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Implementation of Android Controlled Smart Notice Board Using IoT

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ABSTRACT: The challenge is an electronic notice board that is limited by the android gadget and displays a message on it. Generally there were notification sheets where any data or notices must be be held every day. This is repeated and required day by day hold. The business overcomes this problem by presenting an an electronic presentation board connected to Android gadget through internet availability. The recipient's gadget or the device receives a message from an Android gadget that is sent to a smaller range regulator. The small controller shows message on the computer screen and announces the alert. This the task can be used at universities, workplaces, railway stations or air terminals to display any data.

KEYWORDS: Android, Arduino, Internet of things, Microcontroller, Ethernet Module.etc.

I. INTRODUCTION

Traditionally, there were notice sheets where any data or the notice should be pasted daily. These become dull and require days by support of the day. The aim of this venture is to create a remote notification board that sees when a message is sent from the client's Android application gadget. Android A regulated notice board is an electronic based enterprise. This A robotized framework can reduce manual work. The idea of the task is to plan an Internet driven program show board. It is proposed to constitute a Collector-cum-Show Board which must be changed from valid cell phone. This An electronic framework is a combination of programming and tools. In this paper, messages are sent by one to plan a model Approved transmitter and subsequent application. The message is transmitted to the microcontroller and the message A study is done and an advanced presentation is sent to the board. This project introduces the idea of reducing manpower through smart work.

An IOT device connects to an Android application to pop up Exit with alarm for any notification or circular or any urgent
Advertisement to be published. This will be the project Beneficial or widely used by various schools and Colleges device will be based on ARDUINO/Node MC/RASPBERRY-PI programming automated sensors Fit in to receive notification of any notification or Advertisement Text to speech conversion software Can also be fastened with the device. Now coming to why text to speech converter, it is Because the notice or announcement will be typed or made Which can be directly operated in android application Digitized signature of device authorities will be taken There itself (permission). Two log ins will be facilitated Application, Faculty Log In and Student Council Log In. As They can forward the notice as soon as it is made concerned authority for approval and may issue notice thereafter. We want to announce it in whatever period
Advertise as time will also be provided for there during this there should not be any kind of disturbance Lectures.

Internet of Things
The Internet of Things (IoT) belief system can be viewed as a An exceptionally unique and radically distributed network The system is made up of a very large number of identifiable smarts Objects These objects can communicate and interface with each other By itself, end users or with various components in Systems Entering the era of the Internet of Things, the use of small, Flexible and flexible computer hardware that allows the end-user Programming becomes

present. One of them, considered in this Paper is a Raspberry Pi, fully customizable and Programmable small computer board. A related investigation of Exhibits with its main components and some current ones Existing IoT prototype platforms have demonstrated that although few Disadvantages Raspberry Pi remains a simple PC with it Effectively used in a wide range of research applications In IoT vision.

II. LITERATURE REVIEW

Dharmendra Kumar Sharma and Vineet Tiwari, IEEE 2015[1] introduces a low cost, handheld, wireless electronic notice board by using Atmel's ATmega32 microcontroller and different wireless technologies (Bluetooth and ZigBee) and their performance analysis based on the parameter such as range, BER (bit error rate), RSSI (Received signal strength indicator), signal attenuation and power consumption. The board receives serial information from wireless module receiver and shows it on the graphical liquid display. We have realized a common communication receiver hardware for notice board having compatibility with both wireless modules i.e. Bluetooth and ZigBee.

AniketPramanik, Rishikesh and Vikash Nagar, IEEE 2016[2]During this project, a hardware capable of controlling home appliances and displaying notices electronically using an android application has been built. So, the hardware can perform broadly two functions. In order to display notices, a user can use the same application to type a notice and click on the send button to get it displayed. Both the functionality can be used only if enough balance amounts is left in the user's SIM card since each access transacts a fixed amount for SMS. The hardware consists of an ARM based microcontroller LPC2148 that communicates to the application through a GSM mobile communication network module which uses a SIM card to receive messages.

