
Graveyards as a Design Context for Unobtrusive Interaction

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Abstract

In this paper, we consider graveyards as a design context for unobtrusive interaction. Graveyards are places of mourning, remembrance and peace, and they are typically places of natural beauty. On the other hand, graveyards can be places of cross-generation interaction, and contain historical information about families and location, which can be interesting to visitors.

Author Keywords

Unobtrusive interaction; death; cemetery; graveyard; deathscapes.

ACM Classification Keywords

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

Introduction

This paper focuses on design for a specific context of use – graveyards. Graveyards are special places both from people's personal viewpoint, as well as from the cultural point of view. From the personal point of view, graveyards are places of mourning, remembrance, hope and peace, and they carry strong emotional meanings. From the cultural point of view graveyards have both religious and social meaning, and incite behavior norms, which inherently define their

atmosphere and the visitors' code of conduct [17]. Whilst there has been much work on graveyards from historical, architectural and ethnographic viewpoints (e.g. [4, 5, 11, 12]), they have been a largely unexplored context for HCI research.

Death as a HCI research topic itself has been only little studied, although recently it has gained more attention due the practices of everyday life in the digital age, e.g. the digital footprint people leave behind after their death [13]. Research has explored the actions of mourning and rituals followed with materials left behind after the death of a loved one, such as mobile phone text messages and photos [14], and how life carries on post-mortem on personal social media sites [2]. Here, technology use has typically been investigated from the viewpoint of the 'digital remains' of the deceased person.

In contrast, in our paper we consider the resting place of the physical remains, i.e. the graveyard, as a context. Thus our work is linked to the physical environment and the requirement for any technology to be introduced in a considerate and unobtrusive way. In this, our preliminary work on the topic, we draw together different aspects that are relevant when considering graveyards as a context for technology design.

Related Work

A wide variety of fully online memorials to the dead, ranging from dedicated websites for deceased pets, to those injured in particular conflicts to social media pages for an individual exist [19]. Whilst a body of work on design for this digital memorial area exists,

e.g. [2, 13], work on design for the physical graveyard environment is limited.

Graveyards as a Place of Peace and Natural Beauty

Graveyards are places of natural beauty and peace, which are often described as having a special atmosphere and tranquility. The connection with death as an eternal rest and hope for the afterlife call for an environment that reflects these thoughts, and isolates the place from the rush of everyday life. Loud noises and hurry are not expected, and people may choose to leave their information technology devices behind, as a way to respect and focus on the peacefulness of the place [18]. Old trees, grass, and sheltered walkways are typical environmental settings for graveyards. They also host traditions that are aesthetic in a quiet and harmonious way, such as candles burning in the dark Christmas nights, see figure 1.



Figure 1: Visiting a graveyard with children for lighting living candles at Christmas time.



Figure 2: Examples of information items on a graveyard that are in the interest of public: map of the grave areas [10], local stories and graves of historical characters [8].



Figure 4: Examples of a graveyard related technology concepts: gravestone with QR code [16].

Graveyards as Public Spaces

One role of the graveyard is as a historical site, which may be visited, for example, by those researching local history, genealogy, or in the case of the graves of famous people, as a graveyard tourist [9]. Graveyards employ maps for supporting the navigation, and often stories behind people or historical events are illustrated with short texts, see figure 2. Guided tours of graveyards are also available, see figure 3 [10]. A smart phone based digital guide to a graveyard has been created as part of the Future Cemeteries project in Bath, UK [6]. Here, NTC tags are used to provide details on individual graves when they are touched with the smart phone. The project has also examined the use of mobile projection to augment the graveyard visitor experience. Collaborating with Sheffield General Cemetery in UK, the meSch project, working on tangible interactions with cultural heritage, has designed concepts that would make visitors experience in a historical cemetery more attractive, such as a tangible UI with a located audio guide [14].



Figure 3: Guided tours at Jyväskylä old graveyard [10].

The use of visual QR code markers on gravestones to link to an online digital epitaph has also been previously studied [3, 7], with such solutions are already available commercially, see figure 4 [16].

Graveyards as for Individual Mourning

Whereas anthropological and historical research has documented the cultures of individual mourning at graveyards, we have been unable to find it addressed in HCI research - perhaps understandably so, as this is an intensely personal activity. The act of regularly visiting the grave of a passed away loved one is a source of solace for many individuals. In this respect visitors prefer the experience to be rather solitary and often engage in talking aloud to the dead e.g. to chat or to ask advice on worldly matters [19]. In a less somber context, [15] has presented work in the context of hiking that guides individuals towards a solitary experience. This approach may also provide beneficial for those seeking undisturbed time in a graveyard setting.

Graveyards as a Design Context for Unobtrusive Interaction

In this section, we propose and discuss potential design directions for the graveyard design context.

Enhancing the View to Local History and Genealogy

Whilst wandering in a graveyard typically one can see gravestones with the same family name, yet the possible connection between these is often unclear and forgotten over the times. An interesting approach would be to visually overlay the family connections onto the physical gravestones, identifying e.g. the links between parents and children. Rather than do this based on physical markers such as QR code or NFC

tags that must be physically attached to the grave area, we propose to use a location based Augmented Reality. We find this design approach more unobtrusive and aesthetical, as it would leave the physical environment untouched. Although location based AR has limited registration accuracy, the scale and layout of graveyards is such that 2 m positioning accuracy is sufficient. The concept is illustrated in figure 5.



Figure 5: Example graveyard AR view, showing family connections between physical gravestones.

Enhancing the Individual Mourner Experience

One common practice in graveyards is the lighting of candles in memory of the deceased. Although modern technology has bought the possibility for electronic candles that mimic the play of a natural flame [1], such devices do not fit well in this use context. The act of lighting the candle, the fragility of the natural flame and its natural warmth and movement are essential experiential factors.

Thus, we propose a concept of a connected candle, whereby the nuances of movement of a live candle

flame placed at a graveyard, are captured and recreated in a second live candle flame placed, e.g. in a house living room, see figure 6. Whilst we acknowledge that the concept is clearly potentially rather complex to implement, we believe it serves as a useful start point for conceiving, from which other less demanding ideas may emerge.

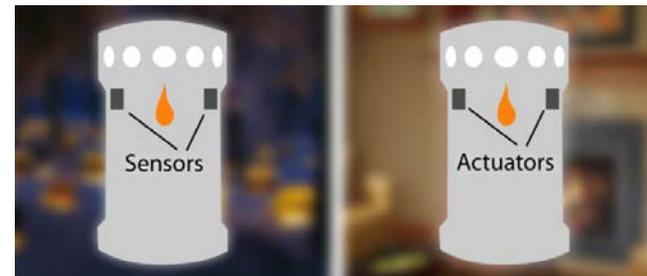


Figure 6: Illustration of connected candles concept. The nuances of a real candle flame places at a graveyard are reconstructed to a live candle flame in a house living room.

Discussion and Future Work

In this paper we have framed our initial thoughts of graveyards as a design context for unobtrusive interaction. We see this context as a particularly interesting for design because of its delicacy related to traditions and meanings connected to the place. As future work we plan to conduct a survey on the motivations and desires of current visitors to graveyards. Issues to be explored include the reasons and practices in visiting graveyards, the experiential aspects graveyard visitors perceive essential, and technology and media use at the graveyards.

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