

Studying a Community of Volunteers at a Historic Cemetery to Inspire Interaction Concepts

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ABSTRACT

We present empirical fieldwork conducted in collaboration with a local community of cultural heritage volunteers at the historic Sheffield General Cemetery, in order to inform and realise concepts for interactive installations. The volunteers take care of the site and of its visitors and perform a variety of important activities for preservation and outreach. With the purpose of co-envisioning and co-designing novel technological interventions to support the volunteers in engaging visitors and communicating the heritage site to the public, we have embarked on collaboration with the Cemetery Trust. In this paper we describe a particular study, conducted to glean an understanding of the volunteers' practices, concerns and strategies. We conclude by presenting a number of interaction concepts developed as part of co-design workshops and brainstorming sessions involving the volunteers that address their concerns and needs.

Categories and Subject Descriptors

H.5.2. [User Interfaces]: User-centered design; Theory and methods

General Terms

Design, Human Factors

Keywords

Cultural heritage; community heritage; co-design; cemeteries; qualitative methodologies

1. INTRODUCTION

Designing for the cultural heritage domain is always challenging: there is a wide typology of heritage sites, they are rich environments presenting to visitors a wealth of

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information - from historical, to artistic, to cultural -, and they are accessed by a variety of people with different characteristics and interests. Human-centred computing literature has explored such challenges extending a consolidated body of research on museum technologies to include other types of heritage sites, from historic buildings, to urban heritage spaces, and open-air exhibitions [5, 6, 8, 19, 28]. While a large body of work focuses on visitor practices at heritage sites, there is a need to develop our understanding also of the people who maintain, exhibit and communicate heritage to visitors, from guides, to curators, and other stakeholders. Their role is crucial in shaping the visitor experience, as well as becoming increasingly involved in the ideation of interactive tools for interpretation, education and access purposes [21]. Moreover, heritage sites are often looked after by civic and volunteer communities and it is often essential to involve a community in order to maintain the heritage and make it accessible [2, 27].



Figure 1. A view of Sheffield General Cemetery showing gravestones, memorials and one of the chapels.

The work we present in this paper has been conducted in the context of a research project called meSch, focusing on designing tools enabling curators, exhibition designers and other heritage workers to create DIY technological installations combining digital content with tangible media [26]. One of the goals of the project is that of understanding the strategies of heritage workers in devising tours,

exhibitions, and other interpretation and communication activities for visitors, and to enable them to integrate these with ad-hoc installations that they can design themselves. As part of the project, different heritage sites, the people who maintain them and their visitors have been studied, including art museums, science galleries and open-air historic sites. The work we present here was conducted as part of one such study and concentrates on the Sheffield General Cemetery (Figure 1), a historical site under the ownership of a local authority, but in fact managed by a community of local volunteers. We conducted a series of field activities (including naturalistic observations and semi-structured interviews with visitors and volunteers) to understand the Cemetery as a heritage site, its visitors, and the volunteers and their practices as the means by which the Cemetery is presented and interpreted. The most extensive study, which this paper focuses on, was a series of field walks with the volunteers. This was then followed by design workshops where interaction concepts addressing the volunteers' concerns and needs were developed and discussed in a collaborative way and with their active participation.

In the following section we will contextualize our study within related literature. We will then present the methodology for the study, and a thematic analysis of the data collected, which provides insights on both the conservation and interpretation practices put in place at the Cemetery. We conclude the paper by outlining a set of design themes emerging from the data collected at the Cemetery and some interaction concepts that they inspired and that constitute the basis for further co-design activities with the Cemetery staff in the next phase of our project.

2. RELATED WORK

The body of research on cultural heritage technologies includes examples of work focusing specifically on open-air sites and their unique features. In particular, previous work has developed approaches and techniques to understanding visitors and also the physical environments they explore (see for example [6, 7, 13]), as well as developing and evaluating interactive systems designed for these environments, either for providing guidance, or educational content, or to aid interpretation [23, 28]. Approaches to the augmentation of the physical space have been particularly favoured, together with the idea of offering visitors the possibility to interact with digital content that is superimposed on the open-air site itself, rather than confined to a device [1; 12].

