



IMPLEMENTATION OF HALF DUPLEX COMMUNICATION SYSTEM USING NETWORK TECHNOLOGY

Ms.A.Kaviya¹, Ms.S.Dharini², Ms.G.Eswari³

^{1,2,3}Department of ECE, Kathir College of Engineering

Abstract- Notice Board is primary thing in any institution or public utility places like bus stations, railway stations, colleges, malls, etc. Nowadays there is no proper guidance for people who are coming to write exams, to attend conference, workshop etc in institutions. Due to this people waste their time unnecessarily on searching their appropriate landmark. But sticking various notices day to day is a difficult process. A separate person is required to take care of this notices display. This project is about advanced wireless notice board. we create a webpage which is useful for out comers and all students who are studying in the institutions. In this webpage we show the details of college map which is useful for out comers. Regularly institution updates their information in this webpage. This is unidirectional service only admin can only operate this. A Wi-Fi is using for Data transmission. At any time admin can add or remove or alter the text according to our requirement. mobile, laptop is the receiver. There is no need of internet facilities to use this webpage.

Keywords: Raspberry pi, Edimax Wi-Fi, Wi-Fi module, Display

I. INTRODUCTION

In this world everyone needs a comfort living life. Man has researched different technology for his sake of life. In today's world of connectedness, people are becoming accustomed to easy access to information. Whether it's through the internet or television, people want to be informed and up-to-date with the latest events happening around the world. Wired network connection such as Ethernet has many limitations depending on the need and type of connection. Nowadays people prefer wireless connection because they can interact with people easily and it require less time. The main objective of this project is to develop a wireless notice board that display message sent from the user and to design a simple, easy to install, user friendly system, which can receive and display notice in a particular manner with respect to date and time which will help the user to easily keep the track of notice board every day and each time he uses the system. Wi-Fi is the wireless technology used. This paper is organized as follows: In first section we discuss the proposed system and process flow. In the second section we discuss about the block diagram explanation. In last section we discuss about the conclusion out of all discussion followed by list of references.

II. LITERATURE SURVEY

In the last couple of decades, communication technology has developed by leaps and bounds. It has already established its importance in sharing the information right from household matters to worldwide phenomena. Apart from sharing information, it is also used for remote control of machines and electronic appliances. In our day-to-day life, we use many such appliances at home, office and public places for our comfort and convenience. Every device requires one or the other kind of operation control for which it has a HMI (human-machine interface). Communication technology not only helps us to exchange information with human beings but also allows us to carry out monitoring and controlling of machines from remote locations. This remote control of appliances is possible with wired or wireless

communication interfaces embedded in the machines. The use of “Embedded System in Communication” has given rise to many interesting applications. One of such applications is public addressing system (PAS). Many companies are manufacturing audio / video systems like public announcement system, CCTV, programmable sign boards etc. But all these systems are generally hard-wired, complex in nature and difficult to expand. So, by adding wireless communication interface such as GSM to these systems, we can overcome their limitations.

III. PROPOSED SYSTEM

This project is about advance wireless notice board. The project is built around raspberry pi which is heart of the system. Display is obtained on project. Notice board is primary thing in any institutions or public utility places. A Wi-Fi is using for data transmission. At any time admin can only add or remove or alter the text according to the information. At transmitter Wi-Fi module is used for sending a notices. The data is received from authenticated user then it sends to raspberry pi. Laptop is using for displaying the result.

In our work we have two sections one is transmitter and other is receiver for displaying notices using the wireless technology.

3.1. TRANSMITTER

Wi-Fi module act as transmitter.

