

# Northumbria Research Link

Citation: Dow, Andy, Vines, John, Comber, Rob and Wilson, Rob (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: May 7-12, 2016 California, San Jose, USA. Association for Computing Machinery, New York, pp. 3625-3636. ISBN 9781450333627

Published by: Association for Computing Machinery

URL: <https://doi.org/10.1145/2858036.2858105>  
<<https://doi.org/10.1145/2858036.2858105>>

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/id/eprint/33049/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)

# ThoughtCloud: Exploring the Role of Feedback Technologies in Care Organisations

Andy Dow<sup>1</sup>, John Vines<sup>1</sup>, Rob Comber<sup>1</sup> and Rob Wilson<sup>2</sup>

<sup>1</sup>Open Lab,

School of Computing Science,

Newcastle University, UK

{a.r.dow; john.vines; robert.comber}@ncl.ac.uk

<sup>2</sup>KITE,

Newcastle University Business School,

Newcastle University, UK

rob.wilson@ncl.ac.uk

## ABSTRACT

ThoughtCloud is a lightweight, situated, digital feedback system designed to allow voluntary and community sector care organisations to gather feedback and opinions from those who use their services. In this paper we describe the design and development of ThoughtCloud and its evaluation through a series of deployments with two organisations. Using the system, organisations were able to pose questions about the activities that they provide and gather data in the form of ratings, video or audio messages. We conducted observations of ThoughtCloud in use, analysed feedback received, and conducted interviews with those who ‘commissioned’ feedback around the value of comments received about their organisation. Our findings highlight how simple, easily deployable digital systems can support new feedback processes within care organisations and provide opportunities for understanding the personal journeys and experiences of vulnerable individuals who use these care services.

## Author Keywords

Feedback; lightweight technologies; civic engagement; public displays; charity organisations.

## ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI); Miscellaneous;

## INTRODUCTION

Feedback is an important part of how organisations gather information with respect to the experiences people have of the services they provide, products they sell or events that they run [34]. Digital technologies are increasingly playing an important part in the on-going capture of feedback. Organisations look to platforms such as Twitter [33], Facebook [5] and TripAdvisor [10] to gain insight on peoples’ experiences of certain services and products.

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 [2]. Indeed, in the UK (United Kingdom) recent acts of parliament (e.g. [21,22]) place a requirement on local government and other publically-funded providers of care services to demonstrate open consultation with citizens who use their services, to publish this feedback online and explain how they will respond to it. However, these new requirements can be challenging for publically funded care organisations to action.

In this paper we report on the design and development of new feedback mechanisms for organisations providing services and activities for people with care needs. Following initial fieldwork with a care organisation we designed, developed and conducted a field-trial of ThoughtCloud—a tablet-based system designed to help 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 said activities and events or using a service; and iii) review feedback with a view to assessing, refining and expanding their services. ThoughtCloud draws upon learning from previous work in HCI on situated displays for feedback and voting (e.g. [8,16,39,42]) to offer a lightweight, portable, flexible system that requires a minimal level of technology or expertise to set up and operate.

We evaluated ThoughtCloud with two organisations that used it to gather feedback at six separate events and activities ran for people with special educational needs and cognitive impairments. The findings from our evaluation of ThoughtCloud offer two contributions to the emerging HCI literature on feedback technologies. First, we build on existing literature around situated feedback capture to produce a lightweight, flexible system that is useable by organisations that lack extensive financial resources, technical expertise and time. Secondly, we contribute to the study of digital feedback capture techniques by highlighting how such systems can directly impact organisational practice in a social care context.

## BACKGROUND

This research is conducted in the context of significant social care reform in the UK. Social care in the UK represents a wide range of services that support adults with

Copyright is held by the owner/author(s).  
CHI'16, May 07-12, 2016, San Jose, CA, USA  
ACM 978-1-4503-3362-7/16/05.  
<http://dx.doi.org/10.1145/2858036.2858105>



This work is licensed under a Creative Commons Attribution International 4.0 License.

learning difficulties, physical and cognitive impairments, mental health problems, and their carers [3]. Local governmental authorities—who have historically been the primary providers of social care in the UK—are increasingly commissioning voluntary and community sector (VCS) organisations to provide social care services [29,31]. 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 [21,22]. These new acts mandate that accessible and reliable information be provided by local governments in regards to what care ‘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 and user 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 appropriate manner.