Cemeteries as open-air heritage sites have been the focus of relatively few examples of previous HCI research. Dow et al. [10] have developed and evaluated a mobile mixed reality experience at Oakland Cemetery with the goal of making visitors more aware of the historical value of the cemetery through the navigation of a distributed, location-based narrative that adds to the place's "aura" [21]. Another example is Newtown at Al.'s work at Bukit Brown

cemetery in Singapore [23]: a mobile augmented reality navigation system was developed on the basis of a tracking algorithm that can identify tombs by their natural features, without the need to modify the environment through markers or other tracking cues.

The examples we have mentioned in this section focus on visitors as the main user group, whereas our project (while attentive to visitor experiences of heritage) concentrates on heritage workers, thus addressing a gap in current research on heritage technologies that is emerging considering the increasing involvement of heritage professionals in creating interactive experiences for their visitors, rather than relying on external designers and developers [17; 22]. Recently there has also been increasing attention paid to the role of community engagement with heritage, from facilitating the participation of various stakeholder groups in the safeguarding, preservation and communication of heritage [11, 15], to encouraging communities to record and share what they feel is of value to them [2; 13]. What is different about our study is that the volunteers are the sole managers of the Sheffield General Cemetery, and do their work out of their personal interest in and commitment to various aspects of the heritage site, thus making the Cemetery a rich and complex mix of tangible heritage and community effort. Our project with the Cemetery aims at better understanding all these issues, and at identifying how technological interventions could help the volunteers engage and communicate better with visitors.

3. METHODOLOGY: "FIELDWORK ON FOOT"

For our main study, we adopted an approach to conducting "fieldwork on foot" [18], that utilises the technique of field walks. Walking is an established methodology that has been employed within anthropology, geography and other social sciences [20; 24], as well as within HCI and related disciplines. The use of walking as a way to gather insights on the situated and embodied experience of people derives from theoretical work from geography and philosophy examining paths, their making and the movement along them [4]. Field walks have been used in HCI in very diverse domains: for example, to study museum guides walking along the path that they lay out for visitors [7]; to explore meaning-making and information sharing in tribal cultures in Africa [3]; and to investigate the activities and strategies of extremely mobile people [14]. Field walks consist of conversations during the movement along a path, documented as instances of conduct that are connected to each other. The researcher documents practices as they occur in-situ, thus noting the relationship between certain themes of the conversation with elements of the space and of the walk itself. There are various strategies of devising a field walk study, differentiated - for example - by whether the participants are studied while moving through an environment they know or an unfamiliar one, or by whether the researcher pre-determines the path to be walked or if its

choice is left to the participant. In our study, we left it to the participants (who know the space very well) to choose the path of the walk. During the walk, the conversation (prompted by the researcher and loosely following a conversation guide) highlights each participant's connection and perception of an actual space. It is important to document the walks visually in order to link the record of the conversation to the physical positioning and location that it emerged at. Particularly, participants should be encouraged to convey expressions of meaning and values relating to the space and to the path. Documentation can be done through maps, photographs or video recordings [20].

In the following sections, we go into the details of the study at the Cemetery firstly by introducing the site in order to set the scene for the presentation and discussion of the data gathered, and secondly examining the main thematic findings emerged from the field walks themselves.

4. INTRODUCING THE CEMETERY

The Sheffield General Cemetery is a historic parkland cemetery opened in 1836 and closed for burials in 1978. It is now a 14 acres free and open-access historical, architectural and natural conservation area owned by the City Council but managed by a community group, the Sheffield General Cemetery Trust, dedicated to maintaining and promoting the site. The Trust offers to the public regular guided tours, as well as providing assistance to people interested in locating a particular grave or memorial. The Trust volunteers also engage in conservation and maintenance activities aimed at keeping the cemetery accessible and safe for visitors. 87,000 people were buried in the Cemetery and, although part of the site was cleared of gravestones during the 1980s, it still features a large number of funerary monuments, as well as two chapels and a row of semi-interred catacombs (Figures 1 and 2).

