback. Visits to groups using the system were arranged so the purpose of the system could be explained. This also presented an opportunity to observe the use of the tablet application by the organisation. Throughout the study, the researcher checked collected data remotely, with permission, for sensitive submissions that may need to be flagged.

Organisation	Staff & Volunteers	Populations Served
Smart Skills	35	Adults with physical or learning disabilities
Bright Times	4	Adults with a learning disability
Young People First	145	Young People with SEN
Horizons	1	Older people with a cognitive impairment

Table 4: Summary of participating organisations, number of workers and description of populations served

6.2.3 Semi-structured interviews

Semi-structured interviews were conducted at key points throughout the study: before the trial started; approximately at the halfway point and once more at the end. In total 7 staff members were interviewed from across the participating organisations (See table 5 for a summary).

Participant Code	Role	Organisation
SM1	Senior Manager	Smart Skills
SM2	Senior Manager	Smart Skills
DA1	Disability Advocate	Smart Skills
DA2	Disability Advocate	Smart Skills
OC1	Organisation Coordinator	Bright Times
OC2	Organisation Coordinator	Horizons
YW1	Youth Worker	Young People First

Table 5: Interviewee summary including professional roles and organisation

Interviews were used to explore attitudes to feedback, as well as to get a clearer idea of how feedback was currently collected, how it was reviewed and used within the organisation and how they saw ThoughtCloud fitting into those processes (See Figure 17 for initial interview schedule). After two weeks, I contacted the nominated system admin within the organisation to ensure that there were no problems with the system, usually over the phone. This was a chance to remind them to synchronise the data collected on their tablets regularly to ensure that no data was lost. Further in-person interviews were conducted eight weeks into the trial, the approximate halfway point, with questions here being based on observations of system use up until that point (Figure 18). At this stage, an additional member of staff at one organisation, Smart Skills, was identified as a 'champion' of the system, an individual that had taken on a role of ensuring that it was used when it was supposed to and supporting people in collecting feedback. This individual was doing this without prompting from superiors and was, therefore, interviewed to explore their motivations and experiences using it to collect feedback. Finally, exit interviews were conducted to review the totality of the system's use, exploring successes and ideas for future development (Figure 19).

Interview protocol: ThoughtCloud Study (Introduction)

Purpose of Interviews

To talk with staff members about their current feedback practices and how feedback is important to their organisation, the events they run or the activities they carry out. Additionally, to explore how organisations might act with reference to feedback collected, how they might practically go about this and exploring what their motivations are.

Schedule

1. Could you introduce yourself for the recording and tell me a bit about the work that you do?
2. Could you tell me what feedback means within your organisation?
    a. How is feedback collected currently?
3. Can you tell me a little bit about why you want to collect feedback?
4. How might you respond to feedback in terms of how it might be used?
5. How might action be taken regarding feedback, what form would this take?
6. Can you give me an example of a time when you have had negative feedback?
7. Can you think of an example where feedback advised you to change something?
8. How might you take action surrounding this? For example, implementing changes to services or creating new services.
9. Who do you consider to be the audience for feedback collected?
10. How would you use this feedback to engage with others, or other organisations?

11. Can you tell me how feedback could be used to create a dialogue with others, for example service users?
12. Will having the login to review the feedback make a difference and if so/ if not, can you tell me how?

Figure 17: Initial ThoughtCloud study interview schedule

Interview protocol: ThoughtCloud Study (Mid-way)

Purpose of Interviews

A short interview with staff members about how the trial of the ThoughtCloud system is going from their point of view. Additionally, to explore some of the wider values held by their organisation and how ThoughtCloud sits in relation to these values.

Schedule

1. Could you introduce yourself for the recording?
2. Can you briefly state the values underlying your organisation and say how or if this relates to the collection of feedback?
3. What would you say is most important to the organisation you work for?
4. Could you tell me about how ThoughtCloud has been used so far?
5. Can you describe how you have taught staff members and volunteers to use the system?
6. Can you talk me through an example of a typical use of the system?
7. What are your thoughts on the ways it could more be effectively integrated into current organisation practice?
8. Can you tell me about your use of feedback collected by ThoughtCloud so far?
9. How have you/would you respond to the collected feedback?
10. By which means did you communicate your response to the person leaving the feedback and what do you see as the role of ThoughtCloud in such communications?

Figure 18: Mid-way ThoughtCloud study interview schedule

Interview protocol: ThoughtCloud Study (Exit)

Purpose of Interviews

To speak with staff members about how the trial of the ThoughtCloud system has gone and explore the successes as well as the limitations of the current design. Further, to reflect on system use both of the tablet and website, as well as how they will use the feedback going forward: Focusing on how they would respond; How future designs of the system could promote transparency and accountability of their organisation.

Schedule

1. Could you introduce yourself for the recording?
2. Thinking about the ThoughtCloud system as a whole, both the tablet and the website, could you tell me about how ThoughtCloud has been used?
3. Can you talk me through a typical example of the whole use of the system from feedback collection to review?
4. How has the system changed or impacted the way the organisation collects feedback from service users?
5. Can you tell me in general terms how the feedback collected by ThoughtCloud has been used?
6. Can you describe a specific example of a person's feedback being collected, reviewed and where there has been some action taken?
7. What role could/should ThoughtCloud play in responding to users of your services?
8. If people are leaving feedback do you think there is a duty to respond? Can you clarify this by saying why?
9. Can you give me an example of when a response has been made and explain what form this took?
10. What role do you see for ThoughtCloud to help make your organisation more transparent or accountable?
11. What do you think people leaving feedback think about ThoughtCloud or the process of feeding back generally?
12. Do have any sense of what people who make use of your services think feedback is for or why they are motivated to leave it?
13. Do you think that it is important that service users feel they have a voice and that they are being listened to?
14. Is there anything further that you would like to add about feedback or thoughts you have had while we have been talking?

Figure 19: Final ThoughtCloud study interview schedule

6.2.4 Workshops

Two two-hour workshops were also conducted at the end of the trial. These were designed to explore both how feedback should be treated once collected using the current system, and how staff members would respond to provocative versions of a future redesign of ThoughtCloud. The first was with 10 people with a variety of learning disabilities who had given feedback using the system and made use of services from Smart Skills and Bright Times. This workshop involved a paper-based feedback giving exercise, exploring their understanding of feedback by creating 'feedback letters', and deciding to whom and about what they would give feedback on. The second workshop was with 8 staff and volunteers representing all participating organisations. Participants were asked to complete workbooks where they responded to feedback prompts drawn from example feedback collected during the trial.

6.2.5 Data collection

System use data were obtained from recording user interactions with the ThoughtCloud tablet application as well as the website. The types of system use data collected included: the number of logins to the website; the number of additional user accounts created; the number of events created; the amount of feedback collected; sharing or 'using' feedback; the number of times data was synchronised from the tablet app to the ThoughtCloud server. This data was reviewed throughout the study and used to determine interview questions to explore emerging use practices and address barriers to using the system. For example, based on what was known about existing feedback practices and how they were often an add-on or hinderance to the working practices of organisations I was interested to explore whether there would be any engagement with feedback once it was collected. Moreover, it was important to understand the nature of this engagement, both to make sure that sensitive issues reported were being dealt with and also to assess what kinds of tools could be helpful in this regard.

Given the nature of the data collected, a qualitative approach was once more utilised to incorporate data collected from different sources into one corpus. This corpus comprised of recordings of interviews; the field notes collected throughout, both while observing interactions with the app while visiting the different sites occupied by the organisations involved and workshop data, including recordings made of discussions and workshop material annotated by participants. System use data were analysed to explore user interaction with both the app as well as how commissioners engaged with feedback on the website. This data was collated and analysed for what it could tell me about user behaviour, for example, if they were accessing their user account or using specific features such as logging numbers of attendees at an event etc. Interview schedules were then informed by the different behaviours observed.

6.2.6 Data analysis

All interviews and workshops were audio-recorded and then transcribed so that they could be manually coded. Thematic analysis (Braun & Clarke, 2006) was used to examine the data collected from these sources. The collected data was systematically summarised by textual codes before being collected into themes. These were shared with colleagues, discussed and checked in meetings held about the themes as well as the codes. This process was guided by field notes collected while I was at the participating organisations, both on their premises and at events they provided for their users.

These, notes were generated from the observed use of the system while feedback was being collected. This process was repeated, refining the analysis into final themes which are presented in the following sections.

6.3 Findings

Feedback was collected at a total of 88 events across the four participating organisations. It was used at recurring activities as well as one-off annual events attended by heterogeneous populations: the youngest being 11 years old and having a behaviour disorder and the oldest being 95 with cognitive impairment. In most cases, people were requested to leave feedback by a member of organisation staff or a volunteer and supervised as they did so. A total of 379 ratings were left by users across the entirety of the field trial. On 248 occasions users left an additional recorded message: 92 video and 156 audio comments (see Table 6 for a summary).

Organisation	No. of Events	Ratings	Videos	Audio	Total Logins
Smart Skills	41	169	47	65	12
Bright Times	15	79	36	18	4
Young People First	5	39	5	6	2
Horizons	27	92	4	67	17
Totals	**88**	**379**	**92**	**156**	**35**

Table 6: Overview of organisation use of ThoughtCloud feedback system

The use of the ThoughtCloud app was broadly consistent across all organisations, with each appearing committed to maximising opportunities for feedback collection. For the majority of those staff members and volunteers who used ThoughtCloud, their engagement with it was restricted to the tablet app to collect feedback. By contrast, there was comparatively little engagement with the ThoughtCloud website where feedback collected can be reviewed, annotated and shared. Overall, 35 logins were recorded across all of the organisations during the field trials. YPF recorded the fewest examples, with only two logins across the length of the study. Notably, it was the smallest organisation, Horizons, which reviewed feedback the most (17 logins, 49% total logins). Use data suggests certain feedback was checked on neither regularly nor promptly. In the following section, the themes from the analysis of the data are reported and discussed.

6.3.1 Motivations and values of VCOs

The VCOs involved in the study were each driven by a set of social values that often meant that they were committed to being user-led in how they operated. However, the way that they used ThoughtCloud, mainly as a data collection system, highlighted some tensions between the initial novelty of the system and following their commitment to being user-led. For example, being able to collect feedback in new ways that resulted in a large increase in the volume and types of feedback that they had available adversely affected their capacity to engage with that data in a meaningful way.

Initial motivations for collecting feedback

For each of the participating organisations, ThoughtCloud was thought to have practical utility. It was seen as a way of creating evidence of their work to use in funding applications: *"People give us money. They want to know that we are spending the money wisely and* […] *it is having some kind of beneficial effect."* (OC1). It also offered an opportunity to collect ideas to develop new services or to refine and replace existing ones: *"getting that feedback I guess to help us think about what we're doing and how we're doing it."* (SM2). For Horizons, which was a new organisation, feedback gathered by ThoughtCloud provided evidence to demonstrate their development: *"I want it to be more empirically-based, much more thorough, much more appropriate and effective."* (OC2). ThoughtCloud was seen to be practical and accessible, which is particularly important for the populations that each of the organisations worked with served: *"These are people with learning disabilities and anecdotally they can tell you stuff but if you want to measure stuff it is a little bit more difficult."* (OC1) This showed consistency across the participating organisations, that they were motivated by similar goals concerning feedback collection and use.

The Values of Care Organisations and Practitioners

Importantly, the participating organisations stated that they were primarily driven to collect feedback as a result of their underlying user-led values: *"As a user-led organisation, the view of disabled people, families and carers are important to us. We're driven by our values."* (SM2). All of the organisations, in different ways, were dedicated to providing opportunities for vulnerable or marginalised people to feel listened to: *"Giving people a voice … it's central to the whole philosophy of the organisation,"* (SM1); *"If* *people are listening to you, your sense of self and your confidence goes up."* (OC2). Therefore, there was a real sense that the collection of peoples' thoughts and opinions would enable disenfranchised groups to participate in civic life, empowering them to have a say in the services that were important to them and for them be treated as equal citizens:

"If disempowered people have had their voices taken away from them, they can certainly fight for it back themselves […] *other folks find that really difficult to do independently* […] *we're all about amplifying the voice of disabled people."* (SM2)

Approximately midway through the trial, the significance of these values to those working in these settings was particularly evident when at SS one person started to promote the use of ThoughtCloud to collect feedback despite having no structured training from the organisation. When asked about this she explained that she had, "*worked it out for herself.*" (DA2). This enabled her to show another staff member how to use the system as well. On another occasion she introduced it to a volunteer who ran a regular participation group, enabling them to use it after their sessions. She also identified new opportunities where it could be used, sometimes at activities with which she had no involvement or limited contact. Reflecting on this, she explained that as a trainee social worker she understood the value of feedback and the importance of listening to the people with whom she worked: "*For me personally it's to develop practice, that's something that's trained in."* (DA2). For her, not only did ThoughtCloud support organisational values but also spoke to personal and professional values around motivations to collect feedback for learning and development.

6.3.2 Using and embedding ThoughtCloud in feedback practices

As the field trials progressed, the different organisations oriented differently to how they introduced and spread knowledge about how to use the system to their staff and volunteers. This was especially important since they were being asked to use it more autonomously than previously and produced insights of practical import as to how best to integrate it with the work of the VCOs.

Training up and promoting use

As stated, the main contact with each organisation had the ThoughtCloud system demonstrated to them for them to take a role as system admins. At the two larger organisations it was intended that these admins would introduce the tablet app to colleagues so they could use it too. At BT and YPF there was a consensus that the feedback collection component of the system was easy to pick up and learn: *"That's the beauty of it, it is so straightforward."* (OC1). At YPF in particular, an approach was taken where staff members were given short demonstrations of how to use the system: *"I've shown someone who facilitates one of the groups how to use it and that was fine.* […] *everyone's picked it up pretty quickly."* (YW1). However, as is common of VCOs, there was a huge diversity of skills and expertise when it came to digital technologies.

This was a particular issue at SS, where one system admin (SM1) primarily explained how to use the system via emails sent to staff and volunteers: *"It wasn't being pushed* […] *SM1 has sent quite a few emails suggesting people use it and saying why it's important."* (DA2). As such, initially, this organisation struggled to integrate the new version of ThoughtCloud into daily practices: *"It was more just a suggestion it's there."* (DA2). There was an emphasis on asking and telling people to use ThoughtCloud, but less on actively demonstrating and promoting its use. This was underlined by another system admin reflecting that this was too passive: "[It's] *not enough. 'Good morning. How are you? Are you using ThoughtCloud today?' should be my morning greeting to all of my colleagues."* (SM2). This reinforces that ThoughtCloud was both suited to its purpose and learnable but suggests consideration need be paid to how it could be more meaningfully appropriated with less support from the researcher.

Capturing feedback at sessions and events

Although ThoughtCloud was designed with a specific use case in mind, operating on a tablet stand after events, as per previous experiences when it had been used in-the-wild, organisations were encouraged to adapt it as they saw fit. For example, for YPF it made sense to place the tablet on a stand in a kitchen where a drop-in session was being held for young people. At other times the tablet was taken along to outings for a group of young ambassadors where it was more practical to pass the tablet between people: *"It's good to have the stand because I think that worked really well with the drop-in. I think if I had a stand with my group, they wouldn't probably figure it was there."* (YW1). For SS, however, operating out of a large building with multiple rooms over different floors, attempts were made to think through systemising the tablet's deployment:

"Maybe people who set up the rooms for a room booking can always put ThoughtCloud in the middle of the room […] *So, yes, you get the tables, the tea, the coffee, and ThoughtCloud."* (SM2)

For BT their services comprise a mix of outdoor activities such as gardening and cycling as well as in-door group activities such as yoga or carpet bowls. On one occasion, the tablet having been placed on the stand had not been correctly set to feedback capture mode and the screen had timed out and shut off. When asked about this OC1 reflected: *"I prefer using it, holding it myself* […] *I'm making sure their head's in the middle of the screen and I can prompt."* (OC1) Staff at Horizons had a similar preference, where they felt that was more suitable for their way of working which was mostly with people with dementia: *"Just getting them familiar with holding it and passing it around and not worrying about it at all."* (OC2).

It should also be noted that, by far, the majority of the recorded feedback was overwhelmingly positive, with people praising the organisation collecting the feedback or, in many cases, praising specific individuals working for those organisations. In the case of BT where feedback collection was almost always supervised by the group leader and people would at times address the camera using his name as though they were speaking to him directly. It is possible to speculate that the presence of organisation staff or volunteers when giving feedback skewed the nature of the feedback provided about services, however, one view on this is that it is a strength of using video and audio recordings as feedback for their ability to evidence situations where those giving feedback are being strongly guided by another person. Again, this reinforces how ThoughtCloud was appreciated in particular for the veracity and transparency, especially of video feedback where it was often plain to see when someone who is giving feedback was being prompted or overtly guided.

Making the most of every opportunity

Although by the end of the trial feedback was being collected regularly across three of the organisations, staff would frequently refer to missed opportunities where they had wished that they had caught something of relevance or import. At SS an expectation had emerged of almost continual use of ThoughtCloud borne out of the need to evidence the operations of the organisation. This led to disappointment around the actual volume that was being collected: "[It's] *not as much as we'd like*." (SM2). However, as noted earlier, with no clear strategy for integrating the system into practices, at times it was forgotten: "*I had forgotten to bring it downstairs*" (DA2).

Similar concerns were raised at the other organisations. At BT the use of ThoughtCloud was often "*tacked on*" (OC1) at the end of a session or event. A difficulty both BT and Horizons faced was that sessions would be run by one person and, having several different things to manage at once, would be easily forgotten. On one occasion OC1 took ThoughtCloud on a cycling trip to capture feedback throughout the day, he explained how, "*it wasn't actually till the end of the day I went into me bag: 'Damn it's there'*" (OC1). Interestingly, these missed opportunities sometimes led to some people being asked to do a 'second take', repeating an opinion that they had expressed in passing earlier for the camera to ensure that it was captured:

"We did a ride leader training the other day and one of our members finished the ride leader training and said: 'This is the best thing, it's really good.' I said: [...] *'Let's do this on the ThoughtCloud' So, he did."* (OC1)

At YPF the administrator struggled to find opportunities where she was able to use the tablet. She attempted to introduce it into sessions with other groups, run by other staff members and volunteers and, after a few limited and frustrating attempts, abandoned trying:

"It's been a little bit frustrating in the sense that I haven't had a lot of opportunities to use it myself [...] *in terms of the drop-ins, maybe it needs a central person like [Anon.] to promote it with maybe the four staff that would be involved and potentially accessing it."* (YW1)

For this organisation their feedback processes were stringently defined and adhered to as a matter of strict safeguarding rules pertaining to young or vulnerable children: *"It's difficult. You know, and it does take time for that too. You've got to chat to parents to explain to them what it is."* (YW1). As a result, having concerns around safeguarding for all of those under their care was commonplace and perhaps understandably fostered a natural suspicion of recording technology brought into such a carefully regulated context.

It was notable, however, that while the organisation staff were concerned about forgetting to collect feedback, over time users of the services began complaining about having to give feedback time and time again. For example, DA2 reported that a group she brought the tablet to complained: "*Oh doing this again? Did you not get enough the last time?*" (DA2). This complicates the notion of continual feedback collection reinforced by management at SS, highlighting how such practices can cause a kind of feedback fatigue. Further, it highlights a potential lack of value placed in feedback on the side of some users of care services—or at least a lack of knowledge of the importance placed on feedback by those organisations that rely on a mix of government contracts and private funding bids. Indeed, from the workshop carried out with them, a picture emerged of feedback and opinion giving as opaque terms. This was acknowledged by DA1, observing that educating people about this could be an important part of feedback processes:

"[If] *they know that they're being heard and they're more likely to leave more feedback in the future, leading to your critical feedback, maybe?*" (DA1)

6.3.3 Engaging with collected data

As noted earlier, while all of the organisations engaged in considerable amounts of feedback collection, there was a relatively limited amount of engagement with the admin panel on the ThoughtCloud website by some of them. It, therefore, became evident at an early stage that feedback was not being reviewed.

Challenges with administration

This lack of engagement was evident as early as the mid-point interviews conducted to understand how the field trial was progressing. In many cases when admins were asked to log in most were observed struggling to remember UserIDs and passwords. Passwords had either been forgotten or written in notebooks or on scraps of paper left lying around in offices: "*I'm just trying to remember what my password was. I think it might be in my other notebook.*" (YW1). While I was able to resolve these access difficulties in all cases, engagement with the admin panel was not seen to increase across the remainder of the study and most logins correspond with interviews being conducted where the participant was explicitly instructed to login. In one example, YPF, this accounts for all recorded system logins. The only organisation that did not require help was also that which used the review system the most, Horizons, since they were logging in regularly to review feedback.

For those who did not regularly use the admin panel, they had forgotten how to use it and asked to be reminded of how to complete simple operations. At SS, SM1 said: "*It's not routine and I'm IT phobic.*" For SM2, however, he said of his lack of engagement: *"I'm not yet plugged into the value of doing it* […] *Before I do it the first time, that hasn't happened, I suspect.*" (SM2). As such, although there was a strong belief at SS that ThoughtCloud should be used continuously to collect feedback, it was clearly challenging for organisation staff to embed the reviewing of this feedback into daily practices and routines:

"We haven't quite embedded using ThoughtCloud as a routine part of everything we do […] *I'm not quite sure what that's for, but that is absolutely a kind of cultural thing again, isn't it?"* (SM2)

In part, this suggests some of the organisations were unsure of the value of ThoughtCloud as a means for giving voice to their user population. The standard practice at both SS and BT was to use feedback as a means to promote or evidence their work for funding bodies and proposals. As SM2 himself noted, it was desirable to, *"hoover up feedback and drop it into* […] *board meeting reports and end-of-year reports, that sort of thing."* (SM2). OC1 from BT observed that he rarely checked in to review feedback because he's, *"always there when they give it"*, referring back to his preferred practice of recording videos with the people who take part in his activities. However, the lack of reviewing of feedback was more problematic at SS due to its size, where multiple people were using the system, where it was more frequent for people to respond to questions on their own, and where none of the staff that regularly collected feedback had access to a login for the website whereby they might review it. Reflecting on the overall lack of engagement, SM1 suggested that perhaps, "*it should be in somebody's job description*" (SM1) to not just use *ThoughtCloud* at sessions but to be regularly log in and check what people say. SM2 agreed with this more comprehensive approach, further suggesting that, *"somebody should have an hour a week where they log in and review stuff."* (SM2).

Reviewing and using feedback

Despite the above difficulties, the feedback collected was still valued. Perhaps unsurprisingly, the organisation evidencing the most logins was the newest organisation that was still developing the services that they provided. OC2 from Horizons used the videos collected via ThoughtCloud to support his ongoing reflections on his practice. He explained how he would log in to the website after sessions and expend a great amount of time and effort manually transcribing each of the recordings. Doing this, he engaged in a close viewing of the data and frequently reflected on how he acts. About one recording, he said:

"I wasn't giving any energy [in a session]. *Physically I wasn't standing up, I wasn't charging around* […] [Anon.] *says, 'What you need to do* [OC2] *is put more energy,' So really powerful feedback, thanks to that, from* [Anon.], *telling me what I should be doing."* (OC2)

As well as creating evidence to communicate how he was personally progressing, he also considered his transcribed notes as evidence for the regulator of health and social care: *"You need to get these ideas out and down* [on paper] *and a lot of people have said that from the care quality commission."* (OC2). At BT and SS feedback was used to get further funding, with transcribed audio feedback included as evidence in an application for funding for social activities: *"We've absolutely used it for funding for* [a leisure group] *at present."* (SM2). In terms of informally acquiring resources, following a session of cycling training, OC1 asked if there was a way to share feedback with a collaborating organisation to show them how much their contribution was valued:

"To pay back to people who have done stuff. I think that would be nice. To be able to turn round and say: 'Look we've got video footage of people saying how wonderful you are and your course.' And they're obviously very excited about that." (OC1)

OC1's comments here highlight how there was a desire to share feedback more widely beyond the organisation's boundary, however, as will be noted in the following theme, the sharing of feedback within and beyond organisations, and even beyond just key members of staff, was highly contested by some.

Complexities around sharing feedback

While in the previous field trial, the sharing of feedback—within the organisation, with funders, and with the wider public—was seen to be important, this rarely happened across these longer studies. This was despite ThoughtCloud being redesigned to handle the sharing of content between designated staff and the publishing of certain feedback online. This could, in part, be linked with concerns around the sensitivity of the data. Furthermore, in some cases, as at SS, reviewing of feedback was mostly imagined to be an individual practice conducted by the staff running and overseeing an event. SM1 explained how information is shared within SS: "*Confidentiality, in organisations like this, is on a need-to-know basis* […] *it shouldn't be shared between one person and others in the team, unless they need to know."* (SM1).

SM1 further noted that in its current form ThoughtCloud didn't offer a fine grain enough set of access permissions to allow for individuals to see some data and not others: *"So there's a choice of all or nothing, really?"* (SM1). As a result, specific people act as a barrier to sharing feedback by not devolving responsibility, perhaps because they don't realise they have to: "*To be honest, I don't think we have used it other than just informing [Anon.] and I."* (SM1). Confronted with these barriers to staff members reviewing the feedback they collect—i.e., admins not giving others access rights—SM2 reflected that such limits on internal data sharing be revoked: "*Why should DA2 be worried that [Anon.] can see what the people on the S&S course thought about the course that's been run by DA2? Why should that be an issue?"* (SM2).

While the value of sharing feedback with staff and volunteers was well understood, reticence to share feedback publicly remained. For those organisations working with people with cognitive impairments and young people, this was acutely felt. At Horizons the idea of sharing recorded feedback publicly was treated cautiously: "*We could do it anonymously.*" (OC2). For staff at YPF, the issue was how such a feature would enmesh with existing safeguarding policies: *"We'd have to get consent from the parents* […] *We'd have to be quite careful about having that online* […] *We've got to follow our data protection policy."* (YW1).

Although the participating organisations were anxious about having feedback posted online, there was also a worry that there was a lack of giving feedback on the feedback. OC1 from BT said he tried to make sure those who give feedback get a chance to view the videos they create: *"What you will find, especially if people leave a video, they will want to watch it"* (OC1). SM1 at SS went further: *"morally, you should respond. If they give their views and nobody has heard that's worse."* (SM1). Here SM1 demonstrates an awareness that the act of collecting feedback itself comes with a moral obligation to respond, yet there is confusion about how best to do this.

These engagements with users of care services highlighted how there was a general lack of awareness of what was happening with the 'messages' they were recording other than them being looked after by the person running the session. It was further acknowledged by some of the organisations that even if they were to publish the feedback collected, part of the problem would be the limitations for some of their users in terms of access to online resources. The SmartSkills team thought around the problem by suggesting that they have a display permanently situated on their premises: *"In terms of the reception area, it would be great […] even if it was just a laptop-sized screen that people could notice."* (SM1). However, for YPF this would remain problematic, with consent being foregrounded as a significant issue: "*We'd have to get consent from parents. It's not as simple as just saying yes from our point of view*." (YW1).

6.4 Discussion

The findings from this field trial highlight several challenges facing VCOs attempting to embed digital technology into established feedback practices. They struggled to remember to use it and with systemising its use while failing to review or create action about the opinions collected. Engagement with the collection of feedback was high, however, only one organisation regularly reviewed and responded to it. Furthermore, tensions arose around data access and sharing, and the mismatch of values between 'giving voice' and the capacity for staff to engage in feedback practices. All of which underlines the difference between collecting feedback and listening.

In the following section, I reflect on the learning from the field trial to discuss some of the opportunities and challenges associated with digital feedback systems like ThoughtCloud as well as the potential for it to be used in ways that could be empowering for certain groups.

6.4.1 Challenges and opportunities for digital feedback tools in VCOs

A strong motivation for many of the organisations I worked with was that the technologies were seen to be a way to demonstrate how they were engaged in activities that speak directly to their values around giving their users a voice. However, in practice, it was observed that how ThoughtCloud was used tended to contradict these values. Certain members of the participating organisations still went to great lengths to capture those voices and collect feedback, but in many of these instances the data that they collected was not reviewed, explicitly responded to, or used in any way. Indeed, there was a great emphasis on the "*hoovering up"* of feedback and prioritising this as evidence for funding bids or to gain further resource from other organisations. Therefore, while the values underpinning participation in the study were around giving those with care needs an opportunity to be heard, it was rare to see this be actioned or accounted for. At best, this is disappointing and would result in a negative impact on the attitude to feeding back by their users.

At worst it is potentially worrying that critical comments or those revealing personal safety issues might be left unaccounted for by organisation staff.

While low-level technical problems such as those surrounding passwords caused some problems, these were found to be attributable to a lack of engagement with the website rather than an indication of issues relating to the system's design (they were quickly and easily resolved and often accompanied by apologies for not having had time to take a look). There is potential for digital feedback systems to do more to hold people to account, especially in relation to feedback that is not being viewed or actioned. For example, it would be a trivial matter for the system to report, perhaps via email, when new feedback has been uploaded, prompting users to take action. Similarly, the system might enquire what action is to be taken regarding viewed feedback and suggest ways in which to progress the feedback. Of course, this might add further work to already overflowing inboxes in organisations where the priority is to answer directly to their user population. A balance may be found in the system reporting a weekly digest summarising the amount of feedback collected that week and, more crucially, reminding them regarding that which has not been responded to or actioned.

An example of best practice was evidenced by DA2 using ThoughtCloud to record herself. This had two benefits: (i) it enabled her to simply demonstrate how it works and build confidence in using it to leave feedback and; (ii) her practice of using ThoughtCloud on herself demonstrated its wider utility as a tool for reflection-on-practice. This sort of critical self-reflective practice has been shown to be invaluable in social work literature (Fallis, 2014; Thompson, 2008) and was a practice that OC2 also participated in. Furthermore, it is something that many care and charitable organisations increasingly have to demonstrate engagement with and learning around (Oliver et al., 2012). Therefore, if the purpose of feedback in organisations like these is to support reflection on user experiences of services to iterate and refine, then building such technologies explicitly into entire practices of individual and group reflection on and documentation of work seems entirely sensible (Cunliffe, 2004; Lowe et al., 2016), creating benefits for the confidence and efficacy of staff and volunteers, which could then be passed on to users of the services themselves.

As was observed, only one organisation logged in to review collected feedback regularly. The others were unambiguous about their use of feedback as a means to provide evidence to funding bodies with one in particular, Bright Times, enthusiastic about their participation with the research project for its demonstration that they were engaged in 'novel monitoring' practices. The trial then highlights an attitude to feedback which is more concerned with demonstrating the efficacy of existing practice rather than using collected data to reflect on and improve practice. This reflects literature on the public and voluntary sector, that highlights how outcome-based funding practices, prevalent in the not-for-profit sector, foster particular behaviours whereby, "*workers become focused on how to produce the required performance information.*" (Lowe & Wilson, 2015) The use practices observed are then examples of problems driven by structural issues relating to feedback practices. These structural issues encourage organisations to demonstrate user engagement in ways that appear to be legitimate, but instead affirm existing indirect and tokenistic approaches to involving users in service appraisal and (re)design. In executing user engagement in this manner, organisations then lose sight of the potential for people to offer valuable input and opinion that might impact the services they provide and use practices, as were observed, come to reflect bad practices concerning feedback generally. These in turn point to structural issues underpinning the sector that encourage organisations to engage in the "performance" of user engagement, rather than making effective use of it to improve the services that they provide.

6.4.2 Empowering users of care services

Several implications might be drawn for designing in this context going forward. While some of those speak to issues related to the challenge of embedding technologies within existing practices, these are complicated further by how these technologies, or the use or non-use of them, relate to the values expressed by organisations working in this space. Organisations providing care services in the VCO sector often align with socially positive values around the welfare of citizens or a commitment to being led by their user population. Given this kind of principled work, the lack of checking in on the data collected via ThoughtCloud is highly problematic, even if it was primarily a result of the technology not fitting into the practices of these organisations. Through real-world use and non-use (Eric P.S. Baumer et al., 2014; Baumer et al., 2015) of ThoughtCloud, it was observed how technical literacy is a very clear, real-world barrier and how the chaotic nature of care environments often meant that ThoughtCloud would not be engaged with. This was partly because people felt uninitiated in the new technology, either through a lack of "tech-savviness", or a failure for organisations to properly train their people or share information about its operation and relationship to important feedback practices.

