Project Synopsis

A Networked Game for Mobile Phones

Reference No: 30S420

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Introduction

The huge growth in information technology has increased the need for networking aspects. Unlike earlier times where networking used to be by fixed cable lines which provided limited flexibility, today the need of the hour is to be able to set up a network on ad-hoc basis. Bluetooth is one such way of networking.

Bluetooth is a radio connectivity technology designed for creating Personal Area Networks (PANs). It is all about connecting to things that are next to you, wirelessly. Java APIs for Bluetooth is an optional API that adds radio PAN connectivity to MIDP applications. The Bluetooth radio hardware operates in the 2.45-gigahertz Industrial, Scientific, and Medical(ISM) frequency band, allowing for unlicensed operation worldwide.

Bluetooth APIs for MIDP applications are available in java2 micro-edition (j2me). J2ME isn’t a specific piece of software or specification. All it means is Java for small devices.

Small devices range in size from pagers, mobile phones, and personal digital assistants (PDAs) all the way up to things like set-top boxes that are just shy of being desktop PCs.
J2ME is divided into configurations, profiles, and optional APIs, which provide specific information about APIs and different families of devices.

**Objectives**

We are implementing mobile applications Bluetooth chat and Bluetooth Chess using J2ME. Bluetooth chat is the application where two mobile users in Bluetooth range can chat. Even though there need for good communication skills is stressed upon, we observe that people don’t communicate freely in face to face interactions. Our application allows the user to overcome this hurdle allowing people to have a friendly communication. It also allows people to communicate silently in their workplaces. The application provides the basic requirements and neat graphical user interface to chat.

Bluetooth chess is an application that allows a game of chess between two players. It checks the validity of the moves and allows them to play in turns. This provides a smart way to spend your free time.

**Methodology**

**Software requirements**

- Java 1.6 runtime
- Netbeans
- Netbeans Mobility pack
- Technology: j2me

**Hardware requirements**

- Java enabled mobile phone with MIDP 2.0 support with Bluetooth
- 500MHz Pentium III processor
- 512 MB memory
- 850 MB of disk space

**J2ME Overview**
Life cycle of a Midlet

Details

Blue Chat
When we execute the application in a mobile, the program automatically decides the server and client process depending on Bluetooth address. Once we decide the server and client, server waits for the client request. Client will try to establish connection with the server. Once server accepts the connection we can start chatting. When one of the users quits the applications, the other user gets a message indicating the same.

Blue chess
Bluetooth connection is established in the same way as in Bluetooth chat. Once a connection is established, the selection of the color of the coins is done by a simulated toss. The winner of the toss gets white coins and he will have to make the first move. There after each player takes turns to make a move.

Conclusions
The Blue Chat application can be used anywhere and whenever between the two mobiles like classrooms, business meetings, cinema halls and so on. The application provides appropriate notification whenever a Bluetooth discovery, failed connection, message arrivals and so on. With this the application provides efficient chatting facility between two users.

The Blue Chess application allows two users to play against each other. The application also allows saving a game midway in case the players decide to continue later. This allows users to play the game on the move where playing with actual board and coins is not feasible.

Scope for future work
The current chat application can later be enhanced to create chat rooms where many people can discuss things in a group. This would be particularly useful in groups where a few loud people dominate a discussion. It can also be used in a class room environment where students can ask their doubts anonymously if we interface the chat with a similar application on a computer. The games can move from the rather simple chess to more graphics intensive games with many players playing simultaneously.

1. Project is selected for Exhibition (EXPRO-2007) at NMAMIT, Nitte, Karnataka and Secured FIRST Place.
2. Project is also selected for Exhibition in SRIHTI-2007 (state level students project exhibition) held at BEC, Bagalkot, Karnataka.