The site (originally a quarry) was landscaped to include trees and plants of symbolic value, such as “weeping” trees and shrubs associated with mourning. The Cemetery's gatehouse was built over the river Porter so to represent the idea of “crossing the river into the afterlife”, a common theme in many ancient myths related to death and rebirth. For all these reasons, the historical landscape of the Cemetery is also particularly important. As the Cemetery was purpose-built and not consecrated to a particular church, it is the final resting place of a wide variety of people of different social extraction and of various political and religious beliefs. Many well-known and historically important citizens in Sheffield's history are buried or commemorated there as well as ordinary people, including people from the lower social classes thus representing interesting insights on the social reality of the 19th century. The Cemetery has also gained the statuses of “area of natural history interest” and of “local nature reserve” due to hosting a variety of significant plants, trees and fungi as well as several species of birds and insects. The natural history aspect of the Cemetery is showcased through

themed tours that the volunteers offer and host: there are regular bird watching tours throughout the year, as well as special events on plants, fungi and bats. The Cemetery is open-access and free of charge around the clock, it has no artificial lighting and some of the less-frequented paths can be treacherous, particularly in hours of darkness. The guided tours are also free, although participants are encouraged to make a small donation to the Cemetery Trust in return. The tour guides offer their services on a completely voluntary basis and also on the basis on their own knowledge and interests around the Cemetery. The Cemetery is also used as a local amenity, with many nearby residents and workers using it for dog walking, jogging, and, generally, as a community green area.



Figure 2. Visitor map of the Sheffield General Cemetery highlighting points of interest.

5. THE FIELD WALKS

In an initial phase of fieldwork, we conducted naturalistic observations of the site in order to understand its structure, the layout of monuments and of other places of interest, and to gain insights on the number and type of visitors that access the Cemetery. We also conducted observations of a historical guided tour, taking note of the strategies that the guide employed to show the participants around the site, the themes that characterized the narration and the reactions and commentary voiced by the participants.

Subsequently, eight volunteers (two women and six men) were recruited to participate in field walks for the second phase of our empirical work that this paper focuses on. Each participant was met by the researcher at the main gatehouse and was asked to lead a walk around the Cemetery following whatever path he or she preferred.

The conversation took place between the volunteer and the researcher during the walk, and it was semi-structured around a conversation guide covering themes such as the volunteers' own relationship to the site and to their colleagues; the type of work they do there; their favourite places around the Cemetery; their views on visitor experiences at the site and on the potential to engage and attract visitors further. The field walks were audio-recorded through a microphone worn by the participants and video-recorded by a second researcher who followed the walk at a short distance (Figure 3) without partaking in the

conversation. The walks lasted between 70 and 90 minutes. The recordings were transcribed verbatim and analysed thematically, with coding established through repeated readings by the two researchers who conducted the study and through data discussion sessions.



Figure 3. Participant (left) and Researcher (right) were video-recorded by a second researcher during their walk.

The participants have different degrees of experience volunteering at the Cemetery, spanning from 6 months to 15 years. Of the eight volunteers, Jenny is a historical tour guide, Paul is a bird watching enthusiast, Andrew and Morris are managers/administrators for the Cemetery Trust, Nelly is a historical researcher, and Matthew, Eddy and Marvin work in the environmental conservation team¹. Jenny is in charge of delivering regular guided tours on a historical theme, usually taking place once a month and then whenever a group or organization requests them. Nelly is an amateur historical researcher and works on maintaining the Cemetery archive up to date and on answering people's requests on burials and other aspects of the history of the Cemetery. Andrew and Morris have management roles and are in charge of finances, fundraising, liaising with the local authority and the running of the Trust office. Paul's particular interest is birds, thus he monitors the bird population in the Cemetery seasonally, places bird boxes around the site, leads bird watching tours and also helps on the landscaping and gardening team. Finally, Matthew, Eddy and Marvin work in the environmental conservation team in charge of site maintenance: they maintain the main paths, clear the space around the main landmarks and gravestones, trim and replant trees when necessary, build dead hedging to fence off unsafe areas, etc. Their concerted efforts, and those of the rest of the volunteers, make it possible for visitors to explore the Cemetery safely, obtain available information on it and also request additional research on the Trust archives and bespoke guided tours to suit their interests.

¹ All names have been changed to preserve anonymity

The analysis of the data from field walks highlighted three main themes that emerged from the conversations with all the participants and characterized their experience of the Cemetery and their intent in communicating and presenting the Cemetery to visitors: the multiple aspects of the site and its landmarks that hold heritage value (from the historical, to the naturalistic, social, etc.); the importance of establishing personal connections with the site, the people buried there and, in general, of caring about a beautiful and treasured place; the enveloping atmosphere of peace, reflection and relaxation for all who spend time in the Cemetery. We will now illustrate these themes in more detail.