One solution to this might be, as suggested by SM2, to engage in more top-down policing of the use of ThoughtCloud. Rules might then be set regarding where and when the tablets are used, or as SM1 suggested, reviewing the data collected on the system could be written in to the job descriptions of particular staff members. However, this seems inappropriate given the resource-limited environments created at a time of austerity politics and when most staff and volunteers are simply trying their best to care for people. Partly, the fact that the use practices observed around the ThoughtCloud system come to reflect so closely the bad practice around outcomes-based approaches is characteristic of the new public management approaches that are influential across the sector. Added to this, the fact that relatively little access was given to a broader community of practitioners, and as such very little was ever done with the feedback collected highlights a bottle-neck, as the management layer, with which it was co-designed, tried to ensure that they hold the keys to the data collected. Returning to the diagram from Chapter 4 (Figure 20) we can visualise to what extent organisation staff were in control of the technology (highlighted in red on the left) and to where the users of services held that power (highlighted in blue on the right).

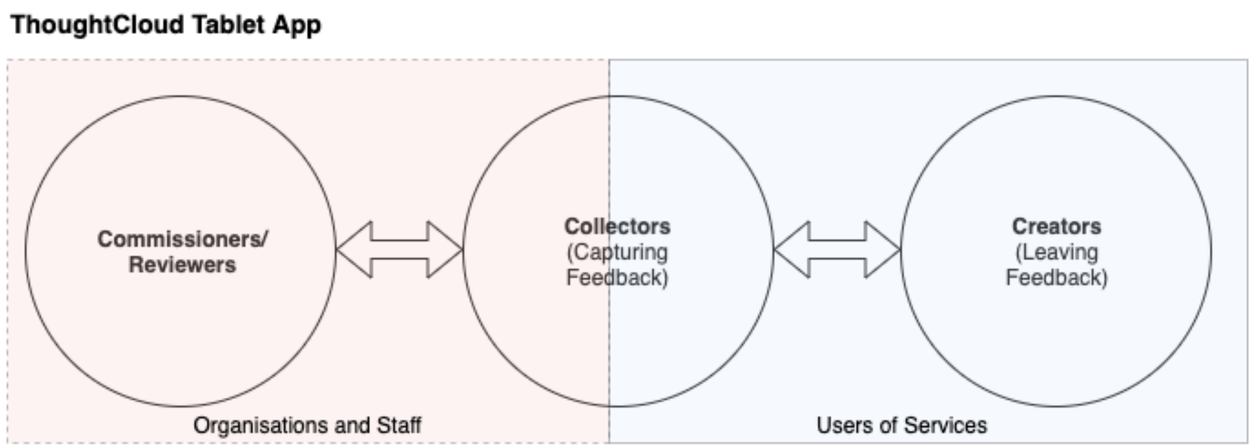


Figure 20: In this study, organisations commissioned FB through ThoughtCloud and brought tablets to capture it.

In order to subvert these traditional power configurations within organisations, the challenge for digital feedback systems like ThoughtCloud is in considering how they can support more flexible and meaningful feedback processes that promote and amplify the user voice, rather than helping to 'hoover it up' only to be ignored. In future, an alternative strategy might, therefore, be to explore how they can play a role in supporting citizens in 'doing it for themselves'.

6.5 Chapter Summary

In this chapter, I have discussed insights into the challenges faced in using a novel feedback technology in VCOs and discussed opportunities for designs that give greater agency to people using care services to engage those that care for them in reflecting and responding to their opinions. This has been the result of a four-month field trial of ThoughtCloud, a feedback collection system, with four organisations. Building on the previous chapter, I have described how the redesigned version of ThoughtCloud was used over an extended period, examining how the technology was incorporated into the existing work practices of VCOs and supported them in both collecting and responding to the feedback and opinions of their users.

6.5.1 The accountability problem

The design work and field trials reported in the previous two chapters suggest that often organisational feedback practices are driven by an organisation's accountability to its funders rather than to its user population. Whereas we might have expected feedback to be used, at least partly, for reflection on service provision and learning. This kind of behaviour is well known in the field of New Public Management (NPM) and has been discussed in depth in the literature. The writing of Lowe et al. describes a range of behaviours that flow from this kind of deference by organisations to those that provide their funding (Lowe et al., 2016). It directly impacts the behaviour of organisations in relation to their use of feedback and is one explanation for the behaviour of the organisations that I worked with in their use of ThoughtCloud. This points to a problem of accountability. Strategies for the tackling of which are the subject of debate within NPM and range from working with organisation staff to forming communities of practice around particular issues, to practical methods for addressing the challenge of a broader form of systems change. These challenges are beyond the scope of the work reported in this thesis to solve.

The focus of this work is on exploring novel ways to capture feedback about service provision while involving citizens in the design and articulation of new digital technologies and processes to support this. The remainder of the thesis, therefore, focuses on designing directly with the citizens using those services. The reasons for this are twofold: (i) as a computer scientist and HCI researcher my expertise sits within the design and the creation of new digital systems; (ii) within HCI, and specifically within civically oriented HCI research, increasingly participatory methods are being adopted, not only for their value in articulating the needs and requirements of different communities of people but for how they can support people to have a voice. There is an ethical dimension to such work and a responsibility for researchers to reflect on their orientation to their participants as well as to consider the potential impacts of new digital technologies. Importantly, this requires adopting strategies that carefully consider any potential harm that may come of a particular project, while at the same time maximising opportunities to improve the situation being studied.

A Participatory Action Research approach, described in section 3.4.1, has been adopted for precisely these reasons. The ethical basis of care and cooperation that underpins that approach resonates strongly with what this thesis is about: capturing and amplifying the voices of care service users to the benefit of both themselves and the organisations providing care services. It is, therefore, important that the focus is shifted from organisational performance management to an exploration of what having a say means to disenfranchised groups, whilst working together to design new mechanisms that support them in having it. Building on this, in the next chapter, since we have seen how overarching control at the level of organisation management can lead to a top-down cherry-picking of data, I describe how I reoriented my approach. Instead, working directly with the people from which feedback is collected, I investigate more user-led forms of feedback collection and use by co-creating a new technology with users of care services.

Chapter 7. Designing & Prototyping with Users of Care Services

7.1 Introduction

The previous three chapters have introduced case studies involving both local government and voluntary and community sector organisations (VCOs) providing care services. The Local Offer case study (Chapter 4) involved studying a design process implementing new forms of digitally enabled service design and commissioning. Chapters 5 and 6 discussed the design and deployment of *ThoughtCloud*, a digital feedback technology. The system was developed and trialled with VCOs interested in capturing the voice of citizens for use in service design and improvement. Field trials showed how systems like ThoughtCloud have scope to quickly collect and share information within organisations while creating resources for self-reflection on individual practice. However, this study also highlighted issues related to non-use. For example, it was noted how little interaction there was with the feedback collected by the system by those with a responsibility to review and action it. The importance of reviewing collected feedback was emphasised, especially when coupled with concerns raised by people reporting sensitive issues using the system. One senior member of staff at a VCO suggested that this was problematic from an ethical point of view. This behaviour was repeated across most of the organisations involved, cherry-picking feedback as and when needed for bid writing or reporting to funders.

To address these challenges, in this chapter I discuss the development of a new digital feedback system, *Appraise*, a mobile application (app) supporting the capturing, sharing and collaborating on feedback about youth service provision. I describe the design and production of Appraise with a community of citizens tasked with evaluating services. Through a series of design workshops, and various trips with the young people to conduct service evaluation visits, feedback was collected about a variety of different services aimed at young people. Appraise was iteratively developed, alongside an evaluation process, to address issues related to capturing feedback for organisational learning with young people already involved in service evaluation. Together with the Appraise app, the evaluation process encourages cyclical evidence gathering, reflection and action on feedback.

7.1.1 A reconfigured approach

The development of Appraise began with a reconfiguring of my approach to design whereby I reoriented to working directly with users of care services. The way certain VCOs had used

ThoughtCloud (Chapters 5 & 6) highlighted organisational barriers to how feedback could play a more direct role in shaping service design instead of being "*hoovered up*" only to be dismissed. In those studies, VCOs using the system to collect feedback set the agenda in relation to this feedback, controlling all aspects of capture (setting the questions and soliciting feedback about specific activities), analysis (they decided which feedback material was most relevant or interesting to them) and reporting (they used it to evidence work to funders and to apply for new contracts and not as a means to dialogue with their user populations). Exploring more user-led processes of feedback was also in-line both with the values of VCOs (they often claimed to be user-led) and government legislation that called for increased citizen participation and consultation in service delivery (*Children and Families Act*, 2014). Taylor et al. discuss how community involvement in the production of technologies can contribute to a sense of ownership and lead to more sustained forms of engagement (Taylor et al., 2018). Building on this, Appraise was designed with citizens, young people making use of services, to support the capture, curation and reporting of feedback in ways that were both legible and accessible to them. I also discuss the development of a service evaluation process for using Appraise drawn from Quality Improvement frameworks already used in the VCO sector (Moule et al., 2013).

There are lots of examples of organisations that are interested in supporting young people to be 'ambassadors' for their peers able to speak up for themselves and be advocates on behalf of others. This represents another part of an ongoing culture attempting to build co-productive communities within cities and diverse spaces across society (Yuan, 2019). Appraise was designed to support the work of existing youth groups that had concerns about how community organisations and service providers were able to take on board user feedback. Local councils and VCOs had developed evaluation programs with young ambassadors which involved bringing together groups of people with lived experience of disability, as well as other forms of social exclusion, to evaluate the provision of local services of interest to them. Such initiatives are country-wide with national disability advocacy organisations like In Control[11] working with various councils across England to establish and support such groups. In designing Appraise, I was working at a local level with VCOs providing youth services, as well as schools, on initiatives like these.

[11] http://in-control.org.uk/

7.1.2 Appraise evaluation process and feedback technology

Collaborating with these groups of young ambassadors, together we aimed to define a process of service evaluation using technology similar to how they communicated with their friends and family. This required consideration of a process by which these groups of ambassadors could come together and, working with group organisers that were also interested in youth-driven service evaluation, develop an accessible process for service evaluation. Preliminary sessions provided a starting point for thinking about the evaluation of a particular place, service, activity or event which would be visited by the ambassadors in an evaluation visit. Part of the project and going on these visits was exploring how the process could be supported by a digital feedback system. Appraise is a feedback collection app used on evaluation visits which asks the ambassadors to document certain things while there, suggesting collecting certain types of material (audio recordings, videos or images) in relation to predefined prompts. This process would result in an interactive web-based report where some of the experiences from that visit can be published. Before that information is published, there was also an intermediate step where the group of ambassadors responsible for collecting the feedback material would come together and look through what they had collected for what was useful or interesting and articulated their experience of the service in a certain way. Both Appraise as a process of evaluation and a feedback collection app supporting this process were designed and developed iteratively across multiple evaluation visits to a range of services.

To test out and develop the process, as well as the app, this was done in four cycles following structured phases of Plan, Do, Study, Act (PDSA), with three different ambassador groups. PDSA is a recognised Quality Improvement technique well established in business and discussed in the new public management literature (Moule et al., 2013). Cycles (Figure 21) begin by (i) *Planning*: young people discuss where they would go and what they would look out for when they got there. At the same time, this information was recorded so that it could be displayed to them using mobile phones on an evaluation visit. The next step (ii) *Do*: they visited organisations or took part in activities and collected material to use in the final report. Then (iii) *Studying*: they came together and looked through the material, deleting some, adding comments to others and curated a final report. Finally, (iv) *Act*: this report was sent to the provider for them to reflect on and guide them in service development.

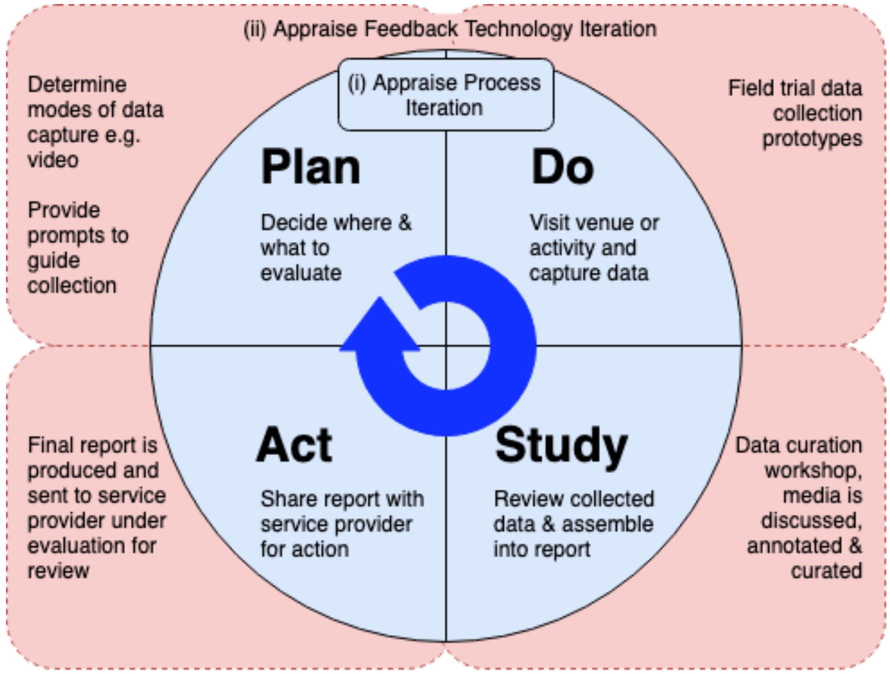


Figure 21: How Appraise app and process maps to cycles of PDSA, Quality Improvement framework

7.1.3 Appraise feedback system and service evaluation process

The Appraise feedback app was markedly different from ThoughtCloud, especially in how the agenda for what would be evaluated and how was set by the young ambassadors using the system. The Appraise app was developed from one PDSA cycle to the next. Commonly there was some configuration of the app at the 'Plan' stage so that it could be used at the 'Do' phase, allowing the young ambassadors to collect material, in the form of photos, videos or audio recordings of different elements of their experience of an event or activity, while simultaneously adding a descriptive or explanatory comment, or a rating regarding their feelings, and share that material with their fellow ambassadors. This data is later shared with the other ambassadors involved in the evaluation, allowing it to then be collaboratively selected, annotated and rated by other ambassadors in the 'Study' phase. The outcome of the curation process is presented in the form of an interactive report, a webpage where the evidence collected by ambassadors can be presented to the provider of the service under evaluation for review and action in the 'Act' phase. Selected materials are presented with their attached comment or rating. This is showcased alongside glanceable stats such as how many ambassadors attended, how many of a particular type of rating and how much material was collected.

This evaluation process and the system supporting the evaluation, Appraise, were iterated simultaneously, with learning from consecutive cycles being fed into the next. Figure 21 shows one loop of the iterative cycles and highlights the separation between (i) a foregrounded loop in relation to the structure of an evaluation in terms of visits to events and sessions or places; and (ii) the concurrent background loop developing the design affordances of the Appraise app. Each evaluation visit was a chance to progress through the loop one time, developing both the system and the feedback process at the same time.

7.1.4 The Appraise app

The initial Appraise prototype was built as a mobile-optimized web app, using the Python Flask micro web framework described in the previous chapter. Similarly, Amazon Web Services S3 cloud storage was used to store collected images, audio and video files. The UI was created using the Materialize[12] responsive front-end framework based on Android Material Design. This initial prototype was suitable for initial field trials and testing, however, required an Internet connection to work and became unstable when sharing larger files, such as high definition videos. As such, the second prototype was built as a native Android application. This change, while restricting the app to Android phones, allowed for an app that was much faster and could more easily handle larger media files in a variety of formats. The existing Flask infrastructure was therefore repurposed to act as an API whereby user data could be stored, again using an SQL database, and distributed to multiple other users collecting and sharing feedback as part of the same evaluation.

7.2 Study Design

Designing and researching both Appraise and the evaluation process involved a wide range of different activities from regularly working with groups of young people with SEN, spending time at a dedicated student support unit at a high school and speaking in classrooms, to accompanying young people on evaluation visits to events run by third parties; running design workshops with the young people; as well as building prototypes for testing alongside observing their use in field trials, see the timeline for overview (Figure 22). Twelve workshops were run with young people lasting between 30 mins and 2 hours. From these two prototypes were produced and trialled at 4 different events run for young people. At these events, the young people were encouraged to capture material

[12] https://materializecss.com/

using mobile devices in the form of short video clips, images and audio recordings, whilst at the same time adding written comments—or smiley faces and emojis in the latter phases of the study. Workshops were conducted to help make sense of this data, collaboratively curating it with the young ambassadors to create a digital report reflecting their experience of the event or activity they attended. By selecting images and other data that they wanted to keep or remove, and explaining their choices at each stage, together we explored how a digital technology could support them in collecting and curating this material.

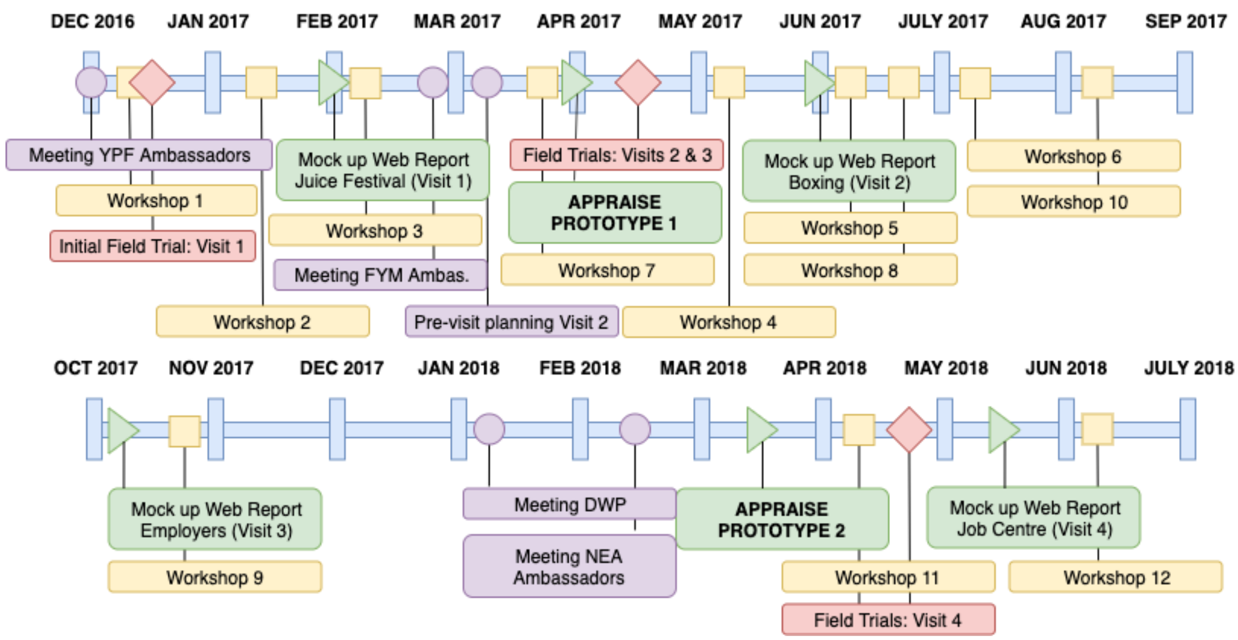


Figure 22: Timeline of main activities from Appraise development, meetings and field trials

7.2.1 Participating organisations and young people

The research into Appraise began with *Young People First (YPF),* a youth advocacy and support charity that participated in the ThoughtCloud study (Chapter 6). YPF had created a group of young ambassadors tasked with evaluating local service provision by the local city council. The ambassadors were a mix of young people aged from 11-19 with a variety of disabilities ranging from autism to physical disabilities. The original group began with 5 regular members but over time this expanded to 15. From initial meetings, it was unclear how they would tackle the work of evaluation. This gave scope to explore different means by which the group would collect materials to aid in their evaluation work. The group met monthly at a youth centre owned by the charity. Over 20 months I attended 15 monthly meetings. In groups, we discussed how the young people used the mobile technologies that they already had while exploring which social media platforms were relevant to them and why. Then, we discussed using mobile devices to collect and share material for evaluating services in the form of pictures, videos or audio recordings collected during evaluation visits.

As the concept and process of evaluation and technology were developed, other organisations working with similar groups of young ambassadors learned about the research. For example, as a result of a presentation at a young peoples' regional network, a youth organisation became involved, *Forum for Youth Matters (FYM)*. FYM was the regional partner and delivery organisation for an employment program for young people aged 18-24 designated 'farthest from the workplace', either through having a disability or being a lone parent or young carer. Their interest stemmed from wanting to give young people the tools to evaluate the employment program in which they were taking part.

Finally, a group of Year 9, 10 and 11 students at a high school, the *New England Academy (NEA),* became involved as well. Partners from the Local Offer project (Chapter 3) had moved to the Department of Work and Pensions (DWP) to oversee a project there regarding youth inclusion and accessibility at jobcentres across the country, especially examining the participation of certain excluded groups likely to leave school early. As such, there was an interest in supporting young people in evaluating these jobcentres which were seen as the next step in their transition from high school into the workplace. The NEA group was made up of 8 young people aged 16-18 that for a variety of reasons were excluded from normal school lessons and as a result were seen as at risk from leaving school early and assigned to a specialist unit within the school which addressed these challenges in their lives.

Altogether 23 young people took part in the study (see Table 7 for a summary), each taking part in different activities feeding into the design of the Appraise application. As a result, while some took part in only workshops, others came along to field trials where the different prototypes were tested while a core few individuals took part in both.

Codes	Organisation	Organisation Description
YP1 – YP11	Young People First	Children and young people's charity
YP12 – YP15	Forum for Youth Matters	A leading youth development charity supporting young people across a large region
YP16 – YP23	New England Academy	Specialist unit of a high school supporting young people excluded from lessons

Table 7: Summary of participating young people, their participant code and the organisation they are affiliated to

7.2.2 Field trials

To explore and develop the Appraise app, different prototypes were trialled with study participants at a variety of events, activities and sessions run by different services which they visited as a group. The three groups I worked with trialled two different iterations of the app on a total of four visits. These visits included attending: (1) a family and youth festival comprised of various events and performances across a city at a variety of locations; (2) an accessible boxing taster session at a local gym run by a charity; (3) an employer's conference for young people furthest from the workplace; (4) a post-school options session at a jobcentre in the North East of England. Common to all visits was that each was provided by an organisation or charity in receipt of government funds and as such are here discussed as different forms of youth service provision supporting positive social outcomes for disadvantaged or disabled young people. Where possible, I accompanied the ambassadors while they conducted their visit and in all groups were accompanied by a group leader and often by support workers as well.

On visit (1) the ambassadors collected evidence with their mobile phones, returning with videos and images. By visit (2) the first prototype (Figure 23) was ready for user testing. This prototype was trialled at visits (2) and (3). The second prototype was used on visit (4) and allowed for smiley faces to be added to collected material along with an associated comment (See Figure 24 for annotated Walkthrough)

Before each site visit, I worked with the young ambassadors in preparatory sessions, to get them to think about what kinds of data they might be interested in, as well as what would work well from an evaluation perspective. Drawing on examples from a city council young person's inclusion framework (Newcastle City Council, 2015), I suggested they think about collecting evidence related to issues of inclusiveness and accessibility. In the first prototype, these were able to be recorded as prompts within the app and viewed in a drop-down list to serve as guidance for them once they were on the visit at the service or activity.

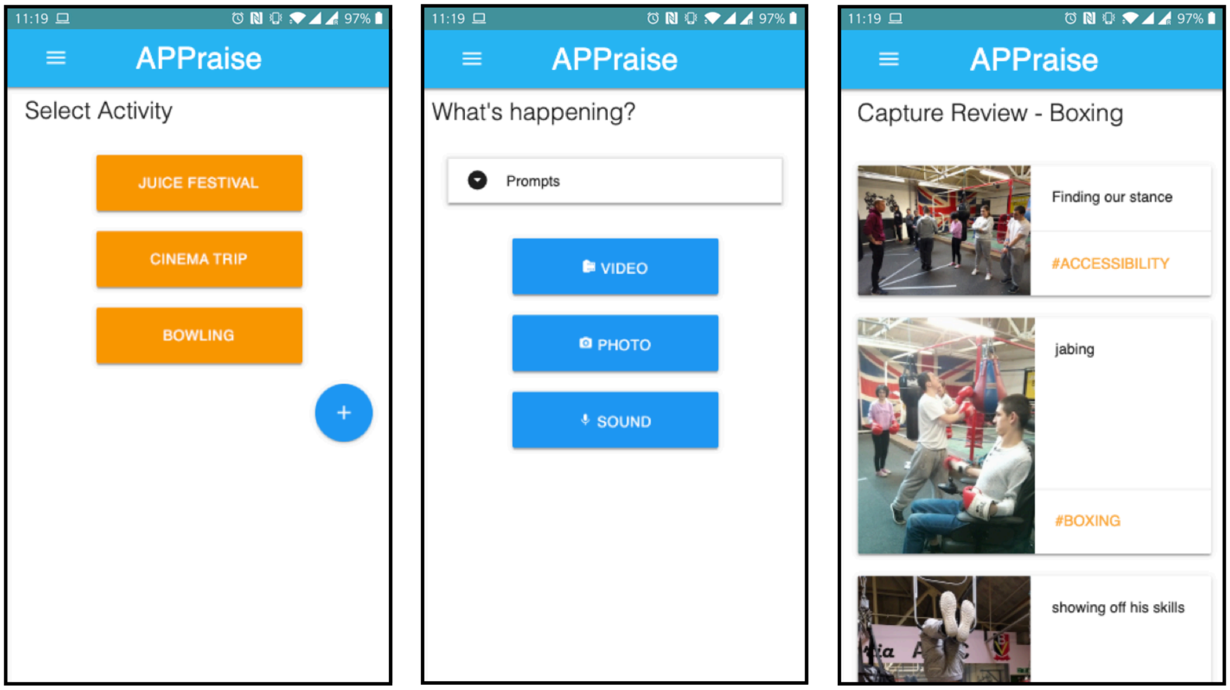


Figure 23: Appraise app, Prototype 1

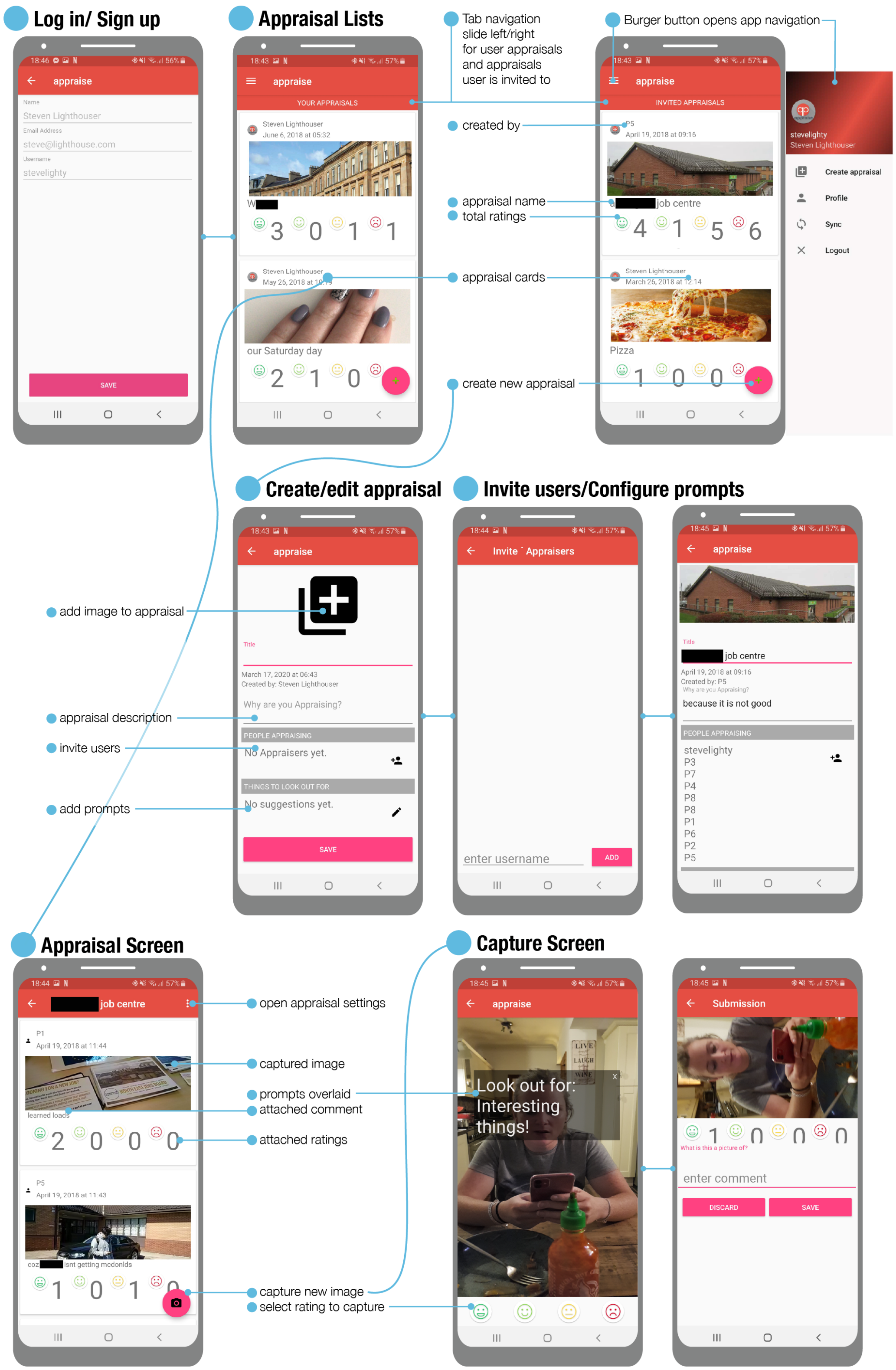


Figure 24: Appraise Final Prototype - Annotated Walkthrough

7.2.3 Workshops

Workshops were planned around emerging research priorities as and when they were identified. In total twelve workshops were run (see Table 8 for a summary), across the full 20 months of the project, each with between 2 and 10 young people. For example, when there was confusion about the name, Appraise, a workshop was planned that focused on the language used within the app (Workshops 6 & 9). The ambassadors from YPF took part in 6 workshops; young people from FYM were involved in 4 workshops in total, while the final group participating in the study, students at NEA, took part in two workshops. In the majority of workshops, material collected on visits was reviewed and curated collaboratively (Workshops 2, 4, 8 & 12), with the young ambassadors following the visit. Drawing inspiration from (Frohlich et al., 2014), the group decided what to keep and what to lose or change, and discussed how they would annotate it, e.g. with comments. This method was selected due to its suitability in including older people in design, especially those that may have a cognitive impairment or memory issues, and the inferred applicability for use with young people with SEN. The selected material was then combined into a summative web-based report for presentation to the service provider. In a follow-up session, the young ambassadors gave feedback on this report with a view to this being passed to the service provider for a response (Workshops 3, 5 & 9).

Workshop	Organisation	Workshop Description
1	YPF	Juice Festival pre-visit preparation
2	YPF	Juice Festival Curation
3	YPF	Review Juice Report
4	YPF	Boxing visit curation
5	YPF	Review Boxing Report
6	YPF	Emoji & Language
7	FYM	Planning Employer Conference Trip
8	FYM	Employer Conference Data Curation
9	FYM	Review Employer Conference Report
10	FYM	Emoji & Language
11	NEA	Round table trip plan
12	NEA	Post JC visit workshop

Table 8: List of design workshops and workshop description

7.2.4 Data collection

I was a supporter of the YPF young ambassador group throughout the whole project, regularly visiting the main group and taking part in their monthly activities such as pizza making. This allowed me to not only get a better idea of how the organisation, YPF, worked but also meant that I could build my relationship with the various stakeholders involved in the project and discuss with them how it was progressing from their point of view. I made and kept detailed field notes. In most cases field notes regarding observations were hand-written and subsequently typed up, this was done as soon as possible after site visits to organisation premises. This could mean jotting down quick notes and adding to these with mental notes about occurrences taking place throughout.

Throughout each PDSA cycle, and when Appraise was used during field trials, field notes were recorded with notes being written up following each evaluation visit to the premises of a participating organisation where the different prototypes were being tested. Similarly, workshops were audio recorded and the resulting recordings transcribed to promote increased familiarity with the data. Following workshops, discussions were held with colleagues assisting in their running to develop and practical findings for application into future design iterations. After the workshops and prototype field trials, the totality of this data were combined to create one data corpus for analysis.

