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Mobile phone games: Understanding the user experience

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INTRODUCTION

Mobile gaming is viewed by the mobile communication industry as one of the 'killer applications' for future mobile services. Fuelled by the success of games such as Nokia's Snake and the continuing popularity of online and console gaming, the drive is to develop ever more sophisticated and engaging gaming experiences for mobile users. However the current mobile gaming experience in terms of graphics, interaction mode and content more closely resembles that presented by personal computer games of 20 years ago than anything evoked by today's console based offerings. Despite such limitations the appeal of mobile games continues to grow. Market research conducted by Nokia estimates that 85% of people with the game 'Space Impact' on their phones have tried it out and 45% play it everyday (Robens, 2001).

Mobile gaming research has predominantly focused on the "mobility of gaming" (Kuivakari 2001). Such research seeks to exploit the entertainment potential of ubiquitous technologies and augmented reality, making both the proximity of others and the mobile environment itself part of the gaming experience. (See for example Bjork et al (2001), Brunnberg (2002).

The research reported here aims to provide insight into what motivates people to play existing mobile phone games, despite their limitations, and seeks to identify elements of the current mobile gaming experience that should be preserved within future games. The continuing convergence of computer, consumer and communications technologies within mobile devices is raising many unknowns about how users will perceive these devices and therefore how best to design appropriate form structures and user interfaces (Sacher and Loudon 2002). This research examines the existing convergence of game playing and telephony within the mobile phone and provides early indications of how people may approach future converged devices.

METHOD

Interviews, focus groups and video analysis of game playing were used to elicit user requirements for mobile gaming in relation to the mobile context of use. In total 47 experienced mobile gamers – defined as those who played games on their phones for a least, in total an hour a week – participated in the study. The age range was between 18 and 28 years of age. The study population consisted of 32 males (21 students, 11 non-students) and 15 female (10 students, 5 non-students). Motives for game playing were extracted from the interview and focus group data using content analysis techniques. Individual game players were videoed playing their favourite games and then asked to talk through the game playing experience as the tape was

replayed. The video based interviews focussed particularly on how well the mobile phone's hardware matched the participant's gaming needs.

RESULTS

The data shows that mobile phone games are played in a diverse range of use contexts and for varying motives. In different contexts of use, users demand very different experiences from mobile gaming. The motivations for playing mobile games identified from the content analysis are described below and, where appropriate, their implications for handset and mobile game design are discussed.

Relieving Boredom

Not surprisingly, participants were using mobile games during 'bored' times, during travelling, in cars, trains or situations where users were presented with periods of time that lacked any familiar social interaction or an interesting environment. Many users said that they first started playing games when in these situations. Mobile games are particularly suited to travelling and in such circumstances, users may become quite engrossed in the gaming experience. This is likely to be a popular context for playing more sophisticated console style games on a mobile. However this context of use may also require game playing to be abruptly stopped as, for example, the bus arrives. The ability to pause games quickly and resume at the same point was expressed as a key requirement in this context. The demand placed on the battery life in the travelling context is also a critical issue often accentuated by the need to keep the phone switched on through out the entire journey. Participants reported heavy draining of batteries when gaming and therefore require non-obtrusive – e.g. in between levels – alerting before battery levels become critical.

Enhancing social interaction

Today, mobile gaming is almost entirely a solo player experience. However the study revealed that mobile gaming activities were frequently used to facilitate social interaction. Games were being used as common ground for people to start up a conversation. In a social context mobile games were also used to elicit praise and acknowledgement from others. A common practice, reported by participants, was attempting to put a 'highest score' on another's handset with or without their permission. Even the low complexity games currently available were played very competitively within social groups. Recent developments allowing scores to be posted on websites hosted by phone manufacturers (e.g. Club Nokia) will further encourage the competitive side of mobile gaming. Two player and multi player games will also provide new opportunities for socialising with friends and strangers.

Avoiding social interaction and embarrassment

Conversely games were also used to avoid unwanted social contact. Female game users in particular used games to avoid eye contact when on their own, for example when waiting for friends or dates in social environments. One male participant reported playing mobile games when waiting for his girlfriend in a lingerie department. Embarrassment was adverted by keeping his eyes firmly on his mobile phone screen!

