ISSN (ONLINE): 2395-695X
ISSN (PRINT): 2395-695X

International Journal of Advanced Research in Biology, Engineering, Science and Technology (IJARBEST)
Vol. 2, Issue 4, April 2016

Android Based Wireless Notice Board

Sonu Nigam, Priya Bhandarkar ,Amreen Sana Seikh ,

Aditya Hatwar,Tatsili Trakha, Priya Karemore

Department of Computer Technology

Priyadarshini College of Engg, Nagpur,440016, India

sonugupta071991@gmail.com,07priya.bhandarkar@gmail.com,
amreenseikh60@gmail.com,hatwaraditya2@gmail.com, tatsilitrakha@gmail.com,priya.karemore@gmail.com

Abstract— ***Notice Boards are a typical event in assortment of organizations which we go over every day. In the present situation the notification/promotion sheets are being overseen physically. There is a long process included so as to set up notification on the notification board. This squanders a great deal of assets such as paper, printer ink, labor furthermore realizes loss of time. In this paper we have proposed a framework which will empower individuals to digitally transmit sees on a notification board utilizing . In this paper we have proposed a framework by which just approved individuals can get to the notification board utilizing a graphical user interface. We can likewise make the framework good with more than one remote innovation.***

Index Terms— **framework, graphical user interface, remote, squanders**

I. INTRODUCTION

Wireless Technology has been gaining enormous ground in the course of recent years. The perpetually expanding utilization of Wireless systems serves as a pointer of the advancement in the zone of remote systems. The interest for remote innovation is expanding in modern applications as well as for residential purposes. A few advantages of Wireless Technology are:

- Finishes the entrance innovation portfolio: clients generally utilize more than one access innovation to benefit different parts of their system and amid the relocation period of their systems, when overhauling happens on a booked premise. Remote empowers a completely far reaching access innovation portfolio to work with existing dial, link, and DSL advances.
- Goes where link and fiber can't: the intrinsic way of remote is that it doesn't require wires or lines to suit the information/voice/video pipeline. In that capacity, the framework will convey data crosswise over topographical territories that are restrictive as far as separation, cost, get to, or time.
- Includes decreased time to income: organizations can produce income in less time through the sending of remote arrangements than with similar access advances be-cause a remote framework can be collected and acquired online as meager as a few hours.
- Gives broadband access expansion: remote normally both contends with and supplements existing broadband access. Remote advancements assume a key part in amplifying the scope of link, fiber, and DSL markets, and it does as such rapidly and dependably. It likewise ordinarily gives an aggressive distinct option for broadband wireline or gives access in topographies that don't fit the bill for circle access.

In [1], Jin-Shyan Lee et al. have given a point by point near investigation of various short-go remote conventions viz. Blue-tooth (over IEEE 802.15.1), UWB (over IEEE 802.15.3), Zig-Bee (over IEEE 802.15.4) and Wi-Fi (over IEEE 802.11a/b/g). Principle components and practices as far as different measurements, including limit, system topology, security, nature of administration backing, and power utilization are examined for the examination.

Our proposed model comprises of two modules i.e. one or more Android Devices and one Receiver module. The Android Devices module comprises of Android deices connected to receiver by means of WIFI and GSM module. The recipient module put at the remote end comprises of for showing messages on LCD. Secret key construct Authentication is utilized with respect to the Transmitter side keeping in mind the end goal to give access control to just approved clients. Primarily16x2 LCD is been utilized for showing messages which we can encourage reach out to bigger LCD.[1].

II. COMPARATIVE STUDY

Table I below summarizes [4] [1] the key differences between the three short-range wireless technologies. As shown below, Wi-Fi provides higher data rates for multimedia access as compared to both GSM and Bluetooth which provides lower data transfer rates. GSM and Bluetooth are intended for WPAN communication (about 10m), while Wi-Fi is designed for WLAN (about 100m).

