Social Acceptability of Location-Based Games in Cemeteries

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EXTENDED ABSTRACT
Cemeteries, graveyards and other places of the dead are traditionally seen as locations dedicated to remembering the past and are often thought of as being unsuitable for the deployment of digital technologies or alternative uses such as play (Deering 2010; Rugg 2000). However, there are a range of digital technologies being developed for cemeteries that offer new ways of commemorating the deceased and provide alternative forms of social and physical interaction in cemeteries, including location-based games (Arnold et al. 2018; Häkkilä et al. 2020). In this paper we will address the themes of the conference through the consideration of the limits and margins of location-based games and their social acceptability in a non-traditional setting for play: the cemetery.

To understand the social acceptance of digital technologies such as location-based games in cemeteries, we conducted a survey of 1,053 Australian residents (see Allison et al. 2023 for details of the survey design). We first conducted a systematic review of cemetery technologies, or 'cemtech', from around the world and used them to develop a typology of cemtech examples. The cemtech typology included a range of remote, embedded and navigational technologies. Remote technologies allow users to access cemetery information or interact with graves remotely, such as through a website or app. Embedded technologies are physically embedded in the cemetery, such as QR codes or NFC tags, and allow users to access information about graves or the cemetery through their smartphone. Navigational technologies require users to be on-site to access information or interact with the cemetery, such as through a location-based game or augmented reality app.

Informed by this cemtech typology, we designed and conducted a survey to test the social acceptance of 13 representative cemtech concepts in Australia. As part of this survey, we tested two concepts for mobile, location-based games to be played on-site within a cemetery: a game with a historical mystery theme and a game with a ghost-hunting theme. These were represented in the survey as follows:

> Historical game: A mobile app that allows you to play a location-based game in the cemetery, with a historical mystery theme. To play the game, you walk around the cemetery visiting notable graves or monuments to make significant people from history appear on your phone. By asking these virtual people questions about their lives, you collect clues to solve a historical mystery.
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> Ghost game: A mobile app that allows you to play a location-based game in the cemetery, with a ghost hunting theme. To play the game, you walk around

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the cemetery visiting notable graves or monuments to make virtual ghouls and ghosts appear on your phone. The goal is to catch each creature by defeating it in a challenge.

The survey included open-ended and multiple-choice questions and was administered online to a representative sample of the Australian adult population, stratified by age, gender and state/territory of residence. All respondents were 18 years of age or older.

The results of the survey showed that respondents had a negative attitude towards the use of location-based games in cemeteries. Among the 13 cemtech concepts tested, the two games had the highest levels of negative responses (60% and 74% respectively). Respondents expressed concerns about the appropriateness and respectfulness of using cemeteries for gameplay and the potential for disruptions to the peaceful atmosphere of the cemetery. The results also suggested that players of such games may risk encountering disapproval from bystanders, and that this disapproval could be hostile. One response to the *ghost game* even hinted at violence: "It would be difficult to restrain myself from aggression against any person seen 'playing' this way".

However, while the overall response was negative, a proportion of respondents expressed positive views about the potential for the cemetery games (22% and 12% respectively). Some hailed the ideas in superlative terms ("excellent", "amazing", "a great idea!", "I would 100% purchase this game and use it!"). Positive responses tended to accompany a general enthusiasm for cemeteries, and the games were more favourably received by respondents who frequented cemeteries compared to those who did not. This suggests that there is an enthusiastic audience for these games, but that it is important for designers to be sensitive to the disruption the games might cause to others, to minimise both the risk of emotional distress for onlookers and the risk of unpleasant social interactions for users.

Our findings show that while location-based games may have potential as a form of digital memorialisation, their use in cemeteries should be carefully considered and prioritise sensitivity and respect for the deceased and their loved ones. The negative attitudes towards the use of location-based games in cemeteries among Australian respondents highlight the importance of considering the cultural and social context when designing and implementing location-based games that might occur in sensitive or controversial settings.

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