
Designing Playful Mobile Applications Based On Social Entertainment

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Abstract

Playfulness as a mode of interacting with mobile technology is regarded increasingly important in HCI and mobile application design. In this paper, we design playful experience by involving mobile technology into social entertainment in specific environment. We also demonstrate this design concept with three applications developed on iPhone and Android systems.

Keywords

Social entertainment, Playful experience, Mobile application, Interaction, Culture environment

ACM Classification Keywords

K. Computing Milieux: K.0 GENERAL; J. Computer Applications: J.0 GENERAL

General Terms

Design, Human Factors, Theory

Introduction

Play is human instinct. From our childhood, we make use of learning devices, treat toys, people and objects in novel ways, experiment with new skills, and adopt various social roles during play [1]. Nowadays, playfulness as a mode of interacting with mobile

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technology is regarded increasingly important in HCI and mobile application design.

Playful experience exploration necessarily involves thinking about the linkages between social practice and culture environment. Culture background and social customs influence people's evaluation criteria of fun and enjoyment. Obviously, different social groups have their unique entertainment with the humanities factors and region characteristic [2].

For example, cricket fighting is considered as an enjoyment and very popular in China. It was a kind of entertainment and social communication that dated back to more than one thousand years ago. Entertainment is brought into routine activities and social etiquette unconsciously. Nowadays, virtual crickets could be fed on mobile phones and applications refer to fighting crickets become a popular game among phone users. Mobile technology remains playful experience from traditional activities and adds convenience for interpersonal interaction.

Moreover, users regard playful game and applications as mechanisms for social experiences [3]. People enjoy the Emotions of joyful, schadenfreude and satisfaction coming from the social entertainment of interaction, competition, teamwork, as well as opportunity for social bonding and individual recognition that comes from playing with others. Thus, one way of designing playful interaction on mobile devices is to involve mobile technology into social entertainment in specific environment (Figure 1). In the following section, we present three applications developed on iPhone and Android systems to demonstrate our design concept.



Figure 1. Design structure for playful mobile applications

Design Cases

1. EmoFish: Playful Social Networking

EmoFish is a playful mobile social application that enables users to visually perceive their social connection status with contacts in their mobile phone in an entertaining and affective way instead of checking calling or messaging history. Many people consider fish as their pets. Feeding fish becomes a kind of entertainment in their daily lives. We use the concept of fish feeding into designing social networking managing tools. Each fish corresponds to a friend in phone contact list. We map one fish as the metaphor to a friend in contact list. Fish is growing through the text messaging or calling. The growing status of fish indicates frequency of mobile communication with the friend. (See Figure 2) At a glance, a mobile user receives direct sensory stimulation by a fish's size and facial expression. When mobile user frequently keeps contact with a friend, the corresponding fish is showed to grow healthily with a happy face. When the user does not contact a friend in long time, the fish will become smaller with highlight in a shiny bubble (See Figure 3) and turns into bad health with a sad face. If the user is still keeping no contact with this friend, the

bubble will keep expanding until they start to communicate with each other again.



Figure 2. Interface of EmoFish



Figure 3. EmoFish Bubble Reminder – Family Group

The goal of our design is to build a strong affective connection with mobile users with an enjoyable presence of communication information. In order to enhance amusement experience, EmoFish is presented in a dynamic interface with various animated fish avatars and facial expressions. The growth and facial expressions of fish can well represent the dynamic data of mobile social networking over time. We also provide ponds with different backgrounds for different groups according to the social relationships, location or communication mode. Users can manage their contacts in each pond and stay aware of the overall communication status. The evaluation of EmoFish in

user study shows that the user interface can effectively increase the playful experience, awareness of communication history and motivation of social contact.

2. Fight Club: Playful Fighting

Fight Club is a mobile fighting game with pervasive and multiplayer characteristics. The amusement experience is based on face to face physical interaction. The design concept comes from the traditional games in childhood. Kids like to swing something as a weapon to fight with each other. The face to face interactive experience in real world is impressive and playful. We were inspired by the way of entertainment and designed Fight Club. Players can swing their phones back and forth to stroke sandbag or fight with other players through built-in sensors and blue-tooth on mobile phones. (Figure 4)



Figure 4 (a) . Fight Club Interface



Figure 4 (b) . Playing Fight Club

To break through the interaction on mobile phone screen, we focus on face to face communication in physical environment. User Interface combines visual, audio and vibrate channels to enhance entertainment experience. The built-in accelerometer can analyze players' movement and gestures such as punch, block and false action and then transform the data into visual animation effect. Meanwhile, sound effects of fighting and vibrate alert are activated in real time.

In our user study, participants played Fight Club in various occasions and places. Some of them played in their office at tea break. Some played when they were waiting for buses or subway. Some people played at home with their family especially kids and elders who are not good at playing games on computers. They found it is a good way for social networking and affective communication.

3. Face Fantasy: Playful Photography

Face Fantasy is a playful photography application on mobile phones. It is launched during Chinese New Year.

Users can take photos and place their face or their friend's face in various virtual costumes such as Chinese emperor, the God of Wealth, Fortune teller and Kung Fu master. When users shaking the phone, animation clips with their face are activated in real time. (Figure 5)



Figure 5. Face Fantasy

Face Fantasy is designed for Chinese New Year, which is the biggest festival in China. People usually send greeting messages by mobile phones or write cards to friends. Face Fantasy is a new way of greeting and entertainment based on traditional customs. In our user study, most users send the generated pictures or film clips via emails or SMS as a gift to their friends, family or lovers. Some users play Face Fantasy to show off in a party or dinner to share their happiness with others.

Conclusion

In this paper we presented the idea of designing playful applications on mobile phones by involving mobile

technology into social entertainment in specific environment. Three design cases EmoFish, Fight Club and Face Fantasy are discussed in the following section. The original concept of these applications comes from social entertainment and humane environment. Mobile technology helps to improve the way of interaction and adds human-machine interaction into social communication. The user study shows that this design concept is effective for developing playful mobile application.

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Author's background

Bin Zhu is a lecturer in Internet and Games Department at China Academy of Art. Trained in social communication and digital media she studied for her Master degree at Communication University of China where her thesis focused on mobile social application

design for emotional experience. Her current research focuses on affective application design on mobile devices and interaction design. Her interest area is also including interactive arts and digital film.

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