Mobile Social Gaming

Paul Coulton
InfoLab21, Lancaster University
Lancaster, UK
+44(0)1524510393
p.coulton@lancaster.ac.uk

Klen Copic Pucihar
InfoLab21, Lancaster University
Lancaster, UK
+44(0)1524510537
k.copicpucihar@lancaster.ac.uk

Will Bamford
InfoLab21, Lancaster University
Lancaster, UK
+44(0)1524510537
w.bamford@lancaster.ac.uk

ABSTRACT
After ten years of game design practices routed within traditional PC and console development aimed at hardcore gamers, the mobile games industry has embraced the realization that these have limited value for mobile, and new approaches need to be considered. In particular the greater utilization of social factors within games would embrace the social practices in which mobile phones often engage. Whilst this has led some to propose MMOGs for mobile, the behavior of players of these games suggest they also have the characteristics of hardcore gamers and we suggest the games emerging on mobile social networks or online casual game sites is more applicable. In relation to this we discuss the real world behavior of gamers using a novel game widget which allows users to play and chat across the mobile network anywhere in the world. With approaching 10,000 users and growing, the game highlights that even a very simple game mechanic, when combined with simple messaging, can be compelling, producing some interesting emergent behavior in countries where access to traditional platforms or social interaction may be more constrained.

Categories and Subject Descriptors
H.1.2 User/Machine Systems

General Terms
Design, Experimentation, Human Factors.

Keywords
Mobile, games, social, widgets, design.

1. INTRODUCTION
The terms ‘Mobile Games 2.0’ and ‘Social Mobile Games’ have been coined to emphasize the growing awareness amongst designers, publishers, and indeed gamers, that mobile phone games need to evolve beyond the game design practices developers have inherited from the console and PC environments, which have dominated the first ten years of this fledgling industry [3], and harness the existing social nature of mobile phone usage within games. Some designers have looked for inspiration from the social practices developed around Massively Multiplayer Online Games (MMOG) [8], such as World of Warcraft (WoW), for the following reasons [8]:

- These games have a lifespan in years compared with just a few months for most PC and console games, although the community can often take a significant amount of time to develop;
- High player loyalty to the game once they pass the initial phases of learning and entering the game (which are often tedious) the length of game play is such it requires a considerable investment of time;
- These games tend to be subscription based which means they potentially offer a much higher return.

However, we believe these MMOG designs are unlikely to translate effectively to the mobile environment because of both restrictions in the platform and the traits exhibited by the gamers themselves.

If we first examine the mobile environment, there are a number of factors that would inhibit the development of a successful MMOG on mobile, such as [5]:

- Mobile application usage tends to be short term and spontaneous rather than planned;
- Extremely variable capabilities of individual users’ phones (e.g. screen resolution and key layout) and software platform.
- Extremely short lifespan of a mobile game visibility on operators game portals which means game have often insufficient time to grow a critical mass of players;
- In many markets where mobile is the principal access of players to the internet the lack of availability of support networks (such as fan sites and discussion boards) inhibit community growth.

In terms of social interaction amongst players in games such as WoW, which often exists at high levels [4], it primarily attracts gamers with characteristics generally considered as ‘hardcore’ [7] such as [2]:

- Enjoy longer play sessions and regularly play games for long periods;
- Are excited by the challenge presented in the game;
- Will tolerate high levels of functionality in the user interface and often enjoy mastering the complexity;
- Often play games as a lifestyle preference or priority.

Whereas mobile gamers are considered generally considered to display the characteristics considered as ‘casual’ such as [2]:

- Enjoy shorter play sessions – play in short bursts;
- Prefer having fun, or immersing themselves in an atmospheric experience;
- Generally require a low dimensionality of control (e.g. puzzle games);
- Consider game playing another time-passing entertainment like TV or films.