7.2.5 Data analysis

Thematic analysis (Braun & Clarke, 2006) was conducted across this data corpus. Following Braun and Clarke, I hand coded the data and then clustered these codes into themes. These were checked in meetings with colleagues and discussed in relation to our evolving understanding of the context. In the following sections, I describe and discuss the final themes that resulted from this iterative process of analysis. However, first I discuss the analysis of the workshops and the visits where the Appraise app was used and the challenge of making sense of the data collected.

7.3 Findings

The findings are presented and discussed in the following sections under the themes produced from the systematic analysis of the study data. Beginning with the planning of evidence collection with the young people, I then explore the challenges associated with using a mobile application to collect material on visits. The sections following this discuss findings from observations made on field trials and workshops where ambassadors reviewed, annotated and curated the material that they had collected.

7.3.1 Pre-planning evaluation trips

Planning was done for each evaluation visit in preparatory sessions with the three different groups of ambassadors before setting out on these field trials. At these sessions, the different groups oriented themselves to the task in different ways.

Opportunities and anxieties

The first evaluation visit would be with ambassadors from YPF attending a family-friendly youth festival, a series of art events and performances taking place at different venues across the city. The festival was supported by the local city council which had an interest in getting feedback from young people directly about the various events, with a focus on hearing from young people with a disability. For the preparatory session, a festival organiser came to speak to the group along with a young person directly involved in some of the shows. They described one event that would be taking place 'after hours' at a large museum which included an interactive performance around the exhibits. Although the ambassadors had appeared to be listening to them talking enthusiastically about the event, there wasn't an immediate response from them. After some encouragement, a young girl, YP8, said she would like the performance but that she 'didn't do well' with loud noises so she wouldn't be confident going along to an event like that. An older teenager who is a power wheelchair user, YP5, said that he could break the set when he rolls over it in his wheelchair and the group joked that he shouldn't deliberately try to break anything. This raised the question of accessibility and whether that should be something that the ambassadors could be evaluating on the visit. A group leader suggested that they also add something about how noisy the environment was in line with what YP8 had said about loud noises. The group thinking was that images could be taken of the set where it could impede the progress of wheelchairs and an audio recording could be taken to capture noise levels. In this way, the type of evaluation that would be undertaken came together, both in terms of what was being evaluated and how and was driven by the group members through reflecting on what would be important to them.

Repeating this planning process at FYM yielded different results as the ambassadors there were brought together around the issue of unemployment and the difficulty young people with a learning disability or being a young carer or parent can face finding work. To understand the task of collecting evaluation material they used different metaphors. For example, one girl, YP14, liked the idea that she would be like a journalist and that the mobile phone with the app on it would be her journalist's notepad. This suggested that something that they could capture would be interviews with people, about which she could take down notes while asking questions. The girl's colleague in the group, YP12, said that he would be more comfortable being behind the camera and between them, they agreed that she could be conducting interviews while he was her photographer able to capture snippets of interviews. Others in the FYM group pointed out how awkward these encounters might be with people attending the conference, particularly focusing on how employers might be 'stuffy' or 'official' and how the experience might be embarrassing for them. In most cases, even at this early stage of the pre-visit planning, there were some reservations and anxieties about attending the events. An exception to this was the group of high school teenagers that would be evaluating an event held for them by the jobcentre to discuss opportunities for their future, with some recognising that they would soon be leaving school and needing to find out what was available to them.

Guiding and directing

Although the intention had been to allow young people to lead the evaluation process as much as possible, for all of the groups of ambassadors the selection of service to visit and evaluate was taken by the leaders of the groups to which the young people belonged. There was little discussion of where the young people would go if they were able to evaluate a place of their choosing. This was briefly the topic of conversation at the pre-planning meeting with FYM and the first suggestion, that they should evaluate the supermarket Lidl (as this was a place they spent a portion of time daily) was thought to be ill-judged by group organisers.

It was also suggested in these sessions that the ambassadors have a 'cheat-sheet' of ideas or questions with them on visits to prompt them about what they should look out for. What the prompts should be were therefore discussed so that these could be included in the Appraise app for the young people to refer to while on a visit. They were encouraged to think about what was important to them as well as what would be important to their peers. YP14 suggested that a prompt could say: "*Look out for deviants.*" (YP14) When queried the young person clarified that they meant that they should look out for strange people that don't belong, but this was thought to be missing 'the point' of the evaluation. The suggestion was dismissed as being unsuitable by a group leader. This kind of interference reveals a contradiction on the part of workers at organisations hosting ambassador groups. Workers who appear to be interested in what young people have to say about services, but only to the extent that they say things about aspects of service provision deemed relevant. It had always been a goal to create a transparent process of evaluation that respected the input of all stakeholders, particularly offering young people the chance to have their voices heard. Group leaders were, however, a constant presence. They organised meetups of ambassadors and were required to make sure that they got along to events as well as home again safely.

7.3.2 Capturing material at events

Having planned their various trips, the groups of ambassadors set off on their evaluation visits, always with a mobile phone in hand to collect the different materials discussed: videos, pictures, audio recordings and reflective comments. For some this involved being collected by minibus or taxi, for others their parents or carers brought them directly to the venue where they met up with others from the group. At YPF the visit began by congregating at the youth centre where their group usually met.

Creating feedback opportunities

The young ambassadors from YPF were excited to use the first Appraise prototype at a boxing taster session at a local gym (Visit 2). Before setting off in the minibus, they showed an understanding of how to use the app and a willingness to have fun with it at the same time. On arrival at the gym, however, they were each directed to put on boxing gloves which precluded them from using the mobile phones to capture material during the session. It then fell to support workers and the group leader chaperoning the visit to capture the action. The young people were able to take over once more when the session was complete and one young boy, YP11, was keen to conduct his own interview with the session leader. This he conducted in front of the other ambassadors, who were sitting around the room resting after the lively session. As the camera was running, however, YP11 could not see the prompt menu and initially asked no questions, making the interviewee briefly uncomfortable. After some encouragement, he asked seemingly unrelated questions about the gym's computers which inspired laughter from the other ambassadors and only seemed to increase the discomfort of his interviewee.

How the boxing gloves took them out of their task of collecting material reflects how the task of evaluation came to interfere with their engagement in and enjoyment of an activity. The ambassadors were being asked to do two simultaneous and overlapping tasks: (i) take part in the session, often one that was specifically run for their benefit; and (ii) capture material about this event or activity, compiling a report at a later stage. For some of the group leaders, the task of evaluating the event was secondary to the main reason for the young people attending and participating in a given activity in the first place. This problematises the logic of giving them additional tasks to do (i.e. evaluation tasks) that will prolong their trip and even interfere with their experience of certain activities that they are there to take part in. Especially when the task of collecting material was a troubling one for some of the young ambassadors once they found themselves having to approach and interact with people they did not know.

At the Employer Conference (Visit 3), the young ambassadors from FYM were nervous about this too and recoiled from the idea of approaching people 'cold' to ask them for an interview. For example, when asked about this YP13 explained that she would speak to people with whom she was familiar and, "*not people I don't know though!*" (YP13) This left YP13 with the question of how to get feedback from other delegates, or be able to conduct an interview, which was especially a problem since three of the five prompts that had been chosen during the pre-planning phase involved asking people about specific aspects of their engagement with the event. Eventually, she approached one of the other ambassadors collecting material with Appraise at the same event, YP14, and together they decided that it would be best to get help from an older peer. They asked her to put one of the prompt questions to an employer attending the event. On receiving the answer, they decided to write down the quote on a piece of paper and took a picture of that to be added to the material collected, recording a quotation without having to appear on camera or interact directly with a conference delegate that was unknown to them.

Policy and censorship

The group of ambassadors from NEA visiting the jobcentre (Visit 4) learned close to the time of their visit that mobile phones were not permitted on the main operations floor of the building. This was explained by members of staff at the jobcentre and its parent organisation, the Department for Work and Pensions (DWP), as being a matter of data protection policy and indeed there are signs above the entrance to the building to this effect. It was surprising that other members of the same government department responsible for running the jobcentre, the DWP, as well as the visit to it by the young people, had not anticipated that this would be a problem when they knew that the young people would be using mobile devices to collect material for their evaluation. Jobcentre staff were suspicious of young people having access to their devices and nervous about them not being directed to record with them in ways that they saw fit. Similarly, when the group leader, a high school careers teacher, accompanying the ambassadors wished to Tweet about the visit he was told that he could not pending approval of the Tweet and was only allowed to after express permission was granted.

Figure 25: 'Speed-dating' with careers organisations at the jobcentre

Such constraints left the ambassadors with a narrow set of possibilities in terms of capturing material. Moreover, the careers event was set up so that the young people would rotate from table to table (Figure 25), talking to different organisations in small groups. Sitting at a table facing the delegates made it awkward for the young people to be on their phones and many were also reluctant to have their photograph taken. This meant that they took photos of materials or leaflets that were spread on the tables, adding text comments to them and ratings throughout the session.

Ambassadors were in groups of three making it possible for one to be using the app while the others engaged with the organisation representatives. However, since groups moved between the same tables, this approach of capturing images of leaflets led to a lot of duplicate images being collected, some with near-identical comments attached. A government worker involved in arranging the event kept a close eye on how the young people were taking pictures and sharing them and suggested that to get more data they could photograph each other as they left the building. This led to all of the young people taking pictures of the exterior of the jobcentre and adding a comment that was summative of their experience of the event as a whole.

7.3.3 Collaborative curation of Appraise data

Having completed their evaluation visit, the ambassadors proceeded to the Study phase where they curated the different materials, deleting some while highlighting the importance of others, adding comments and light annotations such as smiley faces. In workshops, they worked with the collected materials to produce a web-based report presentation intended to be sent to the service provider for review. As detailed above, this involved coming together to work through the collected data in different ways to narrow down a large collection of materials into a format more easily digestible by busy managers of services, whilst at the same time capturing the young peoples' thought processes and the decisions that they were making about why some types of data should be included, whilst others excluded.

Leaving media in and leaving media out

The ambassadors at YPF were enthusiastic for participating in workshops to curate the material that they had collected. The curation workshop was held in an informal setting in their recreation room at the youth centre where the group was based in a room with lots of potential distractions such as a pool table. Despite this, the young people stayed engaged for the whole duration and seemed keen to see what they had collected. Also, there were those in the group who hadn't been able to attend the visit, so this was a chance for them to see what had gone on. The rec room had a projector with a large screen and the whole group sat before it. Using double-sided paddles, with a thumbs-up on one side and a thumbs-down on the other, the young people indicated if the media on the screen should be in or out (Figure 26). At the same time, they were asked to explain their reasoning to explore what they felt was most important to include and why.

Figure 26: Voting on feedback material using paddles

As we began working through the images and videos there was a very supportive atmosphere amongst the group, which led to very few pieces of data being discounted completely. Most images were greeted unanimously as thumbs-up by the group. When asked why they liked a particular video, one girl said: "*I liked Yvonne talking.*" (YP7) This kind of positive engagement with materials was repeated by others, such as YP3 enjoying watching himself take part in the boxing training and saying: "*It was a piece of cake and it was a laugh*." (YP3). Perhaps the biggest issue, from the perspective of the young people involved was their struggle to want to include images of themselves. One young man, YP1, threatened to exclude every image of himself from the final report. Participants indicated their preferences in a very public way, which was an issue for some. This made YP1 seem anxious to appear so confident in front of his peers which was intensified when it came to a video of an interview with him. He clearly wanted to give it a thumbs-up but felt embarrassed about doing this in front of everyone and asked if they could look away while he voted. When they did, he voted a thumbs-up for his interview, the same as the rest of his peers. This supportive atmosphere led to the majority of media receiving an upvote from everyone, which made it hard to narrow down the final report content.

In the next curation workshop, this time with the young people from FYM, the process was reconfigured following Frohlich et al.'s 'Keep, Lose, Change' method (Frohlich et al., 2014). Instead of simply up-voting and down-voting they were required to make definitive decisions about what they would 'keep' (pass straight on to the final report) and 'lose' (exclude right away). The final category was added, 'change', for material that they wanted to include but only if they could change it in some way, explaining how and why. This was done since previously the method had led to a limited amount of curation, with most materials being kept. Moreover, by giving them more options and encouraging them to talk about their reasoning for those choices, it was possible to capture a more nuanced discussion.

Like the ambassadors from YPF, some of the young people did not want themselves to appear in the photos and videos that were being considered for the final report. However, having the option of changing the media in some way they said they would be happy if they could be cut out of images. Other delegates at the employer engagement event they were attending had told them that they did not want their photos taken either. This created a challenge for the ambassadors as they worked through the material and realised that they had taken photos of those people (Figure 27): "*She didn't want to be in it. No, she said, she didn't mind the back of her. She didn't want to be in it."* (YP13). This was particularly a challenge when the ambassadors wanted to include an image that showed people round a table concentrating, which they felt was a particularly good example of the hard work people had put in on the day. However, they were reticent to include it because it showed one of those people sitting at the table. This was contentious for YP14 who was unsure about how to proceed: "*I don't know, I don't know what to do cause she did say*."(YP14). Continuing to discuss what could be done resulted in a suggestion about a working solution for future events, where people could be given lanyards as a very visible sign that they did not want to have their picture taken. In the end, it was thought best to lose this particular image, yet the discussion about it had been fruitful in generating ideas for future evaluations.

Figure 27: Working hard at the employer engagement event

Barriers to critical engagement

In reviewing the collected material, it became apparent that some of the young people struggled to articulate anything about the material that they had captured over and above the overall quality of the image or footage before them. One video showed the opening of the employer engagement event (Visit 3) attended by YP13. It was a static wide shot depicting people milling around a large hall and finding seats before a presentation screen. However, pointing in only one direction, it was not representative of how busy the event was showing only a few attendees. Moreover, the fact that there were several empty seats in the frame made the event seem quieter than it was. YP13 dismissed it saying, "*It just shows everyone together, blah-dee-blah*." (YP13). Moreover, the video's sound was thought to be 'too noisy' meaning that you couldn't hear anything useful, the lighting was poor and it was blurry. YP13 also explained that she understood the qualities that made better videos, having completed a filmmaking course and, as a result, her criticisms remained at the level of the aesthetics of the video. Suggested changes were, therefore, often along the lines of how to improve the aesthetics: reframing the shot, fixing the exposure, moving the camera closer so it was not so blurry, or using a microphone to capture the sound.

Of the photos that were selected to keep, they often showed evidence that they, the ambassadors themselves, were working hard at the employer engagement event. Both YP13 and YP14 agreed that a photo of themselves tending the welcome table would reflect well on them and give a good impression to any employers seeing the report. For them, the imagined viewer of the report was not using it to learn what did and did not work, but to learn what happened on the day. As such, they wanted it to be a positive reflection and record of their engagement with the event that they were attending. In turn, it would provide evidence for employers that they would be good to hire, which was the point in the event being arranged for young people. Other materials were kept in because they were thought to be promotional for the event, especially images that showed them and their friends working hard and looking engaged. They were more preoccupied with what was the 'right' way to be seen to be behaving, or looking for ways to show themselves, and the event, in the best light. As a result, images that showed anything controversial, like videos of empty chairs or presenters muffled by poor sound quality, were discounted into the 'lose' pile.

In the few cases where they could not recall why they had taken a photo or recording in the first place, the comments attached to the material at the time of collection were, at times, unhelpful and gave them little guidance. The majority were short, simple statements, for example: "Venue"; "Team Work"; "Sign" and comments such as these attached to an image or video added little and still left work to be done to assess its value as an addition in the final report. In such cases, the young people felt they needed more information to guide them, such as a simple rating attached to a given piece of material to help remind them of their thinking at the time of capture and this was suggested for future versions of the Appraise app.

Moreover, the curation workshops were long and some became frustrated at going through such a large body of data. An onerous task that was so time-consuming that at times they lost sight of why they were reviewing the images and videos before them. In part, this was due to young people not understanding what evaluation like this meant. They were used to being asked their opinion about how they were personally developing while using a given service with which they were in touch. Indeed, they were well versed in reporting how much the organisations, especially those that were facilitating their involvement in the study (that hosted the groups of young ambassadors), had helped them to improve and develop. When it came to their input into how the service itself should be delivered, while they were often asked, they rarely saw any impact or development resulting from their opinion. It was, therefore, understandable that they could not see how their input in a new kind of digitally supported evaluation would be valued either.

Making more of conversations

For the final data curation workshop, this one with the ambassadors from NEA, I reinterpreted Frohlich's 'keep, lose, change' method to allow participants to articulate more about what they would keep that was good about the event rather than the image being used as material for evaluating that event. To do this a final category of 'learned' was added, and each time participants were asked how they would complete the sentence: "what would I keep, lose, change or did I learn… about the jobcentre". This helped in having a more constructive conversation around the data that had been collected as a group. Also, the new prototype of the Appraise app that they used to collect the data required that they add a smiley face, Likert-type rating to the material as they captured it. This would indicate if what was captured was something that they thought was a good thing, okay thing or bad thing, in their view, building on learning from the previous curation workshop with FYM.

As the young ambassadors from NEA reviewed materials that they had collected at the jobcentre, they could easily see what had been positive and what had been negative as there was an attached rating in the form of a smiley face. When it came to an image of the sign stating that mobile phones were not allowed, there was a split within the group. The smiley face displayed under the image was a yellow one indicating neither a positive nor negative position (Figure 28). When asked how they would rate the image one young man said he would add a green smiley face, explaining that he understood this restriction as simply the rules of that environment that he was perfectly prepared to follow, "*It's data protection […] it's a professional place*." (YP17). While another said he would add a red or sad face as he felt it negatively impacted his experience of the event, "*I didn't like how the rules were there or that I can't use my phone in there, you might be getting an important call."* (YP16). For YP16 it was a reminder of how strict and regulated the jobcentre was and both ambassadors agreed that this was "the way it is". In discussing this together they found that although the staff there were very 'friendly and polite' that, as an overall experience, it was 'too formal'. This formed the basis of constructive feedback that could be passed on to the event organisers concerning future trips.

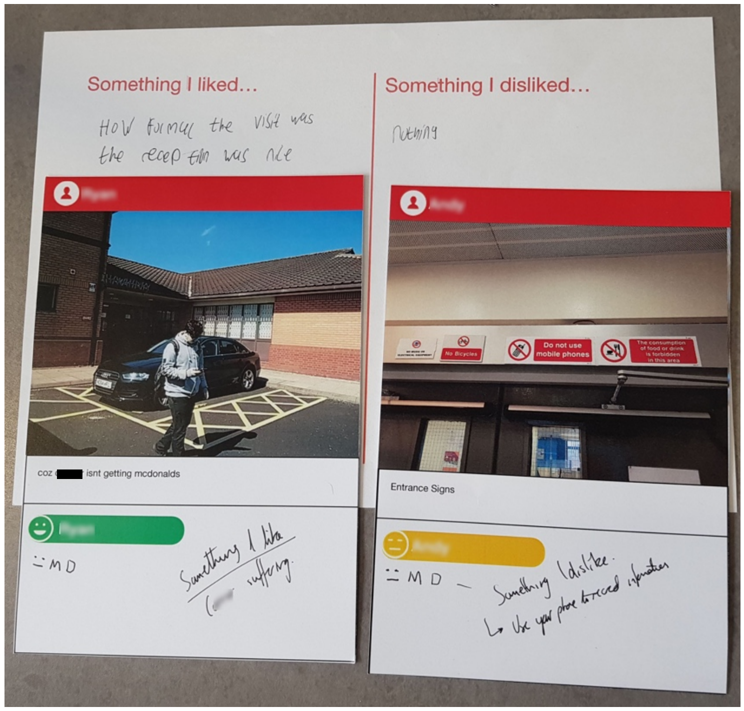


Figure 28: Signs forbidding phones and yellow 'smiley' Likert-type face

Pointing to a photo of the front cover of a booklet about the Prince's Trust, YP16 remarked that the man from the Prince's Trust had been 'a laugh'. This man was depicted on the cover of the booklet and had been the one that they had spoken to. YP16 went on to say that the Prince's Trust had been the best of all the options that they had been presented with that day for its offering a wider variety of opportunities. YP19 contradicted him on this point stating that the National Citizen's Service was the best as he remembered how much fun it had sounded when the details of it had been explained to him. In listening to this conversation, YP18, a student who had originally planned on attending the evaluation visit but had pulled out at the last minute was able to get a better idea of both services and found that his impression of the jobcentre was changing as a result too. Initially, he had explained how the service could offer him nothing but now, having seen the images that his classmates had collected and listened to them reflect on their experience, he admitted that he would probably give it a chance in future and 'see what it was all about'.

By going through and engaging with the material collected in detail the young people involved were reminded of specific happenings as well as the overall narrative of the events that they had attended. Sometimes they were surprised at the things that they had forgotten, at other times they were reminded of how much that they had enjoyed themselves, even in the case where some had

had low expectations going in. The benefits extended to celebrating the activity, reminding the young people that while they were hesitant about participation in the beginning that, in the end, the event had become an enjoyable experience for them. It encouraged them to reengage with the events of the day, solidifying their learning of what had happened and proved a positive reinforcement of the experience. Moreover, they were able to reinforce their memory of specific details of the visits: what was good, what was bad and what they had learned or taken away from it. It also allowed them to share in the different perspectives of their peers and people were able to get a more rounded picture of what it had been like to be there on the day, which was especially helpful for those that had been unable to attend.

7.4 Discussion

In designing Appraise the goal had been to create a digital feedback system that made evaluation processes more accessible and legible for young people to participate in, while supporting them in the evaluation and reporting tasks they were increasingly being set by government bodies and VCOs across the country. This was done to both better incorporate the voice of young people into the production of certain kinds of services intended for their use while creating knowledge for impact and change. In following cycles of Plan, Do, Study, Act, inspired by Quality Improvement methods used by VCOs, I saw how the young people had a lot of energy for discussing and reflecting on the material that they collected. This emphasises the utility of facilitating and capturing dialogue and conversation around their data. Further, it foregrounds that future versions of the Appraise app should focus on providing better data to support groups of young people coming together in discussion and positive self-reflection on their experiences. Findings also reveal tensions within the sector where organisations valuing greater ownership and control for young people also struggle with new ways in which they seek to take up that control. I expand on these points in the following discussion.

7.4.1 Valuing by looking and surfacing narratives

One way the study sought to capture young peoples' experiences of services was in structuring how they worked with digital material to create a report reflective of their shared experience of an event. If we hope to use such material to improve or develop young people's experiences of services, key to this will be understanding what they are trying to say about their experience and the specific, social and emotional impacts at play. Forlizzi discusses how experience design and service design are closely linked and calls for the HCI community to recognise its job of expressing how people experience services both emotionally and socially (Forlizzi, 2010). For Forlizzi, digital materials can operate as, "*symbols, elements, and constructs [that] bring about the best services and experiences [and] what people value by looking*." (Forlizzi, 2010). In the Appraise study, young people were able to capture many images of the events they attended, creating a record of what they had been looking at, or, to follow Forlizzi, a record of what they *valued*. They were, additionally, able to add value through coming together to discuss and reflect on that material. This led to points of self-reflection or realisation throughout the study where certain young people got a lot out of looking back over the material collected in a structured way. They remembered lost moments which they then drew attention to or elaborated on. What often followed were questions and discussion from peers, providers, support workers or group organisers. These became instances of co-discovery, sharing information about experiences around which conversation and discussion could flourish. It happened spontaneously and without prompting or guidance, communicating something of a young person's experience or point of view and allowing others to share and engage. In this way, they explored the positive and negative aspects of their experiences and surfaced coherent narratives containing points of inspiration worth focussing on along the way and identifying what might need addressing. Future work might incorporate these narratives into evaluation and reporting practices or seek to find ways of drawing high-level abstractions from the data in ways that better enmesh with existing reporting processes, for example, counting the number of positive or negative elements reported.

In doing so, however, we must be careful not to build yet another ICT system delivering 'meaningless' metricized outcomes. Asad and colleagues alert us to the limitations of such endeavours (Asad & Le Dantec, 2015) and encourage designing new systems that are more democratically orientated through facilitating qualitative forms of participation that do not simply add to impenetrable statistics. Crabtree's ethnographic exploration of *Photoware* is one such project that attempts to do this, deemphasizing the importance of metrics while highlighting the inevitability of aspects of 'storytelling' and narrativization work that results from groups coming together in photograph viewing sessions (Crabtree et al., 2004). This work sits within a wealth of digital storytelling research which has been developing since the 1980s and has particularly shown promise in encouraging engagement in education (Robin, 2008). For Appraise, applying this to service evaluation, narrativization could have the twin outcome of increased engagement of young people and self-expression of citizens while recording and reporting this practice so that service providers might understand more clearly how their services are operating while creating ideas for improvement.

Hook et al. have shown how technologies can be configured to capture moments as they happen at VCOs (Hook et al., 2015). One approach would be in redesigning the Appraise app in ways that go beyond supporting and guiding young people in collecting material that would be useful in creating a report that communicated what they wanted to say about a particular service, but also in deciding what that material could be and how it could be framed. Drawing from (Schofield et al., 2015), their *Bootlegger* system had an in-depth setup phase where users could select from a collection of filters and overlays which would be passed to the group capturing data. This could be easily applied to the Appraise app, for example, for assessing how welcoming a given service was by having a suggestion that they look out for people smiling and to get pictures of this.

Learning from this, future versions of the Appraise app would benefit from supporting collecting good evidence on evaluation visits, to gather material that better supports knowledge sharing and discussion among ambassadors and is capable of capturing that discussion whenever it occurs too. In capturing these collaboratively, young people can build their own narratives using their own data and so reveal that which was good, bad or otherwise about a given service. Future systems should perhaps focus on capturing and recording these narratives and expressing them in different forms. Building on this, consideration would need to be given to designing not only to capture and record better data about which to have richer conversations (Elsden et al., 2016) but also to capture the narratives that young people construct around this data. The focus then shifts from getting it right at the point of the event but instead getting it right at the point of curation.

7.4.2 Participating in design versus participating in evaluation

HCI research has always been highly innovative and creative in its work to support citizen participation, employing a variety of methods and solutions (Harding et al., 2015), not only to collect data in new and more convenient ways (Taylor et al., 2012) but in how that data is understood, presented and discussed (Puussaar et al., 2017). Participatory Design has found favour within HCI for an equitable design practice that ensures democratic involvement in innovation (Bødker, 1996) and drawing on PD as an approach in this study has been an important part of ensuring cooperation and collaboration in the design process. Designing in this way with young people with a disability can be empowering (Vlachokyriakos et al., 2016) in terms of not only young people having a 'voice' but in working towards new means for eliciting views from all (Lewis & Porter, 2004). The research into designing Appraise builds on this practice and shows that such projects while being lengthy and at times difficult can also be fruitful. We also find that, in this particular context, Participatory Design methods reassert their relevance and appropriateness.

The lengthy design process reflected the difficulty in the task of affecting deeper transformation over time, however, and the challenge in supporting the ambassadors to have a much greater evaluative and reflective capacity. It was only through participation in workshops and repeated cycles of the Appraise process that the ambassadors were able to make small gains to this effect and through a commitment to a deeper engagement (Spiel et al., 2017) that by the end of a session they were more comfortable expressing an opinion about their data. This also had the effect of strengthening their communication between each other and building their capacity to reflect on their experience. However, increasing the young peoples' awareness of evaluation remained difficult. While the participants were very enthusiastic about sessions in which they took part, there was a continual need to bring attention to the purpose behind the evaluative activities, why they were being undertaken and who would benefit from it—even though many of the participants had designed Appraise on the basis of joining the evaluation group. Sometimes, it was increasingly difficult for them to see the wider initiative that they were part of. This was partly due to the lengthy design process they were involved in where their attention was split between getting to grips with the design activities on the one hand and thinking about what makes for a good evaluation on the other. This latter point is an important one as even staff in a given workplace could expect training in this regard, however in designing the young ambassador programs, programs intended to be focused on evaluation, there had been little thought given to how training in evaluation practice would be vitally important.

Another complication arises from the fact that the visits to the various events and activities where the prototypes were being trialled—and indeed the workshops and meetings themselves—were an important social activity for many of the participants involved in the research. Bringing Appraise into these settings, and appropriating them as instances of design research, therefore, presented a barrier to some young people fully engaging with the events and activities under evaluation, while also impeding the sociality of the sessions when groups came together. At other times the business of doing the design work was a hinderance to what the group's goals were for that particular session. Also, despite Appraise being commissioned to be user-focused or user-led, the VCO workers supporting the ambassadors, and organising their groups, found it challenging to give up their power and control over the process. This meant that they would determine what was suitable to evaluate as well as directing how they carried out the evaluation. This has much to do with VCOs being more concerned with following their principles (protecting the welfare and wellbeing of the young people with whom they work) than they are with adhering to the stipulations in funding contracts. Which, in this case, stipulated providing a youth-led evaluation service. Indeed, in the pursuit of their principles, they will make use of any and all resources at their disposal, including getting the most out of the researchers in their midst. For example, when there are not enough staff or volunteers available, drawing on them to support different aspects of their work. All of which reaffirms that designing with VCOs is chaotic and at times unpredictable (Voida, 2011). At the same time we are reminded to reflect that designing within value-laden spaces can mean making decisions about when to set aside certain activities in the interest of respecting those values.

7.5 Chapter Summary

In this chapter, I have introduced and described a study into the iterative design and prototyping of the Appraise app and service evaluation process. This involved engaging with users of youth care services, young people with a disability, as well as high school students in designing and testing a feedback tool facilitating their work in service evaluation. This work was embedded in the already ongoing work of evaluation with which ambassador groups were increasingly being tasked. While the technology was deployed with some success, the evaluation process itself became an important focal point for the study and showed how a rich and valuable conversation can be supported around service provision. However, the work being carried out by the groups of ambassadors was limited by a lengthy design process and exhaustive oversight by the organisations inviting and supporting them to take part in service evaluations.

In the next chapter, I consider a range of views from a wider set of stakeholders connected with the project. This involves building on the work in this chapter by conducting a series of semi-structured interviews. Interviews include volunteers and workers delivering services to (and working with) young people with disabilities, staff involved in delivering services evaluated using Appraise and members of the local city council responsible for commissioning evaluation groups. It is an exploration of how the design process reveals contradictions in the way some sector workers think about youth voice in services and analysis of the value of the reports the young people produced in guiding the design and improvement of services.

Chapter 8. Exploring Appraise through Stakeholder Interviews

8.1 Introduction

In the previous chapter, I introduced and described *Appraise*, a digital feedback system for collecting citizen feedback about service provision designed with young people with special educational needs (SEN) to support them in the practice of service evaluation. I described how I worked with groups of young people to produce and test prototypes of the Appraise app at events and activities that they were tasked with evaluating and supported them in discussing the materials they collected. Before that, I discussed the Local Offer (Chapter 4) and my design work with different voluntary and community sector organisations (VCOs) into *ThoughtCloud*, a situated feedback collection and sharing system (Chapters 5 & 6).

In this chapter, I discuss findings from a series of stakeholder interviews conducted following the design work into Appraise. That phase involved developing the feedback app, going on evaluation visits with groups of young people and reviewing collected material to compile a final report. These interviews explore how the reports that were generated with the young people from the data collected have value as a source of learning for service providers, guiding them in development and improvement. They were also an opportunity to explore in more depth contradictions in the sector suggested in the previous study, whereby the young people were restricted by certain organisation staff in what they wanted to collect feedback about. This contradicted particular values of VCOs involved, particularly those emphasising listening to the voices of young people.

The interviews were also an opportunity to present the web reports created with the young ambassadors to providers of the services that had been evaluated. By having charity managers and senior staff at government departments interact with and talk about the reports, it was possible to explore the factors which I had previously found to impact the wider adoption of the previous feedback system, ThoughtCloud. The following section begins with a description of the main features of the Appraise web reports generated by the young people using the Appraise prototypes and their work curating and discussing that material following its collection.