5.1 Multiple Layers of Heritage Value

The participants are very aware of the many ways in which the Cemetery can be "read" and interpreted as a space, both by the volunteers taking care of it (e.g. each of them concentrating on a particular aspect, and often learning from each other) and by the visitors. Encountering various landmarks during the walk, the participants emphasize the historical importance of the site and the presence of significant examples of architecture and sculpture, such as the two chapels and the grand funerary monuments commissioned by wealthy Victorians. However, the historical value of the Cemetery is also personal, as it is a treasure trove of family history for those who have a relative or an ancestor buried there. Furthermore, the appreciation of the Cemetery is something not necessarily linked to an academic appreciation of art and architecture, but more generally to its attractiveness and uniqueness:

"I think they [the visitors] come because they want their history, they know they are going to get history, but I think they are very often very agreeably surprised that they get such a lovely experience of walking around a beautiful place" (Jenny, tour guide)

The volunteers recognize that different personal interests will engage different visitors, in the same way they themselves have different motivations for their own involvement in the Cemetery. Often it is not history at all that has driven the volunteers to the Cemetery, but rather their interest in nature, or simply in being part of a friendly group of people taking care together of an important place. The volunteers also recognize that spending time at the Cemetery made them appreciate other aspects of the site that might not have been their main focus originally, but that they have come to know through their work and through their colleagues. They suggest that visitors can also be made aware of such complexity.

When discussing their favourite places, some participants chose landmarks such the chapels, or gravestones that struck them with the beauty of their sculptural details (Figure 4), or with their inscriptions, or by virtue of the person remembered - e.g. a famous local writer whose statue stands in the city centre, or a young soldier who died

in the Battle of the Somme (Figure 7). However, other favourite places included paths, trees, and locations providing a particular atmosphere or the opportunity for other activities, such as glimpsing a seldom-seen bird, taking nice photographs, or enjoying a pleasant walk (Figure 5):

“I like paths especially on this part. When it was autumn and it was leaves all the way along [pauses] I took a photo on my camera and then...er...we swept all the leaves off and I took another photo and it was just beautiful. I like this part, nice, long and you can gaze down it, it’s lined with trees” (Eddy, conservation)



Figure 4. Paul at one of his favourite places: a gravestone with beautiful carvings.

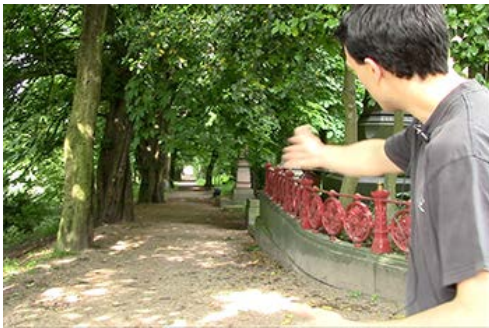


Figure 5. Eddy points out one of his favourite paths.

The Cemetery is a complex and multi-layered place of heritage where different sets of values and content can be experienced: from the history, to the nature and wildlife, or simply the pleasantness of a walk. This could be noticed very clearly during the walks, whereby, as participants came physically close to or noticed something that they knew, their commentary switched to cover different themes of interest around the Cemetery: for example, while walking with Morris by one of the larger memorials, he pointed out a particular pair of ancient weeping ash trees planted to frame the view of the graves and went on to talk about the variety of plants on site; or while discussing the personal history of one of the people buried under a certain headstone, Jenny went on to highlight the sculptural elements of it. The community of volunteers has a wealth of knowledge and insight on all these aspects.

Indeed, making the Cemetery attractive for more than one reason was in the intentions of the original planners, and naturally, through time and history, it has gained even more

aspects of interest: for example the history of the long-gone people buried there and of the world they lived in, the reasons they died of and their legacy.

“What we want people to feel is that this is a welcoming place and it’s a pleasant place and it was designed as a park (...) that’s what Samuel Worth [the designer of the Cemetery] wanted. This was to be the Elysian Fields, it wasn’t gloomy, and it was somewhere where you could come and bring a picnic. You could come and see Auntie Nelly, but you had your sandwiches and everything as well, you know” (Jenny, tour guide)

In terms of interpretation, the Cemetery Trust offers a range of themed publications and also appropriate tours on each theme that may be requested by an interested party, from amateur architecture societies wishing to hear more about the buildings in the cemetery, to companies wanting to offer employees or visitors a social outing to learn more about the city’s history. The Cemetery’s educational worth is also highly valued, together with the benefit that such a space brings to the local community. The Cemetery is available for school tours and workshops so that pupils can learn about Victorian society through the differences between the ostentatious wealth of the upper classes and the unmarked graves for the poor, the illnesses that killed people and the expectations that were held for men, women and children.

