

Mobslinger: Creating Urban Outlaws

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Abstract: Whilst there are a number of location sensing games emerging for mobile phones, there are few examples of social proximity based games that are effectively position independent. Bluetooth would seem an obvious choice for proximity based games, although the majority of games produced to-date simply uses it to provide a quasi peer to peer connection between users of multiplayer games. In this demo we illustrate the use of Bluetooth for stimulated spontaneous social interaction through our game called 'mobslinger' which is a wild west, quick draw, 'shoot-em-up' game using mobile phones.

1. Introduction

Mobile Games are already a success story with revenues exceeding € 1.7 billion in 2005, although, traditional games publishers have displayed a relative weakness in leveraging their success from the console market [1]. This is no doubt due to the fact that games on mobile phones appeal to a much wider consumer demographic, who have shown little interest in the driving and first person shoot-em-ups titles that dominate the console market, and have more in common with those utilizing games online or through their TV [2]. This opens the door to games that utilize the benefits of the mobile phone platform such as location based games, which despite initial scepticism, are increasingly being seen as an important new genre. We have already seen a number of location based games for mobile phones [3] and the number is increasing all the time. Some of these games use proximity, in the sense that the user's location is close to either another player or a real or virtual artifact within in the game. However, none rely solely upon the proximity between either a player and another player, or the player and a game artifact, irrespective of the physical location. The most notable example of this type of game play, although not mobile phone based, is that of Pirates [4] which was an adventure game using Personal Digital Assistants and RF proximity detection. Players completed piratical missions by interacting with other players and game artifacts using RF proximity detection. One of the interesting aspects that emerged was the stimulated and spontaneous social interaction

between the players. One of the research motivators for this project was to produce a game that provided the opportunity to bring this type of spontaneous social interaction to mobile phone users. We believe it is best achieved by removing the requirement for a central game server, as utilized in Pirates, and utilize a proximity detection scheme that initiates a dynamic peer to peer connection.

In terms of proximity detection the obvious choice is Bluetooth which despite previous predictions of its demise is in fact increasing its growth, with Nokia predicting a year-on-year increase of 65% in 2006. In fact there are already a small number of mobile Bluetooth proximity applications which are often described as Mobile Social Software (MoSoSo) and can be viewed as evolutions of Bluejacking. This is a phenomenon where people exploit the contacts feature on their mobile phone to send messages to other Bluetooth enabled devices in their proximity [5]. Bluejacking evolved into dedicated software applications such as Mobiluck and Nokia Sensor which provided a simpler interface, and in the case of Nokia Sensor, individual profiles that could be used to initiate a social introduction. The only gaming example of this type is You-Know-Who from the University of Plymouth which provides a simple game premise to help initiate a meeting. After scanning for other users running the application and 'inviting' a person to play the game, the first player acts as a 'mystery person', who then provides clues about their appearance to the second player, who builds up a picture on their mobile phone screen. After a set number of clues have been given, the players' phones alert, revealing both players' locations and identities. Obviously, the game play is quite limited and effectively non-competitive, which is unlikely to result in repeated game play, therefore, it is closer to the other MoSoSo applications than a game.

The game presented in this demonstration provides significant opportunities for both stimulated and spontaneous social interaction with additive and competitive game play. The game draws from the familiar, which is always a good way of gaining acceptance for a new game, using the concept of a Wild West quick-draw gunfighter which we have called 'Mobslinger' [6].

2. Mobslinger Application

The basic game premise is simple to understand and operate, which is an essential feature in any game. The relatively low cost of mobile phone games means they are often very quickly discarded by users if they cannot quickly engage with game-play. Mobslinger runs as a background application on Symbian Series 60 smartphone which

periodically scans for other users in the vicinity who are also running the mobslinger application. Once detected, a countdown timer is initiated on both phones which alerts the user by sounding an alarm and vibrating the phone. The user then has to 'draw' their mobile and enter the randomly generated number which has appeared on the screen as quickly as possible. The person with the fastest time is the winner and the loser is 'killed', which means their application is locked out from game-play for a set period of time. The game is playable in a number of different modes which we have called Quick Draw (basic two player game), Blood Bath (multiplayer shoot out), Last Man Standing (multiplayer contest), Outlaws (team games).



Figure 1. Mobslinger Application Screenshots

To achieve this operation the Bluetooth client server architecture has to be initiated, which involves setting one phone to discovery state (server) and the other to listening (client). One technical problem faced was how best to alternatively set the phones to each of the states, and determine the length of time in which the phone should remain in that state. The optimum length of time will be dependent upon the game mode. For example, in Quick Draw mode where you are looking for spontaneous interaction you will not want to operate the Bluetooth too often otherwise it could drain the mobile battery, alternatively, in Blood Bath mode where you are creating a social event and you will wish the events to occur more quickly. There is also a need for a random element to be included in the time between switching modes as a situation could occur where two phones keep missing each other.

Once a Bluetooth device is found, a socket is opened to search for the mobslinger game. This is known as device and service detection, which plays a fundamental part in Bluetooth communication. When a

service has been detected, a secure socket can be set up to transfer data between the two Bluetooth devices. The useful aspect of Bluetooth service detection is that it can be made application specific; in other words, we can isolate discovery to devices running mobslinger and ignore any other Bluetooth devices that may be in the vicinity. Once a secure connection has been established between the devices, the game can generate a random number that the user has to press, to 'shoot' the other person. This also activates a timer which starts recording when the random number is generated and is stopped when the user hits the correct key. The person with the fastest shoot-out time is the winner and is allowed to continue in the game. However, the loser dies and, as a consequence, is locked out of game play for a specified time, which is variable dependent upon the game mode.

4. Conclusions

While the game is popular amongst our research group there are a number of different aspects related to each of the modes that can only be answered by trials involving significant numbers of users, indeed, for the game to work on a commercial level the more players running the application the better.

References

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