3.2. RECEIVER

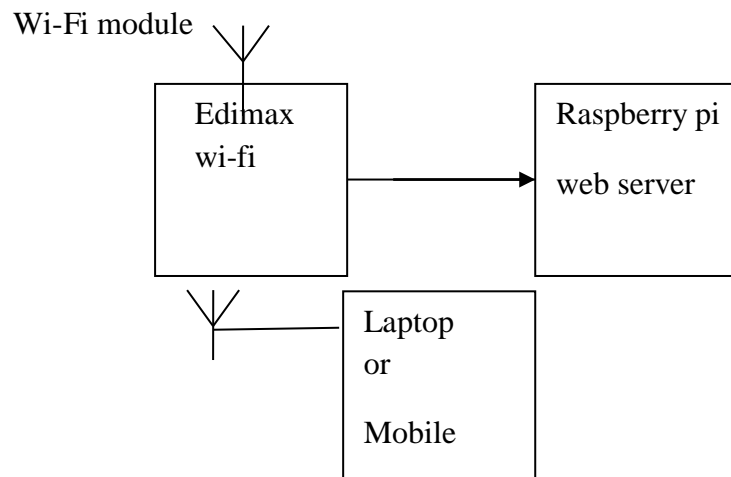
It consists of following units

A. Wi-Fi Module: Wi-Fi is a high performance, cost effective WLAN USB module which connects the raspberry pi low cost computer, to a Wi-Fi local area network. This also benefit from a higher wireless LAN bandwidth, making data transmission more efficient.

B. Display: It is used to display the data of any form such as text, images etc. Raspberry pi will convert the message that will be displayed in the output screen.

IV. BLOCK DIAGRAM

TRANSMITTER:



RECEIVER:

V. DESIGN PROCESS

In our project we use raspberry pi kit as a server which acts as a transmitter. It transmits data to the Edimax Wi-Fi. Raspberry pi used as a mini CPU we can handle anywhere, access it easily and we need to display the data what we want. Raspberry pi is controlled by raspberries language.PHP language is

used to show the output in display. The output device used here is laptop or mobile. Python is a programming language used for the internal operations. To run the scripting and high level object oriented language Apache web server is used.

5.1 RASPBERRY PI:

The Raspberry Pi is a low cost, **credit-card sized computer** that plugs into a computer monitor or TV, and uses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing, and to learn how to program in languages like Scratch and Python. It's capable of doing everything you'd expect a desktop computer to do, from browsing the internet and playing high-definition video, to making spreadsheets, word-processing, and playing games.

5.2 APACHE:

Apache is the most widely used web server software. Developed and maintained by Apache Software Foundation, Apache is an open source software available for free. It runs on 67% of all web servers in the world. It is fast, reliable, and secure. It can be highly customized to meet the needs of many different environments by using extensions and modules. Most Word Press hosting providers use Apache as their web server software. However, Word Press can run on other web server software as well.

Web server is the software that receives your request to access a web page. It runs a few security checks on your HTTP request and takes you to the web page. Depending on the page you have requested, the page may ask the server to run a few extra modules while generating the document.

5.3 PHP:

PHP (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. PHP is mainly focused on server-side scripting. This is the most traditional and main target field for PHP. We need three things to make this work. The PHP parser (CGI or server module), a web server and a web browser. We need to run the web server, with a connected PHP installation. We can access the PHP program output with a web browser, viewing the PHP page through the server. All these can run on our home machine if we are just experimenting with PHP programming.

Command line scripting can make a PHP script to run it without any server or browser. We only need the PHP parser to use it this way. This type of usage is ideal for scripts regularly executed using cron (on *nix or Linux) or Task Scheduler (on Windows). These scripts can also be used for simple text processing tasks.

PHP also has support for talking to other services using protocols such as LDAP, IMAP, SNMP, NNTP, POP3, HTTP, COM (on Windows) and countless others. We can also open raw network sockets and interact using any other protocol. PHP has support for the WDDX complex data exchange between virtually all Web programming languages. Talking about interconnection, PHP has support for instantiation of Java objects and using them transparently as PHP objects.

5.4 ADVANTAGES:

- Save time, energy and resources
- Text can be entered from remote place
- Data can be stored in the memory so it will not be lost in power failure condition
- It is wireless system
- Printing and photocopying cost not require.

VI. APPLICATIONS

- In Educational institutions and organizations for displaying the notices.
- Advertisements: In shopping malls
- Railway stations: Instead of only announcing the delay in arrival of trains we can display the information.

VII. CONCLUSION

Wireless operation provides fast transmission over long range communication. It saves resources and time. Data can be send from remote location. Efficiency is about 96% approximately. There is no possibility to corrupt the information except admin.

VIII. FUTURE WORK

In our project we are using Edimax Wi-Fi this can access up to 150mbps only and information is shared by text and image. In future Wi-Fi range can be increase for long distance signal transmission and information can be passed through audio and video format.

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