

# Wi-NOTE: ELECTRONIC WIRELESS NOTICE BOARD

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**Abstract—** Sending notice day to day manually is being a heavy process, so the system can be helpful. In our system, the user will enable to transmit the notice wirelessly on notice board using raspberry pi having WIFI module. At any time, we can add or remove or alter the notices accordingly to the requirement. The user can send notice from his system to the receiving end or the LCD in which we can determine the expiry of each notices respectively by setting the expiry date and time. The system works in cloud platform, so we can retrieve the data whenever needed. So the system will work efficiently other than the existing system with methods having Bluetooth, wifi and GSM.

**The aim of this system is to help user to reduce paper and save time. This paper presents the survey on various papers to design the system.**

**Keywords—**IoT, Raspberry pi 3 b+

## INTRODUCTION

The **Internet of things (IoT)** is the network of devices, vehicles, and home appliances that contain electronics, software, actuators, and connectivity which allows these things to connect, interact and exchange data. IoT involves extending Internet connectivity beyond standard devices, such as desktops, laptops, smartphones and tablets, to any range of traditionally *dumb* or non-internet-enabled physical devices and everyday objects. Embedded with technology, these devices can communicate and interact over the Internet, and they can be remotely monitored and controlled. In our system, the user will enable to transmit the notice wirelessly on notice board using raspberry pi having wifi module. At any time, we can add or remove or alter the notices accordingly to the requirement. The user can send notice from his system to the receiving end or the LCD in which we can determine the expiry of each notices respectively by setting the expiry date and time. Wi-fi provides higher data rates for multimedia access as compared to both zigbee and bluetooth which provides lower data transfer rates. The system works in cloud platform, so we can retrieve the data whenever needed.

There have been four versions produced since the RPi first went on sale in 2012: The original RPi with 256Mb RAM, the RPi+ with 512Mb RAM, the Rpi2 with 1Gb RAM, and the Rpi3 with a faster CPU. Each version of the RPi has also been produced in two variants: the 'A' with **no** network port, and the 'B' that **has** a network port. This digital signage project needs the 'B' variant of any of the four versions mentioned above, because you need a network connection in order to configure the software. The latest version of the Raspberry Pi can be purchased brand new for about £30, but the older versions can be purchased for less from Ebay or similar sources. The SD memory card takes the role of the hard drive on the Raspberry Pi. You will need an 8Gb capacity, and it needs to be a Class 10 (this means that it has a fast data transfer rate). There are several pieces of software that can be used to power a digital sign. For this project I have chosen the Open Source version of the Screenly software. It is very popular and widely used, with a large user group on the Raspberry Pi user forums. The Open Source version has fewer features than the paid-for version, but it is more than adequate for this basic project. Finally, the venue for the digital sign needs to have a computer network. The Screenly software is designed to be controlled via a web browser that is running on another computer on the network. Ethernet cable is the preferred method for connecting the RPi to the network. It is possible to use wifi, but it is more tricky to set up and not as reliable.

## OBJECTIVE

The main objective is to send multimedia notices through a web site designed. Though the pain of sending notices manually can be reduced. Multimedia notices may include images, videos and also the system will support files of any format respectively. Digital Notice Board using raspberry pi and cloud that has been proposed by using this technique reduction of paper work and time it is our main aim of the project. To implement our system in such a way that it can display notice in form of message from authorized user sends to raspberry pi module which is located on the notice board. This module receives message and display it on LCD display. So important message or notice will be takes place within very short span of time. The authorized user of time. The

authorized user situated at the different location and sends the message or notices.

Only authorized user or registered person can able to send the message or notice from anywhere and this message or notice and is displayed on the LCD screen

The existing system made use of GSM mobile base station coverage using the method of group messaging, the notice-information is broadcasted. For more advancement, Wifi module is also added to the system where it provides higher data rates for multimedia access as compared to zigbee and bluetooth which provides lower data transfer rates. The system made use of Wifi module using the method of group messaging, the notice-information is broadcasted. Considering the limitation in Wifi, the area coverage can be improved by using **cloud integration** methods. The data transmission speed and storage efficiency can be enhanced by using **Raspberry pi**.

