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# Bluetooth Assassin: A Location-Based Game For Mobile Devices

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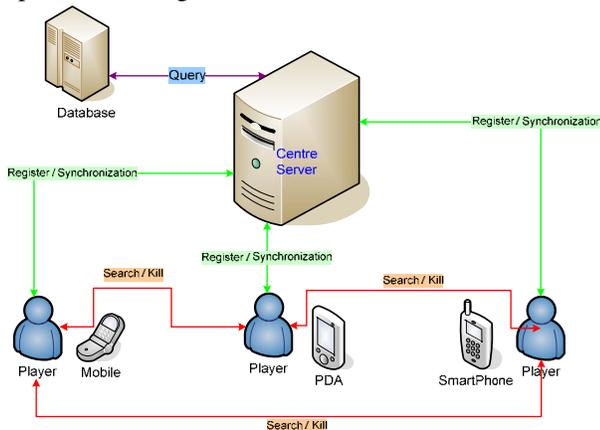
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**Abstract**—This short paper will describe Bluetooth Assassin, a location-based game developed for mobile devices.

**Index Terms**—Games, mobile communication

IN recent years, advances in mobile technology have allowed people to enjoy the kinds of game experience previously only restricted to PCs and now dedicated game consoles on small mobile devices such as phones and PDAs. Furthermore, games on mobile devices offer a range of unique possibilities not available on fixed platforms.

Bluetooth Assassin is a multiplayer mobile location-based game, played over Bluetooth enabled mobile devices. The game allows players to search for nearby opponents and virtually assassinate them in order to score points. Assassination is based on a simple scheme in which each player is given a random power rating which is kept hidden from all other players. Although players can attempt to assassinate anyone, they will only be successful if their target has a lower rating than their own. Points scored must be registered with a central game server running on a PC. This server runs the game, maintaining a score board for all players. After a certain time has elapsed, the game ends and the player with the highest registered score will be declared the winner. Figure 1 shows a high-level illustration of the components of the game.



**Figure 1: A high-level illustration of the Bluetooth Assassin configuration**

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As almost all newly designed mobile devices have full Java and Bluetooth support, the game is accessible to a large population. One can easily imagine a scene in the future where people walking on the street, sitting on the bus or having their dinners are all playing the game, happily assassinating anyone else within the Bluetooth supported range.

The game was developed using Java, Bluetooth and MYSQL. Although development was predominantly carried out using mobile phone simulators, the final game runs smoothly on a range of real devices and games have been played successfully. Figure 2 shows screenshots of the game running in the Nokia mobile phone simulator.



**Figure 2: Screenshots of Bluetooth Assassin running on the Nokia emulator**

Although Bluetooth Assassin was developed successfully and deployed onto real phones, there are a number of areas ripe for further investigation. The first of these is that development for mobile devices, and development using Bluetooth in particular, is not as straightforward as one would expect. There are considerable restrictions placed on the developer by the device manufacturers and there is often a requirement to use third party libraries, which tend not to be standardised across vendors. Another source of difficulty is the time it takes to search for nearby Bluetooth devices – up to 10 seconds on some phones. This removes much of the spontaneity of the game and some way to reduce the delay would be a big advantage. Finally, the rules of the game itself could be made more complex in order to make it more engaging.

However, in spite of the difficulties in developing the game, and its simplicity, Bluetooth Assassin remains a successful implementation of a location-based game for mobile devices.