ISSN (ONLINE): 2395-695X
ISSN (PRINT): 2395-695X

International Journal of Advanced Research in Biology, Engineering, Science and Technology (IJARBEST)
Vol. 2, Issue 4, April 2016

COMPARISON OF THE BLUETOOTH, GSM AND WI-FI PROTOCOLS

Standard	Bluetooth	GSM	WIFI
Application Focus	Cable Replacement	Monitoring and Control	Web, Email and Video
Frequency band	2.4 GHz	900 and 1800 MHz	2.4 GHz; 5GHz
Max signal rate	1 Mb/s	270 kbps	54 Mb/s
Nominal range	10 m	unlimited	100 m
Channel bandwidth	1 MHz	890 - 915 MHz	22 MHz
Data protection	16-bit CRC	16-bit CRC	32-bit CRC
Max number of cell nodes	8	More than 65000	32

Table II beneath gives the correlation of the electrical parameters for the diverse chipsets of BlueCore2 [1] from Cambridge Silicon Radio (CSR), XB24-B [4] from Digi International Inc. what's more, CX53111 [2] from Conexant (past Intersils Prism), while Fig. 2 demonstrates power utilization in mw unit for every convention.

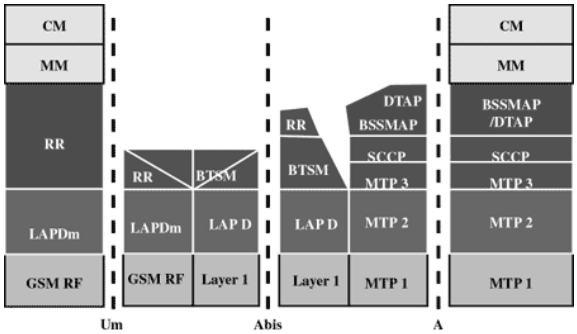
Standard	Bluetooth	GSM	WIFI
Chipset	BlueCore2	Sim900A	CX5311
VDD (volt)	1.8	4.5-12	3.3
TX (mA)	57	480	219
RX (mA)	47	1.5	215
Nominal TX power (dBm)	0 to 10	5-39	15 to 20
Battery Life (days)	1-7	1-7	0.5 -5

The power utilization of Bluetooth and GSM is a great deal not as much as Wi-Fi. Alongside low power utilization and the likelihood to expand the scope of organization, the system versatility offered by GSM is huge when contrasted with Bluetooth [2]. The examination of above parameters drives us to choose GSM as the remote interface innovation for our proposed framework.

III. GSM PROTOCOLS

GSM architecture is a layered model that is designed to allow communications between two different systems. The lower layers assure the services of the upper-layer protocols. Each layer passes suitable notifications to ensure the transmitted data has been formatted, transmitted, and received accurately.

The GMS protocol stacks diagram is shown below:



Based on the interface, the GSM signaling protocol is assembled into three general layer-

- **Layer 1**: The physical layer. It uses the channel structures over the air interface.
- **Layer 2**: The data-link layer. Across the Um interface, the data-link layer is a modified version of the Link access protocol for the D channel (LAP-D) protocol used in ISDN, called Link access protocol on the Dm channel (LAP-Dm). Across the A interface, the Message Transfer Part (MTP), Layer 2 of SS7 is used.
- **Layer 3** : GSM signaling protocol's third layer is divided into three sub layers:
  - Radio Resource Management (RR)
  - Mobility Management (MM), and
  - Connection Management (CM)

IV. WIFI PROTOCOLS

IEEE 802.11 wireless LANs use a media access control protocol called Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA). While the name is similar to Ethernet's Carrier Sense Multiple Access with Collision Detection (CSMA/CD), the operating concept is totally different. The 802.11 standard is defined through several specifications of WLANs. It defines an over-the-air interface between a wireless client and a base station or between two wireless clients.

There are several specifications in the 802.11 family:-

- **802.11** − This pertains to wireless LANs and provides 1 - or 2-Mbps transmission in the 2.4-GHz band using either frequency-hopping spread spectrum (FHSS) or direct-sequence spread spectrum (DSSS).
- **802.11a** − This is an extension to 802.11 that pertains to wireless LANs and goes as fast as 54 Mbps in the 5-GHz band. 802.11a employs the orthogonal frequency division multiplexing (OFDM) encoding scheme as opposed to either FHSS or DSSS.
- **802.11b** − The 802.11 high rate Wi-Fi is an extension to 802.11 that pertains to wireless LANs and yields a connection as fast as 11 Mbps transmission (with a fallback to 5.5, 2, and 1 Mbps depending on strength of signal) in the 2.4-GHz band. The 802.11b specification uses only DSSS. Note that 802.11b was actually an amendment to the original 802.11 standard added in 1999 to permit wireless functionality to be analogous to hard-wired Ethernet connections.
- **802.11g** − This pertains to wireless LANs and provides 20+ Mbps in the 2.4-GHz band.

