Intercultural Socializing via Mobile Games for Backpackers

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Abstract. Mobile phones are currently shipped with pre-installed games all around the world. In most cases, these pre-installed games contain very little elements of sharing local heritage, traditional values and beliefs. Naturally, such pre-installed mobile games are provided with a different intent and under various commercial contexts. This paper looks at the design and development of intercultural mobile games aimed for backpackers. This is to allow backpackers to socialize, to share and to learn new cultures during their travels. User evaluation studies were conducted to collect the backpacker's feedback and to improve on conceptualization during the design process. The results were used collectively to provide input for improving the design concepts and interfaces. Screenshots of the mobile games are provided. In general, the results highlight important considerations when deploying an intercultural mobile game to backpackers.

Keywords: Mobile games, socialization, cultural games, backpackers, user experience.

1 Introduction

Since the boom of mobile technologies in the mid nineties, mobile phones are fast becoming ubiquitous in determining our styles and trends of communication. With current expansions in mobile hardware and software, mobile games are one of the most proliferating industries, based on the demand of its users. Nielsen Mobile [1] reports on mobile gaming statistics for the first quarter of 2008, they estimate that there were 19 million games downloader. Informa Telecoms [2] anticipated that worldwide revenues for mobile gaming will grow to US$7.5 billion in 2011 from US$2.5 billion in 2006, where the largest chunk are contributed by the Asia Pacific region. It is without any doubt that mobile gaming is a lucrative business with the potential of generating significant amounts of revenue with a considerably large customer base.

Moreover, the appeal for mobile games, apart from its revenue generation, is its pervasiveness. Young adults traveling around, such as those who prefer backpacking,

carry a mobile phone with them. The mobile phone in this context is not merely an item of necessity, but instead represents the owner's social status, a portal for entertainment and a tool for communication. To a certain extent, mobile users are extending their mobiles as a tool to communicate and socialize with people locally and globally. With modern mobile technologies, entertainment, information and communication are only a click away for its users.

This paper highlights the development and process of designing a mobile socializing game to provide its users the experience of sharing and interacting with their destination's local culture, values and beliefs. On the other hand, the mobile game described here also allow its users to easily meet online and get acquainted with other fellow backpackers who are also traveling within the same country and have opportunities to bond with one another since backpackers adore traveling and the flexibility of selecting their destinations. For instance, users can obtain and share live information such as travel logs, food, entertainment, news, accommodation, maps, climate, access to local places of interest, flight information and the latest events around the country which they are presently traveling in. Since most of the time backpackers utilize public transportation, they have the ability to quickly access the mobile game during their waiting time in between travels.

2 Literature Review

2.1 Backpacking and Traveling on a Budget

Backpacking refers to an economical, independent means of traveling around. This type of budget travel is managed, characterized and categorized solely by the backpacker him/herself. Backpackers create opportunities for themselves to experience their travel through customized and non-institutionalized means, sometimes considered as being fee-spirited travel. Some consider backpacking as a lifestyle, a personal adventure, a relaxing educational activity, an opportunity to soak up the local heritage, socializing with local cultures, and having absolute control of one's time, expenditure and experience of a destination. This means that backpackers tend to mingle more with the locals compared to a tour group style of traveling, and have the allowance of delaying their schedule if they found something interesting along their travels. Backpackers also have the characteristic of planning their trip meticulously, spending a lot of research efforts on their travel destinations, and are willing to dedicate more time absorbing the cultural and local aspects on a few selected areas in their travels, thus having the trend of staying longer at their preferred destinations [3]. Europeans and North Americans are famed for their backpacking trends.

However, having greater access to modern information and communication technologies, such as the mobile phones, smartphones, PDAs and netbooks, and with greater budgets, a new trend of backpacking is beginning to surface where travelers have more means to travel in comfort and have more time to explore whilst still having access to modern electronic devices. Backpacking is gaining popularity in Asia. The flurry of low-budget airlines and budget accommodation seem to provide greater domestic travel opportunities as well as to neighboring countries. The constant improvements in local broadband and satellite communication technologies also allow travelers the ability to share, upload, synchronize, locate and update their travel

information to the World Wide Web (WWW). The increase of blogging and independent travel Websites also add to the growth and encouragement of backpacking in Asia as backpackers are usually very keen to share and chat about their discoveries, worries, events, experiences, comments and observations during their travels.

2.2 Game Genres

Since the inception of arcade games back in the early nineties various genre of games have been introduced which mark a very important point in gaming history. Casual game is one of the most well-known genres for mobile phones. Generally, casual games are aimed at a more diverse type of casual gamers. They involve no long term participation to the game or no compound strategic challenges, as they are typically straightforward to play with simple rules and game controls compared to hardcore games [4]. On the other hand, a sports game is a game that imitate the playing of traditional sports into a portable device such as the mobile game, including baseball, association football, American football, boxing, wrestling, cricket, golf, basketball, ice hockey, tennis, bowling, rugby, and indoor lacrosse. This genre of game is highly spirited and bears similar traits to the real world sports [5]. Apart from that, sports companies and famous sports icons would normally be featured in the game as well.