8.1.1 Appraise service evaluation reports

I created the Appraise reports generated in the precious study (Chapter 7) in collaboration with the young ambassadors. Reports were assembled as webpages to engage the young ambassadors in the design of their presentation, as well as to share easily with service providers, giving them an idea of what the young people had thought about their provision. The ambassadors came together in group workshops to shape the content for the reports (described in detail in Chapter 7) and sort all of the material they had collected, organising data into themes related to their experiences. It allowed the young people to complete the cycle of evaluation for each service that they visited and produce a report about that service. The final reports produced at the end of each cycle were composed of the selected material that the young people thought best reflected their experiences and included short pieces of text displayed alongside the photos, videos and audio clips they had gathered (Figure 29). Reports did not contain explicit recommendations of how to solve specific issues but rather offered a rounded picture of the ambassadors' experiences from which to draw on for further reflection and service improvement. For example, capturing the positives and negatives from their experience or highlighting access challenges resulting from poor signage. They could then be delivered to the organisations responsible for the events and services evaluated and the local government authority which in most cases funded these services.

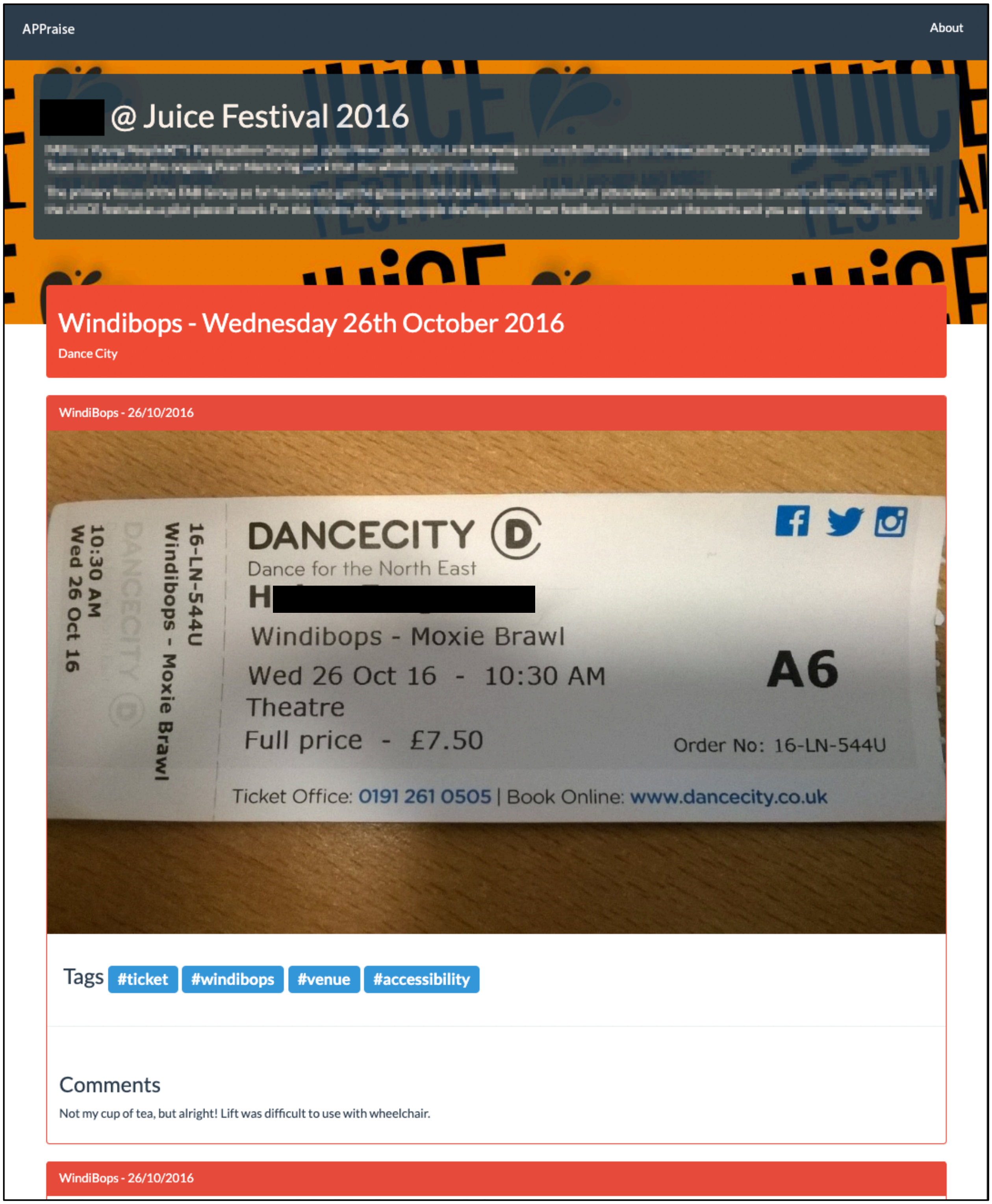


Figure 29: Appraise Web Report, Version 1

Reports were primarily comprised of a webpage containing the annotated material from visits: images, videos, audio clips collected by the ambassadors. They were presented to the provider of the service under evaluation for their review and response. In this way captured images, recorded video and audio files were presented in an accessible form that was easily perusable by busy organisation staff or managers. Any attached meta-data such as comments or Likert-type ratings in the form of smiley faces selected by the ambassadors were displayed alongside. Altogether three distinct web report styles (were produced Figures 29-31), each displaying data collected in the three different ways employed during the prototyping phase discussed in Chapter 7.

Reports were also used to act as boundary objects (Star & Griesemer, 1989), facilitating a wider discussion with stakeholders about the value of the Appraise app and the process of evaluation. The web reports were invaluable in this respect and provided a focal point for the interviews, discussed in detail in the following sections. In this way, I explored the efficacy of the system as a means of collecting, reflecting on and discussing data as a resource from which service provision could be developed or improved in the future.

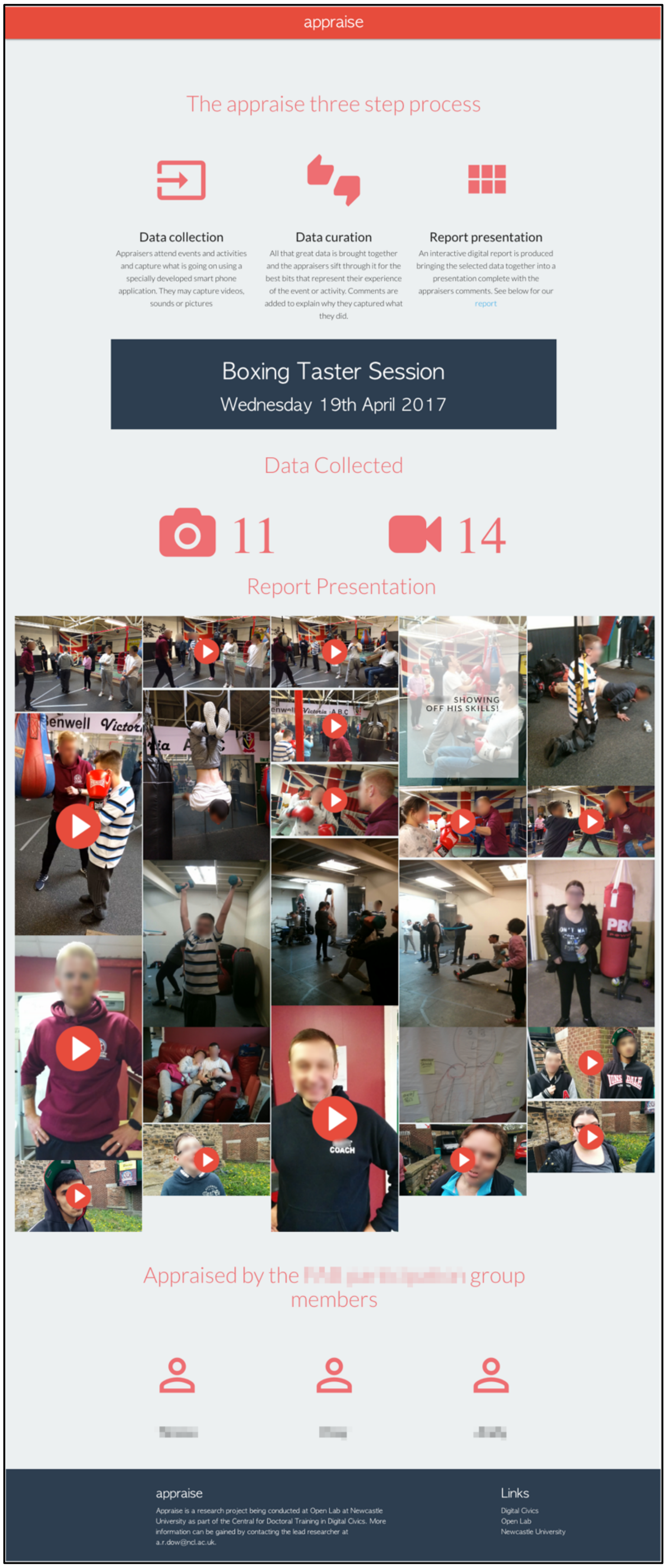


Figure 30: Appraise Web Report Version 2

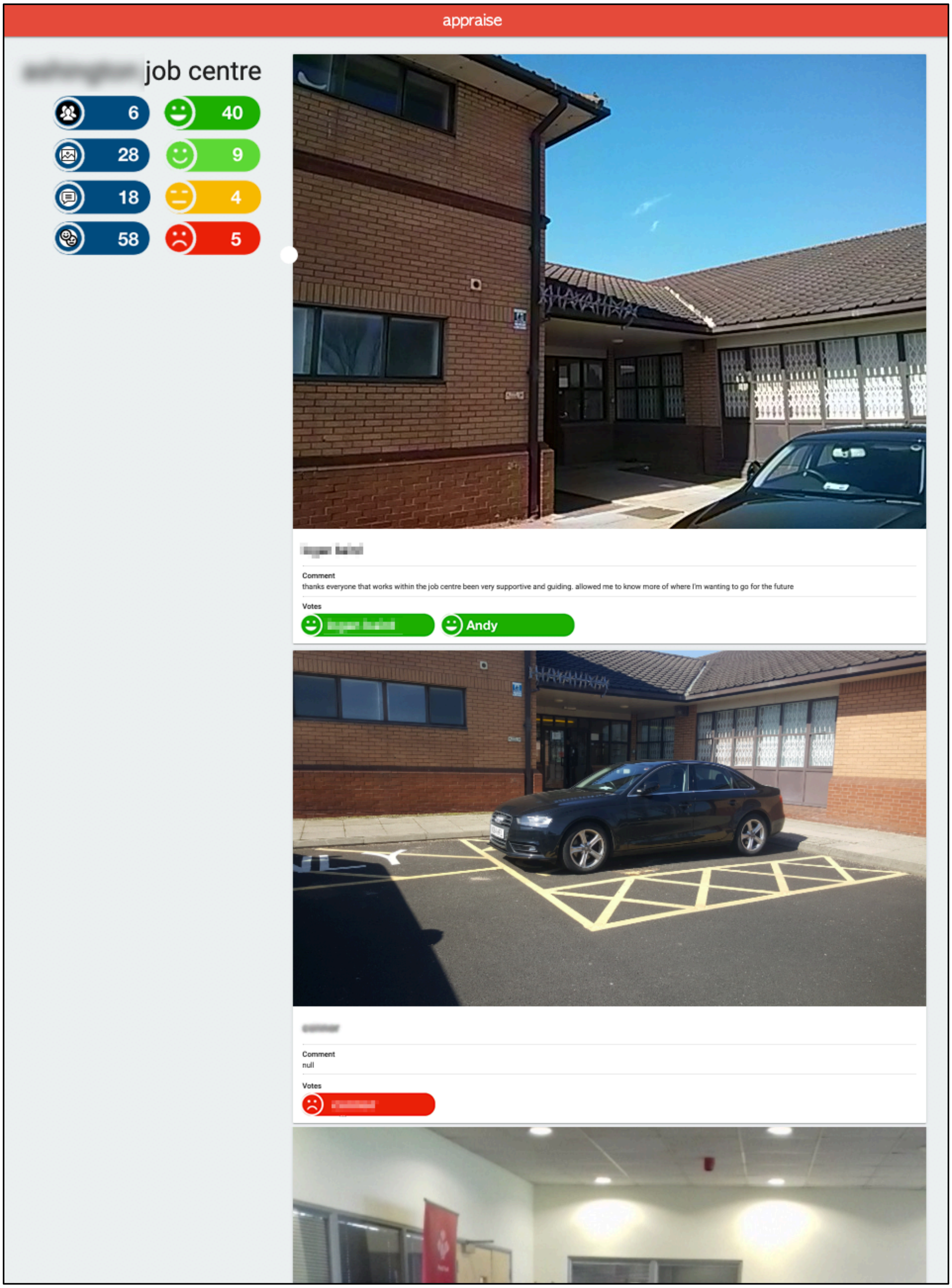


Figure 31: Appraise Web Report Version 3

8.2 Study Design

As described above, the main data collection activities in this final study were semi-structured interviews with stakeholders connected to the research into Appraise. I was motivated to do this since it had been unclear from the previous studies how the data generated by digital feedback systems would come to impact service development when it was so easily 'cherry-picked'. Often this kind of use is driven by systemic factors associated with funding and how VCOs require metricised data to demonstrate outcomes. Research into sociotechnical systems in health and care spaces has repeatedly shown how the different social dimensions in such settings impact their use and underline how important it is to understand these different aspects regarding the systems being used (Seely Brown et al., 2002). As such, interviews with workers and volunteers at the organisations involved in supporting the young people in the design activities and the evaluation process were critical for understanding these wider social implications.

8.2.1 Participants

Participants involved in interviews were drawn from a set of stakeholders connected either to the Appraise design process or involved in running or supporting the groups to which the young people involved belonged. They included youth workers that were the leaders and organisers of the young ambassador groups, senior social workers at the local council, and the workers and managers of organisations that the young people were visiting to evaluate. Specifically, the participants that were interviewed were as follows: 2 members of the city council (both senior social workers working in youth services); 3 members of a national government department dealing with employment (one a young people's community partner and the other two jobcentre staff, one of whom was the site manager); 3 workers at YPF (two youth group co-ordinators and one member of senior management); 2 members of staff at FYM (both youth involvement workers); 1 evaluation officer at a social enterprise; 1 manager of a boxing club visited by the group; 1 support worker supporting a young person on one of the visits and 1 high school careers advisor.

8.2.2 Data collection

There were numerous opportunities throughout the study to collect data from a variety of sources. I attended meetings with senior social workers and management at YPF about the future of the group, its progress and discussed ideas for its future direction. I attended meetings at all of the participating organisations, for example, when it came to working with NEA and planning the trip to the jobcentre, the department of work and pensions invited me to speak to the staff not only from the jobcentre where the trial would take place but from across the region as well. Combining meeting notes about how organisations interacted with the groups of young ambassadors and meeting notes recorded during discussions with people in positions of power connected to these organisations highlighted other potential barriers not only in engaging with the data the young people were generating but also with how they were collecting it. Meeting notes, both officially recorded minutes and from my journals were used to inform the schedules for the semi-structured interviews.

Participant Code	Role	Affiliations
YW1	Youth Worker	Voluntary Sector
YW2	Youth Worker	Voluntary Sector
SEW1	Social Enterprise Worker	Voluntary Sector
YW3	Disability Youth Worker	Voluntary Sector
SEW2	Social Enterprise Manager	Voluntary Sector
YW4	Young person's support worker	Voluntary Sector
YW5	Disability Youth Worker	Voluntary Sector
SW1	Senior Social Worker	Public Sector
SW2	Senior Social Worker – Young People	Public Sector
YW6	Youth Charity Manager	Voluntary Sector
DWP1	DWP Engagement Officer	Public Sector
JCM1	Job Centre FOH Manager	Public Sector
JCM2	Job Centre Manager	Public Sector
CA1	Careers Advisor/Teacher	Public Sector

Table 9: Interviewee professional roles and organisation affiliations

8.2.3 Semi-structured interviews

Interviews were conducted with 14 individuals that represented the stakeholders of the Appraise project: those involved with organisations taking part in the design of the system as well as those evaluated in the evaluation process, i.e. those delivering the services that were evaluated throughout the trials of the prototypes (see Table 9 for a summary of interviewees). Interviews lasted between

26 mins and 1hr 10 mins and were an opportunity to assess the proposed system for its efficacy as an evaluation and reporting tool. I was principally interested in exploring issues of increasing relevance to the studies already completed as part of this thesis and structured interview schedules to reflect this. They were conducted to (i) assess motivations and values that lead organisations to involve young people in evaluation and feedback activities; (ii) explore barriers to young people with SEN participating in the design of digital systems; and (iii) speak with service providers about the relative value of the web reports as an evaluation of their service (See Figure 32 for interview schedule).

Interview protocol: Appraise Study

Purpose of Interviews

To talk with people about their current feedback practices and how it is important to their organisation, the events they run or the activities they carry out. Additionally, exploring their thoughts on the appraisal process; how practical it is as a means to collect data; the form of the final report and what that can be used for.

Schedule

1. Could you introduce yourself for the recording and tell me a bit about the work that you do?
2. Could you tell me what appraisal, evaluation and feedback processes mean to you in relation to young people and the work you do?
3. Why encourage young people to collect feedback or evaluate services?
4. How is it normally done and what is the data it used for?
5. Can you think of an example where feedback advised you to change something?
6. How might you respond to the final appraisal in terms of how it might be used? For example: developing services, evidencing work or putting together funding bids.
7. How might action be taken regarding the appraisal, what form would this take?
8. Who do you consider to be the audience for an appraisal?
9. How would you use this feedback to engage with others, or other organisations?
10. I'm interested in the development and use of Appraise going forward, what would you say is the principal value of a system like Appraise?
11. How do you feel that the young people would/did get on when using it?
12. What barriers/challenges do you see to using it or the process as a whole?
13. Is there anything missing from the final report that you would like to see in there?
14. What other services or activities would you like to see appraised and why?

Figure 32: Interview schedule Appraise Study

8.2.4 Data analysis

Interviews were recorded and then transcribed for analysis. As per previous case studies, an inductive thematic analysis (Braun & Clarke, 2006) was conducted on this data corpus. As before, I began by coding the data by hand before clustering it into initial themes that captured shared issues across codes. These were shared with three colleagues one of whom had been involved in working directly with the young ambassadors at YPF at a workshop. Codes were refined through discussion, highlighting where agreements and disagreements in interpretations of data could be identified, explored in more detail and systematically refined. Themes best fitting the continual grouping of codes, discussion and regrouping process were agreed upon by the end of this process of checking, iterating and conferring. This process resulted in themes relating to contextual factors motivating the involvement of young people in service evaluation; that which applies directly to the efficacy of the Appraise system as a data collection and evaluation system and systemic barriers and challenges. Each of these themes is described and discussed in more detail in the following section.

8.3 Findings

This section begins with a discussion of the motivations for care sector organisations to involve young people in the practice of service evaluation. This leads to a discussion of how Appraise might support the young ambassadors in having a voice in service improvement through collecting material about services and structuring dialogue around it. The final theme highlights the work involved in interpreting this voice within the specific context and the practical application of some of the feedback that was reported to the people that provide the services that were visited.

8.3.1 Motivations for young people participating in service evaluation

From the outset, the main motivation for tasking young people with service evaluation was to follow legislation directing how community organisations listen to those that use their services as well as honouring commitments to make organisations more user led. This would also help determine the efficacy of existing services while providing ideas for service improvement or commissioning, especially regarding those provided by the city council.

Aspiring to be user led

Designing Appraise with the young ambassadors was a chance to do things in a way that was more in keeping with how young people increasingly choose to communicate. A group leader who was previously a young ambassador himself, before being employed by the same support organisation, reflected, "*it's like what young people do all the time, they go out and they take selfies and they take pictures and stuff all the time.*" (YW1) Not only were young people well versed in this practice, but they were already sharing their experiences about services using existing social media. A peer mentor and volunteer with experience of working closely with young people with SEN on a one to one basis explained, "*There's all of these things about picture sharing […] for other young people to be like, make choices about whether or not they would go somewhere, based on other people's experiences of it.*" (YW4) A government department worker at a national organisation and highly experienced youth disability advocate was enthusiastic for the potential to support young people in participating in service design in ways that they were not used to and remarked how it could even change their relationship with services: *"There are so many services that some of our most disadvantaged young people are subject to."* (DWP1). The language used speaks of the kind of relationship some workers perceive many young people with disabilities to have with the services they depend on, i.e. that they are something that they are 'subjected to'. This underlined their belief in the importance of young people having more control over their lives, something that they likely would be unaccustomed to: *"Kids who are in touch with services, they are probably directed in loads of other ways in other aspects of their lives."* (YW5). Voluntary sector workers could see how Appraise was a chance for young people to have greater ownership and control because it created opportunities for them to input into the design and running of services.

As more organisations took an interest in Appraise and requested that their own youth groups be involved in designing and trying it out, ambassador group leaders expressed their interest in the project in terms of this potential for empowerment, "*I think, not forcing evaluation on young people, just letting them tell it from how they see it is kind of important.*" (YW2). Young people were being offered the chance to give their views on their own terms, controlling what information they related and shaping how they would be heard. For one youth group leader this was, *"[the] whole point of doing it […] to provide a platform really for them to have a voice to help other young people."* (YW5). Appraise would offer a means by which that voice could be captured and shared, leading to wider knowledge about service provision and spreading to peers. In the process, a resource would be created from which others could learn which was created by the experts, young people with lived experience of services. In sum, through groups of young people capturing their experiences and giving their opinion on different aspects of service provision, they could create a resource that was both legible to young people interested in what was available to them, provide means for them to advocate for better services in future while turning a critical eye on the existing provision in a more user led way.

Setting the agenda and guiding

The VCO sector is a complicated one where stakeholders work together to deliver the services. As a result, there are many agendas to consider. For example, the local city council who was financing the group of young ambassadors from YPF to evaluate services was doing so for them to get feedback about other aspects of its own youth provision in the city. It was, therefore, difficult to see how interested they would be in the ambassadors self-organising around their own agenda, especially if it did not align with the council's and led to overly critical feedback. A manager at YPF pointed out the slippage between what the young people were interested in reporting on and what providers emphasised as important to capture in an evaluation: "*They've got their own agenda about what they should be evaluating and this group have got their own agenda about what they actually want to do with their spare time*." (YW6) For senior staff at the local council, the project could only work with the presence of a guiding, top-down influence: "*In terms of youth groups particularly is, leadership and facilitation are always critical components of that […] without a network that's sustained, I've never seen that do anything but rise and fall quickly.*" (SW1) Although one of the groups of young ambassadors I worked with was only newly established, keeping it properly resourced and going was seen as a challenge from the beginning. As was how the evaluation work could be built on before it fizzled out, ensuring they would get value for the money they were investing. Appraise was a way to address this challenge too by providing a place where evaluations could be done collaboratively while creating a record of the work done and involving many more young people in the process. Possibly even by groups geographically remote from each other.

It was also discussed how involving young people in critical reflection on services might introduce them to notions of self-advocacy, social justice and activism. Fighting for the independence and rights of people with disabilities has long been a concern of the public and voluntary sectors, where people work diligently pursuing improvement in the quality of peoples' lives. Self-advocacy was understood as an effective way of helping to achieve this and increasingly an approach local government and voluntary organisations with an interest in disability rights adopted by running or supporting projects underpinned by such aims. It was within the experience of the sector workers interviewed to see social or leisure groups involving people with disabilities become sites of advocacy and activism for change and equality. With enough momentum behind it, public sector professionals could see how Appraise could similarly help to provide a foundation for forms of grassroots activism, *"That do it yourself activism would need a network that had some coordination and would* *need to have youth leaders that had some training, commitment and way of sustaining that too."* (SW1) In a practical sense, SW1 could see how Appraise could help create such a network, providing the networking and connective opportunities crucial to political movements.

8.3.2 Supporting ambassadors to evaluate

The ambassadors from FYM were collecting evaluation data at an all-day employer engagement event which they were attending for their benefit in finding a job while capturing material with the Appraise app for later review and discussion.

Trusting in young peoples' views

At the event, ambassador group leaders were supervising the young people on their evaluation visit. Seeing them working with the app first-hand they felt that further guidance was needed, *"I think it takes some facilitation with the young people before you let them go with the app."* (YW2) There was a feeling that more in-depth preparation work needed to be done ahead of time, not just to plan the visits but to help the young people to understand what was, in the view of those supporting them, most important or relevant to capture. One worker at a national government organisation asked: *"Do they have the knowledge of what's good or bad? Do they know that they have enough insight to know what it is that they should be looking out for?"* (DWP1). The group leaders had expressed an interest in the views of young people, demonstrating that they were interested in what the young people had to say, however, it seemed that there were limits to this. There was a sense that it was less about young people driving the evaluation where they focused on what was important for them than it was about what was important to the provider. This came with the view that too much oversight would be detrimental to what the project was aiming to achieve: "*If you say to them: I want you to do this, but don't take pictures of that, you're kind of destroying it in one fell swoop."* (CA1) For group leaders and service providers alike, there was a tension between wanting to have a kind of youth-led evaluation, where they have the freedom to say what they want about whatever they want, while at the same time still being able to direct the focus of the evaluation to get feedback about specific things. Group leaders then appeared less interested in what the young people were collecting: interviews with service staff or teachers following an activity, vox pops to the camera where they described shortcomings with the environment and pictures of their friends taking part in the activities.

Creating and managing dialogue

Following the collection of materials, it had always been planned that the young ambassadors would come together in their groups to work through the media in a structured way. The young people would determine which material was selected for inclusion in a final report about their collective experience while adding contextualizing meta-data to the material as well, e.g. up-votes, smiley faces and comments. SEW1 was an evaluation officer for an organisation directly involved in the running of the employer engagement event that was visited by ambassadors from FYM. She was interested in how the evaluation could be used to make future events better and was particularly enthusiastic about the curation sessions for what that could tell her about the event her organisation was responsible for running, *"I think that's what we were talking about with the data curation phase, having that opportunity to see the process and see why the young people actually picked these pictures and having a bit more of that background information."* (SEW1) For a group leader at FYM, this was already something that they did as part of existing evaluations and seen as the best for creating and managing dialogue with young people about the activities that they took part in, "*we can have the discussion with the young people directly, there and then rather than having something attached on the bottom [of a webpage]."* (YW2). Moreover, this was seen as only one early stage in a process that resulted in putting that information back to the people providing activities and services, "*the next step is, go and present it to people and discuss what you want to come from this*." (YW2). They were interested in the evaluation process that the young people were involved in rather than the materials that they had collected or the reports that they had produced using them, "*Show [me] pictures of the initial conversations and then the data curation, all of it, so you could see that because obviously, that's the learning. The final product in itself doesn't really matter by that point from our perspective."* (SEW1) For those service providers that wished to use the information to develop future sessions and activities, they wanted to capture and record all aspects of the process of evaluation. This suggests a lack of trust in young people to effectively communicate their own perspective, a tension given the stated goal of letting young people drive the process. Others were suspicious of young peoples' engagement with the task at hand:

"*You still need to get results and you still need [the young people] to be at a level where you get something back and people who can comment. If you get young people who are too disengaged, then they're not going to be engaged in what you're trying to get them to do."* (CA1)

For some, this was a question of whether they had the necessary awareness of what evaluation was: *"It's about: do the young people have the knowledge before they comment?"* (DWP1). And the belief that they would need to be more properly supported at this stage too, *"I think for them to be, for you to get those opinions out of them then they need guidance."* (YW1) While fostering ambitious engagement and understanding of wider societal issues concerning disability: *"How they reflect on that in terms of, as a disabled person in a world that's made them disabled."* (SW1) However, it was through confronting the different stakeholders involved with the fruits of the young peoples' labour that many of them could begin to grasp the real challenges underlying youth-driven evaluation processes:

"I would say they didn't really understand how it was going to be used or the benefits of it, so it was like trying to get them engaged in something that they didn't, not understand the process cause that's not right, because they really did, but I think you don't know at the stage of signing up to it what it's going to actually be like." (SEW1)

Irrespective of their level of understanding of the process, YW1 observed how thinking in more depth about how the evaluation process could be configured to help them be more critical of collected material, "*you'd still need to have that conversation wouldn't you? You'd never get that level of data and that honesty and that depth just from the phone."* (CA1). As well as for building their capacity as evaluators, but also how it had been enjoyable for them as an experience: *"[They] really, enjoyed the session though and I think it was really valuable for the young people when they got the information together and they were filtering through it."* (YW1). There were reflections too on more constructive ways to structure the Appraise process, for example leaving enough time for reflection between the visit and the curation session, "*do the trip and then review it at the next meeting cause they kind of need time to reflect*." (YW5).

8.3.3 Sensemaking and acting on reports

Having attended the various events to collect materials and worked hard to curate that data and assemble web-reports composed of the material they collected and curated, reports were ready to be shared. Service providers were encouraged to sit down and interact with the reports while talking aloud about their thoughts regarding the data.

Communicating and interpreting

As people clicked into videos and selected images, they would wonder aloud about the reasons that the ambassadors captured what they did. They were quickly able to grasp how the Appraise reports were a means for evidencing and demonstrating more about the work that the ambassador groups did: *"To me, it's a bit more like saying: Look at what these young people get up to and this is where we're going."* (YW3). Notably, it was thought to be a good way of communicating with senior members of local government that were involved in, yet remote from, the site of service delivery, *"It brings it alive, doesn't it? […] I've found the use of video and pictures is much more useful now when meeting with senior colleagues."* (SW2). This was echoed by YW12, the front of house manager of a jobcentre that was evaluated: "*I think that if the senior leadership team see that feedback, I think that's got to be in. It's so positive and as we've said that in a couple of hours that's the feedback that we got, it shows it is been a worthwhile exercise to do."* (YW12). Appraise reports were seen as a way of communicating with those harder to reach managers and executives but at the same time doing so in an efficient way. The Appraise reports were also achieving this more richly too, potentially leading to a range of positive outcomes: *"We don't want that to be dry in terms of a report, we want it to have those spin-offs of connectivity, championing and marketing that to other young people."* (SW1)

A group leader closely involved in organising groups of young ambassadors remarked how they felt they were not always getting the whole picture, *"I wanted to see the good the bad and the ugly, I wanted to be able to have something that wasn't just the good points […] I think that bit is missing from it."* (YW1). Others struggled in understanding what the report would useful for in the end, *"This is probably the bit that people struggle with, like, you've got the information what do you do with it?"* (YW3). The problem of sensemaking and interpretation was central to this. An event organiser interested in new evaluation methods reflected, *"It's harder to analyse because every picture might be completely different and there might be no common theme and it might not give you figures."* (SEW1). The issue of interpretation was echoed by a worker at a national government department: *"It shows young people having fun, we think, but then it's hard to tell, isn't it? […] Is that young person on the floor because they're really upset?"* (DWP1). Moreover, there was a feeling that there was a danger of drawing the 'wrong' conclusion from the images that the young people were sharing and misrepresenting them in some way, *"it's about how different people interpret it and we don't want to misinterpret what the young people are saying."* (YW2).

Insights, impact and service improvement

For service providers delivering the services that the ambassadors had visited, however, they were happy to draw conclusions from the reports as presented, remarking about how some of the images and videos gave them new ideas. The director of a charity providing boxing classes to young people with a disability, SEW2, was immediately impressed with how strong the visual element was for conveying what the experience at his gym was like:

"[A] *lot of young people are like, I'm not doing that, I'm on centre stage, so [the report shows] it probably isn't as bad as you think. So, for all the camera is on this young girl here, there's actually loads going on in the background so nobody's really looking at her."* (SEW2)

In this way, the short video clips were thought useful for addressing preconceptions that young people might have regarding the activities undertaken. Moreover, from vox pops recorded of the young people outside the gym following their visit, he found that there was learning about how the service could be improved. Watching a young person criticise the music that was being played in the gym during their time there he said:

"*I appreciate that and then we can change that. Like the music thing, yeah, if we had an iPad that was linked up to iTunes or Spotify, I think that would be really good and I'll probably take that on board to be honest*." (SEW2)

There was praise for how the Appraise prototype could collect richer content for social media or promotion too, "*It looks better in a website, you know, someone talking passionately*." (SEW2). This was especially important as modern social platforms were central to how the organisation's services were advertised. Reports also created more critical insights for those group leaders that had accompanied the ambassadors on the visit to the gym, "*the staff need more training around kind of being more accommodating to young people with additional needs*." (YW5). This group leader explained how this would be taken forward with the organisation in question and had arranged a follow-up meeting regarding how changes could be made.