#### **Feedback in the public and voluntary sector**

Literature within the fields 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 [19,37]. Within the context of social care, feedback plays an important practical role in the working of local government services, charities and other VCS organisations [26]. It helps organisations understand how the services they offer are working, and develop, improve or commission new services based on information received [32]. Feedback also helps organisations market what they do to the wider community to attract service users [28] and provides a means to demonstrate that they are worthy of continued funding [14].

Collecting feedback itself is not without substantial challenges however. For VCS organisations regular feedback collection can be overwhelming, given they exist in an environment where resources are scarce and must be used wisely. A lack of resources can greatly impact their capability to collect data from service users, and even further limits their ability to make sense of, report on and respond to any feedback received [7]. 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 [11,13].

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 [13]. 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 [15,38]. 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 [27]. Furthermore, those who use and rely on certain services may be reluctant to offer constructive or critical feedback [26], or feedback may be discounted as being illogical, irrelevant, or incoherent [4]. As such, while the political 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 still [30].

#### **HCI and the capturing of feedback and opinion**

Researchers in HCI have for some time examined the ways in which bespoke, situated technologies might be designed and configured to capture feedback [1,16], as well as exploring how social media might be leveraged to canvas opinion on widely shared cultural events [9]. Much work in this space has been conducted in the context of public interaction; for example, Brignull and Rogers’ *Opinionizer* [8] was designed to entice people at social gatherings to share their thoughts and opinions through a public display. More recently, Golsteijn et al.’s *VoxBox* [16] capitalised on playful physical engagement and tangible interaction techniques. Both of these works highlight how people are willing to provide feedback in-situ, yet issues to do with social embarrassment and being publically observed remained [8,17].

More specifically related to the public service and civic context of our work, Taylor et al. [39] and Koeman et al. [25] 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* [42] aimed to support community activists by providing simple paper-based ‘posters’ augmented with low-tech hardware to collect opinion from others. Activists could use these posters to set specific questions of their own choice, with a view to using 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. While these examples focus on simplistic and light forms of engagement, Hook et al. [23] instead emphasise the role of film and video as a medium for capturing experiences of

project events. Located in a similar VCS context to our own work, [23] used various recording technologies during events to create media which participants were invited to review, supporting reflection on their experience of the project itself. These were used to illustrate their personal journeys to event organisers, with a view to communicating what participants gained from the project to funders and those evaluating the work.

While the above examples are important to draw from in our work, there is sound reason to assume that some of these systems and their design features might be inappropriate for the context of this research. With respect to situated technologies such as [25] and [39], limitations emerge in their reliance on custom built technologies that are not necessarily easily installed and configured by organisations without technical expertise. This is an issue that Goncalves et al. [18] highlight in discussing how organisations using such systems may incur additional financial costs or provide 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 [9] or direct feedback to service providers [35], they may be inaccessible to those using health and care services or inappropriate given potentially sensitive subject matter. Moreover, Vines et al. [41] highlights how in health and care domains, online feedback services tend to lack critical mass and also suffer from issues related to provenance and the specificity of individual experience.

Entering our collaborations with VCS care service providers we aimed to build on this prior work while also providing tools that might be sustainable and scalable for use in the long-term. As with [42], we wished to facilitate the organisations 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 the research team. In the following section we discuss how ThoughtCloud built on this prior work and was grounded in initial fieldwork conducted at a VCS care organisation.

### SCOPING THE DESIGN SPACE

Our initial exploratory fieldwork was conducted at SmartSkills: a VCS organisation that provide services for people with a range of disabilities including skills development workshops, care planning sessions, social events, and befriending and referral services. This initial phase involved multiple meetings with management, trustees and volunteers and participatory-observation in sessions and activities they run. During this time, the lead author 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, discussed and iterated.

Early on in our exploratory fieldwork, it became clear that while SmartSkills were deeply aware of the importance of feedback, they struggled to collect it on an on-going basis. Feedback was principally gathered using paper-based forms and surveys similar to those described previously. Unsurprisingly, given findings from prior work, the process of completing surveys was considered time consuming, sometimes requiring sessions to finish early, using up time that might be spent with service users. 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 survey responses, or even answering on their behalf.