Adventure games provide situational problems for the player to solve, with very little or no action [5]. If there is action in the game, it is generally confined to isolated minigames. Typically, adventure games are a type of video game characterized by investigation, exploration, puzzle-solving, interaction with game characters, and a focus on narrative rather than reflex-based challenges. Puzzle games generally require less complex game controls and overall difficulty in terms of gameplay which are required to get through game. *Tetris* is one of the highest revenue generating mobile games falling under this category [6]. In contrast, action games have gameplay based on real-time interactions that challenge the reflexes [5]. Action game is a game that challenges a player's speed, dexterity, and reaction time. Action games often include tactical conflict, exploration challenges, and puzzle-solving, but these are not the defining elements [7]. Action games are the broadest and most inclusive genre in gaming, encompassing many diverse sub-genres such as fighting games, first-person shooters, beat 'em ups, and platform games. Usually, these games require some dedicated graphic and data processing to relate to the gamers' reaction and reflexes.

Racing games are a genre of video games which attempt to provide the player with a realistic interpretation of operating various kinds of vehicles. Rollings and Adams [8] note that "the vast majority of vehicle simulators are flight simulators and driving (usually car-racing) simulators". This genre also includes simulations of driving Formula 1 (F1) cars, trains, spacecrafts, boats, tanks, and other combat vehicles. However, the strategy video games are a genre of video game that emphasizes skillful thinking and planning in order to achieve victory [5]. They are generally categorized into four sub-types, depending on whether the game is turn-based or real-time, and whether the game focuses on strategy or tactics. Location based games is one in which the game play somehow evolves and progresses via a player's location [9]. Thus, location-based games almost always support some kind of localization technology, for example by using satellite positioning like GPS (global positioning system).

2.3   Socialization

Socialization refers to the process of learning one's culture and how to live within it. For the individual, it provides the skills and habits necessary for acting and participating within their society. Social networking sites such as Facebook, Friendster and MySpace are very successful as they generate millions of users from all around the world. They are hugely successful as humans, in general, are naturally sociable even when we are interacting in the virtual world. Gourley [10] mentioned the key as Facebook application is so successful because they made it sociable. Thus, users could add personal photos, add videos, write comments, send virtual drinks, send invitation to events, connect through groups, chat box application, and other socially prone activities.

A massively multiplayer online role-playing game (MMORPG) such as World of Warcraft (WOW) is hugely successful as there are socializing elements within game-play which require players to discuss, talk, and share information throughout the game in order to complete the game's missions [11]. As WOW focuses hugely on teamwork, players are expected to discuss strategies and build clans among each other in the game. Second Life is a virtual online world where people can explore, meet other residents, socialize, participate in individual and group activities, and create and trade virtual property and services with one another, or travel throughout the world, which residents refer to as the grid [12]. About two-thirds of the players point out the prospective to interrelate with several thousand fellow players or participating via ones' character in a virtual "society" as a vital motivation to log onto Ultima Online [9].

2.4   Intercultural Activities

Sato and Chen [13] mentioned that when a group of people, no matter its scale or number, begins to share common ways of thinking, feeling and living, the concept of culture begins to occur. Different cultures can be distinguished by their individual and group characteristics, e.g. the mental models, behavioral patterns, emotional responses, aesthetics, rules, norms, and values that group members share [13]. Different cultures therefore produce different artifacts and environments based on their shared cultural characteristics. On the other hand, artifacts, through people's interactions with them, can influence existing cultures and may even produce a new culture. Two universally known intercultural elements are said to revolve around sharing and learning [14]. It is important to note that the backpacking culture also contain similar attributes of sharing and wanting to learn more about their travel destination. This commonality is the basis for which an intercultural and social mobile game was developed for backpackers.

3   Ostel: An Intercultural and Social Mobile Game

We can explore various aspects of socialization and intercultural competence from playing games through mobile phones. Ostel is a prototype of a mobile social game that was developed from a design and development collaboration between the Interface Design Department at the Faculty of Creative Multimedia in Multimedia University, Malaysia, and Telenor Research and Innovation Centre Asia Pacific (TRICAP) in 2007-2008.