Reviewing the report compiled by the young people from FYM who took part in the employer engagement event, the evaluation officer at the organisation responsible for the event reflected: "*I think they've really accurately shown the structure of the day and the elements that did work."* (SEW1). For her, it held more promise as a promotional tool than as a resource for guiding future action, *"For me this is more like promotional […] as a visual representation of the day, that is exactly right"* (SEW1). This was despite group leaders who had been present with the young people at the event insisting, "*We are going to use that to improve the next thing and then they see those steps*." (YW1). While this was the stated intention, it wasn't always obvious how the data would be used to improve things, however, the next steps included another follow-up session where they explored in greater depth what the young people would like to see done differently.

The manager of the jobcentre that was visited by the group from NEA could see how the Appraise report could not only promote communication amongst staff: "*I think something like that is more appealing to staff as well, I think colleagues get more out of seeing feedback like that."* (JCM2), but also how it would fit into improvement sessions: "*this could work in group information sessions evaluation analysis because what we're doing is, we're moving forward and we're going to be doing a lot of group information sessions going forward*." (JCM2). She was enthusiastic for its role in creating resources and enabling the bringing of new materials into sessions to promote discussion around particular issues, for reflection and development. Also, she saw how it would also promote new forms of engagement with young people and customers alike, "*Analysing that […] is much more effective than us going on to advise a customer to go onto an online page and fill in a questionnaire*." (JCM2). Especially when the groups of young people in question were those that were often excluded or considered harder to reach through personal circumstance:

"*I think there were more positives than negatives, again going back to the group that we had and their personalities and the reasons why they were coming in. I mean we've got to remember these were a group of individuals that were identified by the school as needing this kind of support, so they were here for a reason. So, that was challenging in itself and I think what we're getting out of this has been quite positive."* (JCM2)

8.4 Discussion

Designing and trialling Appraise highlighted tensions and challenges for including young peoples' voices in the design of certain services as well as opportunities to design new methods for capturing data about services in ways which inform better conversations about provision. In this section, I focus on some key points and suggest design implications for systems like Appraise. Importantly, however, it was clear that consideration needs to be given to how young people choose to report evidence data as well as how we can support them in this process.

8.4.1 Giving voice and listening

It was notable throughout the design and evaluation work on Appraise how the service providers, as well as the wider stakeholders involved in the Appraise study, were highly supportive of the idea of involving young people in service evaluation. VCO workers with many years of experience understood that young people making use of services often do not have control over the kind of support that they were offered, nor in the way that it was delivered. For those workers and volunteers, it was critically important that new and innovative ways be explored to address this. They saw the empowerment of young people and voice-giving as inextricably linked. However, it was less well understood how attempts to grant voice could be another manifestation of how young people with SEN were 'directed' in their lives. Indeed, in engaging with the Appraise reports they remarked how the app itself could be better designed if it were to be more directive of the young people in their data collecting work. Reflecting on the material collected they often struggled to make sense of the types of data gathered by the young people as well, sometimes seeming suspicious of it, or seeking to raise doubts about its validity. Their remarks then bemoaned what was missing, criticised how the results reflected a poor understanding on the part of young people about processes of evaluation or how they weren't giving attention to the 'right' kind of things.

These were predominantly the views of voluntary sector workers that I spoke to and reflected the rigid adherence within the sector to the requirements of traditional organisational reporting processes. Moreover, there was a demonstrable desire for Appraise to provide data that was a better fit for such processes and a disregard for new government policy that sought innovation in how organisations collect feedback about service provision (*Children and Families Act*, 2014). This recalls the same challenges I encountered when designing The Local Offer (Chapter 4). Again, innovation was threatened by bureaucratic rigidity and an unwillingness to adapt to new ways of doing things. Instead, young people were faced with collecting evidence under direction from the top-down. Returning to the diagram introduced in Chapter 4 and developed in Chapter 6, we see, even when approaching a situation where users hold power over all of the tools and stages in the feedback process (Figure 33) how certain sector workers continue to find ways to shape and direct the process.

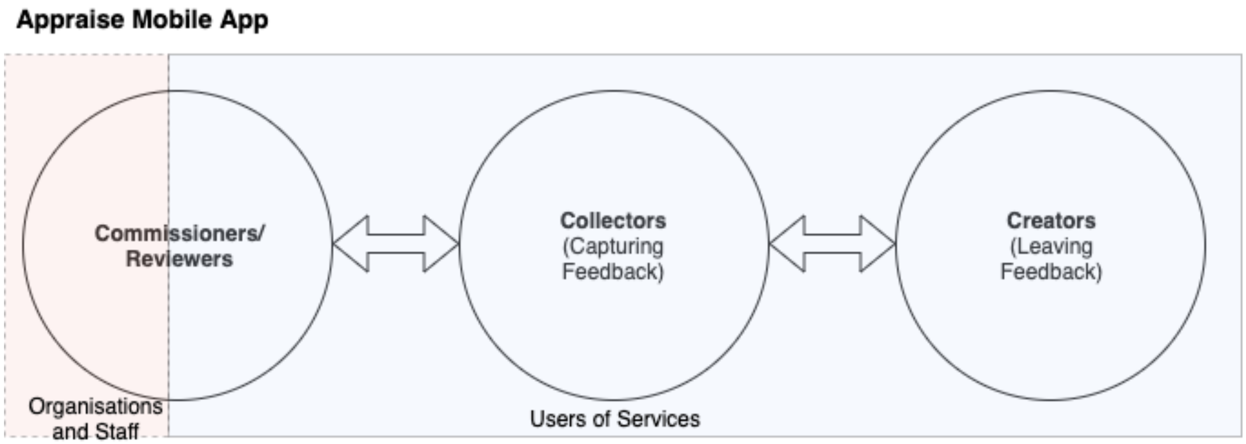


Figure 33: In this study organisations still found ways to shape and direct 'user-led' feedback processes

More promising was the engagement from those people providing the services that were being evaluated. Of those that we spoke with, the majority could see how the Appraise process could either be expanded to afford them a better view of the young peoples' engagement with their services, or, in the case of the jobcentre, how it could be integrated within the current practice to generate learning and communication for and between staff. In at least one case there were specific suggestions that could be immediately acted on which were derived directly from the reports in their current condition. This suggests that further exploration and formalising of the Appraise process could be valuable and produce many more instances of direct learning. Further, that there is value in allowing young people free reign to collect and share what they like and that, although the work of interpreting or understanding that unstructured voice may be difficult, that it will at times bear fruit given the effort.

8.4.2 Supporting self-advocacy and activism

Designing Appraise had been motivated by supporting young people in the task of service evaluation, a task that groups were increasingly being asked to undertake. Involving young people in service evaluation has long been funded by local government, however, in recent times entire council youth departments had closed and with them had gone their young ambassador programmes. Within these groups not only had the material that they had carefully collected been lost but so too had the skills built up by the young people. In this light, Appraise could be seen as another way of delivering previously existing provision more cost-effectively and sustainably for a local government now lacking resources. Creating networks of young people was a key element to how the system would fit both with a wider agenda of spreading the word about different services, but also as one way to support young people in being advocates and activists for themselves and their peers, especially considering that, "*A key element of activism is networking.*" (Searle-Chatterjee, 1999). Despite there being a growing cynicism about digitally facilitated forms of activism, or slacktivism (Rotman et al., 2011), there have been many projects where social media has been used effectively to galvanise disparate publics around local issues. Crivellaro et al. discuss activism about a local landmark of historical significance for example, yet highlight how groups organised in such a way face challenges around ownership and control (Crivellaro et al., 2014).

In designing Appraise, power imbalances were intended to be addressed through a more inclusive design approach, one that drew from Participatory Design (Robertson & Simonsen, 2013). Also, the evaluation process was understood as one that would be driven by the young ambassadors and in the final Appraise app the review or evaluation of a particular event, service or activity could be proposed by anyone. However, this also meant that while young people could propose a service or activity to review, equally so could group organisers, the VCO workers that were the leaders of the young ambassadors. These workers remarked time and again how tokenistic participation can be with young people, expressed how young people were at the heart of everything that they do and yet when it came to decisions about what to evaluate and how they saw no problem with setting the agenda. Partly this was because they lacked the confidence in the young people to allow them the free reign to do as they please. The findings demonstrate how little confidence they had that they would capture anything of any value without guidance and oversight. There was no acknowledgement this was incredibly disempowering and that their efforts to support the young people might be better focused elsewhere.

Reflecting on the level of leadership required to support the young ambassadors, we are reminded that one view reported in these findings was that leaders were crucially important to ensure the sustainability of movements within activism. It seems that in creating a space where young people with SEN can self-organise a visit to local services and collaborate on a report about their experiences in a way that is user led that the question of leadership is an important one. By being user led, Appraise was intended to help the groups of ambassadors by offering a mechanism whereby they could lead themselves. In this, it followed Goncalves et al. who discuss how people can be motivated to take action through their encounters with technology (Goncalves et al., 2015).

In my work, findings suggest that the system alone may not be enough, especially when it must compete with other forms of leadership in the form of youth group workers and organisers. Alternatively, action can come about through people being motivated through wanting to see change for people they care about, for example, Ryan and Cole observe how encounters with public sector workers, and the institutions to which they belong, can be a, "*catalyst for activism*." (Ryan & Cole, 2009). In this way, they become inspired and convinced in the first instance by their own lived experiences and perspectives on society. Instead, in this study, young people were faced with collecting evidence for top-down decisions made by parents, providers or commissioners, and found themselves working from a middle-out position, with youth organisations pushing them into action shaped by the pull of local government funding. In this space we should then reflect on our position as researchers, a role described as, "interlopers" (LeDantec & Fox, 2015), but ready to intervene on behalf of our young design participants.

To ensure that the power more efficiently finds its way into the hands of citizens in future, future designs need to consider this, otherwise, we face further marginalising already marginalised young people. A feedback technology for activism then would need to help young people both discover their voice as well as structuring the communication and expression of it in a way that those with the power to do something about can, not only hear it but become motivated into pragmatic action. Critical to this is how we design such systems with young people, all the time making every effort not only to capture their ideas about digital systems but also record and better understand how they engage with the research process itself. In the previous chapter we saw how the evaluation process facilitated by Appraise became valuable in itself for how it could create and communicate a better dialogue with young people about services. As HCI researchers we should look for ways in which our approaches to research can operate similarly and, as Sara Heitlinger and colleagues have pointed out, provide opportunities for, "*narrating and sharing the process through design research, thereby helping the resistance to grow and proliferate.*" (Heitlinger et al., 2013). In this it is our responsibility as researchers working to capture and express citizen voices—that we hear, act and amplify that voice wherever we encounter it.

8.5 Chapter Summary

In these two final chapters, I have reported on a 20-month study prototyping and testing Appraise, a digital feedback system. I report how digital technologies struggle to deliver meaningful data and faced challenges whereby sector workers dismissed new ways of collecting and sharing young peoples' data about publicly funded services. This highlights the need to create more structured spaces for engaging with citizens that are still learning how to have their voices heard. How the reconfiguring of processes around data curation has shown promise for having better conversations about data and thinking about how narratives are built out of it while sharing it are key concerns in this respect. While we have seen that there is the ambition among some to engage young people equitably, this needs to be more than a stated intention and must tackle the hard work of meaningfully taking on the opinion of marginalised young people.

In the following chapter, I return to all of the studies in this thesis to synthesise the findings across the research as a whole. The result describes the insights into the role that digital feedback systems can play in the voluntary and public sectors, particularly when capturing and dealing with the feedback from citizens with disabilities and young people with SEN. The contributions encapsulate not only design implications for future systems deployed and used in complicated, multi-stakeholder settings, but also offer reflections on the design methods increasingly used within Human-Computer Interaction that aim to involve heterogeneous citizens and publics equitably in the design of new, civically oriented, digital feedback systems.

Chapter 9. Discussion and Future Work

9.1 Introduction

In this thesis, I have explored the design of digital feedback systems and the role that they have in capturing the views, opinions and experiences of people with a disability. This was done to support citizen participation in how voluntary and community sector organisations (VCOs) deliver services. I began by describing social care service provision in England and the reforms to government policy regarding its delivery. Such reforms make the capturing of feedback from citizens a priority while cutting public spending on service delivery organisations. I then introduced the literature from health and social care concerning the evolving role of users of care services in the production of services and discussed the new public management work reconceptualizing care providers as businesses providing services to 'consumers'. The impact this has on organisations delivering services, such as the VCOs I have collaborated with throughout, was explained as well. This was coupled with a discussion of civically oriented HCI projects, providing insights into how new technologies have been designed with different communities and publics to address cogent matters of civic importance such as public transport (Christopher A. Le Dantec et al., 2015) and street harassment (Dimond et al., 2013).

I then introduced and described three case studies concerning the design and production of a new digital feedback system. With each case study, I reconfigured my research approach as the changing nature of the investigation required that I position myself differently. First, I acted as a participant-observer within a public sector design project, then as an action researcher embedded within a VCO, before finally adopting a Participatory Action Research approach working with young people using care services. As a result, I was able to investigate not only the design of digital feedback systems, such as their necessary qualities and affordances, I was able to examine how such systems can embed in the work of VCOs as well. This revealed some systemic challenges within the sector too, for example, how the use of contract funding and performance assessment techniques from the corporate sector impacts VCO engagement with feedback.

In case study one, through participating in the design process of a public services directory for young people with Special Educational Needs (SEN), I was able to examine the challenges associated with entering into a multi-stakeholder collaboration space composed of a mix of local government staff, workers at VCOs and citizens. This study highlighted the challenges of designing digital technologies in a multi-stakeholder context where the top-down control of local government was a guiding influence while revealing opportunities for working directly with VCOs and the people involved in running them.

Case study two involved working directly with the staff and volunteers of VCOs providing care services to people with learning disabilities and cognitive impairments. Drawing on the methods of Participatory Design, a prototype feedback system, *ThoughtCloud*, was co-created and assessed for its efficacy as a tool to complement or replace existing feedback processes. ThoughtCloud was appreciated by the organisations for its flexibility as well as the provenance of the data captured. This suggested the potential for the system to offer a way to capture richer narratives about users of care services and operate as a tool for self-reflection for staff and workers looking to improve their practice. However, limitations remained as data captured was often left unreviewed or created tensions around consent for sharing more widely.

In the final case study, to address some of these issues, I worked directly with young people using care services to explore different ways to capture and share their lived experiences of services. By capturing digital materials (photos and videos) while visiting services, young people were supported in designing for service evaluation. The result was a process whereby they assembled a report which could be shared with service providers. This design process led to a variety of deployments that demonstrate the opportunities and challenges of taking a more citizen-led approach to feedback. Overall, however, there was enthusiasm for 'doing things digitally', while highlighting the complexity of communicating the task of evaluation to young people, some with significant support needs. Findings revealed moments of reflection and conversation that offered insights into service delivery and resulted in ideas for service improvement.

In the remainder of this chapter, I revisit the main research question addressed in this thesis:

> *How might digital feedback systems be designed that enable users of care services to participate in shaping service provision?*

The chapter explores the lessons learned and synthesises the learnings from across the case studies, particularly, in terms of the qualities of feedback systems designed to be usable by citizens less used to having a say in services that are important to them. Additionally, the challenges for HCI researchers designing with VCOs delivering care services are discussed, as well as the systemic and structural challenges that impact the meaningful use of the feedback generated. Finally, I reflect upon the implications of this work for future feedback systems, through some final remarks about the PhD work and identify opportunities for future research. Each section is organised to explore one of the four research questions that follow on from the main research question as introduced in Section 1.3.

9.2 Designing Digital Feedback Systems

> *Research Question 1:*
> *How can digital feedback systems be designed to capture the views, opinions and experiences of users of care services?*

My review of the policy literature connected to health and social care service provision foregrounded the important role that feedback plays within the ecosystem of local government, independent funding bodies and VCOs. Feedback was found to be integral for how organisations create evidence of the work that they were doing to demonstrate compliance with the stipulations of funding contracts. It was also shown to be challenging to collect in a resource-constrained setting where investment is falling, competition is increasing, numbers of paid staff members are declining, and the fluid turnover of volunteers is a reality. Importantly, how feedback was collected was found to be inappropriate for certain populations of citizens. Working with voluntary sector workers across the different studies reported in this thesis, it was shown how government policy has changed the landscape of social care. New Government policy mandates the use of digital technologies to support citizens in submitting and sharing feedback about service provision. An exploration of the sector revealed how some VCOs have tried to employ more creative methods to collect feedback and the opportunities for digital technology to play a role in these. To address these challenges, the designs discussed in this thesis explore: using mobile technologies to collect a variety of digital materials (e.g. video clips and other forms of media), combined with lightweight interactions to support the collection, sharing and reporting of this material to form the basis of user feedback.

9.2.1 Visual and audio material as feedback

In the field trials conducted throughout this research that utilised mobile technologies, it was notable how material recorded from digital technologies have the potential to provide feedback in a form that is richer than that collected by traditional methods. Video feedback, in particular, was appreciated for both its provenance and veracity. A core concern entering into the field trials of the different technologies was that many people with disabilities are often not afforded opportunities to share their views and opinions (Barnes & Cotterell, 2011). In this regard, the use of video meant those reviewing the feedback could establish its provenance, being able to quickly ascertain who was speaking, whether they were being supported by someone else such as a support worker or staff member, and whether they were attending to the screen or elsewhere. Audio feedback was similarly valued but to a lesser degree since being unable to see someone speak sometimes made it hard to understand what was being said while making it harder to identify specific individuals. It was also far less engaging when it came to the task of reviewing the feedback collected and, while those at the management level found it useful to collect sound bites to drop into written reports or for transcribing into data for reflection on practice, young people engaged in curating materials were often put off or quickly became distracted owing to the mundanity of the task. Similarly, still images were praised as a way to easily convey the essence, mood or overall success of an event being captured. This highlights the strength of visual mediums as a feedback mechanism and also alerts us to the importance of guiding people in its capture, without making the task of giving feedback more onerous than it has to be.

Furthermore, the ability to identify individuals through using visual media such as video and audio also creates opportunities to track how feedback and comments from specific individuals engaging with services change over time. In the case of VCOs working with people with learning disabilities, this was framed as a way of understanding how people were gaining through the use of their support services. For example, offering evidence as to how an individual is progressing with respect to personal goals such as improving their communication or socialising with people with similar experiences. While the potential for visual feedback mechanisms to operate in this way was a cause of enthusiasm for some, at the same time, it was recognised that there was a need for caution. Particularly, the danger of video-based feeding back mechanisms turning from a service to monitor the organisation to one that monitors its people(Dahl & Holbø, 2012) and then being experienced as a form of surveillance (Vines, Lindsay, et al., 2013).

Those reviewing feedback were also critical of examples of recordings where it was apparent that the person leaving the feedback was being prompted “too much”. Although there are some evident problems with this, the very nature of recorded video feedback means that it supports making instances of being instructed more transparent, which is equally a strength. In reviewing existing feedback practices, it was an issue that those collecting feedback were, at times, prone to interpret the feedback being elicited, often because they had to fill in forms on behalf of the person giving the feedback. It was a known problem that, in doing so, the views of some people were being ‘cleaned up’ or altered to create feedback that was more relevant, coherent or in some cases more favourable (Lowe & Wilson, 2015). With audio and video recordings of feedback, this process of prompting or interfering was captured along with the feedback itself. As a result, this kind of feedback was praised for its transparency since it left the viewer in little doubt as to the circumstances under which it was given.

9.2.2 Changing roles and shifting power

Across all of the studies reported in this thesis, there has been an emphasis on capturing or contributing feedback sourced from communities of citizens in new ways. The Local Offer represented an attempt to do this remotely, galvanising participation through creating a central resource of feedback solicited from people through an invitation on a webpage. For the two studies concerning the design of the mobile feedback capture platforms, the collection of feedback was the initial focus. Common to all of these projects were the different roles between which the various stakeholders involved shifted in relation to feedback. These were: **commissioners** (those that directed the collection, decided what to collect feedback about and what questions to pose), **collectors** (those operating the capture tools), **creators** (those that left their feedback, usually the users of services) and **curator/reviewers** (those reviewing collected feedback and deciding what to do with it). How participants were oriented regarding these impacted how feedback collection was configured. Progressing from one study to the next saw a shift from organisations and their staff and volunteers fulfilling the roles of commissioners, collectors and reviewers to, by the final study, users of care services occupying all of these roles (Figure 34).

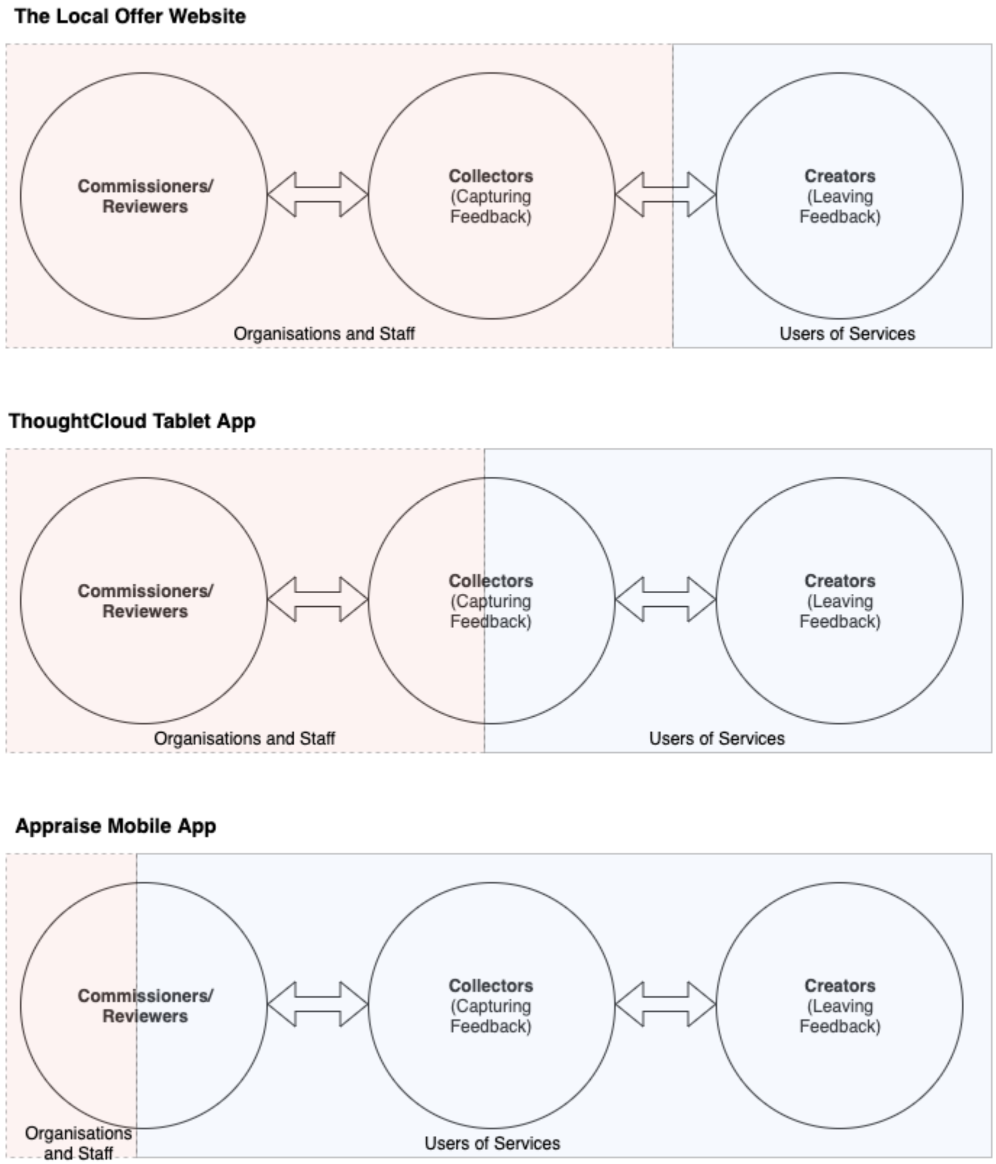


Figure 34: Changing roles and shifts in power over the different feedback phases in relation to the stages of feedback from commissioning, to capturing and reviewing.

Feedback capture was configured differently in each of the three situations depicted in the figure. This configuration changed in line with the shifting roles adopted by the different stakeholders described above. On the Local Offer website (Chapter 4), the feedback was captured through a website, the full control over the placement and design of which rested with the organisation collecting the feedback. From the website's design, it was unclear what feedback was being collected about. Those visiting the website could be forgiven for thinking that the feedback being asked for was about the website itself rather than the services that were listed. When using the ThoughtCloud tablet app, consideration had to be given to how, where and when a capture device would be placed. To capture feedback quickly, it was placed on a stand next to entrances or exits to a room. However, the practice of removing the tablet from the stand and passing it around soon emerged. It often happened at seated areas in cafes, for example. This created a feedback environment that was less private and made the act of giving feedback much more public. At these times, those running events took the opportunity to ask probing or leading questions about sessions they had run, while at other times groups of family members answered the posed questions together or interviewed each other. In sum, control of the capture device was split between the organisation and the user. Finally, the Appraise mobile app shifted feedback capture to mobile phones, a much more personal and controlled space for an individual (Dahl & Holbø, 2012). Feedback was also collected collaboratively by teams of young ambassadors working together, which meant that there were times when phones were passed to peers or support workers to better capture their experiences. In each case, whoever controlled the collection device controlled the perspective captured which drove a simultaneous shift in the work required to interpret the feedback collected. And the more work required in making sense of that feedback, the less strongly organisations felt a responsibility to act upon it.

This research has aimed to address the imbalance in power between local government designing with grassroots actors and citizens (Chapter 4) and through this explore ways to "*improve the situation*" being studied (Hayes, 2011). From one case study to the next the locus of power in relation to the different elements of the feedback process, commissioning, capturing and so on, was shifted closer to the user of care services (Figure 34). This aimed to empower through inclusion in design and designing for increased citizen control. In addition to exploring new forms (Patino et al., 2012)of feedback capture, ThoughtCloud and Appraise created spaces where different stakeholders could encounter multiple views and perspectives (Kriplean et al., 2012). Future work into digital feedback systems, especially those for use in VCO contexts, should explore ways to make these encounters less linear and investigate ways of making such encounters more dialogic. This means finding ways to include the decision-makers of local government, the management of VCOs as well as users of care services in a common space where they can encounter each other and interrogate service provision together while generating new ideas for future provision.

9.3 Working with Digital Feedback

> *Research Question 2:*
> *How can digital feedback systems be configured to support sensemaking, sharing and learning from collected feedback?*

From the literature and public policy documents on citizen participation in health and social care service innovation, there is much focus on creating the conditions for engagement to occur (Tritter, 2009) and less addressing the associated challenges of how to analyse, process, or operationalise data generated. The design processes reported in this thesis began by focusing on the best way of collecting different digital materials as feedback about services. However, sensemaking is cited as a significant challenge in the HCI literature regarding digital technologies for civic engagement (Kriplean et al., 2012). Moreover, in the ThoughtCloud case study it became evident that in analysing even short video or audio clips, there is a significant time commitment that is required, creating new forms of work that were unexpected at the outset (Chapter 5). For VCOs with diminishing resources at their disposal this is counterproductive. Neither is it a task suited to young people who found it hard work to go through collections of images that they had gathered using Appraise (Chapter 7). However, there were a number of benefits in participants critically engaging with such data. This is discussed in more detail in the following sections.

9.3.1 Feedback curating and sensemaking

With ThoughtCloud, the curation/reviewing task set for VCO staff collecting digital feedback varied depending on the roles associated with a user's account on the website. Like traditional CMS systems, the account creator had full administrator privileges with the power to create and determine the privileges for additional users. This was to ensure that information was not being shared with staff members before an administrator had the chance to check if sharing that information was appropriate, particularly important given the vulnerable populations with which the VCOs worked. Admins with the highest access authority needed to determine which videos or audio files were suitable for sharing by clicking to indicate that the feedback was suitable to be shared. In practice, this made a bottleneck in the system. Staff or volunteers running sessions where they had collected feedback would log in only to be denied access while they waited for admins to approve the viewing of data that they had collected. This could be frustrating especially given they had usually been present while the feedback was being recorded. It also had the further effect of driving down engagement, as busy staff members or volunteers running sessions, otherwise interested in making use of the collected feedback, found themselves locked out of it as a resource for their work. This meant that feedback was often missing, delayed in getting to where it could be useful or simply not engaged with at all. One reason for this was that, in ThoughtCloud's case, there was no associated organisational procedure whereby those responsible for its use were prompted to do this.

When it came to designing Appraise the procedure and processes around the system were as much the focus of study as was the feedback system itself. Part of that was deciding when and where comments could be added to the material being collected. There was a shift from adding this metadata at the time of curation to the moment of feedback capture. The Appraise app, as part of its role in directing the capture of feedback, also encouraged users to comment on the material that they had collected as well as offering the option to indicate how they felt about it. As a result, when it came to the curation phase where people were encouraged to study and work with the data, they had that additional information to guide them. This gave users an idea about why particular feedback had been captured and how the person capturing it had felt about it. This had the effect of bringing clarity to comments and helped with the work of interpreting the data. It also allowed for a more detailed conversation around the data, and a richer reflection on experience that was generative of new ideas and thoughts on the events and activities under review.

Similar to those working with data collected and reviewed on ThoughtCloud, there was a compulsion to create a narrative out of the data as users looked to find the 'story'. Making sense of data in this way often follows when organising and discussing recorded media in a workshop setting. Participants, whether they were organisation staff or volunteers or young people attending events, found the story that linked the materials together in a coherent way, filling in context from memory. In this way, there was a sense of what could or should be left out, of what was best for sharing and what most accurately represented the group view of the experience that had been had. For 20 years HCI researchers have studied how media strongly lends itself to such storytelling practices (Frantzis et al., 2012). More recently studies have used media to create a coherent citizen voice at the community level (Manuel et al., 2017). The learning for feedback platforms is in understanding how to better configure them to surface these narratives. One could easily imagine structuring a review phase whereby participants review their data, highlighting important moments or points of interest and describing reflections. In this way, not only do we capture the narratives coming out of the data but also record the act of sensemaking itself. The meaning may then emerge through supporting better conversations, with systems being designed that are capable of structuring and capturing these conversations.

9.3.2 Feedback sharing and exchanging

A further set of issues related to how the data collected using digital feedback capture platforms can be operationalised, making the work of the VCOs more visible, both to the populations served, as well as to the wider community. The reasons why the feedback was not engaged with once collected were diverse across the systems studied. In the case of ThoughtCloud, it was due to two organisations being single-person operations, but others were because of problems with access levels within organisations and a suspicion around taking feedback and sharing it online through social media. The former issue demonstrates the inappropriateness of traditional access management techniques, such as those associated with modern CMS systems in this setting and prompts creative thinking regarding how recorded information could be quickly and safely shared, both with volunteers and the relevant organisation staff, to ensure maximum utility.

For internal organisation communication, the task of tagging or commenting completed by the reviewers was sometimes less likely to be completed despite these having been identified as a means by which users could be 'tracked' in their development across time. With the intention being, that a particular person is identified, tagged and then a playlist of their feedback compiled that was reflective of their journey as a member of the organisation. In the context of these service providers, understanding people's journeys in this manner fit with their goals as organisations supporting personal enablement and independence. As such, providing back-end tools that allow those reviewing feedback to attach metadata related to feedback providers' identities would provide a means for collating and presenting these journeys.

For external communications, the issue of publishing feedback was particularly divisive with some organisation staff simply not seeing *"the point"* or being suspicious of creating unnecessary ways to expose their work to the communities they serve. Thus, while publishing feedback online was seen as a way of supporting engagement with external parties (and indeed friends, family and carers of people who use services) it was difficult to encourage organisations to do this. Partly this was because of safeguarding concerns, which meant that even having feedback be ‘more visible’ between trusted staff members within organisations was challenging. There was at least one example of sharing feedback with a collaborating organisation, this was to say thank you for the resources that a collaborator had provided and show the positive impact of their contribution. What was shared was of course carefully selected to have the maximum impact, once more telling a particular story. Within HCI, more creative ways of presenting collected data have shown promise in fostering communication within local communities (Davis et al., 2015; Koeman et al., 2015). As such, we might imagine future digital feedback platforms that publicly publishes use statistics (appropriately handled so as not to publish identifying characteristics) showing, not just that feedback is being collected about services as a matter of course, but also that it is being reviewed, responded to and meaningfully incorporated into service provision. Alternatively, organisations could have simple, networked displays in their facilities where feedback, or summaries of feedback and how the organisation will respond, can be ‘pushed to’ and made visible.