Here is the technical comparison between the three major WIFI standards.

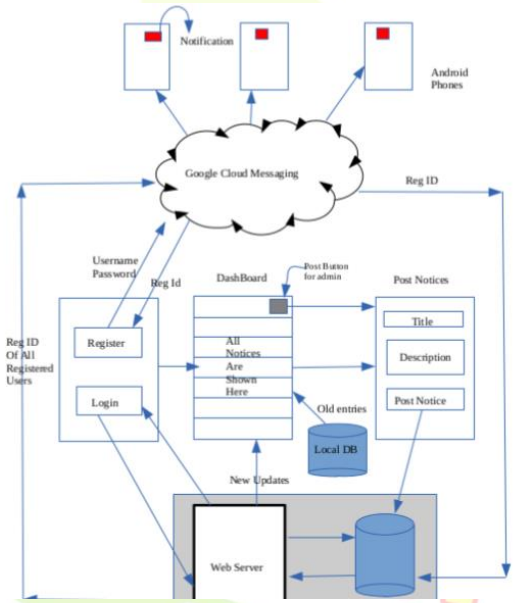
ISSN (ONLINE): 2395-695X
ISSN (PRINT): 2395-695X

International Journal of Advanced Research in Biology, Engineering, Science and Technology (IJARBEST)
Vol. 2, Issue 4, April 2016

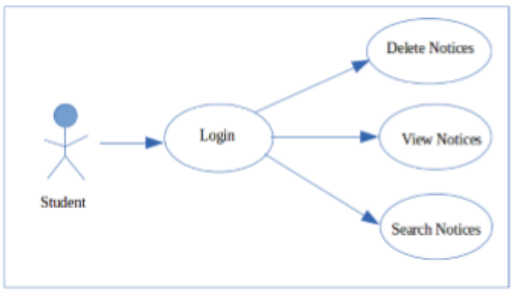
Feature Wi-Fi	Wi-Fi (802.11b)	Wi-Fi (802.11a/g)
Primary Application	Wireless LAN	Wireless LAN
Channel Bandwidth	25 MHz	20 MHz
Half/Full Duplex	Half	Half
Bandwidth	<=0.44 bps/Hz	≤=2.7 bps/Hz
Modulation	QPSK	BPSK, QPSK, 16-, 64-QAM
Access Protocol	CSMA/CA	CSMA/CA

V. SYSTEM DESIGN

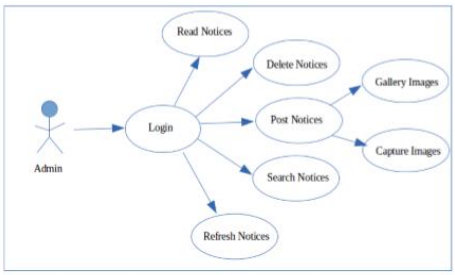
a. Detailed design



b. Use Case Diagram For User



c. Use Case Diagram For Admin



The detailed design of this application is as follow:

1. Registering a User: The first step in this application is to get the users registered to both GCM Server and to Remote Web Server. For this, user will provide all the necessary details and press the register button. The request will first go to Google Cloud Messaging Server. GCM Server will provide the registration id for that device. After that, all the information along with registration id is stored on Web Server and the user gets registered.

2. User Login: After registering, the user is allowed to log in. Username and password after validating at client side, is sent to server side to authentication. After authentication response is sent by the server to client, and then user gets logged in.

3. Viewing the Notices: At the first time, when you are using this application for the first time, it will fetch all the notices from server. In all the other case, all previous notices are fetched from application's own database stored inside client mobile. It then checks for new notices from the server. If there are new notices on the server, it will fetch all those notices.