Our fieldwork also suggested that the manner in which organisations like SmartSkills operate meant that a feedback system needed to be flexible and reconfigurable. Over the course of a day, they ran several different types of session 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 [42] and multi-modal [25] situated systems were considered. Bespoke systems such as [16,39] 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. Therefore, our design proposals focused on general purpose feedback systems that could be easily relocated, supporting feedback in both public and more private spaces.

Our initial fieldwork also highlighted the further 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. There were also those who were clearly enthusiastic about 'having their say', but required careful guidance and facilitation with others in sharing it. As such, we recognised certain forms of feedback might express this provenance better than others (e.g., voice and video vs. text and likert scales). Supporting this type of diversity of response format would also add additional layers of flexibility for organisations or their staff who might be 'commissioning' the feedback.



**Figure 1:** ThoughtCloud in use showing ‘smiley face’ likerts (left) and video recording of feedback (right).

### Finalising the design of ThoughtCloud

The eventual ThoughtCloud system was a touchscreen Android application used to collect feedback and a browser-accessible backend that allows those who wish to ‘commission’ feedback to configure the application and, following use, review the feedback received. These are described in detail below.

#### *ThoughtCloud Android application*

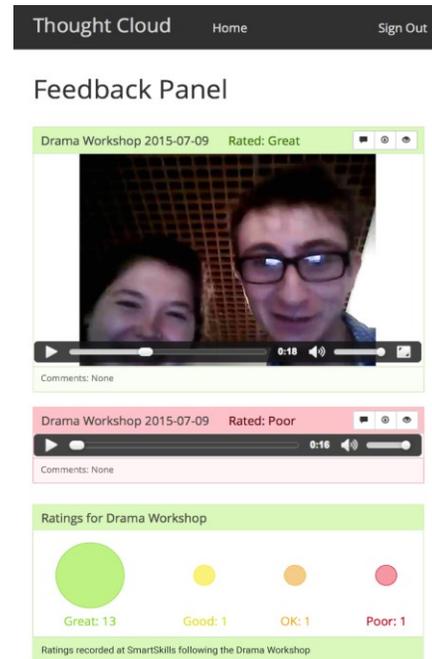
Feedback is collected using an application created to run on any mobile or tablet Android device. In our deployment the application ran on a 10.1-inch tablet mounted on a lightweight tablet stand (Figure 1). We chose a touchscreen tablet as they provide a range of additional accessibility functionalities for people with disabilities that could be made use of if needed [36], while also offering a flexible way of presenting different questions, prompts and types of screen-based feedback.

The interface for the Android application is simple, and can be configured via the administration panel (see below) by the commissioner of feedback. By default, the application invites people to provide three forms of feedback: a simple likert-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 was introduced to provide a light-touch and simple ‘way in’ for people to provide feedback; the voice recording and video recording feedback features were intended to provide an opportunity to give more detail about their rating.

#### *ThoughtCloud commissioning and feedback panel*

The commissioning panel allows managers, trustees, staff and volunteers within organisations to configure their ThoughtCloud event. Creating a new event involves setting the input methods and the questions and prompts to be posed. First, the panel asks commissioners to set the question to be displayed above the ‘smiley face’ likerts. 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 options for the organiser to set multiple questions and loading them into a question bank from which the system will select randomly.

The commissioning panel also provides the opportunity to view and review feedback received (Figure 2). The post-event feedback panel displays a repository of likert ratings, voice and video feedback captured from the ThoughtCloud



**Figure 2:** ThoughtCloud browser feedback panel with ratings. Recording in red has been flagged as ‘sensitive’.

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 to flag it to be followed-up. The public comment box was provided with a view 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 for our particular study in order to ensure participant data was not accidentally published online.