Whilst there are many gamers who display attributes that cross these boundaries such as the ‘cardcore’ (a gamer who plays casual

games in a hardcore way for example those addicted to Tetris or Bejeweled) the nature of the mobile phone environment and its use makes it most suitable for casual game play [6]. This is not to say MMOGs have not been developed for mobile but the only commercial successes are those supporting casual offline activities of online games rather than those that endeavored to create MMOGs. In terms of other game genres, it is the casual game titles that have dominated mobile phone game sales for the last ten years [9] although these games have predominantly been single player – multi-player games incorporating of social activities has failed to appear. Although this is no doubt due in part to the fragmentation of the mobile application development landscape, it has also been exacerbated by the restrictive distribution models and lack of users' influence on operator game decks [9].

As a possible solution the rise in popularity of widget[1] games such as Scrabulous[2] on the social networking site Facebook, which has a user base of 2 million dwarfing many MMOG's, has led to significant interest in combining social/casual orientated games with more intimate game play and Web 2.0 paradigms such as easy deployment, discovery and the desirable possibility of viral distribution [6]. As widgets are seen as a primary enabler of Web 2.0, offering both ease of creation and distribution, the recent introduction of widgets on mobile phones would seem worthy of consideration as a platform for mobile game developers [6]. The research presented in this paper provides an insight into emerging user behavior based on a mobile multiplayer game widget. The game allows play and chat between players anywhere in the world connected through a mobile network.

2. MOBILE GAME DESIGN

2.1 Mobile Widgets

Widgets are already becoming pervasive on the desktop/web with custom widget environments such as iGoogle Gadgets, Opera Widgets, Yahoo Widgets, Apple Dashboard Widgets, and Windows Sidebar Gadgets. There is also another important class of widgets; those that are intended for other platforms (e.g. Facebook, MySpace etc.) such as Clearspring and Widgetbox.

In terms of mobile widgets there are two main approaches the custom environment in which the widgets can be selected and run such as Yahoo! Go Mobile Widgets, Plusmo Widgets, Zumobi and Nokia WidSets. All of which use a J2ME mobile client to allow users to create a personal desktop of widgets such as that shown in the top left and bottom right of Figure 1[3]. The alternate approach is mobile browser based which often borrows from, but is not based on, web standard technology such as HTML, JavaScript, CSS, XML, AJAX etc. The two main examples at the present time are Apple iPhone Web Apps and Nokia Web Run-Time (WRT) Widgets.

The platform used for this project was Nokia WidSets which was chosen because it is device and manufacturer agnostic (able to run on 300+ phone models) and has a registered international install base of over 3 million users, thus providing an active user base in which to release such a game. Further, the service provides a built in distribution library in which widgets are rated and ranked by the community, as shown in Figure 1, rather than by an operator which is part of the Web 2.0 paradigms this project wished to consider.

2.2 Game Design

To benefit from shared cross cultural knowledge the game developed is based on the well known game mechanic of 'Four In A Row' which dates back centuries and was at one time known as 'The Captain's Mistress' – allegedly due to its popularity with Captain Cook. In more modern times the Milton Bradley game 'Connect 4' has become the most well known example.

Figure 1. Widget desktop and widget library.

The actual game play is relatively simple. It is a two-player game in which the players take turns in dropping alternating colored discs into a seven-column, six-row vertically-suspended grid. The object of the game is to position four singly-colored discs in a row – vertically, horizontally, or diagonally – before your opponent can do likewise.

The game created for this project was called '4 in a row' and was developed in WidSets Scripting Language (WSL) and utilized the

[1] A widget can be regarded as a mini application which generally does one simple thing but does it well. It could be a game, utility, etc but they should be quick to develop, easy to deploy.

[2] Recently renamed "Wordscraper" after court action by Hasbro, the owners of Scrabble.

[3] All the screenshots used in this paper are taken directly from a mobile phone while the service and games were being used.

beta version of the Channel Application Programming Interface (API) which allows multiple users to communicate through the WidSets platform.