Meeting personal entertainment needs

Even when not in a social environment, gamers expressed personal achievement as an important motivation for game playing. Users were game playing on mobile phones for sometimes very extensive periods of time. This was normally in private, in circumstances where they can play without interruption and play well. The expressed goals in such circumstances were often intrinsic – to improve ones performance for personal satisfaction, as well as external – hoping to later impress other players. In these circumstances the limitations of current mobile handsets as a platform for gaming became most apparent. Many participants felt they were pushing the performance of the available games to their limit and were concerned about the effects of heavy gaming upon the phone's keypad. The more experienced gamers became, the more frustrating they found the lack of control enabled by the keypad.

Providing personal comfort

Mobile phones are examples of what are often referred to as 'living objects,' conveying meaning and significance to the user beyond the functional utility of the product (Jordan, 2000). The results of this study suggest that mobile gaming, particularly for female users, is part of this intimate relationship between product and user. Female gamers reported far higher incidences of gaming alone at home than their male counterparts. Comfort seeking use of games were reported in the context of working through emotions after, for example an argument with a boyfriend and when playing mobile phone games last thing at night. Little attention was paid to the game itself in such instances. It was the interaction with the mobile phone that provided comfort. The low complexity nature of existing mobile games suits this type of interaction. Both genders viewed current mobile phones games as "cheesy." However, their simplicity was perceived by many female participants as fundamental to their emotional appeal. This was confirmed in a later related study which looked specifically at gender differences in mobile gaming (Tyler 2001).

DISCUSSION

Blending mobile telephony and gaming requirements

Amongst participants there was a large diversity of user requirements, some wanting far more gaming capabilities, others expressing satisfaction with current games. Although participants made extensive use of mobile games and many were frustrated with the limitations of the phone keypad for game interaction, they did not want gaming features to detract from the aesthetics of the handset or the efficient performance of voice telephony and text messaging tasks. Similarly, part of the allure of mobile phone games is their ready accessibility within a pocket-sized product. Increasing handset size to improve gaming performance would be incompatible with the spontaneity of use present within many of the gaming contexts and contrary to mobile telephony needs. Improving the playability of mobile games must come therefore through handset enhancements that do not hinder fulfilment of these design priorities. However keypad qualities chosen to withstand the rigours of gaming will also suit the demands of text messaging. Similarly high resolution screens will enhance not only the gaming experience but also improve the readability of text and mobile internet content.

Future games – keeping the essence of mobile gaming

Mobile phone gaming is rapidly evolving. The gaming experience is being enriched through provision of colour screens, and advanced sounds and graphics. JAVA™ based mobile game platforms will enable faster interaction speeds, console game style animation and special effects. Opportunities for two player and location based games are already emerging. However mobile game developers and handset manufacturers must be careful to continue to service the wide range of gaming needs identified. Users wish to maintain the flexibility inherent to successful mobile games where current controls allow both one handed and two-handed use of the same game. Successful computer games present a clear mission so that players are quickly aware of what they are trying to achieve (Clanton, 2000***or1999**). This is of paramount importance for mobile games as users will often be unable or unwilling to spend time figuring out controls or game play motives.

Participants within this study were frustrated by the absence of what they considered quite basic gaming features within mobile games. For example they wanted to easily pause and resume games and place names by high scores. As future handset technologies move the mobile gaming experience closer in character to that experienced on game consoles, users may well become less tolerant of shortcomings in mobile game functionality and control. As user expectations increase, mobile phone designers will need to find new ways of meeting the demands of mobile gaming without compromising handset design to the detriment of either voice or text communications. Increasing the sophistication of mobile games should not increase their complexity. Multi player games in particular raise many novel usability issues. The process of linking players must be intuitive, as must procedures for re-establishing links when the vagaries of the mobile environment cause the link to be broken.

This study suggests that current mobile games play an important role within the personal relationship existing between many users and their mobile phones. They become a source of comfort in times of need and a ready friend when alone in public situations. The basic pick up and play format of successful mobile games facilitates gaming in such circumstances. The study found female game players in particular liked the simplicity and familiarity of existing games. At least a subset of future gaming should continue to function in a way that has meaning to these users. This might be contrary to the aspirations of game developers looking to exploit to the maximum the potential of future mobile gaming technologies.

CONCLUSION

Inclusion of games on mobile phones is an additional feature that has surpassed intended development expectations. However, this study suggests that there are user needs that do not seem to match with the technology push that is currently in progress. The planned advances in mobile gaming will be attractive to many consumers if playability in the mobile context of use is maintained. However even advanced gaming phones may need to offer simple pick up and play games alongside more sophisticated offerings.

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