### FIELD TRIALS

To understand the role that feedback technologies like ThoughtCloud may play in VCS organisations, we conducted a series of deployments of the technology 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. Over a two-month period, ThoughtCloud was used as part of the evaluation of 6 regular events (3 at SmartSkills and 3 at Riverside

Cinema). For each of the events and sessions a member of the research team had prior contact with the groups and had discussed the aims and objectives of the project with those who take part in the sessions. At the start of the sessions where ThoughtCloud was used, a researcher 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 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 deployments, we worked with each of the organisations to help determine the questions to be added to the system via the commissioning panel. Through a series of meetings, questions were produced that would be suitable to a range of contexts and event types. For both organisations, an initial question was displayed above the likerts 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 able to add questions to the bank that were appropriate for their audience: e.g. SmartSkills asked questions like: “What did you learn in today’s session?” whereas Riverside Cinema asked: “What’s the thing you’d most like to change about today’s event?”

Three of the 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 they left the room. The lead researcher 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 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.

Following deployments the recordings and ratings were loaded into the ThoughtCloud website where staff from both organisations could access their feedback. 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. Finally, the captured feedback was presented to the 5 members of staff and volunteers who commissioned the feedback via ThoughtCloud in the first place. These participants were asked to review the feedback received and talk aloud as they interacted with the system. Semi-structured interviews about the feedback received then took place, focusing on how they may respond to it individually and as an organisation, and how they envisaged systems like ThoughtCloud fitting into organisational practices.

### Analysis

Data collected throughout the deployment was predominantly qualitative. Field notes on interactions with the device were taken at each deployment. All interviews were transcribed, and a total of 45 pieces of audio and video feedback were submitted across all deployments. We took a thematic approach to analysing this corpus of data, where we coded data inductively, summarising it with short codes, which were then grouped into larger themes [6]. Drawing inspiration from Goncalves et al. [17], the audio and video feedback was analysed not to assess the quality of the events or sessions provided, but rather to capture the types of comments and feedback being provided with a view to understanding the efficacy of ThoughtCloud. Our 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.

### FINDINGS

The events and activities where feedback was collected were attended by 169 people, from children aged less than 14 to adults that were 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. Over the course of 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 1 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 we detail the main themes from our analysis of the data. We organise our findings around three main themes: overall impressions of interactions; different types of feedback provided; and the ways staff and volunteers made sense of, and responded to, the feedback received.

### Overall Impressions of providing feedback

Here we provide an overview of observations of how the ThoughtCloud device was used—both how feedback was given, and how staff members facilitated and adapted the system.

Field Trial	Attendees	Total Ratings (Vids/Audio)	Great (%)	Good (%)	OK (%)	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
Tot.	169	121 (16/29)	51.24	20.66	17.36	10.74

**Table 1. Overview of interactions with ThoughtCloud showing number of attendees, number of rating interactions with no. leaving video or audio messages and individual rating %.**

#### *Cueing and ignoring*

It was notable how the way in which 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. On one of these occasions, people queued and provided their comments one at a time, chatting to one-another while they waited for others to complete their submissions. During the initial trial at Riverside Cinema however, the device was physically situated around the exit points, leading to it being ignored. Those running these events noticed this and 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 we also observed the tablet being handed to specific individuals the event organisers 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 their 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 particularly 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 or a lack of the tablet's screen sensitivity. 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 our 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. We discuss this in more detail in the following.

#### *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 to specific buttons to press to move through the screens. Sometimes this support would involve clearly 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. 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.

#### **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, which we provide an overview of 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 less 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 event and organisation was for 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 really 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 suggestion 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. 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.

#### **Making sense 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 we discuss a range of insights and interpretations around the feedback.

#### **Interpretation and identification**

As participants reviewed the feedback received, 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.*” (Alice); “*What did he say? [...] I wish my other care worker was here?*” (Linda). 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.

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*” (Alice). This would often lead to associations between comments with what they knew of them: “*That’s really significant for her.*” (Steve); “*Ah, that’s Bobby, yes he’s always full of energy.*” (Alice). This also allowed them to recognise when it was a carer or family member speaking on another’s behalf: “*‘I love drama at skills’, that’s the disabled person’s dad that’s speaking.*” (Steve).

#### **Authenticity and feedback**

As noted in our earlier sections, 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 anyway shaped by the organisation asking a particular question or trying to marshal her thoughts [...] she’s got an entirely a blank canvas.*” Here, Steve 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. The way in which 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*” (Linda). 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.”* (Steve)

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.*” (Steve). 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.*” (Steve). 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.*” (Susan). However, critically, the commissioners felt that the system did make

the level of authenticity more visible— whether comments were being directed, being mediated, or coming from an individual themselves, was quite clear and transparent.