While using public and semi-public displays might make the collection and response to feedback more visible, it does not deal with issues of acquiring consent to share media of individuals—a particular issue for all of the organisations that participated in this research who have safeguarding responsibilities for those making use of their services. This raises questions of how safeguarding and consent should be appropriately managed, a problem for digital systems (Lizar & Hodder, 2014), but one which must be addressed lest voices are excluded (Milewa, 2004). A great strength, and characteristic of VCOs is that many organisations know each other well, or at the very least are aware of each other and know specific individuals working within other organisations (as was the case between my collaborators). Leveraging the affordances of digital systems, we might imagine new forms of consent giving, where consent is agreed upon collaboratively by several trusted parties in a network of care, perhaps even drawn from these other care organisations. However, as some individuals require secure partitioning of their identifying information within organisations potentially working simultaneously with dangerous individuals connected to them (Wilson et al., 2011), such an approach would require great care in applying into practice. Research into digital consent giving where data safe environments are created and managed appropriately is, therefore, a must. Environments where sharing and analysis are still possible but only on an access-as-needed basis (Alimi et al., 2012).

This presents a significant challenge since organisations are keen to demonstrate that they are engaging in dialogue with their populations of users and indeed many participated in the studies in this thesis for the opportunity to evidence this engagement. While it is not appropriate to share certain recorded materials, there are other ways to evidence the practice of listening to citizens. For example, through publishing anonymous data related to feedback collection such as response rates or evidencing how data has shaped service provision. This would not only help make such organisations more accountable to the feedback collected about them but also would help them to be more transparent about their work within communities (Marshall et al., 2016). Such information could also be extremely valuable in helping people identify appropriate local services for them, while also offering the tools to reveal where there are gaps in service provision, i.e. by creating a record and an account of an organisation's work that was available for anyone to search for and to view. Furthermore, for organisations funded by public bodies or charitable foundations, it would increase opportunities to create accounts of the goals that are being met and identify where objectives were being missed.

9.4 Digital Feedback for Service Improvement

> *Research Question 3:*
> *How can digital feedback systems become integrated with and support the work of VCOs?*

The studies into both ThoughtCloud and Appraise underlined the importance of appropriate procedures or processes existing alongside the systems and that without which there was little chance of effective use. For ThoughtCloud, the lack of a proper plan to embed the system within the work of VCOs led to feedback being captured but not engaged with. That is why it was important to design a feedback process concurrently with the Appraise app. A significant part of this process encouraged collective engagement and sensemaking about collected materials. However, neither system properly addressed the task of ensuring that feedback was appropriately acted upon, and the final step whereby feedback was delivered into the hands of decision-makers in a legible and accountable way remained elusive. It is, therefore, important to consider how the cycle of feedback might be completed and the feedback loop closed meaningfully.

9.4.1 Closing the feedback loop

Study findings reported how collecting feedback using digital technologies, in some cases, incur a kind of feedback fatigue. This is a phenomenon well known to research methods theorists and which Lavrakas calls 'respondent fatigue': *"Tired or bored respondents may more often answer 'don't know', engage in 'straight-line' responding, give more perfunctory answers, or give up answering."* (Lavrakas, 2008). We have seen how ThoughtCloud could exacerbate such fatigue (Chapter 6) as the automation of capture led to certain groups becoming too familiar with the technology and complaining about being overly surveyed. In rethinking how we design the feedback processes around the technology, one suggestion was that system use be defined clearly and written into the role of a particular job description within an organisation. Part of this role could involve communicating the value of the exercise to those giving feedback by explaining that it may influence future funding, and therefore impact the existence of particular services or that it can be used to enable reflection on practice. Importantly, such processes need to include some mechanism by which to hold organisations to account, for example, feeding back their performance as feedback reviewers and prompting them when feedback is waiting to be reviewed or has been long unattended to. All of which could be addressed and supported through the refinement and continued redesigning of closed-loop feedback systems such as ThoughtCloud and Appraise.

Despite these noted challenges, there are still clear opportunities for feedback technologies to foster participation with excluded groups that is both direct and meaningful. Accordingly, we can mitigate tokenism by making participation in service improvement more direct. Tritter describes a framework of participation in which individual elements include specific oppositional qualities: directness vs indirectness, individual vs collective, and finally proactive vs over-reactive (Tritter, 2009). Re-examining the tools in this thesis through the lens of Tritter's framework, ThoughtCloud could be seen to be replicating indirect modes of participation. By offering the most marginal involvement of the user in the decision-making process, it gives citizens a voice in a way that organisations can choose to dismiss entirely. By contrast, Appraise structured a collective experience for those giving feedback, arguably lending more force to its reporting. Moreover, the design processes which shaped the system were conducted in a participatory way, fostering ownership of the system (Taylor et al., 2015) and developing young people's capacity to express their opinion on services at the same time.

Completing the feedback loop, however, requires more than the articulation and capturing of feedback. By definition, completing a 'loop' returns one to the start. Therefore, action must be taken, and the outcome communicated back to those giving the feedback. In education, for example, feedback loops are not meaningful until they are 'closed' (Watson, 2003). Feedback loops such as these are conceptualised as having five stages: Capture, Report, Predict, Act and Refine (Clow, 2012). I have discussed how Appraise was designed with an associated exploration of the evaluation process, Plan, Do, Study, Act, found in management (Moule et al., 2013). The emphasis across the business management literature is on the 'Act' part of the cycle. In this thesis, however, evidencing the act of listening emerges as important and becomes another means through which the feedback loop is closed. In future, designing in ways that digital feedback systems can directly connect the service provider and the people with whom they work, to create dialogue and discussion about feedback would, therefore, be desirable.

9.4.2 Evidencing participation

Despite there being a huge amount of value and emphasis placed in the principles of feedback collection and the potential for digital technologies to support this practice, systemic challenges directly relating to how organisation performance is evidenced and managed limited the meaningfulness of their use as tools to support anything other than the collection of feedback. This was a major tension faced by all of the VCOs involved in this research. It involved negotiating the values of participation and engagement, and how 'successful' project outcomes were measured (Lowe & Wilson, 2015). Working with the Local Offer design group was a case in point, especially as it was driven by new legislation founded on the ideals of engagement and participation around contested issues and potentially marginalised groups (*Children and Families Act*, 2014). It is easy to recognise the value of many of the ideas the new legislation aimed to have authorities implement. Based on these underpinning aspirations of increased engagement and more meaningful participation, it would be logical to assume that successes might be gauged on documentation of the process of engagement with disenfranchised groups, in sharing the content of this engagement, and the capturing of richer, more nuanced information about service provision. However, top-down indicators of success often focus on documentation of numbers of people at events (rather than what was learned from those events), whether the 'right' type of information from the 'right' sorts of local services was being captured and shared, and if the data was online, kept up-to-date, available by a specific time or shareable on social media (Walsh et al., 2012). This is especially so in an environment characterised by funding practices whereby organisations have to be seen to be compliant with specific outcome measures or face penalisation.

One view on these issues is that the challenge of evidencing and assessing outcomes is made more acute through a lack of tools and techniques for stakeholders to draw upon to evidence the participatory nature of their endeavours. There might be opportunities here to explore the design of simple tools that allow those involved in consultation activities to not just facilitate dialogue between relevant citizen groups, but as per (Johnson et al., 2017) to capture and record these in sensitive ways that support the work of civic organisations. Such data could be used for better informing the next stages of decision making and involving citizens in service design while broadcasting the work done by organisations to better inform and alert local communities to the resources available. Doubtless, such a project could be taken further, to examine how citizen participation in processes of engagement is not just documented for reporting but for making visible to citizens themselves how their feedback and work is being used, processed and incorporated. In other words, researchers need to facilitate processes of downstream transparency where systems help identify, track and trace citizen participation—for instance, following the flow of citizen feedback within structures of decision-making. Achieving this would mean recording those interactions across multiple levels, starting with the simple feedback collection tasks undertaken by participants in this research and recording and taking account of how they engage and converse around this data. In this way, HCI could support citizen evaluations of whether they feel that a care organisation or government body has sufficiently consulted them and evidence their role in the dialogue that they have had around service design. In doing so, we may shift away from services led by legislation and committee, measured against potentially simplistic measures or outcomes, and instead, create resources that could inform the commissioning of new services that are led by citizens and the content that participatory processes generate.

9.5 Digital Feedback for Empowerment

> *Research Question 4:*
> *How can digital feedback systems empower and amplify the voice of particular groups of citizens?*

The preeminent challenge of this work in exploring new digital feedback systems has been one of addressing how the feedback collected can be used in a VCO service delivery context and engage citizens in ways that are empowering. This is especially important considering that there exists legislation requiring that feedback be collected and used to inform service design and provision. There has been great enthusiasm for the potential for digital material as a means to communicate a richer picture of the work done by care organisations while supporting users of care services in constructing accounts of their lived experiences of services. How learning and reflection can be encouraged around the feedback and, perhaps most importantly, how change can be made to happen in how services are delivered. Creating a meaningful impact has, however, been a challenge. Throughout this work, I have encountered VCO workers and local government staff that have made it the central concern of their professional career to work in collaboration with people with disabilities, to strive to have their voices heard, supported them through a variety of initiatives, only for them to find little to have changed as a result. These are challenges for the existing social care infrastructures as much as they are for the digital systems that aim to impact them and, in this final section, I explore and describe how these challenges and opportunities have been manifested in relation to the organisations engaged throughout this research.

9.5.1 HCI and social justice

There has been a growing body of work in HCI examining design with a social justice orientation (Fox et al., 2017; Asad & Le Dantec, 2015). This work has begun to examine how design practice with a social justice orientation is essential, especially in those publicly funded civic spaces where workers strive for equity and improvement in the lives of marginalised citizens. Dombrowski and colleagues are critical of how traditional system design approaches are not conducted with the diversity of the populace in mind, and how this lack of inclusion can negate an individual's engagement with such systems. They call attention to: "*the multiplicity of stakeholders, power relations, and the unevenness of social and political systems*" (Dombrowski et al., 2016) as their key concerns of social justice in design. The work in this thesis is motivated by the objective of bringing about a positive social change through an inclusive approach that facilitates the voicing of multiple values by stakeholders who might not have previously been able to contribute in a meaningful way (e.g. tokenism). We have seen how design research has explored modes of participation that facilitate the sharing of ideas, creating spaces where the validity and relevancy of opinions can be discussed transparently. Equally, work has shown how groups united by a common purpose can benefit from meeting face to face to circumvent trust issues (Vines et al., 2015). Trust again was seen as an issue with the design of platforms for deliberation (Kriplean et al., 2012), but interaction with the perspectives of others can be critical and help people to 'craft' a position in relation to political issues and helping citizens frame things in ways that can cause a frameshift event (Dimond et al., 2013). In these ways, HCI researchers have attempted to mitigate tensions arising from differing agendas (Miller, Friedman, et. al, 2007).

We have seen how the different feedback systems have exacerbated challenges to do with 'over surveying' and created new ways to side-line views and opinions of particular populations. In this way, rather than bringing about positive social change, technology becomes one more way of surfacing tensions within VCOs or worse, that through a lack of care, creates new forms of oppression for some, a risk so great that, as others have warned, it might be better if we consider if we should design at all (Sambasivan, 2019). For Asad, one way of tackling this challenge is in demonstrating a commitment to being, "in it for the longer haul" (Asad & Le Dantec, 2019), when designing within the tumultuous landscape of public services. This was similarly a challenge when designing Appraise, where the design phase became increasingly protracted to a degree which was inconvenient for the main collaborating VCO involved since that group had other work to pursue as well. Which is to say nothing of the pressing commitments of academic time scales, cycles of publication and even graduation exerting their unique pressures at the same time.

Partly these challenges emerge as the setting is messy and busy. Sometimes there is only so much work a VCO can do, especially those funded on a project by project basis and relying on funding that can appear and disappear with successive governments. Moreover, in many cases, when funding is agreed, the evidencing of outcomes is assured because that is what some staff within VCOs have come to be extremely practised at producing. Involving digital feedback capture systems in this established way of working was only ever going to gain traction so long as it fits well with the work that must be done, that is agreed in the contract in the first place. Taking a social justice view, feedback that is user-led will always be ignored through its incompatibility with these entrenched sector practices and the ease with which sector workers can raise doubts about its validity. If digital feedback systems are to play a role in addressing this, future work would need to investigate how they can support citizens to organise themselves to capture and communicate their views while communicating the legitimacy of the data collected at the same time.

Throughout all of the case studies, collaboration in design work has meant working across the spectrum of service provision in a politically charged, value-driven environment. Researchers in this space can play an important economic and social role (Goddard et al., 2016), within a site characterised by different political and economic goals and values. However, sector values of competition and efficiency common within the New Public Management strategies adopted within the sector (Lowe & Wilson, 2015) are in direct contrast to the values of the charities, the employees of local government, and ourselves as researchers. Service providers seek to maximise care—in quality, access, and match to needs—for all citizens. They seek the possibility to work together, not against each other, to provide this care. The work to produce new feedback systems was an attempt to support these values and was guided by such principles. However, in the working out of what the technology should be and how it should deliver insight or opinions, much of this enthusiasm was lost. This raises questions about the ethics and responsibility of working with those organisations involved in service delivery. Importantly, in order to protect and adopt a social justice orientation to design, we must take care that the values enacted by our collaborators are those which they claim to aspire to, e.g. equality and inclusion, and not the creeping neo-liberal values that increasingly hide within reforms to how the sector is funded and managed.

9.5.2 Designing from the middle-out

The appetite for VCOs towards involving their users in technology design in their work was notable throughout the studies, as was their belief in the potential of digital technologies to create benefit for citizens making use of their services. Despite the constrictions they faced, they were happy to make the most of any opportunity, taking short term gains in the process. Their struggle in this respect is anecdotal and often goes unrecorded, something with which HCI researchers are uniquely placed to help, but which I failed to support them in doing—even when my field notes were filled with discussion about how the process could be better documented and learned from. It is, therefore, important to reflect on our roles as HCI researchers collaborating in the design of user led participation tools and how we position ourselves when working within a complex array of stakeholders: citizens, the grassroots, VCOs and local and national government bodies. In my work, I have observed a tension between empowerment and austerity; a repeated cycle of top-down initiatives eroding bottom-up enthusiasm, and the real work happening from the 'middle-out'. This middle is a design space characterised by a meeting point where the top-down powers, in this case of local government and public service workers, intersect with a bottom-up grassroots, VCOs involved in service delivery and advocates for people with a disability. It is an intensely politicised space concerning citizens and their rights as members of society. It is also highly emotionally charged since it includes family members and activists directly addressing challenges that they face in their day to day lives, where the decisions being made have a direct effect. They are spaces of intersection between perspectives, flashpoints for debate and disagreement, literal meeting points where people come together and opportunities for values and political beliefs to clash. At the intersection of HCI and urban studies, middle-out design has been described as:

"The process to draw on the collective knowledge of all actors to provide greater opportunities for more inclusive and collaborative community engagement processes. This approach allows for an integration of the objectives from top-down decision-makers (government organisations, private enterprise) with those of the everyday people." (Fredericks et al., 2016)

In this way, the work being done then benefits from the pooled knowledge and resources of the group members. In its ideal form everybody wins, and group members can equitably contribute the benefit of their personal or professional perspectives. However, despite good intentions by everyone involved, in practice, the middle represents a hierarchical space since there was always the presence of top-down management by the organisations of local government, with actions taken having to be ratified by managers in positions of power, often remote from the site of design. This was explicit in the Local Offer, where the top-down had both the power to set the agenda—they pulled everyone together to work on the project—and in the end to cherry-pick from the ideas put forward to deliver a minimally viable product on its own terms. However, these issues also permeated the other case studies, as reporting procedures and a focus on outcomes and short-term funding from the state heavily influenced the efficacy of the systems. This was most clearly underlined in the design work into Appraise, where the decision to actively work on amplifying the voices of youth was an attempt to decentre or shift the middle in favour of more inclusive service design, evaluation and delivery. Where the work and the design of a digital technology become a new mediator in the transactions between the layers of service provision, creating a more relational space for the delivery of care. Taken together then, this suggests that HCI researchers can only hope to make significant shifts in the infrastructures of care by embracing this middle-out position. This could take many forms, the work reported in this thesis highlights the supporting role that digital technologies might occupy and how it can be designed to better support the capturing of people's views, making more sense of collected data and promoting perspective sharing too. It shows how digital technologies and the participatory processes that create them can create links and dialogue across projects as well as across contexts, spanning those public and voluntary sector design spaces, bridging from the middle out.

9.6 Methods for Future Work

The work in this thesis highlights considerations and learning for approaching future, civically oriented HCI work in care sector spaces, specifically: (i) the strength of combining participatory methods with embedded research when working in a dynamic environment; (ii) the work that should be done before new technologies are introduced within complex spaces to ensure that this is done so in responsible ways; (iii) that research seeking to provide tools of relevance to a particular community should be conducted with a commitment that extends beyond project time scales. I expand on each of these in the following.

9.6.1 Combining participatory approaches and embedded practice

Participatory Design was central to the work carried out in this thesis, such participatory methods require a significant investment of time and effort. The organisations participating in this research often had to prioritise and balance their work with their users with time for research activities, even at times combining the two where possible. This could mean organisation staff that were already limited in the engagement time they had with those using their services having to carefully consider when it was appropriate to schedule the design work. Plans were therefore required to be readjusted constantly, workshops reconfigured, and field trials of prototypes conducted as and when opportunities arose. This was only possible because I was working for and within the different organisations, often for significant periods. This embedded form of approach was crucial to ensuring that many of the research activities could be carried out at all. At times the constantly shifting setting meant that there were restrictions about what could be done, and when, however, it allowed insight that led to better planning of different activities too. Importantly, it helped to maximize opportunities for research activities to be carried out whilst minimizing disruption to the important work of the VCOs.

Working in this way also had the added benefit of providing extra resources for those participating organisations. In my work as a volunteer, or observer of a particular session or when running workshops with young people, I fulfilled a role similar to any of their staff members. On one occasion I became the main thread of continuity for a project when a staff member left for maternity leave. When the replacement group leader arrived, it was my job to get them up to speed on the work the group had been doing and help them assume their new position. Therefore, configuring future research in this way, whereby participatory approaches are bolstered by embedding the researcher in the context is important, not only for the benefit of the research being conducted but also to ensure that there are corresponding benefits for participating organisations. This point is worth consideration at the outset of a collaboration and might focus on more properly fleshing out the role of the researcher within the organisation. This is one of many considerations that could be helpfully clarified at the beginning of a project and I discuss more in the following section.

9.6.2 The work before 'the work'

Concerning the digital feedback systems created in this research, the aim was always to design tools that maximize the support offered to VCO workers and the people making use of their services. However, we have seen how, at times, that power imbalances between the service provider and citizen were reinforced. For example, by giving VCOs control over collected feedback data and what was done with that data. While the direction of the research was adapted to mitigate this, future work should put in place mitigation strategies from the outset. One way to do that would be, where possible, to find ways to bring all of the stakeholders together at the start of a project in a setting where they can have an equal voice. In my work, this would involve local government workers meeting with VCO organisation staff and volunteers as well as citizens. All of whom find themselves in meetings about each other, about services, about activities for users of services, while rarely coming together all at the same time. By bringing a diverse range of stakeholders together first, projects would hope to benefit from an initial familiarisation phase, where the goal would be, through the equal representation of stakeholders, to develop a shared understanding.

HCI as a field is well suited to be the site at which diverse stakeholders meet and share. Hack-a-thons are an example of events that bring people together as part of collaborative design work aimed at solving particular issues and increasingly we find that social challenges are 'hackable' using this method (Birbeck et al., 2017). Similarly, the academy is geared to host conferences by which it shares information and knowledge. Inviting our participants into what are traditionally exclusive spaces could remake those spaces and create new opportunities for our participants to encounter one and other. This is already starting to happen at international conferences, for example, when local organisations or citizen groups are invited to collaborate in workshop programs. Moreover, I am an active member of a growing community within HCI that is focused on addressing design challenges in VCO and care sector spaces: the beginnings of which can already be evidenced in the titles of workshops running at conferences the world over (Strohmayer et al., 2018). These events bring together researchers and sector practitioners alike to describe and reflect on their work collaborating with VCO organisations. Finally, in furthering the goals tackled by this work and building on the learning discussed, I am working to facilitate conversation across community organisations, local government and citizens. This is being done by planning, organising and resourcing regular meetups in the community in a public setting. In this way, I am actively exploring how to make the boundaries of the academy more porous, while forging new relationships between groups, and calling out power imbalances at the same time.

9.6.3 Research committed to the long haul

Finally, too often HCI research involves introducing new technology without planning for how that technology will be maintained or supported beyond the end of project time scales. Moreover, the life span of some projects may be strongly linked to a particular student project and rise and fall with cycles of graduation. As described above my commitment is to the organisations, VCO sector workers and people that make use of their services, to seek to find ways of continuing my research with them. However, this will only be possible if there is the resource to support such ambitions, or plans made for earlier stage PhD students to pick up lines of inquiry in the future. The latter point could be one strategy for ensuring continuity of particular collaborations involving the deployment of new technologies. However, there would be questions concerning the novelty of research done and it comes with the challenge of finding a student that would share a particular vision.

Outside of the academy, strategies for addressing novel technology handovers include upskilling members of the VCO community. By exploring new ways to support volunteers, organisation staff or users of care services in supporting and maintaining the systems produced. Digital feedback technologies (especially those that rely on media capture) are well suited to have a role in this upskilling: building in features that allow materials for future training to be created and recorded.

Similarly, design projects could be configured with 'low maintenance' in mind, where consideration is given to whether an entirely new system is required or if an existing platform might be repurposed to a new use. Platforms such as WhatsApp are already an important 'back-channel' amongst care sector workers. By adding data scraping, logging and organising tools, simplistic technologies that create and organise this information for and on behalf of sector workers and citizens alike would be fruitful. Existing projects are already exploring this with the recent shift to un-platforming within HCI research (Lambton-Howard et al., 2019). If we are serious about the commitment to being in it for the long haul, tackling these challenges in innovative ways is essential and finding ways of working towards this commitment must be central to the philosophy underlying the work of civically oriented HCI research.

9.7 Final Remarks

My experiences of working with such a diverse array of people reported in this thesis reaffirm that in-the-wild design work embedded in the complex landscape of public sector care service provision is both messy and difficult. Partly this is because what is realistically achievable within civic contexts is bound up in policy and bureaucracy which are often significant barriers to pragmatic forms of action. However, the pursuit of civic technology design necessitates participation if we are to value the perspective of workers, volunteers and users of care services alike, whilst honouring the principles of equity and inclusionary design practices that are increasingly central to HCI. Digital feedback technologies have an important role to play in facilitating this participation. At the same time, they should support diverse stakeholders in making sense of each other's perspectives and afford citizens the opportunity of recording and exploring these perspectives. Future tools will necessarily have to address the challenge of how to make sense of diverse perspectives, whilst being configured to afford the questioning of and accounting for each other's interactions. Finally, they should create a record of these interactions, evidencing the hard work citizens do to participate in designing public services while helping to understand the failures and celebrating the successes along the way. The work reported in this thesis is just one example of that record.

References

Agre, P.E. (1994) From high tech to human tech: Empowerment, measurement, and social studies of computing. *Computer Supported Cooperative Work*. 3 (2), 167–195.

Alimi, R., Chen, L., Kutscher, D., Liu, H.H., Rahman, A., Song, H., Yang, Y.R., Zhang, D. & Zong, N. (2012) An open content delivery infrastructure using data lockers. *ICN'12 - ACM Proceedings of the Information-Centric Networking Workshop*. 25–30.

Alzheimer's Society (2010) *My name is not dementia*. [Online] [online]. Available from: http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=1339 (Accessed 20 September 2015).

Asad, M. & Le Dantec, C. a. (2015) 'Illegitimate Civic Participation', in *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing - CSCW '15*. [Online]. 2015 pp. 1694–1703.

Asad, M. & Le Dantec, C.A. (2017) 'Tap the 'Make This Public' Button: A Design-Based Inquiry into Issue Advocacy and Digital Civics', in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI '17*. [Online]. 2017 New York, NY, USA: ACM. pp. 6304–6316.

Asad, M. & Le Dantec, C.A. (2019) "This Is Shared Work:" Negotiating Boundaries in a Social Service Intermediary Organization. *Media and Communication*. 7 (3), 69.

Asad, M., Le Dantec, C.A., Nielsen, B. & Diedrick, K. (2017) *Creating a Sociotechnical API*. 2295–2306.

Atkinson, P. (2001) *The Handbook of Ethnography*. Sage Publications Ltd.

Balaam, M., Comber, R., Jenkins, E., Sutton, S. & Garbett, A. (2015) 'FeedFinder: A Location-Mapping Mobile Application for Breastfeeding Women', in *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*. [Online]. 2015 New York, NY, USA: ACM. pp. 1709–1718.

Balestrini, M. (2015) 'Civically Engaged HCI : Tensions Between Novelty and Social Impact', in *British HCI '15: Proceedings of the 2015 British HCI Conference*. [Online]. 2015 pp. 35–36.

Balestrini, M., Rogers, Y., Hassan, C., Creus, J., King, M. & Marshall, P. (2017) 'A City in Common', in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI '17*. [Online]. 2017 pp. 2282–2294.

Barnes, M. & Cotterell, P. (2011) *Critical perspectives on user involvement*. The Policy Press.

Baumer, Eric P.S., Ames, M.G., Brubaker, J.R., Burrell, J. & Dourish, P. (2014) 'Refusing, limiting, departing', in *Proceedings of the extended abstracts of the 32nd annual ACM conference on Human factors in computing systems - CHI EA '14*. [Online]. 2014 New York, New York, USA: ACM Press. pp. 65–68.

Baumer, E.P.S., Burrell, J., Ames, M.G., Brubaker, J.R. & Dourish, P. (2015) On the importance and implications of studying technology non-use. *interactions*. 22 (2), 52–56.

Baumer, Eric P S, Khovanskaya, V., Matthews, M., Reynolds, L., Sosik, V.S. & Gay, G. (2014) Reviewing Reflection: On the Use of Reflection in Interactive System Design. *Proceedings of the 2014 conference on Designing interactive systems.* 93–102.

Bee, P., Brooks, H., Fraser, C. & Lovell, K. (2015) Professional perspectives on service user and carer involvement in mental health care planning: A qualitative study. *International Journal of Nursing Studies*. 52 (12), 1834–1845.

Bell, C., Nash, J. & Thomas, L. (2010) *Social care in England – a brief history*. [Online] [online]. Available from: http://southwest.skillsforcare.org.uk/%5CnCaring (Accessed 11 September 2015).

Bell, G., Blythe, M. & Sengers, P. (2005) Making by making strange. *ACM Transactions on Computer-Human Interaction*. 12 (2), 149–173.

Bertelsen, O.W. (2000) Design Artefacts: Towards a design-oriented epistemology. *Scandinavian Journal of Information Systems*. 12 (1–2), 15–27.

Birbeck, N., Lawson, S., Morrissey, K., Rapley, T. & Olivier, P. (2017) 'Self harmony: Rethinking hackathons to design and critique digital technologies for those affected by self-harm', in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. [Online]. 2017 pp. 146–157.

Björgvinsson, E., Ehn, P. & Hillgren, P.-A. (2010) 'Participatory Design and 'Democratizing Innovation'', in *Proceedings of the 11th Biennial Participatory Design Conference*. [Online]. 2010 New York, NY, USA: ACM. pp. 41–50.

Bødker, S. (1996) Creating conditions for participation: Conflicts and resources in systems development. *Human-Computer Interaction*. 11 (3), 215–236.

Bødker, S. & Zander, P.-O. (2015) 'Participation in design between public sector and local communities', in *Proceedings of the 7th International Conference on Communities and Technologies - C&T '15*. [Online]. 2015 pp. 49–58.

Boehner, K. & DiSalvo, C. (2016) 'Data, Design and Civics: An Exploratory Study of Civic Tech', in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. [Online]. 2016 pp.

2970–2981.

Bolton, G. (2010) 'Reflective Practice: An Introduction Chapter 1', in *Reflective Practice: Writing and Professional Development*. [Online]. p.

Booth, T. & Booth, W. (1996) Sounds of Silence: Narrative research with inarticulate subjects. *Disability & Society*. 11 (1), 55–70.

Bovaird, T. (2014) Attributing Outcomes to Social Policy Interventions - 'Gold Standard' or 'Fool's Gold' in Public Policy and Management? *Social Policy and Administration*. 48 (1), 1–23.

Brandsen, T. & Pestoff, V. (2006) Co-production, the third sector and the delivery of public services. An introduction. *Public Management Review*. 8 (4), 493–501.

Branthwaite, A. & Patterson, S. (2011) The power of qualitative research in the era of social media. *Qualitative Market Research: An International Journal*. 14 (4), 430–440.

Brattgård, B., Dalholm, E., Davies, R.C., Hägerfors, A., Mitchell, B. & Nilsson, J. (1996) 'The Envisionment Workshop - from visions to practice', in *Proceedings of the Participatory Design Conference*. [Online]. 1996 pp. 141–152.

Braun, V. & Clarke, V. (2019) Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*. 11 (4), 589–597.

Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*. 3 (2), 77–101.

Breckell, P., Harrison, K. & Robert, N. (2011) *Impact Reporting in the UK Charity Sector*. [Online] [online]. Available from: http://www.cfg.org.uk/resources/~/media/Files/Resources/Impact Reporting in the UK Charity Sector.ashx (Accessed 24 August 2015).

Brignull, H. & Rogers, Y. (2003) 'Enticing people to interact with large public displays in public spaces.', in *In Proceedings of INTERACT*. [Online]. 2003 pp. 17–24.

Brooker, P., Vines, J., Sutton, S., Barnett, J., Feltwell, T. & Lawson, S. (2015) 'Debating Poverty Porn on Twitter : Social Media as a Place for Everyday Socio - Political Talk', in *Proceedings of CHI 2015*. [Online]. 2015 pp. 3177–3186.

Brown, B. (2012) Beyond Recommendations. *ACM Transactions on Computer-Human Interaction*. 19 (4), 1–24.

Care Act. (2014) Available at: http://www.legislation.gov.uk/ukpga/2014/23/enacted (Accessed: 15 September 2014)

Carroll, J.M. (1997) Human-computer interaction: Psychology as a science of design. *International*

Journal of Human Computer Studies. 46 (4), 501–522.

Charlesworth, A., Watt, T. & Johnson, P. (2018) *Securing the future: funding health and social care to the 2030s*. [Online] [online]. Available from: https://www.nhsconfed.org/resources/2018/05/securing-the-future (Accessed 4 April 2019).

Children and Families Act. (2014) Available at: http://www.legislation.gov.uk/ukpga/2014/6/contents/enacted (Accessed: 18 July 2015)

Clarke, J. (2006) Consumers, clients or citizens? Politics, policy and practice in the reform of social care. *European Societies*. 8 (3), 423–442.

Clarke, R., Wright, P., Balaam, M. & Mccarthy, J. (2013) 'Digital portraits: Photo-sharing after domestic violence', in *Proc. CHI '13*. [Online]. 2013 pp. 2517–2526.

Clow, D. (2012) The learning analytics cycle. *Proceedings of the 2nd International Conference on Learning Analytics and Knowledge - LAK '12*. 134.

Costa, A. & Kallick, B. (1993) Through the Lens of a Critical Friend. *Educational Leadership*. 51 (2), 49–51.

Cousins, J.B. & Earl, L.M. (1992) The Case for Participatory Evaluation. *Educational Evaluation and Policy Analysis*. 14 (4), 397–418.

CQC (2013) *RAISE building partnerships between CQC and voluntary & community sector organisations in the South East Summary of key points:* [Online] [online]. Available from: http://www.regionalvoices.org/sites/default/files/library/Final Report on CQC Focus Group - Summary version RAISE.pdf (Accessed 20 September 2015).

CQC (2016) *The state of health care and adult social care in England*. [Online] [online]. Available from: http://www.ncbi.nlm.nih.gov/pubmed/21727839 (Accessed 22 September 2015).

Crabtree, A., Rodden, T. & Mariani, J. (2004) Collaborating around Collections: Informing the Continued Development of Photoware. *ACM Conference on Computer Supported Cooperative Work*. 396–405.