3.1 Design Concept of Ostel

The idea of *Ostel* derives from the needs of low-cost backpackers and travelers, especially young adults, who like exploring the world whilst still having access to their everyday mobile and portable device applications. *Ostel* was developed based on the requirements of backpackers needing to gain access to local values and beliefs, and to be able to foster relationships with others while learning new cultures during their travels. In brief, *Ostel* is a location-based mobile social game that caters for backpackers and travelers throughout the world. Functions such as GPRS, 3G, Wi-Fi and Bluetooth services enable the backpackers to turn on their Internet connection via their mobile phones while on the move. As such, *Ostel* is designed as a social community game by using the mobile phone as a tool to access features such as gaming, connectivity, information and tele-communication. The game provides interesting features (e.g. cultural games, community board) to enable users to socialize within the virtual community, foster relationship and also learn culture from different countries. When traveling to a different country, *Ostel* allows its users to switch to another mobile operator automatically or manually. This feature of the game allows users to be connected to the listed country's featured traditional games. It also empowers users to have social interaction with other registered users, providing them with recommend places of interest, restaurants and accommodations while enjoying the gaming experience playing cultural mobile games.

3.2 Socialization and Intercultural Aspects of Ostel

In the main menu, there are six main icons in *Ostel* such as *'community'*, *'activity'*, *'theme'*, *'shout-out'*, *'setting'* and *'score'*. The screen shots (Figure 1-2) below show the main menu screen, and how users access to the main features. Tortoise is used as the metaphor on *Ostel* for the overall design concept. The metaphor implicates the backpackers and travelers who carry their belongings on the move, which is similar as a tortoise carries its shelter on the back wherever it goes. The overall menu and navigational design is simple and intuitive to enhance the user experience. Note that level 1 menu is similar in its layout, interface and feel to provide consistency.

In order for the backpackers to socialize, they can activate the '*Community*' feature (Figure 3), and communicate through personal private message (PM) with anyone on their buddy list (Figure 4). Users can choose to invite and add any new friends, who are also online, into their buddy list to increase the circle of social networking. The 'shout-out' feature (Figure 5) is similar to a 'chat' forum, which enables the online community to post messages, chat, mingle around, and to exchange information like places of interest, likes and dislikes, 'dos and don'ts' tips during their travel.

Users can access to the '*activity*' menu (Figure 6) to find out the '*happenings*', any '*promotional*' travel-related items, and also indulge in the cultural '*game*'. There are several 'themes' for cultural games that is based on the country. Users can select the preferred game when they travel in the country to have fun and learn the nation's culture through socializing in the mobile game (Figure 8). For instance, when users select 'Malaysia' flag icon under the 'theme' option, they are exposed to different types of local cultural games.

Fig. 1. Ostel start-up screen

Fig. 2. Ostel main menu. Notice the sea turtle or *Penyu* avatar

Fig. 3. Ostel's 'Community' screen is selected

Fig. 4. Buddy List status shown under 'Community' menu

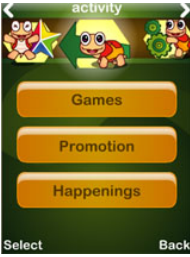**Fig. 5.** The 'shout-out' menu

Fig. 6. Users can access to either 'game', 'promotion', or 'happenings

Fig. 7. Users can check their scores and ranking of the mobile games they have participated

Fig. 8. Under the 'theme' menu, users can choose the country's game

The above screen shots (Figure 9-16) illustrate two examples of local Malaysian cultural social games – the 'Takraw' and 'Wau Bulan'. Takraw is a traditional sport in Malaysia. It consists of two groups of players with 3 players on each side on a pitch similar to that of a badminton court and is also separated with a net. One group of players begins by pitching a rattan ball (the takraw) and is kicked over the net to the opposite side. The opposing side receives the takraw and should deliver it back. The side that allows the takraw to fall onto the ground loses. If played alone, the player kicks the takraw up into the air and must keep it up in the air as long as possible. The player loses once the takraw touches the ground. The mobile game of Takraw follows the same set of rules as the real sport, and is operated in two modes, that is single player and multi-player mode (see Fig. 10). For Multi-player mode, users can invite either their buddies or any online user to join the game for social interaction from different networks. The multi-player mode allows the user to 'kick' the takraw over to the other user's mobile device. The gameplay is in real time over the selected UMTS/3G (2.1GHz) network. This form of interactive interface is designed for en-hancing social interactions while keeping the graphical processing to a minimal.