#### *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”* (Janice) and *“oh they’ve all thought it was great. So you see that’s fantastic for us.”* (Alice). 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 service users. While reviewing her feedback, Susan commented: *“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 Linda: *“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 in specific situations) 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.”* (Steve)

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 in an appropriate and sensitive manner: *“what we have been doing has produced some dividends for this person and that [recording] is evidence for it [...] That is like gold dust.”* (Steve).

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”* (Alice). In using the metaphor of the recordings being like a *“box of chocolates”* that would then be *“shared around”*, Alice

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...’”* (Steve); *“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’”* (Alice).

#### *Taking responsibility*

As noted, 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 it was they were *“telling this to”*—*“do they know it’s going to me sitting here, and seeing this?”* (Alice). There was also an acknowledgement that this individual often experiences such feelings—however, this was not to mean the comment should be dismissed: *“she is absolutely experiencing it that way.”* (Steve). When reviewing this clip on the feedback panel, the first commissioner to see it ‘flagged’ it to register it as *“sensitive”* feedback, with 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.”* (Alice)

Situations like this appear to have at least two implications for how organisations facilitated and dealt with feedback through systems like ThoughtCloud. 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.”* (Steve). A further concern was then how processes would be developed to support the timely, but sensitive, response to such issues: *“I want to pass that feedback to the person who left that comment, because they thought they were mistreated.”* (Alice). 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 Susan commenting: *“I don’t think I’d want to hide the bad stuff.”* (Susan). However there was an acknowledgement that different levels of access should be built into the feedback panel, specifically citing cases where feedback was in reference to a staff member, volunteer or other regular user of their services.

#### *Building Audiences and Acquiring Resources*

From the start of our engagements with both organisations, there was 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” (Steve). Both organisations envisaged using the videos not just on social media, but embedding them on their website as “testimonies”, building and encouraging new audiences.

A further desire in using the feedback and comments people provide is to acquire 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’” (Janice). However, it was acknowledged that a considerable issue here would be gaining consent to translate what is feedback into commentaries attached to bids and, potentially, made publically visible.

## DISCUSSION

ThoughtCloud was a response to new governmental acts stating that citizens need to be provided improved information and ways to give feedback on local health and social care services. Through collaboration with care professionals, we explored how feedback processes might be embedded within those organisations, providing services in the first place. ThoughtCloud was envisaged as a tool to simplify existing burdensome (or non-existent) processes of feedback collection and presentation. As in [18], with ThoughtCloud came new forms of work for our collaborators surrounding its deployment, management and maintenance. Although our collaborators critiqued their existing feedback practices for consuming time with service users, ThoughtCloud 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. Indeed, its popularity with SmartSkills is such that it is still in use 6 months from the end of our initial evaluation.

In the following sections we draw several issues grounded in the findings of our study, both in reference to the role of feedback in VCS and care organisations specifically, and in the design of feedback technologies more generally.

### Responsibilities and accountability

Our field trial of ThoughtCloud 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 [39], a disconnection between consultation and action [42] or mistrust due to a lack of integration with organisational practices [20]. In our case, despite the short time of

deployment we started to see how the introduction of feedback into these care environments supported new practices within our 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 not 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. In many respects 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 a number of important considerations for feedback technologies in care contexts and in VCS organisations more generally.

Foremost, it highlights the *importance of interpreting feedback in context*. In our case 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). We might imagine that future versions of systems like ThoughtCloud could 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 service users, 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 voluntary sector organisations.

### Valuing video and audio feedback

A clear result from our study is that video is valued by those who commission feedback; *video feedback was appreciated for its richness and veracity*. A core concern entering our studies was that many people with disabilities are often not afforded opportunities to share their views and opinions. 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, and whether they were attending to the screen or elsewhere. Audio feedback was similarly valued but to a lesser degree; being unable to see someone speak sometimes made it hard to understand what was being said, while it also made it harder to identify specific individuals. While this highlights the importance of guiding people to position themselves close to the device, it's important not to make this a burden to giving feedback in the first place.