The existing systems consists of ArduinoUno, NodeMcu and older models of raspberry pi in various platforms such as using GSM and wifi. NodeMcu is being replaced by ArduinoUno where it can offers more functionalities.

Later Raspberry pi is being introduced which offers more efficiency than NodeMcu. GSM platform offers wide range for communication but the storage is limited as it is stored in the SIM module. WiFi offers limited range for communication but had more speed for communicating.

## REQUIREMENTS SPECIFICATION

### A. Hardware Requirements:

- RASPBERRY PI 3 B+
- LCD SCREEN
- HDMI TO VGA CONVERTER CABLE
- SD CARD
- PC
- POWER SUPPLY

### B. Software Requirements:

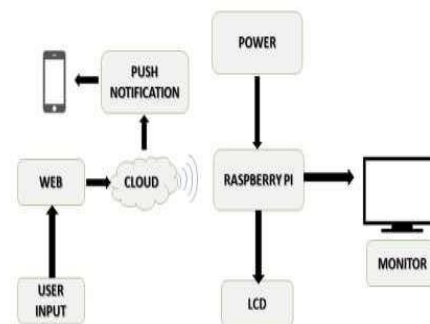
- **Language:** php,html,sql
- **Tools:** xamp
- **OS:** Raspbian OS

## IMPLEMENTATION

In the system, user(administrator) inputs the notices through the web-application on the system in which Raspbian OS is installed. The user sets the time span of each notices by giving the time and date. The Web-application is integrated with the cloud platform where the given notices are directly passed for storage and communication process. The Raspberry Pi is connected to the output display (LCD/LED) monitor. The Raspberry Pi is coded with the scripting language (Python) on an SD card, which then booted when the display is turned on.

The user have the permission to create, delete and alter notices which the specified user has created. The existing

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The Raspberry Pi is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote the teaching of basic computer science in schools and in developing country. The Raspberry Pi Foundation provides Raspbian, a Debian-based Linux distribution for download, as well as third-party Ubuntu, Windows 10 IoT Core, RISC OS, and specialised media centre distributions. It promotes Python and Scratch as the main programming languages, with support for many other languages. The default firmware is closed source, while an unofficial open source is available. Many other operating systems can also run on the Raspberry Pi, including the formally verified microkernel. Other third-party operating systems available via the official website include Ubuntu MATE, Windows 10 IoT Core, RISC OS and specialised distributions for the Kodi media centre and classroom management. Cloud computing are truly cost-effective. This means users will have to pay only for the amount of service used by them. Access to applications and data is available to authorized users anywhere there is Internet access. Cloud computing gives greater security for our applications or data. We can simply backup our data from the cloud.

## CONCLUSION

In our system, the user will enable to transmit the notice wirelessly on notice board using raspberry pi having wifi module. At any time, we can add or remove or alter the notices accordingly to the requirement. The user can send notice from his system to the receiving end or the LCD in which we can determine the expiry of each notices respectively by setting the expiry date and time. Wi-fi provides higher data rates for multimedia access as compared to both zigbee and bluetooth which provides lower data

transfer rates. The system works in cloud platform, so we can retrieve the data whenever needed. So the system will work efficiently other than the existing system with methods having Bluetooth, wifi and GSM .Data can be sent from remote location. User authentication is provided.Previously the notice board using GSM was used in that there was the limit of messages but in our system Multimedia data can be stored on chip or on SD card. Text messages and multimedia data can be seen whenever we want to see. Also Push Notifications are provided to the specific registered numbers given. The Cloud Platform provides a better platform for storage, communication and security reasons. Thus the system is much efficient than the previous systems

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