

Multilingual Bluetooth Chat

Suryadeep S Sahu¹, Aniket R Sonavane², Deepak Kumar³, Monali Deshmukh⁴

Abstract: The project discussed here is a Bluetooth messenger application which connects using Bluetooth. The main concepts discussed here are: i) Bluetooth connection between a PC and an phone, whereby the user can update and synchronize his/her chat with the PC from time to time. ii) Multiple language chatting system where messages can be send in multiple languages. iii) Data structures used in storing and updating the data (messages) for respective usernames. iv) State machines and finite expressions used to achieve robustness, thereby delivering error free messages. This whole project has been designed using java programming language and xml. Threads are used to synchronise the messages. Some methods used for synchronisation are wait() and notify(). This app doesn't require an internet connection rather uses the in-built Bluetooth hardware and software in the phone. Hence it is a low cost communication and it comes in handy for free of charge short distance communication between individuals within a certain range (30 or 100 ft, depending on the hardware).

Keywords: Bluetooth, Messenger, Java, Short distance communication.

I. INTRODUCTION

The huge growth in information technology has increased the need for wireless technologies. 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 wireless network on ad-hoc basis. 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. Bluetooth is a standard for short range, low power; low cost wireless communication that uses radio technology Java APIs for Bluetooth is an optional API that adds radio PAN connectivity to MIDP applications. A Bluetooth connection is wireless and automatic. It does not need any extra cable wire or any hardware media to connect. It works through client and server technology.

In our project we are building software which will help transmitting the messages with the help of Bluetooth device. Using the Bluetooth we are transmitting the message from one personal computer to mobile phone.

The main objective of the system is Message transfer via Bluetooth.

In this project we can transfer text from one node to another. Bluetooth vision to evolve into open standards to ensure rapid acceptance and compatibility in the Market place. Future PC bus architectures will allow many connected devices to be accessed via a single Bluetooth access point. Widespread adoption of Bluetooth is driven by the low cost of implementing the cordless convenience feature in new products.

- User can chat via Bluetooth.
- There is a multilingual chat option through Bluetooth.

Advantages of Bluetooth:

- **Wireless:**
Bluetooth is a wireless technology for transferring data between two devices.
- **Low energy consumption:**

The processing power and battery power that it requires in order to operate is very low.

- **Bluetooth is automatic:**

Bluetooth doesn't have to set up a connection or push any buttons. When two or more devices enter in the range, they will automatically begin to communicate without any need of physical connection.

- **Cheap in cost:**

The technology of Bluetooth is cheap for companies and small scale industries to implement, which results in lower cost communication for the company.

- **Low interference:**

Bluetooth devices almost always avoid interference from other wireless devices. Bluetooth uses a technique known as frequency hopping, and also low power wireless signals.

- **Disadvantages of Bluetooth:**

- You're using up more battery power when you leave your Bluetooth enabled on your phone all day. It only allows short range communication between devices.

II. LITERATURE REVIEW

The literature related to the research topic has been reviewed for last twenty years in order to find out work carried out by various researchers. There are many systems for remote monitoring and control designed as commercial products or experimental research platforms. It is noticed that most of the research carried out belongs to the following categories

- Internet based Monitoring using Servers, GPRS modems, etc. with different approaches.
- GSM-SMS protocols using GSM module individually or in combination with Internet Technologies.
- Monitoring using Wireless Sensor Networks.
- Wireless Monitoring using Bluetooth, Wi-Fi, Zigbee and RF.
- Applications have changed widely like Home Automation, Security Systems, Agriculture, Environment, Reservoir, Bridge health monitoring etc.

III. EXISTING METHODOLOGY

Yahoo! Messenger:

Yahoo! Messenger is a very common chatting system among people around the world and also known as (YM). Yahoo! Messenger is an advertisement-supported instant messaging client and associated protocol which was provided by Yahoo. It is free and can be downloaded from yahoo website. The ID that used for this system is allowed to access other Yahoo services such as Yahoo Mail. YM provides many functions for the user such as PC-PC, PC-Phone and Phone-to-PC service, file transferring, webcam hosting, text messaging service and chat rooms in various categories.

MSN:

MSN formerly known as Windows Live Messenger and then its name was modified as MSN Messenger. Currently it is simply referred as MSN. MSN is an instant messaging client application created by Microsoft Company. It is compatible with much type of operating systems such as Windows XP, Windows Vista, Windows 7, Windows Server 2003, Windows Server2008 and Windows Mobile. MSN have been part of Microsoft. NET Messenger Service since 2005.

Skype:

Skype is another chatting system application that widely used by chatters around the world for communication via network. Skype is a peer-to-peer (p2p) VoIP client developed by the organization that created Kazaa. Actually Skype is a software application that mainly used for voice calls over the internet. While its additional functions are instant messaging, file transfer and video conferencing. Skype was written by Estonia-based developer Ahti Heinla, Priit Kasesalu and Jaan who was originally developed Kazaa.

IV. PROPOSED SYSTEM

The current chat application can later be enhanced for multilingual chat which help to communicate two different language people. We are also increasing the range of the Bluetooth which helps in reducing one of the disadvantage of Bluetooth. We can also implement data transfer module in our application. The transfer of data will be between two cross platform applications.

V. BLUECOVE

BlueCove is a Java library for Bluetooth (JSR-82 implementation) that currently interfaces with the Mac OS X, WIDCOMM, BlueSoleil and Microsoft Bluetooth stack found in Windows XP SP2 or Windows Vista and WIDCOMM and Microsoft Bluetooth stack on Windows Mobile.

BlueCove-GPL is additional GPL licensed module to support BlueCove runtime on Linux BlueZ. BlueCove JSR-82 Emulator module is additional module for BlueCove to simulate Bluetooth stack. BlueCove can be used in Java Standard Edition (J2SE) 1.1 or newer.

VI. CONCLUSION

The Bluetooth Chat application can be used anywhere and whenever between the PC and mobile device like classrooms, business meetings 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 Bluetooth application allows two users to communicate against each other easily in a short range.

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