Furthermore, the ability to identify individuals through video and audio also presents opportunities to *map how feedback and comments from specific individuals change over time*. In the case of our collaborating organisations, this was framed as a way of understanding how people were gaining through the use of their services. In the context of these care providers, understanding people's personal journeys in this manner fits in with their social goals for 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 tractable means for collating and presenting these journeys. At the same time, we should be cautious of ThoughtCloud going from a service to monitor the organisation, to one that monitors its people—especially in a domain such as social care where technology is often framed in ways that can intrude on personal private space [12] and be experienced as a form of surveillance [40].

### Making more of unstructured and instructed feedback

Although ThoughtCloud was designed to generate feedback that responded to specific prompts and questions posed on the device, our findings highlighted instead the *importance of harnessing unstructured spoken feedback*. While this was surprising to us, much of the spoken feedback did touch on a broad range of the types of insight and topics that VCS and commercial organisations often request and require feedback about [14,32]. Furthermore, unstructured responses were very well received by our 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 unstructured feedback was seen as a positive, commissioners were more critical of examples where it was apparent someone was being prompted too much. Although we acknowledge the problems with this, *video*

*feedback supports making instances of being instructed more transparent*. Furthermore, this starts to highlight the potential of systems like ThoughtCloud as being a *tool in a reflective practice* for those engaging in instruction to review how they go about supporting people in offering their opinion. Education researchers (e.g.[24]) have highlighted the value of video as a tool for self-reflection both on learning and on interactions with others, and we 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 we envisaged such systems embedded physically in the places and spaces where services are experienced, then there are opportunities for caregivers, friends, and family who often 'speak for' those they care for to reflect in a similar vein.

### CONCLUSION

ThoughtCloud was designed to provide VCS organisations with feedback to support and develop service provision on an event-by-event basis. However, our evaluations of ThoughtCloud as used by both those attending events and those running them highlighted how such organisations, with a broad set of social goals, have a diverse array of responsibilities to those they care for. While the practical task is to gather opportunistic feedback at the physical event, the ambition is to understand how people are developing over time in relation to their participation in the activities provided. This may be as simple as seeing the same people regularly return to the screenings you 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. Our findings have shown how ThoughtCloud can capture moments illustrative of the personal journeys of service users and the progress the organisation is making with them. Future work, then, might be best placed not to focus on the experience of an individual event, but rather on following these journeys over time.

### ACKNOWLEDGEMENTS

We'd like to thank SmartSkills, Riverside Cinema (not their real names) and our participants for giving their time and support, and Katie Brittain, Rachel Clarke, Victoria Wood and Simona Palladino for helping with deployments. This research was funded through the EPSRC Centre for Doctoral Training in Digital Civics (EP/L016176/1). Data supporting this publication is openly available under an 'Open Data Commons Open Database License'. Additional metadata are available at: 10.17634/154300-6. Please contact Newcastle Research Data Service at [rdm@ncl.ac.uk](mailto:rdm@ncl.ac.uk) for access instructions.