4. Searching a Notice: The user is able to search the notice in list view depending on the title of the notice. It helps user to get the desired notice instantly.

5. Deleting a Notice: If the user does not want some notices, he/she can delete it from their phone. There will be no effect on server entry.

6. Posting a Notice: If a user is an admin, he is able to post the notice. In order to post the notices, he has three option. One option is that, he can post a simple text notice. Another option allows him to send some attachment image with the notice. In this, he has two options. Either he can pick the image from the gallery or he can click a picture on the spot by using camera. After that, press the post button to post the notice.

7. Notification Buzz: As soon as the admin post a notice, the script will run with which request is made by GCM Server to Web Server for all the registered IDs. After getting all the registered IDs, notification is sent to all the users registered with this application. Notification has a tune and vibration that runs

ISSN (ONLINE): 2395-695X
ISSN (PRINT): 2395-695X

International Journal of Advanced Research in Biology, Engineering, Science and Technology (IJARBEST)
Vol. 2, Issue 4, April 2016

whenever there is a notification received by the user from GSM Server.

8. Reset Password: This application also has the facility to reset the password. If one user has forgotten his password, he/she can rest the password by giving his username or email address. The user will be given a page in which he can set his new password. Forgotten password will be updated with the new one on the server.

VI. User Interface Design

a.Landing Page

This page is the first page which is presented to the user. It has two buttons, to login or to register.

b. Registration Page

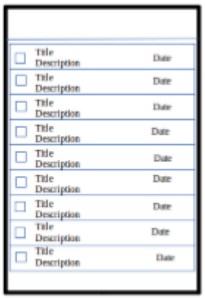
This is the registration page where the user can get himself registered with the servers of this application

.

c. Login Page

This is the login page where user enters his username and password in order to access the notices.

d. Dashboard of Notices



e. Post Notice Page

This page is only for the admin. Only admin can post the notices. He can choose images as attachment to notices.

f. Reset Password Page

VII. FUTURE SCOPE

The future scope of the project is that it can be used as any news giving application or it can be used to advertise your products, telling the customers about new schemes and products coming to your shop. This application of e-Notice can be further extended to include the following features:

1. Categorization of Notice: Notices can be categorized in different categories, so that its possible for user to easily manage the notices. Categorization can also be done by making groups. Defining the notice to be circulated in a particular group can make it more secure.

2. Documents and PDF files: The attachments can be further improved to include PDF files or Doc files. Then there will not be much need to send images with the notices. A single file would serve all the purposes.

3. Feedback: Feedback on the notices can also be taken. It can increase communication among

connected members and any issue can be easily sorted out on the spot.

VIII. CONCLUSION

Wireless operations grant administrations, for example, long range correspondences, that are incomprehensible or unfeasible to execute with the utilization of wires. It gives quick exchange of data and is less expensive to introduce and keep up. This paper gives a proficient method for showing messages on Notice Board utilizing Wireless Technology. It additionally gives client confirmation keeping in mind the end goal to maintain a strategic distance from any abuse of proposed framework.

IX. ACKNOWLEDGMENT

We would like to thank our mentor and guide Prof. Priya Karemore for guidance and help throughout our project. We are also thankful to our Institute Priyadarshini College of Engg, Nagpur, India for providing all the facilities needed for our project.

X. REFERENCES

1. E. Ferro and F. Potorti, ”Bluetooth and Wi-Fi wireless protocols: a survey and a comparison”, Wireless Communications, IEEE, vol. 12, no. 1, pp.12-26, February 2005.

2. J. S. Lee, ”Performance Evaluation of IEEE 802.15.4 for Low-Rate Wireless Personal Area Networks”, IEEE Transactions on Consumer Electronics, vol. 52, no. 3, pp. 742-749 , August 2006.

3. J. S. Lee, Y. W. Su, and C. C. Shen, ”A Comparative Study of Wireless Protocols: Bluetooth, UWB, GSM and Wi-Fi”, Proceedings of the 33rd Annual Conference of the IEEE Industrial Electronics Society (IECON), pp. 46-51, November 2007.