5.2 To Care is To Connect

The volunteers are very attached to the site and they care for it deeply. They wish to instill the care and connection they feel towards the Cemetery into the visitors and many of the activities they offer to the public are motivated by such a goal. Many of the places they included in their walks when asked to show us their favourite spots were in fact chosen because of the personal connection that they have formed with them, either by working there or by other affinities:

“Well I like Mrs. Nicholson down there. Have you seen Mrs. Nicholson? (...) She’s our kneeling lady. She’s my daughter’s favourite as well, and we’ve cleaned her up over the last year or so. She started to get ivy growing down her - and when it first grew down it looked really nice you know, (...) she had a shawl on. But then (...) she looked as though she was wearing a burka [laughs], so we thought we better take it off because you can’t actually see her, but it’s beautiful. I really do - I do like it” (Jenny, tour guide)

Jenny loves the sculpture of the Nicholson memorial (Figure 6) because it is beautiful. However having helped care for it, clearing it from the ivy that was slowly covering it, and the fact that her daughter also loves it add a personal element to her attachment. In certain cases, particular spots have become important for a volunteer by virtue of personal involvement and even though they might not be that relevant to the person’s intellectual interests:

“I’ve become somewhat emotionally attached to [the Chapel] in a sense because I’m involved in trying to restore it. So I’ve got an interest in seeing it come to life (...) Now I don’t know if it’s (...) one of my favourite places, but I think it just stands out because I’m working on it. (...) But I admire the building, it’s very solid, I love this...decoration in here with the dove coming out of the- up there [points to the dove decoration high up on the building’s façade] (...) I don’t know what that symbolizes. It symbolizes maybe release, freedom” (Andrew, management)



Figure 6. Jenny (right) at the Nicholson memorial.

Andrew is not particularly interested in the built structures of the Cemetery, being more devoted to the landscape and trees. However, his personal involvement in the Chapel restoration project has turned the Chapel into something that he cares for and that he has come to hold in high regard. Similarly, Paul chose to show the researcher the memorial of H. Forsdike, a soldier who died in World War I (Figure 7), because Paul takes part in the Remembrance Day commemorations every year:

“There’s a military one [memorial] for instance (...) And the significance of that is that he was killed on the 1st of July 1916, which was the first day of the Battle of the Somme (...) I suspect there is no known grave (...). On Remembrance Sunday each year, we always have a guided walk, and we also observe the two minutes’ silence at the grave” (Paul, bird watching)



Figure 7. The Forsdike (right frame) and Wardlow (left frame) funerary monuments.

The volunteers hope that, with their work, they will encourage more people to care for the Cemetery and to become regular visitors. They also see their work and commitment as being part of the heritage itself. They believe that making personal connections is possible even on a first visit, for example by being moved or simply

bemused by particular epitaphs which are often included in the guided tours such as the one on the Wardlow monument (Figure 7):

“There we are (...): [reads aloud] ‘to live in hearts we leave behind is not to die’. I thought that was rather nice yeah” (Marvin, conservation).

5.3 Seeing New Things and Being Surprised

The many layers of heritage value and the physical appearance of the Cemetery – with seasonal changes, lush vegetation, winding paths and secluded corners - also mean that the site offers constant surprises not only to new visitors, but also to those who know it very well. Seeing something new and unexpected occurred several times also during the field walks themselves. The participants discussed this at length as a very positive aspect of their involvement with the Cemetery, as well as something that can encourage visitors to come to the site repeatedly and, more in general, make their experiences ever interesting and surprising:

[Reading the gravestone of a man who died aged 82] *“Yeah, that’s a new one...I’ve not seen that one before, that’s quite large (...). When you walk around the Cemetery for a year you always find something new, there’s graves everywhere and you always think ‘well I’ve not seen that one before’. You walk past many times and yet there’s a grave and you think ‘well, why have I missed that?...’ [laughs]” (Matthew, conservation)*

The more experienced volunteers, with all their knowledge, have long accepted that it is impossible to know every corner of the Cemetery, and they enjoy the surprises it offers them on a regular basis:

“(...) You always see something different (...) You look at it and you’re just going to go back one grave and then think...ooh let’s see what it says (...). You’re going on and on, and you’re continuously seeing something. Even though I’ve been coming regularly for eight years, you’re still seeing something that I’ve not seen before” (Paul, bird watching)



Figure 8. Jenny (right frame) pointing out the fungus she has just seen growing on the tree (left frame).