### REFERENCES

1. Carmelo Ardito, Paolo Buono, Maria Francesca

- Costabile, and Aldo Moro. 2015. Interaction with Large Displays : A Survey. *ACM Computing Surveys* 47, 3: 1–38. <http://doi.org/10.1145/2682623>
2. Marian Barnes and Phil Cotterell. 2011. *Critical perspectives on user involvement*. The Policy Press.
  3. Chris Bell, John Nash, and Lindsey Thomas. 2010. *Social care in England – a brief history*. Retrieved September 11, 2015 from <http://southwest.skillsforcare.org.uk/\nCaring>
  4. Tim Booth and Wendy Booth. 1996. Sounds of Silence: Narrative research with inarticulate subjects. *Disability & Society* 11, 1: 55–70. <http://doi.org/10.1080/09687599650023326>
  5. Alan Branthwaite and Simon Patterson. 2011. The power of qualitative research in the era of social media. *Qualitative Market Research: An International Journal* 14, 4: 430–440. <http://doi.org/10.1108/13522751111163245>
  6. Virginia Braun and Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3, 2: 77–101. <http://doi.org/10.1191/1478088706qp063oa>
  7. Paul Breckell, Kate Harrison, and Nicola Robert. *Impact Reporting in the UK Charity Sector*. Retrieved August 24, 2015 from <http://www.cfg.org.uk/resources/~media/Files/Resources/Impact Reporting in the UK Charity Sector.ashx>
  8. Harry Brignull and Yvonne Rogers. 2003. Enticing people to interact with large public displays in public spaces. In *Proceedings of INTERACT*, 17–24. <http://doi.org/10.1.1.129.603>
  9. Phil Brooker, John Vines, Selina Sutton, Julie Barnett, Tom Feltwell, and Shaun Lawson. 2015. Debating Poverty Porn on Twitter : Social Media as a Place for Everyday Socio - Political Talk. *Proceedings of CHI '15*, 3177–3186. <http://doi.org/10.1145/2702123.2702291>
  10. Barry Brown. 2012. Beyond Recommendations. *ACM Transactions on Computer-Human Interaction* 19, 4: 1–24. <http://doi.org/10.1145/2395131.2395134>
  11. Care Quality Commission. 2013. *RAISE building partnerships between CQC and voluntary & community sector organisations in the South East Summary of key points* : Retrieved September 20, 2015 from <http://www.regionalvoices.org/sites/default/files/library/Final Report on CQC Focus Group - Summary version RAISE.pdf>
  12. Yngve Dahl and Kristine Holbø. 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. <http://doi.org/10.1145/2371574.2371595>
  13. Phil Edwards. 2002. Increasing response rates to postal questionnaires: systematic review. *BMJ* 324, 7347: 1183–1183. <http://doi.org/10.1136/bmj.324.7347.1183>
  14. Jo Fischl and Joe Saxton. 2014. *Getting the Message Across Practical strategies to tackle public concerns about donating to charity*. Retrieved August 24, 2015 from <http://nfpsynergy.net/free-report/getting-message-across-practical-strategies-tackle-public-concerns-about-donating>
  15. Tony Gilbert. 2004. Involving people with learning disabilities in research: Issues and possibilities. *Health and Social Care in the Community* 12, 4: 298–308. <http://doi.org/10.1111/j.1365-2524.2004.00499.x>
  16. Connie Golsteijn, Sarah Gallacher, Lisa Koeman, et al. 2015. VoxBox : a Tangible Machine that Gathers Opinions from the Public at Events. *Proceedings of TEI '15*, 201–208. <http://doi.org/10.1145/2677199.2680588>
  17. Jorge Goncalves, Richard Harper, and Kenton O Hara. 2015. Life through the Lens : A Qualitative Investigation of Human Behaviour with an Urban Photography Service. In *Proceedings of British HCI 2015*, 157–164. <http://doi.org/10.1145/2783446.2783577>
  18. Jorge Goncalves, Simo Hosio, Yong Liu, and Vassilis Kostakos. 2014. Eliciting situated feedback: A comparison of paper, web forms and public displays. *Displays* 35, 1: 27–37. <http://doi.org/10.1016/j.displa.2013.12.002>
  19. Ian Greener. 2008. Choice and Voice – A Review. *Social Policy and Society* 7, 02: 255–265. <http://doi.org/10.1017/S1474746407004204>
  20. Mike Harding, Bran Knowles, Nigel Davies, and Mark Rouncefield. 2015. HCI, Civic Engagement & Trust. *Proceedings of CHI '15*, 2833–2842. <http://doi.org/10.1145/2702123.2702255>
  21. Department of Health. 2014. *Children and Families Act 2014*. Queen’s Printer of Acts of Parliament. Retrieved July 18, 2015 from <http://www.legislation.gov.uk/ukpga/2014/6/contents/enacted>
  22. Department of Health. 2014. *Care Act 2014*. Queen’s Printer of Acts of Parliament. Retrieved September 15, 2015 from <http://www.legislation.gov.uk/ukpga/2014/23/enacted>
  23. Jonathan Hook, Rachel Clarke, John Mccarthy, Kate Anderson, Jane Dudman, and Peter Wright. 2015. Making the Invisible Visible : Design to Support the Documentation of Participatory Arts Experiences. *Proceedings of CHI 2015*, 2583–2592. <http://doi.org/10.1145/2702123.2702187>
  24. Hilary Kennedy, Miriam Landor, and Liz Todd. 2011. *Video Interaction Guidance: A Relationship-based*