2.3 Game Operation

Once the player opens the widget they are first presented with the game lobby, as shown in Figure 2, which lists all the players currently waiting to play a game. On this screen players can select a game speed, which is the number of seconds a player has to complete their turn[4] before the counter automatically drops down the column it is positioned above, before challenging an opponent from this list. Alternatively players can simply wait in the lobby until challenged as is shown on the top left screen of Figure 2 and in this case the game is played at the speed selected by the challenger.

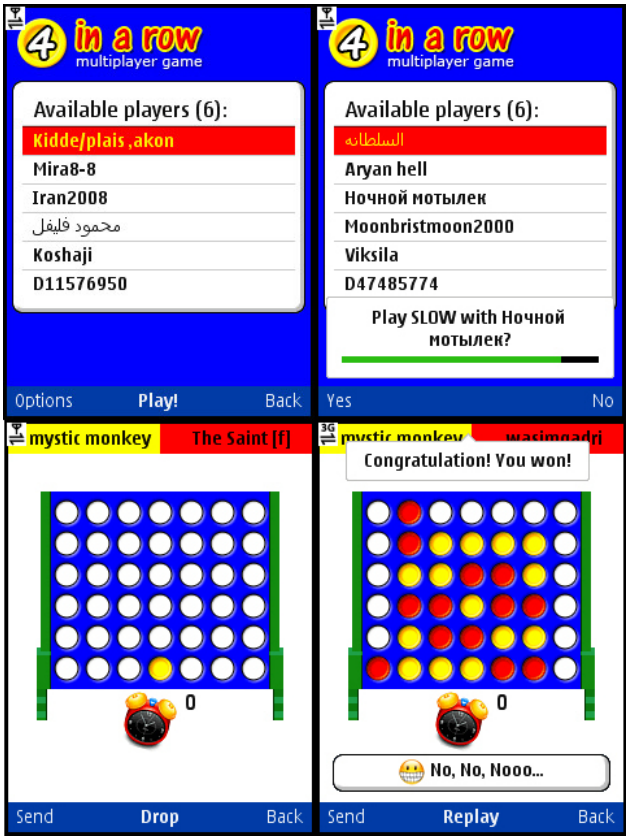

Figure 2. Screenshots of the game operation.

The widget then effectively creates an individual game room to which the players are transferred before both players are presented with the game screen shown on the bottom right of Figure 2.

Note that when players enter a game their names are removed from the game lobby. The color of disc each player is using is indicated by the color of the bar in which their name appears on top of the game board and the challenged player always plays first. On each turn the colored disc a player is using appears above the centre column and it can then be moved left and right using either the joypad or the 4 and 6 keys and dropped using the center joypad key (or the 5 key) as long as the timer has not yet reached zero. Play continues until either one of the players obtains four discs in a row (at which point he/she declared the winner and the opponent the loser) or the game ends in stalemate (with each player notified of the draw). At the end of a game, the players can either chose to play again or return to the lobby.

During the game, players can chat or taunt their competitor using the 'Send' feature shown at the bottom left of the game screen which is controlled by the left soft key. Players can either type a new message or select from a list previously stored messages.

3. PLAYER BEHAVIOUR

At the time of release there were no other multi-player game widgets on the platform, although two out of the top five widgets rated by the users on WidSets are games which boast over 700,000 users between them [6]. During the first four weeks of launch, the 4 in a row widget obtained in excess of 10,000 users and was achieving a positive rating from almost one in ten users with a growth displaying the power law curve generally associated with social networking activities [10]. However, as was stated previously, the widget utilized a beta version of the Channel API and when a new version of the WidSets client was released with a malfunctioning Channel API resulting in loss of the community until this was rectified almost two months later. Therefore, the majority of the observations presented here are from approximately 100+ games played by our research group during the initial period, although as can be seen from Figure 1, the game has started to re-establish itself after this setback (10255 users and rating of 881) and the behavior presented here is reappearing albeit at a slower pace than was originally observed.

