International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 05 Issue: 04 | Apr-2018 www.irjet.net p-ISSN: 2395-0072

# - ELECTRONIC NOTICE BOARD REMOTELY OPERATED USING ANDROID PHONE

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**Abstract -** *Notice Board is an important thing in any institution or various places like bus stations, railway stations, colleges, malls, etc. But it is difficult to change and modify the content of these notices in day to day life. This project is about advanced wireless notice board. The project is built around raspberry- pi which is heart of the system. The project deals with displaying the text messages sent by the user from the remote place. It is based on client-server approach. The proposed system makes use of wireless technology to communicate from Android phone to Raspberry Pi display board. When an authorized user sends the data from his system from any remote place, it is received by receiver and it will be displayed on LCD monitor.*

## 1. INTRODUCTION

In this advanced world, everyone strives for a comfortable life. So human has invented lots of technologies to live his life with full of satisfaction and in comfort zone. In today's world of connectivity, people wants to get the updated information or news timely, does not matter wherever they are and whenever they want , whether it's through the internet or television, people wants to be informed and up-to-date with the latest events happening around the world. Going with wired technology, complexity increases we won't be able to overcome the distance limitation. As it has many limitations depending on the need and type of connection, so now a day people usually choose wireless technology as they can easily interact with people all over the world. The main objective of this project is to develop a system without human intervention and to design a real time system which will continuously update the notice board by the contents send by the user.

## 2. PROBLEM STATEMENT

To design a system which will continuously display the contents sent from android mobile phone over a network to remote server. To overcome the distance limitation by communicating with the remote server from anywhere through android phone.The entire system should be a automated and a stand lone system.

## 3. OBJECTIVES

- To design a system which will continuously listen to the incoming messages from user, process it & display it on screen.
- To design an automatic, self enabled, highly reliable electronic notice board.
- To design a system which has no limitation of distance between sender & receiver .

## 4. COMPONENTS REQUIRED

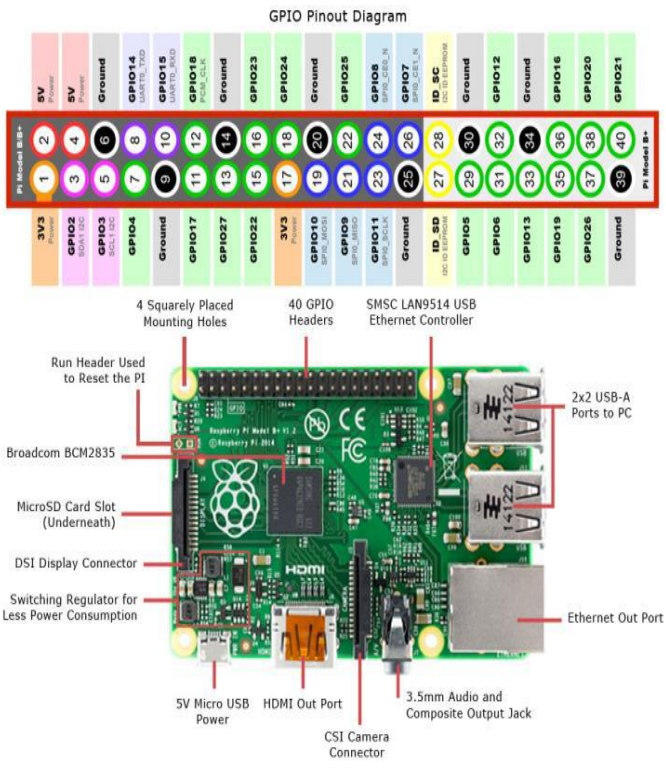
### 4.1. Wi-Fi Module

Wi-Fi module acts as a media between android phone and remotely located server which allows the authenticated user to connect with the server. It provides internet connectivity to both client and server required for transmission and reception of message.

### 4.2. Monitor

It is used to display the notice. It can be the LCD display, LED display, monitor etc. User will post the text after the authentication. Notice will get updated through the raspberry pi.

### 4.3. Raspberry-Pi



We have implemented our project using onboard computer, which is commonly termed as Raspberry Pi processor. This onboard computer can efficiently communicate with the input and output modules which are being used. It is a single nano-computer card ARM processor designed by designer David Braben. Raspberry pi card consists of single motherboard, power supply, keyboard, mouse and screen with the aim to reduce cost and enable the use of recovery equipment. Around the central part, there are different connectors for connecting devices to interact with the computer.

### 4.4. Android Client

In this section, the user is required to enter the IP address of the remote server in order to use the application. If there is strong and proper internet connection, "Please wait" message appears, in this case the system checks the validity of the IP address of the remote server where the display board is connected, if not found, an error message is displayed. If found you are directed to the page where u can type the message to be displayed on notice board. After typing the message user needs to press the 'submit' button. By doing so the contents will get updated on the remotely located digital notice board .