And it’s not just unnoticed graves and memorials that provide novelty at every visit: seasonal and environmental

changes can also be striking. For example, during the field walk, Jenny is talking about her strategies for making guided tours interesting when her attention is caught by one of the old trees lining the path (Figure 8):

“Look at the fungus on there! [points to the trunk of a tree] Isn’t that gorgeous? Wow, look at that one. Now, you see that’s the sort of thing that I like here, you suddenly come across these amazing things growing and also a lot of the time there’s somebody else working in here who knows about it” (Jenny, tour guide)

The Cemetery is also rich in things that not-so-experienced visitors are likely never to see, being either hidden or hard to find. The volunteers, spending a large amount of time at the site and knowing about such richness, wish that there were ways, beside the traditional tours, for the public to be aware of them:

“There’s details as well, you see, there’s details in the walls and archways...A lot of people walk past and not realize there’s anything there to see...(…) See, everywhere you look there’s gravestones (...) hidden away...erm...may never be seen again” (Matthew, conservation)

There are also many features that the volunteers know about but the visitors don’t, simply because they are not visible. For example the vast number of underground vaults located under some of the larger memorials and under one of the chapels – the latter being something that was discovered by the Cemetery Trust quite recently:

“When they were looking at what we can do with this [the chapel’s restoration] we found that, although this is flat now...Let’s look at the back here...At the end of this [flat stretch of ground] originally there was about...Erm...an over 10 foot drop, and there was - what you were standing on was...erm...catacombs, like the ones that are near the main entrance, but they couldn’t sell them. So they were filled up.” (Morris, management)

Similarly, the Eastern part of the Cemetery, which was cleared of gravestones in the 1980s, is not often recognized by visitors as actual part of the Cemetery rather than just a park attached to it:

“I am taking you slowly towards one of my favourite gravestones. It’s not one I get to very often when I do the tours because I don’t come down here, so there’s no point in coming down here and saying: look, you know, there’s several thousand burials there under your feet (...) a lot of them [the visitors] don’t know (...) I don’t think [it would bother them]. I mean one of the reasons they took the gravestones out was because the boys were playing football amongst the gravestones anyway!” (Jenny, tour guide)

The Eastern part of the Cemetery still holds the remains of several thousands people, although the gravestones are no longer there. It is used more as a park, with locals going there to rest or to have a picnic lunch. The volunteers find that it’s not easy to explain to people what that part of the

Cemetery once looked like. Some volunteers think that being aware of the still existing burials would be an unpleasant surprise for those regular visitors, others disagree and think that they would find it interesting.

5.4 Peacefulness and Reflection

For all its historical, social and natural importance, one of the Cemetery’s most striking qualities is peacefulness, and - with it - the atmosphere of quiet reflection and relaxation it provides. Indeed, its peacefulness and almost therapeutic atmosphere were the very reason why some of the participants decided to volunteer their time there – some, like Andrew, even for the purpose of regaining mental health:

“I very much like the peacefulness and the nature of the place. It is like walking somewhat in the countryside (...) it’s like walking through a woodland area. Erm...I’m not particularly interested in the history of the cemetery (...) in who they [the people buried] are, what they’ve been, but it adds to the kind of...erm...I suppose the peacefulness of the place really. Yes.” (Andrew, management)

Andrew actually chose a particularly quiet and secluded spot as one of his favourite places.