One interesting aspect of the user base is the consistently high proportion of names of Asian-origin compared to European, as indicated in the majority of the Figures. Considering that mobile penetration in Europe is at a much higher level, this is perhaps representative of a lower proportion of PC ownership and broadband access. Note users represented by 'D' numbers in the figures are the default WidSets client user IDs for those who have chosen not to register a username. Whilst the WidSets service does not allow us to confirm the user's location directly, this trend is also evident on the free Nokia mobile download site MOSH which does provide details of downloads by country.

Figure 3 displays what became a very typical chat session which emerged after initially seeing either in-game taunts such as "hurry up" or game events such as "you lose" in the early games. Early on in games with new players the question of player location came up, often followed by a question of gender, as can be seen in Figure 3. This seemed particularly evident when playing games with players whose names would indicate they were located in Asia. Obviously the limitations of the chat facility an lack of online support communities meant we couldn't explore with players their intentions with such questioning but there have been numerous reports over the last few years of young people in Muslim countries flirting via their mobile phones using Bluetooth [1] and the facility of this game would seem to offer similar possibilities.

[4] Fast = 5s, Medium = 10s, and Slow = 15s

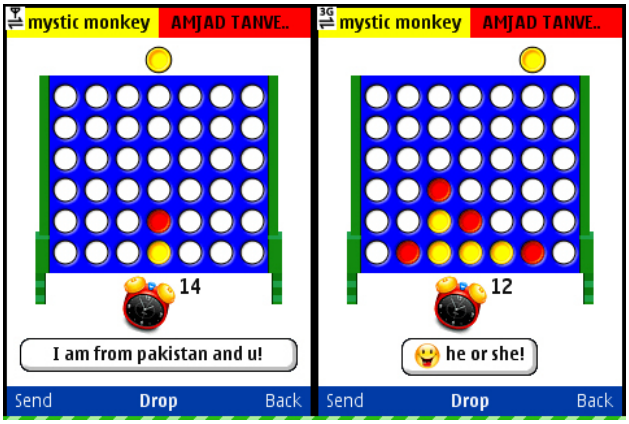

Figure 3. Examples of typical chat questions during game play.

Indeed we started to observe some of the naming conventions reported in this activity [1] where people would adopt names they felt more likely to attract interest. In Figure 4 we see examples such as 'The Saint" who has added '[f]' to her name to indicate gender or 'Moh3n_1987 who provides what we assume is their year of birth and even 'Iran2008' to indicate location (we also saw other countries such as 'Eygpt2008' in this style). Others simply adopted names we assume are designed to be more attractive such as 'Angle [sic] of Love' or 'Orlando bloom' (we are assuming here that it's not in fact the actor himself).

Figure 4. Examples of emerging naming conventions.

These naming conventions seem to be continually evolving and it's an aspect we are continuing to record as the game reestablishes itself.

4. CONCLUSIONS

The games practices developed for the traditional console and PC market have already proved ineffective for the fledgling mobile games environment and designers would do well to explore the nature of mobile phone use to produce more relevant designs. With this in mind, the initial goal of this project was to investigate the possibilities of combining social/casual orientated games with Web 2.0 paradigms such as easy deployment, discovery using mobile widgets. Despite the unforeseen problem with the chosen platform these aims have been met in that a multi-player widget game has attracted high numbers of users and been rated highly by these users thus increasing its popularity.

Additionally we have observed the emergent behavior of players in regard to the in game chat facility that have parallels to previously observed practices in countries where access to traditional platforms or social interaction may be more constrained.

Given the relative infancy of mobile widgets and the fact the access to phone technology is much greater than access to PC technology there seem tremendous possibilities for future research into social interaction through mobile gaming which will likely differ greatly from the practices observed in online MMOGs, particularly in the so called emerging markets.

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