- Intervention to Promote Attunement, Empathy, and Wellbeing*. Jessica Kingsley Publishers.
25. Lisa Koeman, Vaiva Kalnikaitė, and Yvonne Rogers. 2015. "Everyone Is Talking about It!": A Distributed Approach to Urban Voting Technology and Visualisations. *Proceedings of CHI '15*, 3127–3136. <http://doi.org/10.1145/2702123.2702263>
  26. Biza Stenfert Kroese, Alinda Gillott, and Vicky Atkinson. 1998. Consumers with intellectual disabilities as service evaluators. *Journal of Applied Research in Intellectual Disabilities* 11, 2: 116–128.
  27. Ann Lewis and Jill Porter. 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. <http://doi.org/10.1111/j.1468-3156.2004.00313.x>
  28. Kristen Lovejoy and Gregory D. Saxton. 2012. Information, Community, and Action: How Nonprofit Organizations Use Social Media. *Journal of Computer-Mediated Communication* 17, 3: 337–353. <http://doi.org/10.1111/j.1083-6101.2012.01576.x>
  29. Linda Milbourne. 2010. Remodelling the third sector: advancing collaboration or competition in community based initiatives? *Journal of Social Policy*: 277–297. <http://doi.org/10.1017/S0047279408002845>
  30. Timothy Milewa. 2004. Innovation or Fragmentation of a Universal Citizenship? *Social Policy and Administration* 38, 3: 240–252.
  31. The National Audit Office. 2014. *Adult social care in England : overview*. Retrieved September 15, 2015 from <http://www.nao.org.uk/wp-content/uploads/2015/03/Adult-social-care-in-England-overview.pdf>
  32. The Children's Partnership. 2015. *Social Value and Commissioning Toolkit*. Retrieved August 24, 2015 from <http://thechildrenspartnership-knowledge.org.uk/media/1089/social-value-and-commissioning-toolkit-final-with-ncb-logos.pdf>
  33. Anthony Patino, Dennis a. Pitta, and Ralph Quinones. 2012. Social media's emerging importance in market research. *Journal of Consumer Marketing* 29, 3: 233–237. <http://doi.org/10.1108/07363761211221800>
  34. Donna Ambler Peters. 1993. Improving quality requires consumer input: Using focus groups. *Journal of Nursing Care Quality*. 7, 2: 34–41.
  35. Tongqing Qiu, J Feng, Z Ge, Jia Wang, J Xu, and J Yates. 2010. Listen to me if you can: tracking user experience of mobile network on social media. *Proceedings of IMC' 10*, 288–293. <http://doi.org/10.1145/1879141.1879178>
  36. Nirvi Shah. 2011. Special Education Pupils Find Learning Tool in iPad Applications. *Education Week* v30, n22, 16-17 Mar 2011.
  37. Richard Simmons, Martin Powell, and Ian Greener. 2009. *The consumer in public services*. The Policy Press.
  38. Alzheimer Society. 2010. *My name is not dementia*. Retrieved September 20, 2015 from [http://www.alzheimers.org.uk/site/scripts/documents\\_info.php?documentID=1339](http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=1339)
  39. Nick Taylor, Justin Marshall, and Alicia Blum-Ross. 2012. Viewpoint: empowering communities with situated voting devices. *Proceedings of CHI '12*, 1361–1370. <http://doi.org/10.1145/2207676.2208594>
  40. John Vines, Stephen Lindsay, and Gary W. Pritchard. 2013. Making family care work: dependence, privacy and remote home monitoring telecare systems. *Proceedings of the 2013 ACM international joint conference on Pervasive and ubiquitous computing*, 607 – 616. <http://doi.org/10.1145/2493432.2493469>
  41. John Vines, Peter Wright, David Silver, Maggie Winchcombe, and Patrick Olivier. 2015. Authenticity, Relatability and Collaborative Approaches to Sharing Knowledge about Assistive Living Technology. *CSCW '15*. <http://doi.org/10.1145/2675133.2675222>
  42. Vasilis Vlachokyriakos, Rob Comber, Karim Ladha, Nick Taylor, Paul Dunphy, Patrick McCorry, and Patrick Olivier 2014. Poster Vote : Expanding the Action Repertoire for Local Political Activism. *Proceedings of DIS '14*: 795–804. <http://dx.doi.org/10.1145/2598510.2598523>