Others find the Cemetery a relaxing place to visit in their spare time, outside of their volunteering duties. Eddy, for example, has a regular “quiet” walking route for when he ambles around the Cemetery without working:

“It’s so peaceful. You’ve got the sound of birds and the river down there...and, uhm, when you walk through...yeah it’s nice. (...) If I just meander, this is the way I go, which is strange because my favourite spots aren’t on this way” (Eddy, conservation)

The volunteers also observe many regular local visitors taking walks for relaxation and de-stressing, for example through exercising and reading. Furthermore, the Cemetery encourages quiet reflection on life, death and remembrance as walking by the gravestones makes one think about the people that once chose to be buried here (Figure 10):

“I quite like (...) the way that all the tombstones have been softened by the vegetation, and I think- you look the things that give you a little bit of perspective when you think these people are all dead and...er...well, you know it’s what sort of happens to everybody isn’t it? And you know they’ve got these memorials and they thought people would be remembering them forever and people are thinking ‘Who’s John Easterbrook???’ you know? (...) I think it gives you a bit of perspective” (Marvin, conservation)

Maintaining the peaceful atmosphere that so many of the volunteers love, however, is also seen as a potential trade-off against attracting larger number of visitors to the Cemetery:

"I mean, it's reasonably well-known and we get people, and there are a lot of people that use it. I am not sure you want more people in, because it would spoil it... You don't want it like Piccadilly Circus in rush hour, do you?" (Morris, management)

Indeed for some of the regular visitors spending time in a peaceful and relaxing environment may be the primary goal. The volunteers are aware that it is a challenge to increase the number of visitors as well as maintaining the atmosphere of the Cemetery.

6. INSPIRING INTERACTION CONCEPTS

The study allowed us to gain insights on the heritage value of the Cemetery. Walking with the volunteers revealed narrative paths, interpretation themes and engagement strategies in relation to the physical trails and to the structures that populate them, but also to the work and dedication of the volunteer themselves. As a site overall, the Cemetery conveys a peaceful and reflective mood as well as presenting important historical, naturalistic and architectural holdings. The many layers of its heritage value are interconnected and interrelated: for example the ancient weeping trees planted when the Cemetery was designed were meant to be seen from a distance and to grow beside the memorials and gravestones and they are thus linked to each other, although they are listed under different conservation headings by the Trust.

Each walk embodied a different personal narrative laid out by a participant representing many themes, personal reflections and interests. What they chose to show to us, and the path, sequence and timing that they chose to take us there represented their habits, their focus as heritage workers (albeit volunteer ones) and their personal relationship to the Cemetery. Some even led us to particular stretches of ground that are unsafe and where members of the public are not supposed to go, in order to show us something they are particularly attached to, whether a hidden gravestone or a new tree they planted. The volunteers are striving to maintain and communicate the Cemetery so that visitors have a pleasant and interesting experience of it, and at the same time to instill a sense of care and attachment to the site. Interestingly, the walks revealed that the volunteers see their work and their own interests contributing to the heritage value of the site, and that they often wish their efforts to be more visible and their personal knowledge and insights to be shared with visitors. In other words, the involvement of the community of volunteers with the site is such that it becomes part of what heritage visitors can experience at the Cemetery.

Our methodological choices of how to conduct the walks (letting each participant choose his or her path, maintaining the conversation guide fairly open, etc.) have led to accounts that are highly personal and maybe not as directly comparable. However, the richness of the data corresponded to what we had hoped to collect, and the emergence of strong themes connecting all the participants'

narratives reveals common goals and sentiments in the community of volunteers although the specifics of what they have shown us during the walks were different in each case.

As we mentioned at the beginning of the paper, the goal of this study was to begin a co-design process with the volunteers to shape the design of tools for the creation of DIY tangible interaction installations by heritage workers. The data collected helped define the types of heritage experiences that the Cemetery volunteers aim to convey to visitors, and subsequently assisted to identify what types of interactions might support and mediate them.

The themes emerged from the field walks were used together with insights gathered through other studies of the Cemetery (such as visitor observations) [9] to feed a co-design brainstorming workshop with the volunteers themselves which was held shortly after the field walks, and from which three broad and open design themes emerged:

- *Interpretation and access*: technology can make visitors aware of the many aspects of heritage that characterize the Cemetery, from historical and architectural, to social and naturalistic, also surprising visitors with aspects that they might have been unaware of before their visit;

- *Knowing the invisible*: technology can enable visitors to see and know things that are hidden or less evident, and communicate the fact that more and more of the Cemetery reveals itself through repeated visits and at different seasons and that the volunteers' knowledge can help visitors appreciate this;

- *Peacefulness and reflection*: technology can subtly encourage visitors to dwell in the peacefulness of the site and to reflect more deeply on what they see, mediating and augmenting the restorative ability of heritage environments.

An initial set of interaction concepts inspired by these themes was developed through further co-design workshops. One concept addressing the "interpretation and access" theme is the *Companion Novel*: a portable physical book that can be used by visitors to select a different theme for their visit (nature; history, interesting anecdotes, etc.) (Figure 9).