Another interesting local sport popular in the East Coast of Malaysia is 'Wau Bu-lan'. Essentially, this sport is about kite flying and 'Wau Bulan' is the more popular kite design. The mobile game derivation promotes the same gameplay concept of
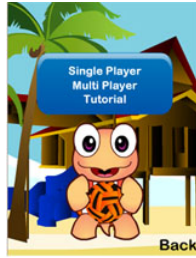
Fig. 9. '*Takraw*' cultural game

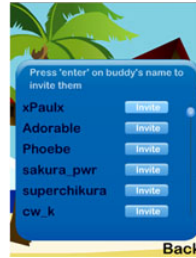**Fig. 10.** There are two modes of gameplay - single or multi-player

Fig. 11. Inviting buddies to join the game

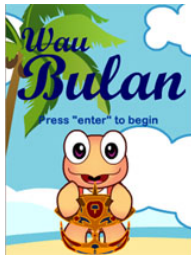**Fig. 12.** Scoring '1' when the user manages to kick the *takraw*

Fig. 13. The '*Wau Bulan*' game – a traditional Malay flying kite game

Fig. 14. The users can select Tutorial to find out the instructions how to play the cultural game
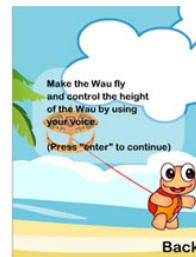
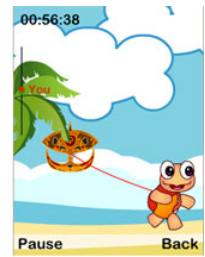**Fig. 15.** The user can use voice command to control the 'height' of *Wau Bulan* kite

Fig. 16. An indicator showing 'You' as the player position when playing with other players

keeping the kite flying high in the sky. The higher the kite flies, the more points the user will gain. In multi-player mode, both players will attempt to out perform each other.

4   User Study

4.1   User Group of Backpackers

A 'quick-and dirty' user trial was conducted on backpackers to gather user feedback. A total of 20 users (10 women and 10 men) in the age range from 20-30 years participated in the study. We recorded the observation of their interactions with *Ostel* prototype during the evaluation session. A pre- and post-questionnaire was issued to brief and de-brief the users respectively.

The intention of the study was not to obtain statistically valid quantitative data; this is merely a qualitative exercise and aimed at identifying possible user needs, trends and feedback on the interface design and content from a small user group of backpackers.

Fig. 17. Backpackers testing *Ostel*

5   Analysis of Results

It is important to stress that all respondents were backpackers with at least 3 years of backpacking experience. They have all owned portable and mobile devices for more than 5 years, and carry those devices with them whilst traveling. The respondents are considered as independent, well-traveled individuals who are conversant with mobile technologies and have been sharing their traveling logs onto online blogs.

5.1   General Observations

The respondents have never experienced using or having seen any existing or similar socializing mobile game for backpackers. They were happily surprised of a 3G-abled game of this nature. During the interview, the respondents were asked to describe *Ostel* in three words for each of its features, such as its navigation, layout design, menu, icons, colour scheme, accessibility, gameplay, country guide, and content. The frequency of most common words mentioned is shown in Figure 18. Generally, the users perceived *Ostel* as interesting, sociable, having cute icons, rich colors, intuitive screen design, easy navigational path and cultural game play. However, they found that it could be quite confusing to interact at the community section.
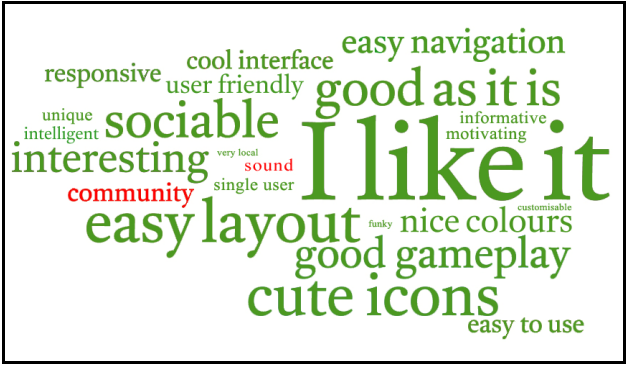

Fig. 18. The relative frequency of common words to describe *Ostel*, where larger text means more frequently mentioned words. Green indicates positive words, and red as negative words.

In a nutshell, *Ostel* itself is not solely a game but includes many socializing aspects of being able to share the gameplay with others, chat, post queries and to go back to previously visited countries to continue playing those "local" games. It allows backpackers to continuously interact with and be connected to their listed friends as though they are traveling when they may already be back in their own countries. The ability to select the countries the backpacker have visited, and for the application to update country listing is important for the sustainability of the intercultural mobile game.

6 Conclusion and Future Work

This paper highlights the interface design considerations in developing an intercultural socializing mobile game for backpackers. *Ostel* allows backpackers to socialize, to share and to learn new cultures during their travels. These primary game elements provide the fundamentals for inter-cultural activities to occur, and it also fulfils one of the customary essentials of the backpacking culture.

The respondents adapted very quickly to the idea of Ostel being a good proposal as their traveling companion, and an extension to their travel guides and blogs. Further detailed usability studies will be conducted based upon the feedback received in this preliminary study. Another avenue for future work includes developing *Ostel* as a platform for the tourism industry and also for mobile operators to promote tourist-related services and to introduce national games to tourists.

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