Crabtree, A., Rodden, T., Tolmie, P. & Button, G. (2009) 'Ethnography considered harmful', in *Proceedings of the 27th international conference on Human factors in computing systems - CHI 09*. [Online]. 2009 p. 879.

Creswell, J. (2013) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage Publications Ltd.

Crivellaro, C., Comber, R., Bowers, J., Wright, P. & Olivier, P. (2014) 'A Pool of Dreams:

Facebook, Politics and the Emergence of a Social Movement', in *Proceedings of the 32nd Annual ACM Conference on Human Factors in Computing Systems*. [Online]. 2014 New York, NY, USA: ACM. pp. 3573–3582.

Cumella, S. (2008) New Public Management and Public Services for People With an Intellectual Disability: A Review of the Implementation of Valuing People in England . *Journal of Policy and Practice in Intellectual Disabilities*. 5 (3), 178–186.

Cunliffe, A.L. (2004) On Becoming a Critically Reflexive Practitioner. *Journal of Management Education*. 28 (4), 407–426.

Dahl, Y. & Holbø, K. (2012) 'There are no secrets here!': professional stakeholders' views on the use of GPS for tracking dementia patients. *Proceedings of the 14th international conference on Human-computer interaction with mobile devices and services - MobileHCI '12*. (7465), 133–142.

Daly, M. & Lewis, J. (2000) The concept of social care and the analysis of contemporary welfare states. The British Journal of Sociology, 51(2), 281–298. https://doi.org/10.1111/j.1468-4446.2000.00281.xis of cont. *The British Journal of Sociology*. 51 (2), 281–298.

Davis, H., Waycott, J. & Zhou, S. (2015) Beyond YouTube. *Proceedings of the Annual Meeting of the Australian Special Interest Group for Computer Human Interaction on - OzCHI '15*. 579–587.

Department of Health (2004) *National service framework for children, young people and maternity services: Core standards*. [Online] [online]. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/199952/National_Service_Framework_for_Children_Young_People_and_Maternity_Services_-_Core_Standards.pdf (Accessed 15 September 2016).

Dewey, J. (1933) *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process*. D.C. Heath and company.

Dimond, J., Dye, M., LaRose, D. & Bruckman, A. (2013) 'Hollaback!: The Role of Collective Storytelling Online in a Social Movement Organization', in *CSCW '13*. [Online]. 2013 p.

Disalvo, C., Lodato, T., Jenkins, T., Lukens, J. & Kim, T. (2014) 'Making Public Things: How HCI Design Can Express Matters of Concern', in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. [Online]. 2014 New York, New York: ACM. pp. 2397–2406.

Do, T. V., Cheverst, K. & Taylor, N. (2015) 'Content analysis of a rural community's interaction with its cultural heritage through a longitudinal display deployment', in *British HCI '15: Proceedings of the 2015 British HCI Conference*. [Online]. 2015 pp. 46–55.

Dombrowski, L., Harmon, E. & Fox, S. (2016) Social Justice-Oriented Interaction Design.

Proceedings of the 2016 ACM Conference on Designing Interactive Systems - DIS '16. 656–671.

Dourish, P. (2006) 'Implications for Design', in *CHI '06*. [Online]. 2006 pp. 541–550.

Drake, R.F. (1996) Charities, Authority and Disabled People: A qualitative study. *Disability & Society*. 11 (1), 5–24.

Edwards, P. (2002) Increasing response rates to postal questionnaires: systematic review. *BMJ*. 324 (7347), 1183–1183.

Ehn, P. (1989) *Work-oriented Design of Computer Artifacts*. Arbetslivscentrum.

Elsden, C., Durrant, A.C. & Kirk, D.S. (2016) 'It's Just My History Isn't It?', in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems - CHI '16*. [Online]. 2016 pp. 2819–2831.

Equality Act. (2010) Available at: http://www.legislation.gov.uk/ukpga/2010/15/contents/enacted (Accessed 18 July 2015)

Evans, D.H., Bacon, R.J., Greer, E., Stagg, A.M. & Turton, P. (2015) 'Calling executives and clinicians to account': user involvement in commissioning cancer services. *Health Expectations*. 18 (4), 504–515.

Ewan, Ferlie, Pettigrew, A., Ashburner, L. & Fitzgerald, L. (2002) The new public management in action. *Long Range Planning*.

Fallis, A.. (2014) The death of reflective supervision? An exploration of the role of relfection within supervision in a Local Authority Youth Offending Service. *The Journal of Research, Policy and Planning*. 31 (2), 93–104.

Ferguson, I. (2007) Increasing user choice or privatizing risk? The antinomies of personalization. *British Journal of Social Work*. 37 (3), 387–403.

Ferguson, I. & Lavalette, M. (2013) Crisis, austerity and the future(s) of social work in the UK. *Critical and Radical Social Work*. 1 (1), 95–110.

Fischl, J. & Saxton, J. (2014) *Getting the Message Across Practical strategies to tackle public concerns about donating to charity*. [Online] [online]. Available from: http://nfpsynergy.net/free-report/getting-message-across-practical-strategies-tackle-public-concerns-about-donating (Accessed 24 August 2015).

Flynn, N. (2007) *Public Sector Management*. Thousand Oaks, CA: Sage Publications Ltd.

Forlizzi, J. (2010) All look same? A comparison of experience design and service design. *Interactions*. 1760–62.

Fox, S., Menking, A., Steinhardt, S., Hoffmann, A.L. & Bardzell, S. (2017) Imagining Intersectional Futures: Feminist approaches in CSCW. *Cscw '17*. 387–393.

Frantzis, M., Zsombori, V., Ursu, M., Guimaraes, R.L., Kegel, I. & Craigie, R. (2012) Interactive video stories from user generated content: A school concert use case. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. 7648 LNCS183–195.

Fredericks, J., Caldwell, G.A. & Tomitsch, M. (2016) 'Middle-out Design: Collaborative Community Engagement in Urban HCI', in *Proceedings of the 28th Australian Conference on Computer-Human Interaction*. OzCHI '16. [Online]. 2016 New York, NY, USA: ACM. pp. 200–204.

Frohlich, D.M., Lim, C.S.C. & Ahmed, A. (2014) Keep, lose, change: Prompts for the re-design of product concepts in a focus group setting. *CoDesign*.

Garbett, A., Comber, R., Jenkins, E. & Olivier, P. (2016) 'App Movement: A Platform for Community Commissioning of Mobile Applications', in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. [Online]. 2016 pp. 26–37.

Gilbert, T. (2004) Involving people with learning disabilities in research: Issues and possibilities. *Health and Social Care in the Community*. 12 (4), 298–308.

Glesne, C. & Peshkin, A. (2006) *Becoming qualitative researchers: An introduction*. Pearson/Allyn & Bacon.

Goddard, J., Hazelkorn, E., Kempton, L., Vallance, P. & Goddard, J. (2016) 'Introduction: why the civic university?', in *The Civic University*. [Online]. p.

Golsteijn, C., Gallacher, S., Capra, L. & Rogers, Y. (2016) 'Sens-Us: Designing Innovative Civic Technology for the Public Good', in *Proceedings of the 2016 ACM Conference on Designing Interactive Systems*. [Online]. 2016 New York, New York: ACM. pp. 39–49.

Golsteijn, C., Gallacher, S., Koeman, L., Wall, L., Andberg, S., Rogers, Y. & Capra, L. (2015) 'VoxBox: a Tangible Machine that Gathers Opinions from the Public at Events', in *Proceedings of TEI '15*. [Online]. 2015 pp. 201–208.

Goncalves, J., Harper, R. & Hara, K.O. (2015) 'Life through the Lens : A Qualitative Investigation of Human Behaviour with an Urban Photography Service', in *In Proceedings of British HCI 2015*. [Online]. 2015 pp. 157–164.

Goncalves, J., Hosio, S., Liu, Y. & Kostakos, V. (2014) Eliciting situated feedback: A comparison of paper, web forms and public displays. *Displays*. 35 (1), 27–37.

Greener, I. (2008) Choice and Voice – A Review. *Social Policy and Society*. 7 (02), 255–265.

Greenhalgh, T., Humphrey, C. & Woodward, F. (2010) *User involvement in Health Care*. John Wiley & Sons.

Gruening, G. (2001) Origin and theoretical basis of new public management. *International Public Management Journal*. 4 (1), 1–25.

Guest, G., MacQueen, K. & Namey, E. (2012) *Applied Thematic Analysis*. Sage Publications Ltd.

Halskov, K. & Hansen, N.B. (2015) The diversity of participatory design research practice at PDC 2002-2012. *International Journal of Human Computer Studies*. 7481–92.

Hamnett, C. (2014) Shrinking the welfare state: The structure, geography and impact of british government benefit cuts. *Transactions of the Institute of British Geographers*. 39 (4), 490–503.

Harding, M., Knowles, B., Davies, N. & Rouncefield, M. (2015) 'HCI, Civic Engagement & Trust', in *Proceedings of CHI '15*. [Online]. 2015 pp. 2833–2842.

Hayes, G.R. (2011) The relationship of action research to human-computer interaction. *ACM Transactions on Computer-Human Interaction*. 18 (3), 1–20.

Heath, S., Charles, V., Crow, G. & Wiles, R. (2007) Informed consent, gatekeepers and go-betweens: Negotiating consent in child- and youth-orientated institutions. *British Educational Research Journal*. 33 (3), 403–417.

Heffernan, K. (2006) Social work, new public management and the language of 'service user'. *British Journal of Social Work*. 36 (1), 139–147.

Heitlinger, S., Bryan-Kinns, N. & Jefferies, J. (2013) 'Sustainable HCI for grassroots urban food-growing communities', in *Proceedings of the 25th Australian Computer-Human Interaction Conference on Augmentation, Application, Innovation, Collaboration - OzCHI '13*. [Online]. 2013 p.

Hendricks, J., Mooney, D. & Berry, C. (1996) A practical strategy approach to use of reflective practice in critical care nursing. *Intensive and Critical Care Nursing*.

Henwood, K. & Pidgeon, N. (2004) 'Grounded theory in psychological research.', in *Qualitative research in psychology: Expanding perspectives in methodology and design.* [Online]. p.

Hood, C. (1991) A Public Management for all seasons? *Public Administration*. 69 (1), 3–19.

Hook, J., Clarke, R., Mccarthy, J., Anderson, K., Dudman, J. & Wright, P. (2015) 'Making the Invisible Visible: Design to Support the Documentation of Participatory Arts Experiences', in *Proceedings of CHI 2015Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*. [Online]. 2015 New York, New York: ACM. pp. 2583–2592.

Horne, M. & Shirley, T. (2009) *Co-production in public services: a new partnership with citizens*. [Online] [online]. Available from: https://www.scie-socialcareonline.org.uk/co-production-in-public-services-a-new-partnership-with-citizens/r/a11G00000017uZsIAI (Accessed 1 June 2019).

Horner-Johnson, W. & Bailey, D. (2013) Assessing understanding and obtaining consent from adults with intellectual disabilities for a health promotion study. *Journal of Policy and Practice in Intellectual Disabilities*. 10 (3), 260–265.

Hou, Y. (2016) 'Understand the Design and Implementation of Civic Technologies in Public Organizations', in *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion*. [Online]. 2016 New York, New York: ACM. pp. 147–150.

Iivari, N. (2004) 'Enculturation of user involvement in software development organizations - an interpretive case study in the product development context', in *In Proceedings of the third Nordic conference on Human-computer interaction (NordiCHI '04)*. [Online]. 2004 New York, New York: ACM. pp. 287–296.

Jaspar, M. (2013) *Beginning reflective practice*. Andover: Cengage Learning.

Johnson, I.G., Mcdonald, A., Briggs, J., Manuel, J., Salt, K., Flynn, E. & Vines, J. (2017) 'Community Conversational: Supporting and Capturing Deliberative Talk in Local Consultation Processes', in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. [Online]. 2017 pp. 2310–2333.

Johnson, I.G., Vines, J., Taylor, N., Jenkins, E. & Marshall, J. (2016) Reflections on Deploying Distributed Consultation Technologies with Community Organisations. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. 2945–2957.

Karanikolos, M., Mladovsky, P., Cylus, J., Thomson, S., Basu, S., Stuckler, D., MacKenbach, J.P. & McKee, M. (2013) Financial crisis, austerity, and health in Europe. *The Lancet*. 381 (9874), 1323–1331.

Kawulich, B. (2012) 'Collecting Data Through Observation', in *Doing Social Research: A global context*. [Online]. pp. 150–160.

Kemmis, S. (2006) Participatory action research and the public sphere. *Educational Action Research*. 14 (4), 459–476.

Kennedy, H., Landor, M. & Todd, L. (2011) *Video Interaction Guidance: A Relationship-based Intervention to Promote Attunement, Empathy, and Wellbeing*. Jessica Kingsley Publishers.

Kitamura, K., Yamasaki, T. & Aizawa, K. (2009) 'FoodLog: Capture, Analysis and Retrieval of Personal Food Images via Web', in *Proceedings of the ACM multimedia 2009 workshop on Multimedia for cooking and eating activities - CEA '09*. [Online]. 2009 p. 23.

Koeman, L., Kalnikaité, V. & Rogers, Y. (2015) ''Everyone Is Talking about It!': A Distibuted Approach to Urban Voting Technology and Visualisations', in *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*. [Online]. 2015 pp. 3127–3136.

Koeman, L., Kalnikaitė, V., Rogers, Y. & Bird, J. (2014) What chalk and tape can tell us: lessons learnt for next generation urban displays. *Proceedings of the 3th International Symposium on Pervasive Displays (PerDis '14)*.

Kriplean, T., Morgan, J., Freelon, D., Borning, A. & Bennett, L. (2012) 'Supporting reflective public thought with considerit', in *In Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work (CSCW '12)*. [Online]. 2012 New York, New York: ACM. pp. 265–274.

Kroese, B.S., Gillott, A. & Atkinson, V. (1998) Consumers with intellectual disabilities as service evaluators. *Journal of Applied Research in Intellectual Disabilities*. 11 (2), 116–128.

Kuznetsov, S., Odom, W., Moulder, V., DiSalvo, C., Hirsch, T., Wakkary, R. & Paulos, E. (2011) 'HCI, Politics and the City: Engaging with Urban Grassroots Movements for Reflection and Action', in *CHI '11 Extended Abstracts on Human Factors in Computing Systems*. [Online]. 2011 pp. 2409–2412.

Lambton-Howard, D., Anderson, R., Montague, K., Garbett, A., Hazeldine, S., Alvarez, C., Sweeney, J.A., Olivier, P. & Kharrufa, A. (2019) 'Whatfutures: Designing large-scale engagements on Whatsapp', in *Conference on Human Factors in Computing Systems - Proceedings*. [Online]. 2019 pp. 1–14.

Lanier, J. (2018) *Ten Arguments for Deleting Your Social Media Accounts Right Now*. Henry Holt and Company.

Lavrakas, P.J. (2008) *Encyclopedia of survey research methods. Sage Publications*. Sage Publications Ltd.

Le Dantec, C. (2012) 'Participation and Publics: Supporting Community Engagement', in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. CHI '12. [Online]. 2012 New York, NY, USA: ACM. pp. 1351–1360.

Le Dantec, C.A. & Edwards, W.K. (2008) 'Designs on Dignity : Perceptions of Technology Among the Homeless', in *In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI'07)*. [Online]. 2008 pp. 627–636.

Le Dantec, Christopher A, Watkins, K.E., Clark, R. & Mynatt, E. (2015) 'Cycle Atlanta and OneBusAway: Driving innovation through the data ecosystems of civic computing', in *International Conference on Human-Computer Interaction*. [Online]. 2015 pp. 327–338

Le Dantec, C.A. & DiSalvo, C. (2013) Infrastructuring and the Formation of Publics in Participatory Design. *Social Studies of Science*. 43 (2), 241–264.

Le Dantec, C.A. & Fox, S. (2015) 'Strangers at the Gate: Gaining Access, Building Rapport, and Co-Constructing Community-Based Research', in *Proceedings of the 18th ACM Conference on*

Computer Supported Cooperative Work & Social Computing. [Online]. 2015 New York, New York, USA: ACM. pp. 1348–1358.

Lewis, A. & Porter, J. (2004) Interviewing children and young people with learning disabilities: Guidelines for researchers and multi-professional practice. *British Journal of Learning Disabilities*. 32 (4), 191–197.

Lewis, C. (1982) *Using the 'thinking Aloud' Method in Cognitive Interface Design*. Research report. IBM T.J. Watson Research Center.

Lindsay, S., Jackson, D., Schofield, G. & Olivier, P. (2012) Engaging older people using participatory design. *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems - CHI '12*. 1199.

Lizar, M. & Hodder, M. (2014) 'Usable Consents. Tracking and Managing Use of Personal Data with a Consent Transaction Receipt', in *Proceedings of the 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing: Adjunct Publication*. [Online]. 2014 pp. 647–652.

Localism Act. (2011) Available at: http://www.legislation.gov.uk/ukpga/2011/20/contents/enacted (Accessed 12 September 2015)

Lovejoy, K. & Saxton, G.D. (2012) Information, Community, and Action: How Nonprofit Organizations Use Social Media. *Journal of Computer-Mediated Communication*. 17 (3), 337–353.

Lowe, T. & Wilson, R. (2015) Playing the Game of Outcomes-based Performance Management. Is Gamesmanship Inevitable? Evidence from Theory and Practice. *Social Policy and Administration*.

Lowe, T., Wilson, R. & Boobis, S. (2016) 'The Performance Management of complex systems – enabling adaptation', in *Performance Management Association*. [Online]. 2016 p.

Manuel, J., Vigar, G., Bartindale, T. & Comber, R. (2017) 'Participatory Media : Creating Spaces for Storytelling in Neighbourhood Planning', in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. [Online]. 2017 pp. 1688–1701.

Marshall, M., Kirk, D.S. & Vines, J. (2016) 'Accountable: Exploring the Inadequacies of Transparent Financial Practice in the Non-Profit Sector', in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems - CHI '16*. [Online]. 2016 New York, New York, USA: ACM Press. pp. 1620–1631.

Massung, E., Coyle, D., Cater, K., Jay, M. & Preist, C. (2013a) 'Using Crowdsourcing to Support Pro-environmental Community Activism', in *Proceedings of the SIGCHI Conference on Human*

Factors in Computing Systems. [Online]. 2013 pp. 371–380.

McLoughlin, I., Wilson, R. & Martin, M. (2013) *Digital Government @ Work*. Croydon: CPI Group (UK) Ltd.

Meegan, R., Kennett, P., Jones, G. & Croft, J. (2014) Global economic crisis, austerity and neoliberal urban governance in England. *Cambridge Journal of Regions, Economy and Society*. 7 (1), 137–153.

Meissner, J.L., Vines, J., McLaughlin, J., Nappey, T., Maksimova, J. & Wright, P. (2017) 'Do-It-Yourself Empowerment as Experienced by Novice Makers with Disabilities', in *In Proceedings of the 2017 Conference on Designing Interactive Systems (DIS '17)*. [Online]. 2017 New York, New York: ACM. pp. 1053–1065.

Mendel, S. & Brudney, J. (2014) Doing Good, Public Good, and Public Value. *Nonprofit Management & Leadership*. 25 (1), .

Mental Capacity Act. (2005) Available at: http://www.legislation.gov.uk/ukpga/2005/9/contents/enacted (Accessed 14 September 2015)

Merritt, S., Reeves, S., Durrant, A. & Kirk, D. (2012) In Dialogue : Methodological Insights on Doing HCI Research in Rwanda. *Proc. CHI 2012*. 661–676.

Milbourne, L. (2010) Remodelling the third sector: advancing collaboration or competition in community based initiatives? *Journal of Social Policy*. 277–297.

Milewa, T. (2004) Innovation or Fragmentation of a Universal Citizenship ? *Social Policy and Administration*. 38 (3), 240–252.

Mollerup, A., Hitchiner, S., Lau, E. & Ubalidi, B.-C. (2016) Digital Government Strategies for Transforming Public Services in the Welfare Areas. OECD

Morrissey, K., Garbett, A., Wright, P., Olivier, P., Jenkins, E.I. & Brittain, K. (2017) 'Care and Connect : Exploring Dementia - friendliness through an Online Community Commissioning Platform', in *In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI'17)*. [Online]. 2017 pp. 2163–2174.

Moule, P., Evans, D. & Pollard, K. (2013) Using the Plan-Do-Study-Act model: Pacesetters experiences. *International Journal of Health Care Quality Assurance*. 26 (7), 593–600.

National Audit Office (2018) *Adult social care at a glance*. [Online] [online]. Available from: https://www.nao.org.uk/wp-content/uploads/2018/07/Adult-social-care-at-a-glance.pdf (Accessed 9 September 2018).

National Audit Office (2014) *Adult social care in England: overview*. [Online] [online]. Available from:

http://www.nao.org.uk/wp-content/uploads/2015/03/Adult-social-care-in-England-overview.pdf (Accessed 15 September 2015).

Newcastle City Council (2015) *Newcastle Children and Young People's Plan*. [Online] [online]. Available from: https://www.newcastle.gov.uk/sites/default/files/wwwfileroot/education-and-learning/young-people/newcastle_children_and_young_people_2015-2020_0.pdf (Accessed 15 September 2016).

Obrist, M., Bernhaupt, R. & Tscheligi, M. (2008) Interactive TV for the home: An ethnographic study on users' requirements and experiences. *International Journal of Human-Computer Interaction*. 24 (2), 174–196.

Ocloo, J. & Matthews, R. (2016) From tokenism to empowerment: progressing patient and public involvement in healthcare improvement. *BMJ Quality and Safety*. (March), 1–7.

Oliver, M., Sapey, B. & Thomas, P. (2012) *Social work with disabled people*. Macmillan International Higher Education.

Olivier, P. & Wright, P.C. (2015) Digital Civics: Taking a Local Turn. *interactions*. 22 (July-August 2015), 61–63.

Patino, A., Pitta, D. a. & Quinones, R. (2012) Social media's emerging importance in market research. *Journal of Consumer Marketing*. 29 (3), 233–237.

Peters, D.A. (1993) Improving quality requires consumer input: Using focus groups. *Journal of Nursing Care Quality*. 7 (2), 34–41.

Pierre, J. (1998) Public Consultation and Citizen Participation: Dilemmas of Policy Advice. *Taking stock: Assessing public sector reforms*. 2137.

Pilemalm, S. (2018) Participatory Design in Emerging Civic Engagement Initiatives in the New Public Sector. *ACM Transactions on Computer-Human Interaction*. 25 (1), 1–26.

Pritchard, G.W. & Vines, J. (2013) 'Digital Apartheid: An Ethnographic Account of Racialised HCI in Cape Town Hip-Hop', in *CHI '13 Extended Abstracts on Human Factors in Computing Systems on - CHI EA '13*. [Online]. 2013 pp. 2537–2546.

Puussaar, A., Clear, A.K. & Wright, P. (2017) 'Enhancing personal informatics through social sensemaking', in *In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17)*. [Online]. 2017 pp. 6936–6942.

Qiu, T., Feng, J., Ge, Z., Wang, J., Xu, J. & Yates, J. (2010) 'Listen to me if you can: tracking user experience of mobile network on social media', in *Proceedings of IMC' 10*. [Online]. 2010 pp. 288–293.

Reason, P. & Bradbury, H. (2008) *Action Research: Participative Inquiry and Practice, Second Edition*. Sage Publication Ltd.

Robertson, T. & Simonsen, J. (2013) 'Participatory Design, An introduction', in *Handbook of Participatory Design*. [Online]. Routledge. p. 294.

Robin, B.R. (2008) Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory into Practice*. 47 (3), 220–228.

Rotman, D., Vieweg, S., Yardi, S., Chi, E.H., View, M., Preece, J., Shneiderman, B., Pirolli, P., Alto, P., Glaisyer, T. & Foundation, N.A. (2011) *From Slacktivism to Activism : Participatory Culture in the Age of Social Media*. 819–822.

Ryan, S. & Cole, K.R. (2009) From advocate to activist? mapping the experiences of mothers of children on the autism spectrum. *Journal of Applied Research in Intellectual Disabilities*. 22 (1), 43–53.

Saeed, S. (2014) *User-Centric Technology Design for Nonpro t and Civic Engagements*.

Sambasivan, N. (2019) The remarkable illusions of technology for social good. *Interactions*. 26 (3), 64–66.

Sas, C. & Dix, A. (2009) 'Designing for reflection on experience', in *Chi '09*. [Online]. 2009 p. 4741.

Schofield, G., Bartindale, T. & Wright, P. (2015) 'Bootlegger: Turning Fans into Film Crew', in *Proceedings of the 2015 CHI Conference on Human Factors in Computing Systems*. [Online]. 2015 pp. 767–776.

Schon, D. (1983) The reflective practitioner. *New York: Basic*.

Searle-Chatterjee, M. (1999) Occupation, biography and new social movements. *Sociological Review*. 47 (2), .

Seely Brown, J., Duguid, P. & Brown, J.S. (2002) *The social life of information*. Harvard: Harvard Business School Press.

Shah, N. (2011) Special Education Pupils Find Learning Tool in iPad Applications. *Education Week*. v30 (n22, 16-17 Mar 2011.), .

Silverman, D. & Marvasti, A. (2008) *Doing qualitative research: A comprehensive guide.*

Simmons, R., Powell, M. & Greener, I. (2009) *The consumer in public services*. The Policy Press.

Simonsen, Jesper Robertson, T. (2013) *Routledge International Handbook of Participatory Design*. London: Routledge.

Simpson, E., Comber, R., Garbett, A., Jenkins, E.I. & Balaam, M. (2017) 'Experiences of Delivering a Public Health Data Service', in *Proceedings of the 2017 CHI Conference on Human Factors in*

Computing Systems. [Online]. 2017 New York, New York: ACM. pp. 6171–6183.

Spiel, K., Malinverni, L., Good, J. & Frauenberger, C. (2017) 'Participatory Evaluation with Autistic Children', in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI '17*. [Online]. 2017 pp. 5755–5766.

Spinuzzi, C. (2005) The Methodology of Participatory Design. *Applied Theory* . 52 (2), 163–174.

Stake, R.E. (1995) *The Art of Case Study Research*. Sage Publications Ltd.

Star, S.L. & Griesemer, J.R. (1989) Translations Boundary Objects. *Social Studies of Science (SAGE*.

Steibel, F. (2012) Designing online deliberation using web 2.0 technologies: Drafting a bill of law on internet regulation in Brazil. *ACM International Conference Proceeding Series*. (c), 38–43.

Strohmayer, A., Marshall, M., Mcnaney, R. & Voida, A. (2018) 'Untold Stories : Working with Third', in *Chi '18*. [Online]. 2018 p.

Suchman, L. (1987) *Plans and Situated Actions*. Cambridge University Press.

Susman, G. & Evered, R. (1978) An Assessment of the Scientific Merits of Action Research. *Administrative Science Quarterly*. 23 (4), 582–603.

Tanabe, M., Pearce, E. & Krause, S.K. (2018) "Nothing about us, without us": Conducting participatory action research among and with persons with disabilities in humanitarian settings. *Action Research*. 16 (3), 280–298.

Taylor, A. (2011) 'Out There', in *SIGCHI Conference on Human Factors in Computing Systems (CHI '11)*. [Online]. 2011 New York, NY, USA: Acm. pp. 685–694.

Taylor, A.S., Lindley, S., Regan, T. & Sweeney, D. (2015) *Data - in - Place : Thinking through the Relations Between Data and Community*. 2863–2872.

Taylor, N., Clarke, L., Skelly, M. & Nevay, S. (2018) 'Strategies for engaging communities in creating physical civic technologies', in *Conference on Human Factors in Computing Systems - Proceedings*. [Online]. 2018 pp. 1–12.

Taylor, N., Marshall, J. & Blum-Ross, A. (2012) 'Viewpoint: Empowering Communities with Situated Voting Devices', in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. [Online]. 2012 New York, New York: ACM. pp. 1361–1370.

Taylor, N., Wright, P., Olivier, P. & Cheverst, K. (2013) 'Leaving the Wild: Lessons from Community Technology Handovers', in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. [Online]. 2013 New York, New York: ACM. pp. 1549–1558.

The Children's Partnership (2015) *Social Value and Commissioning Toolkit*. [Online] [online]. Available from: http://thechildrenspartnership-knowledge.org.uk/media/1089/social-value-and-commissioning-toolkit-final-with-ncb-logos.pdf (Accessed 24 August 2015).

The Health Foundation (2018) *10 things you should know about social care reform in England*. [Online] [online]. Available from: https://www.health.org.uk/newsletter-feature/10-things-you-should-know-about-social-care-reform-in-england (Accessed 8 June 2019).

Thieme, A., McCarthy, J., Johnson, P., Phillips, S., Wallace, J., Lindley, S., Ladha, K., Jackson, D., Nowacka, D., Rafiev, A., Ladha, C., Nappey, T., Kipling, M., Wright, P., Meyer, T.D. & Olivier, P. (2016) Challenges for Designing New Technology for Health and Wellbeing in a Complex Mental Healthcare Context. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. 2136–2149.

Thompson, N. (2008) *The critically reflective practitioner*. Palgrave Macmillan.

Thorlby, R., Starling, A., Broadbent, C. & Watt, T. (2018) What ' s the problem with social care , and why do we need to do better ? The Health Foundation

Tritter, J.Q. (2009) Revolution or evolution : the challenges of conceptualizing patient and public involvement in a consumerist world. *Health Expectations*. 12 (3), 275–287.

Tritter, J.Q. & McCallum, A. (2006) The snakes and ladders of user involvement: Moving beyond Arnstein. *Health Policy*. 76 (2), 156–168.

Unbehaun, D., Vaziri, D., Aal, K., Li, Q., Wieching, R. & Wulf, V. (2017) *MobiAssist - ICT-based Training System for People with Dementia and Their Caregivers*. 122–126.

Vines, J., Clarke, R. & Wright, P. (2013) 'Configuring participation: on how we involve people in design', in *Proceedings of the …roceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '13)*. [Online]. 2013 New York, New York: ACM. pp. 429–438.

Vines, J., Lindsay, S. & Pritchard, G. (2013) 'Making family care work: dependence, privacy and remote home monitoring telecare systems', in *Proceedings of the 2013 ACM international joint conference on Pervasive and ubiquitous computing*. [Online]. 2013 pp. 607–616.

Vines, J., Wright, P., Silver, D., Winchcombe, M. & Olivier, P. (2015) 'Authenticity , Relatability and Collaborative Approaches to Sharing Knowledge about Assistive Living Technology', in *CSCW '15*. [Online]. 2015 p.

Vlachokyriakos, V., Comber, R., Ladha, K., Taylor, N., Dunphy, P., Mccorry, P. & Olivier, P. (2014) 'PosterVote: Expanding the Action Repertoire for Local Political Activism', in *Proceedings of the 2014 Conference on Designing Interactive Systems*. [Online]. 2014 New York, New York: ACM. pp. 795–804.

Vlachokyriakos, V., Crivellaro, C., Le Dantec, C.A., Gordon, E., Wright, P. & Olivier, P. (2016)

Digital civics: Citizen empowerment with and through technology. *Conference on Human Factors in Computing Systems - Proceedings*. 07-12-May-1096–1099.

Voida, A. (2011) Shapeshifters in the voluntary sector. *interactions*. 18 (6), 27.

Voida, A., Harmon, E. & Al-Ani, B. (2012) 'Bridging between organizations and the public: volunteer coordinators' uneasy relationship with social computing', in *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems - CHI '12*. [Online]. 2012 New York, New York, USA: ACM Press. p. 1967.

Voida, A., Yao, Z. & Korn, M. (2015) '(Infra) structures of Volunteering Volunteerism', in *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work*. [Online]. 2015 p.

Walsh, S., Wilson, R., Baines, S. & Martin, M. (2012) 'You're Just Treating Us as Informants!' Roles, Responsibilities and Relationships in the Production of Children's Services Directories. *Local Government Studies*. 38 (March 2015), 661–680.

Walton, R.E. & Gaffney, M.E. (1989) Research, Action, and Participation: The Merchant Shipping Case. *American Behavioral Scientist*.

Wang, C. & Burris, M.A. (1997) Photovoice: Concept, Methodology, and Use for Participatory Needs Assessment. *Health Education and Behavior*. 24 (3), 369–387.