Figure 9. The Companion Novel prototype.

When approaching points of interest, speakers placed in the environment play relevant snippets of content for the visitors to hear. This concept has since been built into a

working prototype [9]. A second concept, relevant to the “peacefulness and reflection” theme is *Memento Mori*, inspired by the Victorian tradition of fashioning pieces of mourning jewellery to remember someone who had passed away: a visitor would be given a piece of augmented jewellery, such as a ring, brooch, or bracelet, connected to one particular person buried in the Cemetery. The jewellery piece would provide tangible feedback to the wearer when getting close to the grave of that person (for example, by getting warmer, vibrating gently or emitting an increasingly stronger light), and would go quiet again when that site had been found (Figure 10) [16]. No additional content would be provided, but simply an opportunity for reflecting on the life of a person from the past. A third interaction concept related to the “knowing the invisible” theme: *Augmented Reality Binoculars* to encourage visitors to stop in places that might look unremarkable and that would make them aware of aspects of the site that are not immediately perceivable, or that are only known to a few (Figure 11).

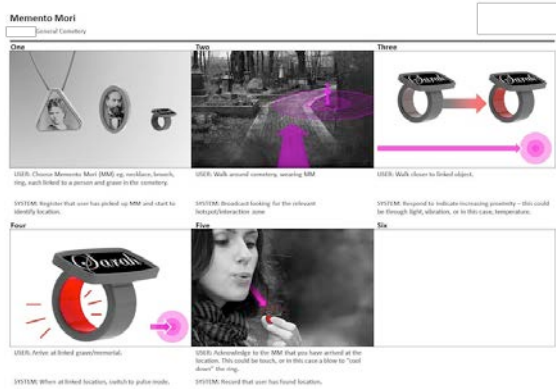


Figure 10. Storyboard for the Memento Mori interaction concept.

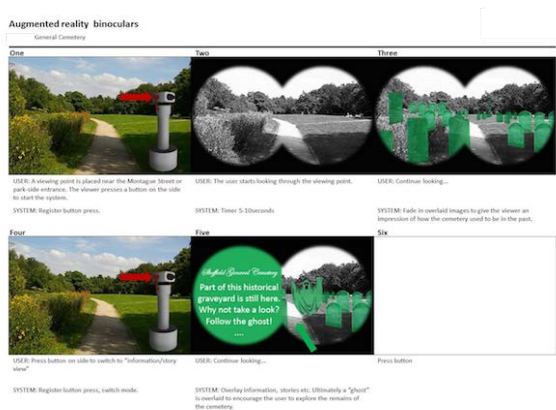


Figure 11. Storyboard for the Augmented Reality Binoculars interaction concept.

These ideas are just a few examples of how the design themes from our study inspired interaction concepts that the volunteers saw as informative, engaging and useful for their visitors, and that are often representing the volunteers’ own unique knowledge and insights about the heritage and the

value that they bring to the site. The goal of this exercise was to generate together with the heritage workers a set of interactive experiences that they would like to provide to their visitors (both to extend and support their work and to make it visible) so that we can then collaboratively design a DIY tool for them to realize and maintain them.

7. CONCLUSIONS

In this paper we have presented a qualitative empirical study of the community-managed historic Sheffield General Cemetery – now an open-access heritage site – conducted through the technique of field walks in order to inform design concepts. We had the goal of both developing our understanding of community heritage sites as a setting for technological interventions and by detailing part of the process of co-designing technologies with heritage volunteers for a site such as this.

We have shown how field walks have allowed us to study the practices and attitudes of Cemetery volunteers, with whom we are collaboratively designing a DIY tool for the creation of interactive tangible installations, within the environment they maintain and present to visitors. We have also shown how, from the data collected during the field walks, themes related to the particular relationship and strategies that the volunteers have with the Cemetery and also specific locations and points of interest were identified. The most important finding was that the work, knowledge and insights of the volunteers in taking care of the Cemetery emerged as an important part of its heritage value, and as something that the volunteers want to showcase and that visitors should appreciate. The modalities and findings from this study have been instrumental to conduct co-design brainstorming and ideation of interaction concepts with participants that would help communicate the heritage of the Cemetery and the volunteers’ practices and values, but also to engage with the site in an embodied and felt way.

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