## 5. WORKING PRINCIPLE OF PROPOSED SYSTEM

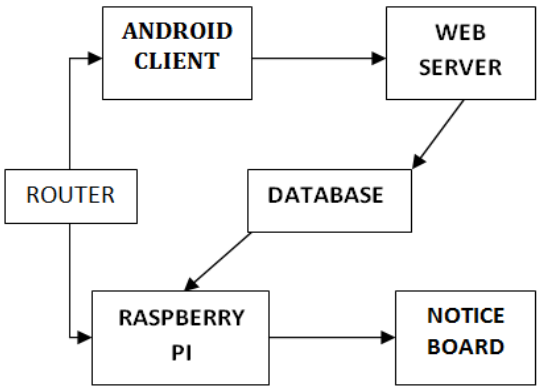


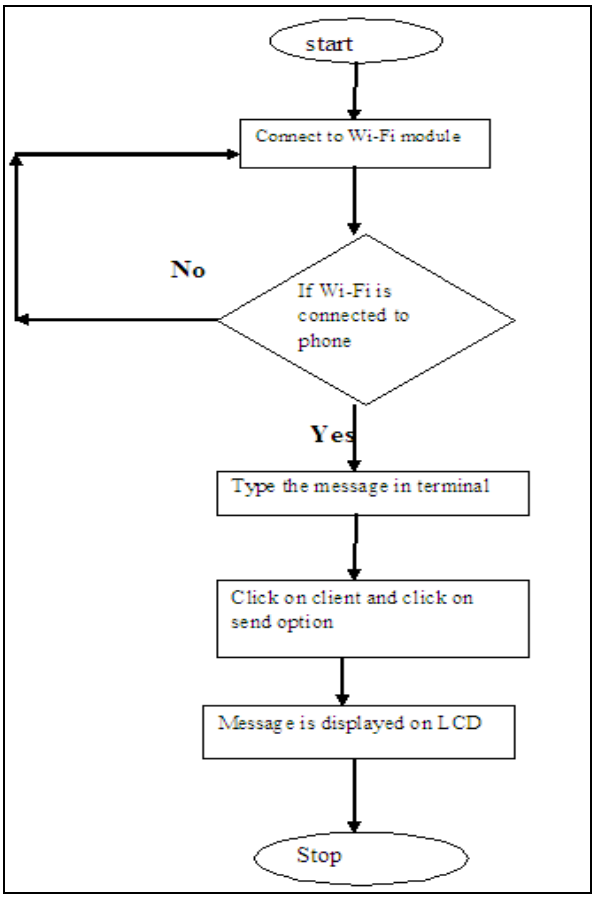

Fig. Block Diagram of system

The Raspberry pi act as server for our system as it has both raspberry pi and as well as the web server. The network device which is a wireless router act as the network provider for our system which connect both the client as well as the server . The raspberry pi is connected to wireless network to create its own network and to be the server for that network.

The user sends notification to the server via android mobile phone and the server accepts the device data which is title and description and stores it in mysql database. Raspberry pi retrieves data from mysql database and displays that content on notice board interfaced with raspberry pi.

The raspberry receives data from the network which is communicated by the user .When the data is fetched by the server, the display get refreshed and shows new notification at the top.

## 6. PROCESS FLOW




## 7. APPLICATIONS

1) In an institutions and organizations.
2) For Educational purpose
3) Advertisement
4) Bus or Railway stations.
5) Any Public Utility Places.

## 8. ADVANTAGES

1) Multiple users can update notices on the electronic notice board.
2) No printing and photocopying cost. Thus saves time, energy.
3) Prevents unauthorized access of notice board. Only authenticated person can change the contents of notice board.
4) Reduced circuit complexity as it is wireless.

5) No human intervention.

6) System works as it is even when power cut.

## 9. FUTURE SCOPE

1) Multiple displays at different places can be connected to the server to broadcast message/notices to multiple locations at a time.

2) Along with the notice messages, real time news updation can be done.

3) Different sensors (such as moisture sensor, temperature sensor etc) can be connected to the display device to monitor the display condition

## 10. CONCLUSION

Electronic notice board using Wi-Fi is a combination of Software and Hardware through which most of the complexity reduces, even system's size and cost is reduced. This system is very efficient and reliable as anyone can send the message from remote place. The user interface used in this system is much reliable and secured such that only person who knows the correct IP address of the server can send the message. The raspberry pi automatically boots and displays the screen which avoids any configuration when there is power cut or raspberry is recycled by mistake.

## ACKNOWLEDGEMENT

We are very thankful for the guidance and support of Prof. P.SELOKAR. We also grateful to Prof.Dr.R.RAUT, Head of Electronics & Communication Engineering Department. In the end our special thanks to Prof. V. LANDE, Project co-ordinator for providing such an excellent platform for completing our project.

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