Watson, S. (2003) Closing the Feedback Loop: Ensuring Effective Action from Student Feedback. *Tertiary Education and Management*. 9 (2), 145–157.

Wenger, E. (1999) *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

Whyte, W.F., Greenwood, D.J. & Lazes, P. (1989) Participatory Action Research: Through Practice to Science in Social Research. *American Behavioral Scientist*.

Wilson, R., Martin, M., Walsh, S. & Richter, P. (2011) Re-Mixing Digital Economies in the Voluntary Community Sector? Governing Identity Information and Information Sharing in the Mixed Economy of Care for Children and Young People*. *Social Policy and Society*. 10 (03), 379–391.

Winograd, T. & Flores, C.F. (1986) *Understanding computers and cognition: A new foundation for design*. Ablex Publishing Corporation.

Yates, S.J., Kirby, J. & Lockley, E. (2015) *'Digital-by-default': Reinforcing exclusion through technology*. F Foster, A Brunton, C Deeming, & T Haux (eds.). Bristol: Policy Press.

Youdell, D. & McGimpsey, I. (2015) Assembling, disassembling and reassembling 'youth services' in Austerity Britain. *Critical Studies in Education*. 56 (1), 116–130.

Yuan, Q. (2019) 'Co - production of Public Service and Information Technology : A Literature Review', in *In Proceedings of the 20th Annual International Conference on Digital Government Research*. [Online]. 2019 ACM. pp. 123–132.

Appendix A. The Local Offer

A1 Interview Excerpt - VSW2

Respondent: I think we are going to have to fight that corner. Clearly from the local authority's perspective it is a list of jobs to do. They are signed up to the ethos but the actual working out happens somewhere between grass roots and the hierarchy. It is something we are going to have to fight. When we first talked about the Local Offer and how it had to be interactive and more than a database I sort of thought, “That is never going to work.” But then when you change your perspective and think, “Who are these people?” There are so many people who are providing information, advice and support out there all across the city in a variety of different ways. If all of those people were Local Offer champions then that is a door open to everybody.

The knowledge that we have because of our interactions with the public, it is immense, so we could make best use. We could drive and we could use all of that information to feed back in an appropriate way. If we do we will have a quality product and if we don't we will not have a quality product because it cannot survive without that feedback. The minute it ceases to be good it will be poorly used and poorly rated. The less well used and the less well rated it is it will diminish, it is not going to develop. It is about pushing that agenda now and looking at those things.

It does sit very comfortably with what we are doing. As an organisation rather than just rebranding Parent Partnership as SND Information, Advice and Support what we have tried to do is enable the city council their appropriate ownership of it as a service and the over reach and over arch of the service. The service is not just for education it is also for social care, for health and for other related issues related to those special educational needs.

We now have another group meeting on a task and finish basis, which clearly it won't be. To set up how existing successful organisations who have always worked together in an informal way can formalise those links in order to be this defined service that the act is requiring us to be. In line with that we are now extending to a whole family of people who are signing up in a sense to some sort of agreement as to how we will function and how we will deliver and local Offer championing has got to be part of that. I would like to see it to be part of the feedback process as well.

Interviewer: **In a sense one of the biggest challenges is how do you capture that feedback and how do you present it back. There has always been this assumption that people would post feedback at some point. I know when I first started in the group there was an idea around rating review services like a Trip Advisor and people got a bit uncomfortable with that idea. But actually a champion acting as an intermediary might be a sensible way forward.**

Respondent: It provides that level of moderation. Focus groups are always really useful for things like that and there will always be people who are very interested in more. When you talk to people on the phone depending on where they are in the process and how empowered they feel sometimes they do want to change things and want to say, "Well I don't think that is fair." It is enabling people to have that voice to say, "I quite agree it is right that you should have a voice, why don't you?" If you catch people at that moment they will.

Interviewer: **Local Offer champions, you brought those up. We haven't talked about them much with the other people I have met, were you quite involved with establishing the Local Offer champions idea?**

Respondent: I haven't done anything about that, no. I think we had all agreed right from the word go that it was the way forward.

Interviewer: Who are the champions, do you know?

Respondent: There are loads and loads, [anon.] will tell you how many she has trained now. She has held loads of sessions and they are open to people. She is encouraging more and more people to benefit from that. It is quite interesting because [anon.] who does the admin here she does all of my research stuff behind the phone calls. I will be on the phone waving to her, throwing notes at her and sending her emails. She will be finding bits of information for me while I am having a conversation with somebody.

She felt because of her knowledge, this is our world, because of her knowledge it would be a waste of time. When I said to her, "Oh go along." "I won't learn anything." I said, "That is fine, it doesn't matter if you don't learn anything the person sitting next to you is going to learn loads aren't they." She went and she came back and said, "I learned loads." That is fab isn't it? It is a really good experience. I don't think there is anyone who couldn't learn something by doing it. We do still have in the city we had a massive amount of parent support advisors in school. We were really well sorted and then of course it was only funded for a limited period and you are supposed to embed that but it didn't really happen. Some people have retained those roles and those people most definitely ought to have this information at their fingertips.

I get phone calls from people asking me the simplest of questions about those sorts of things, professionals asking me the simplest things, "What is there out there for…?" Now I have decided I will bite my tongue, try not to tell them and try to say, "Actually you will find that information on the Local Offer." Then I will give them little hints of things that I want them to look for but just enough to whet their appetite. I think unless we encourage people to do things they won't do them. If we do encourage them like Sue they will go, "Oh wow."

Interviewer: **Do you ever think the Local Offer could replace people in that regard?**

Respondent: Absolutely not. I think that is another thing we are struggling with, wrestling with rather than struggling with. In terms of looking at the information, advice and support is we are trying to map and categorise. [anon.] will tell you she has developed a nice matrix for us. Within each area I think she has given it one to four on what it is you are doing with people in terms of giving information, advice and support. In some areas I might give information, so about health I can give some very basic information about health particularly about mental health services that because that is the bit that my client base interface with the most. When it comes to support and mediation and those type of things where I am very involved within education I do none of that within health because there are other people who do that in health.

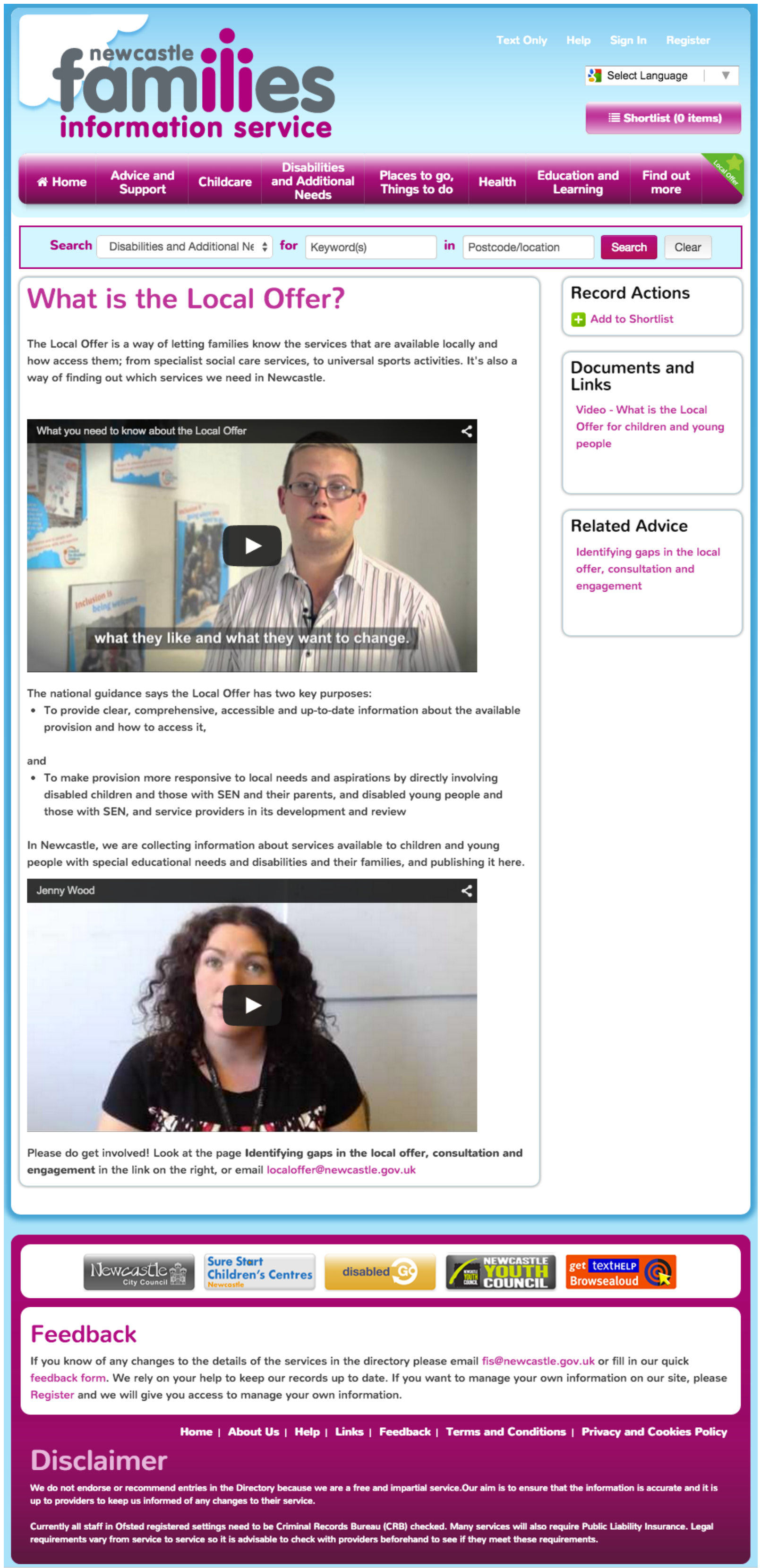
We have talked in that group about some people need a little piece a little of information and they go away. Some people need a little bit of information and a little bit of support and then they feel empowered and they then carry on. Other people need to know they will never have to go somewhere like that on their own, "I never want to go to a meeting in the Civic Centre on my own. I never want to go to a meeting at that school on my own." That is fine, you can't replace people with good information. Information and support are completely different things.

Interviewer: **That is interesting because that is another fear that I have. These questions some of them are very leading, but it is because we have been involved for so long. A fear that I have is you can see**

the technology as a replacement for the people. The information is out there and once the information is there then why do we need the wider support because people would be able to make decisions. I think it is always important to remind ourselves there is a lot of critical work in joining those dots and sometimes people do not feel empowered by information it is being with someone.

Respondent: It is providing a framework within which people can arrive at a decision. We do quite a lot of work with people who need to look at what school their child should go to. Not just secondary transfer but should it be an additionally resourced centre, should it be a special school, what should it be? People can go and gather an awful lot of information, but if they don't have a mechanism for recording it then making those comparisons can be very difficult, coming up with any conclusion and then communicating that to somebody else.

A2 Screenshot of the Local Offer Website



Appendix B. ThoughtCloud

B1 Study Information Sheet

ThoughtCloud: Understanding the role of a digital feedback capture platform in a community care setting

I would like to talk to you about a research project I am doing as part of my PhD at Newcastle University. The project involves understanding how digital tools such as tablets and web applications can help organisations by automating the process of capturing feedback from the people who use their services.

I have provided this information sheet to you as I'd like you take part in this research. Before you go ahead it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Why is this research being done?

I am interested in understanding how feedback gathered in this way can be useful both to organisations and the people that make use of their services. To do this I have developed ThoughtCloud, a system created from conversations I have had with a local charity that uses a tablet to collect feedback in the form of audio or video messages and displays those messages on a private web page.

In short trials we have conducted already the system has shown much potential not just as a feedback gathering tool, but also as a way of creating new opportunities with service users. I would like to understand how to make the system better, fulfilling its potential, and your help would be invaluable in this regard.

What is involved in taking part in this research?

I would like to talk with you about what feedback means to you and your organisation to find out if the ThoughtCloud system could be beneficial to your work and explore how it could be improved as well. Following this, I would like to bring ThoughtCloud to your organisation, leaving it with you for a few months, so that you can use it as and when you feel it would be helpful. After you have had a chance to try it out I would then like to talk to you again, getting your thoughts on how it went and how the system might be developed to work better for you and the people that your services are important to.

I would also like to talk to your service users as well, with your permission and if necessary supervision, and find out about their experiences of using it too. If you do not wish to talk about something, or prefer that I do not speak with certain individuals that use your services, just let me know and I will respect your wishes.

What happens to the audio and video messages?

ThoughtCloud sends these messages from the tablet across the Internet securely and makes them available to organisation staff via a private web page that is only accessible using a UserID and Password with which you will be provided. That way only those people that you wish to be able to view them, and myself as the principle researcher on the project, can have access. I understand that there is the potential for sensitive information to be divulged using this system and that this data must be treated diligently, so if for any reason there is anything you wish to be removed and/or deleted please let me know and I will be happy to ensure that this is done. Similarly, if I observe feedback that I think is important I will immediately report this to you as the owner of the feedback and take any action that you feel is appropriate.

Will the information given be confidential?

Yes, everything discussed will be confidential. I would like to audio record interviews with you to make sure that I remember everything. All information will be stored anonymously. No one, apart from those present at the interview, will know what was said and by whom.

I will be writing up parts of our interview, at which point I will anonymise what you say. Only I will have access to the recording for the purposes of this research project.

What happens next?

If you are happy to take part then you will be asked to sign a consent form to indicate that this is so.

If you have any other questions about the content of the study please contact Andy or John, who will be more than happy to answer any questions that you may have. Thank you for reading this information.

Andy Dow

Email: a.r.dow@ncl.ac.uk

Telephone: 07920 520 ***

John Vines

Email: john.vines@ncl.ac.uk

Telephone: 0191 208 4636

Open Lab,
Floor 4, 89 Sandyford Road
Newcastle University
Newcastle upon Tyne
NE1 8HW

B2 Study Consent Form

Open Lab at Newcastle University

Consent form for participants

ThoughtCloud: Understanding the role of a digital feedback capture platform in a community care setting

Please **initial** each box

- I have read and understood the information sheet. ☐

- The researcher has answered any questions I had.

- I understand that the audio recording will be used for research purposes only.

- I understand my name and any personal information will be anonymised in any reports resulting from the study.

- I understand I can stop participation at any time without giving a reason.

- I understand I can withdraw my data after the study has taken place (within a reasonable timeframe).

Signature of participant..

Name (in capitals) ....Date..........................

Signature of team member...

Name (in capitals) ....Date..........................

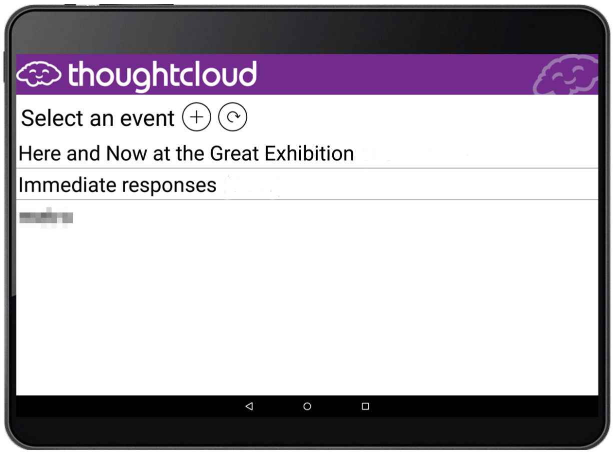
Andy Dow

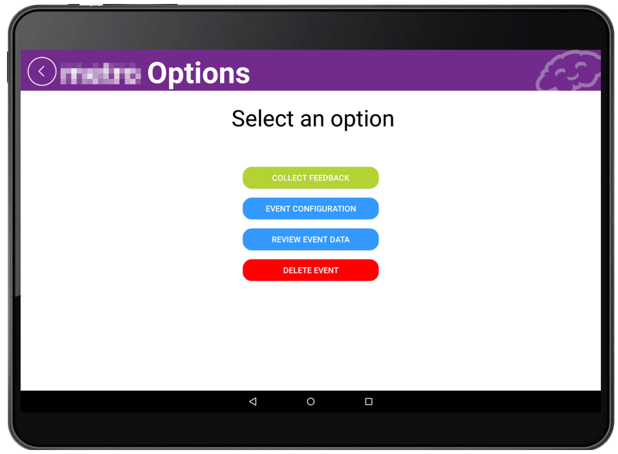
Open Lab, Newcastle University

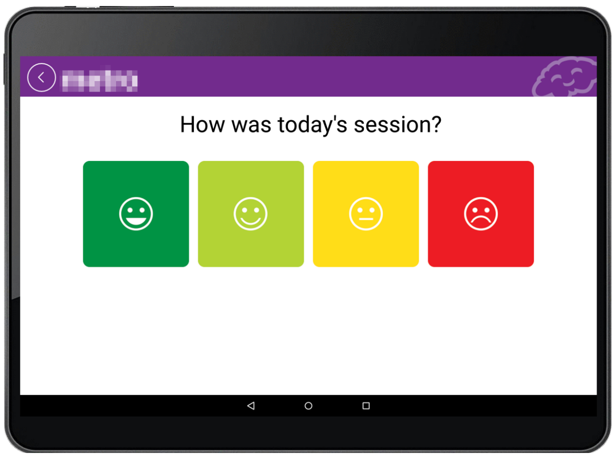
Email: a.r.dow@ncl.ac.uk

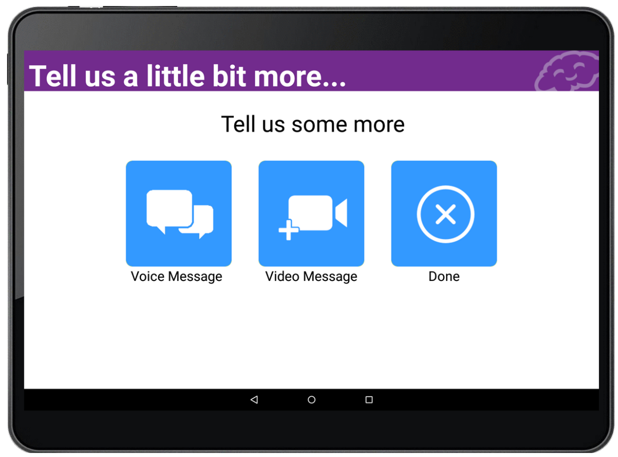
Telephone: 07*** *** **4

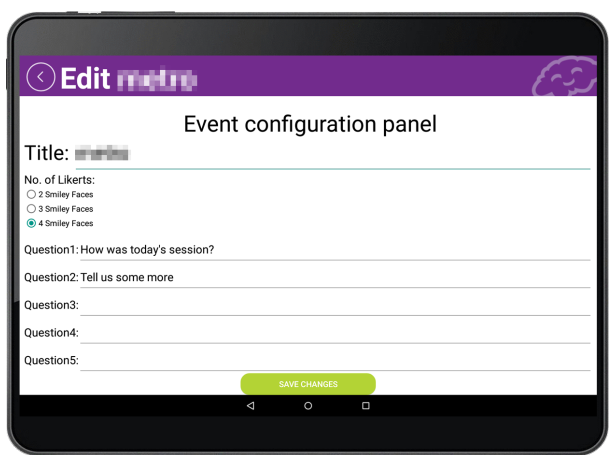
B3 ThoughtCloud Android App Screenshots











Appendix C. Appraise

C1 Study Information Sheet

Open Lab at Newcastle University

Digital Civics

Appraise: Designing and evaluating a local youth services digital appraisal technology.

I would like to talk to you about a research project I am doing as part of my PhD at Newcastle University. The project involves understanding how digital tools such as smart phones and web applications can help young people capture their experiences, in the form of media (pictures, audio and video), of local youth services and how they can use online tools to curate and share such media. I have provided this information sheet to you as I'd like you take part in this research. Before you go ahead it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Why is this research being done?

I am interested in understanding how media gathered and curated using digital tools can be useful both to young people and organisations providing local youth services. To do this I want to develop a system that can collect this media easily, using a specially designed smart phone application, as well as an online web application where the media collected can be displayed, curated and annotated with information that young people think is important.

Through a design and evaluation process, that would also involve a short trial of the system by young people, I would like to understand how to make the system better, exploring how it can provide information that helps make services better for everyone, and your help would be invaluable in this regard.

What is involved in taking part in this research?

I would like to talk with you about what the views of young people means to you and your organisation to find out if the proposed system could be beneficial to your work. I would also like to talk to the young people involved in your service as well, with your permission and if necessary supervision, and get their help in developing the system too. This would involve doing workshops with them to get their views on what a system like the one proposed would look like. Furthermore, I'd like them to try out a prototype that will be developed with their help and encourage them to collect media about services that important to them. Together with yourself and the young people we would then also discuss the best ways of bringing this information together and displaying it in a way that would help communicate their experiences to others.

If you do not wish to talk about something, or prefer that I do not speak with certain individuals that use your services, just let me know and I will respect your wishes.

What happens to the media collected?

The smart phone application will collect the media captured by the young people and send that across the Internet to a secure location that is only accessible to members of the research team. That way only those people that you wish to be able to view it, and myself as the principle researcher on the project, can have access. I understand that there is the potential for information captured using this system to reveal the identity of the young people involved and that this data must be treated diligently, so if for any reason there is anything you wish to be removed and/or deleted please let me know and I will be happy to ensure that this is done. Similarly, if I observe recorded media that I think is important I will immediately report this to you as its owner and take any action that you feel is appropriate.

Will the information given be confidential?

Yes, everything discussed will be confidential. I would like to audio record interviews and workshops to make sure that I remember everything. All information will be stored securely and anonymously. No one, apart from those present, will know what was said and by whom.

I will be writing up this research for publication, at which point I will anonymise what you say. Only I will have access to the recording for the purposes of this research project.

What happens next?

If you are happy to take part then you will be asked to sign a consent form to indicate that this is so.

If you have any other questions about the content of the study please contact Andy or Rob, who will be more than happy to answer any questions that you may have. Thank you for reading this information.

Contact

Andy Dow
Email: a.r.dow@ncl.ac.uk
Telephone: 07920 520 ***
Open Lab, 89 Sandyford Road
Newcastle University
NE1 8HW

Rob Comber
Email: robert.comber@ncl.ac.uk
Telephone: 0191 208 4636
Open Lab, 89 Sandyford Road
Newcastle University
NE1 8HW

C2 Study Consent Form

Open Lab at Newcastle University

Digital Civics

Consent form

Project: Developing a smart phone app and website to review service experiences

Please **initial** each box

- I have read and understood the information sheet. ☐
- The researcher has answered my questions. ☐

- I understand that the recording will be used for research purposes only. ☐

- I understand my name will not be used. ☐

- I understand I can stop at any time. ☐

Signature of participant...

Name (in capitals) ....Date...........................

Co-signed by ....

Name (in capitals) ....Date...........................

Signature of team member...

Name (in capitals) ....Date...........................

Andy Dow

Open Lab, 89 Sandyford Road

Newcastle University

Email: a.r.dow@ncl.ac.uk

Telephone: 07920 520 ***

C3 Example Workshop Plan

Appraise Workshop #4

Location

[anon.]

Workshop Goals

Look through appraisal media and talk about what has been collected and elaborate.

Choose 5 pieces that they would send to the organiser, or other stakeholders and justify.

Put together a story with the pieces that will go on a website report and be archived.

Roles

Facilitator: Andy Dow

Co-facilitator: Shauna Concannon

Group organiser: [anon.]

Timetable

15.45 Project team arrive, setup

16.00 Participants arrive

16.15 Workshop start

16.15 Warm up game

16.25 Introduction

16.35 Groups Work 1 (groups of 2)

16.50 Break into groups of 4

16.55 Groups Work 2 (groups of 4)

17.10 Break for pizza

17.30 Groups Work 3 (full group of 8)

17.45 Final discussion, reflection, questions

18.00 Workshop ends

Introduction

Time: 10 minutes

Task: Introduce the task for the day and break up into groups of 2

Procedure

Short introduction by facilitator and welcome new people (3 minutes)

Introduce goals of workshop (3 minutes)

Break up into groups of 2 (4 minutes)

Group Work 1, 2 & 3 (Groups of 2, 4 and full group)

Time: 15 minutes

Task: Groups talk about appraisal media, select pieces and create story

Materials: Printed out physical versions of appraisal media on card

Procedure

Groups talk about appraisal media (5 minutes)

Select 5 things that tell a story about the activity (5 minutes)

Facilitators record 'story video' with commentary (5 minutes)

Final discussion, reflection, questions

Time: 15 minutes

Task: To create a shared story of the activity

Materials: Final videos from facilitator's phones

Procedure

The facilitator will lead a discussion around a shared story of the activity. Identifying consensus, challenges, and opportunities for the next appraisal. Priority will be placed on evaluating the current appraisal process

Primary outputs

How participants bring their data together at the end to tell a story

Comparison of different stories of the same activity

What is missing from the collected data

Which collection formats work/ are favoured

What kinds of prompts work

Secondary outputs

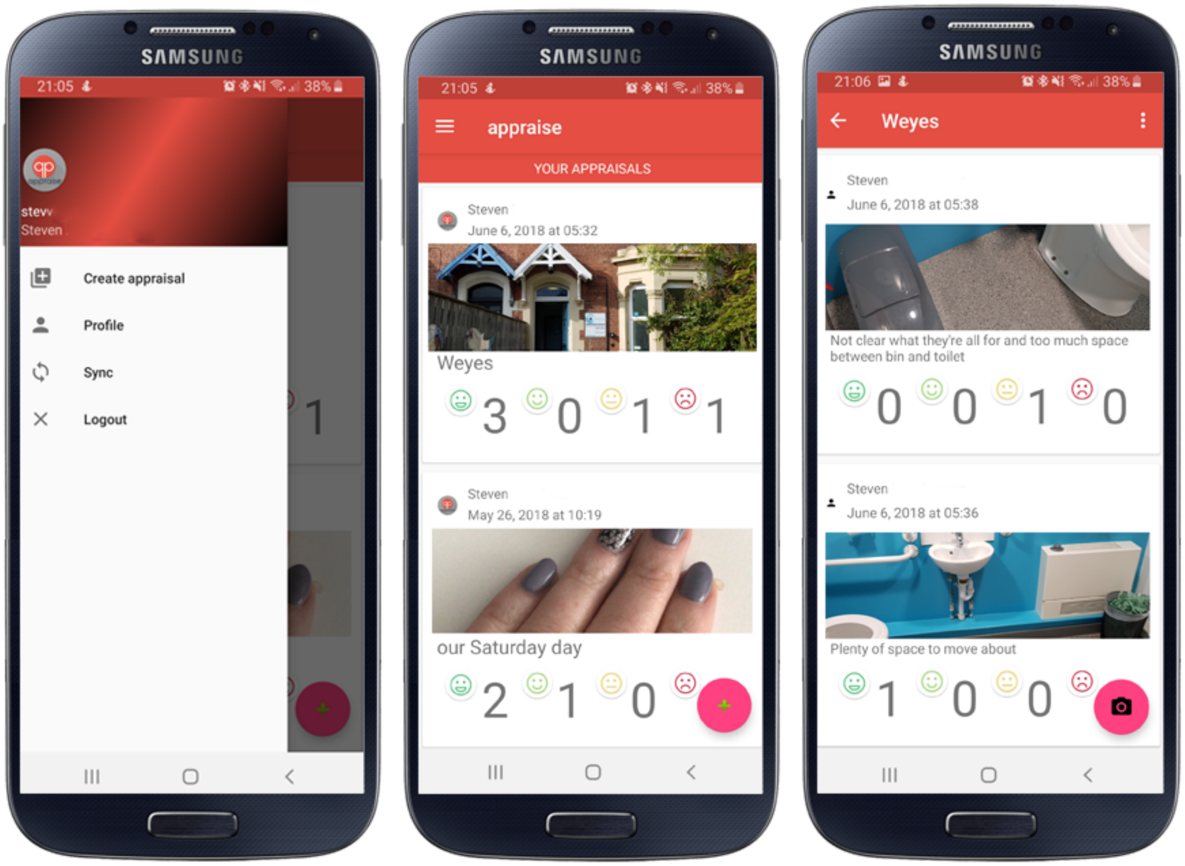
What is the structure of the 'appraisal' process

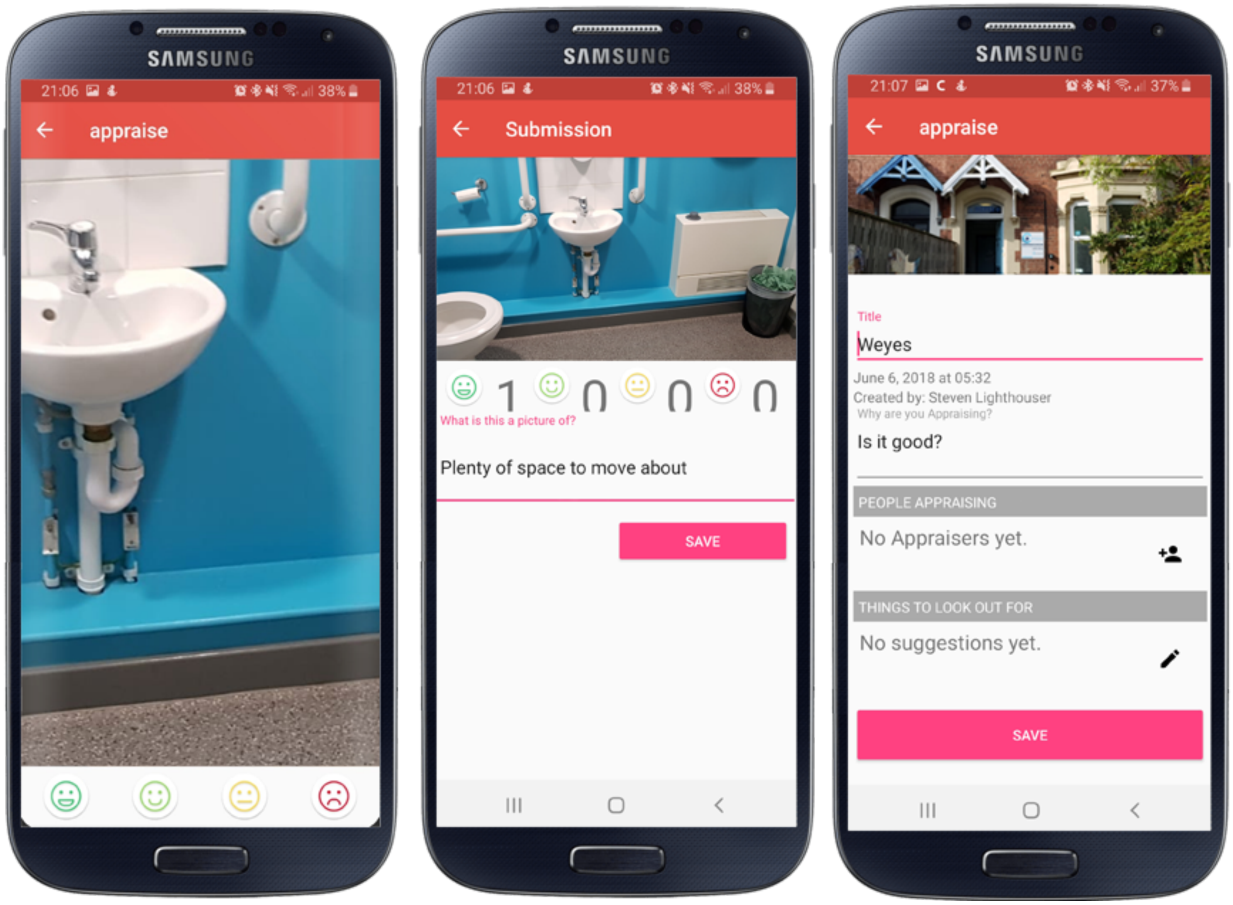
Production of high level, abstracted headings to structure future collections

Issues with the app as a collection tool

How the app scaffolds and supports the curating process

C4 Appraise App Screenshots




SAMSUNG
21:06
38%
appraise
SAMSUNG
21:06
38%
Submission
1
0
0
0
What is this a picture of?
Plenty of space to move about
SAVE
SAMSUNG
21:07
37%
appraise
Title
Weyes
June 6, 2018 at 05:32
Created by: Steven Lighthouser
Why are you Appraising?
Is it good?
PEOPLE APPRAISING
No Appraisers yet.
THINGS TO LOOK OUT FOR
No suggestions yet.
SAVE