Neeraj Khera and DivyaShukla, IEEE 2016[3] has developed a simple and low-cost Android based wireless notice board. They proposed system uses either Bluetooth or Wi-Fi based wireless serial data communication. For this purpose, Android based application programs for Bluetooth and Wi-Fi communication between Android based personal digital assistant devices and remote wireless display board are used. At receiver end, a low-cost microcontroller board (Arduino Uno) is programmed to receive and display messages in any of the above communication mode. Using the developed system, two different applications for displaying messages on a remote digital notice board and wireless person calling has been implemented. The developed system will therefore aim in wirelessly sharing the information with intended users and helps in saving the time and the cost for paper and printing hardware.

KruthikaSimha, Shreya and Chethan Kumar, IEEE 2017[4] developed a wireless electronic board that offers the flexibleness to manage data display within a given range on multiple displays. The notice board can show data being transmitted to that from a central dominant unit, employing a serial communication protocol. As technology improves, efficient, financially affordable and extremely productive output becomes an absolute necessity, and this leads us to be more inclined towards using automated control systems. Human intervention, though it offers selection, ability and interactivity, could lead on to errors, as it is a natural and inevitable result of this variability. Hence, automation of a system is an accepted means that to attenuate human error and its impact.

 S. Rubin Bose and J. Jasper Prem IJRIER 2017[5] In GSM based LED scrolling display board, GSM modem communicates with the microcontroller through asynchronous serial communication. The microcontroller transmits a set of AT commands to read the message sent by the user. The quick display of message using wireless data transfer in smart notice board. The GSM based system offers flexibility to display faster than the programmable system. This system is easy, robust, to use in normal life by anyone at anyplace with less errors and maintenance. The paper titled as design and implementation of multiple LED notice boards by using ZIGBEE Technology states that the proposed system is handled by numerous transmissions and the message feeds on only one receiver. Microcontroller controls multiple LED's to enhance the message pattern. Here the distance of wireless communication is limited, and this method is not suitable for long distance communication.

 M. Arun, P. Monika and G. Lavanya IJCAT 2017[6] The Raspberry Pi2 system acts as the central server of the proposed system and the Notice boards are accessible only by logging in with the proper credentials within the raspberry-pi server. Raspberry Pi2 acts as the server for this e-Notice board system. It's connected to internet employing a correct IP Address, so a certified user of this system can login from anyplace. Raspberry Pi is connected to the intranet network additionally. The display system in school area one will be having an Arduino board with an Ethernet Shield and an LCD Display hooked up with it. With the help of the Ethernet shield the display node is connected to the

computer network. In school area two, the Arduino relates to a Wi-Fi shield and an LCD Display and this node are also connected to the intranet through Wi-Fi. These devices will also have a valid IP address assigned towards them.

Uma UllasPradhan, Suma.N, SeemaRamachandra and Shilpa S kulkarni [7] Notice board is the most common and primary apparatus in any institution. This project deals with a wireless notice board. To develop a wireless notice board that display message sent form the user's mobile. The notice board is an LCD display interfaced to a micro controller (Arduino).

Fizza Hamid, Nusrat Hamid shah IJESRT [8] It is time consuming and tedious process to manually write down the different notice every now and then to overcome the problem the idea of wireless digital display board has been proposed in the paper. The received message is then displayed on the wireless notice board making the whole process easy and fast.

An approach to controlling home appliances based on introduced intelligent decision making and analytics Majeed et al. [9] which used a support vector machine its intelligent decision making and blockchain technology for the security of IoT devices. It was an Android app developed for remote control of household appliances. +e the authors applied a linear kernel to decide on household appliances and their conditions. Real-time algorithm for monitoring and control home, its surrounding conditions, motion sensors and electrical appliances were proposed by Khan et al. [10]. Lights were turned on or off according to the algorithm generated conclusions from motion sensors. +e suggested The algorithm was also used to monitor energy consumption various household appliances via the Wi-Fi module and was also used to create an alarm based on the gas levelhome.

III. METHODOLOGY

Notice Board is primary thing in any institution / organization or public utility places like bus stations, railway stations and parks. 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 deals about an advanced hi-tech wireless notice board. The main objective of the project is to develop a IOT Based wireless notice board that displays notices when a message is sent from the user's android application device. Remote operation is achieved by any smart-phone/Tablet etc., with Android OS.
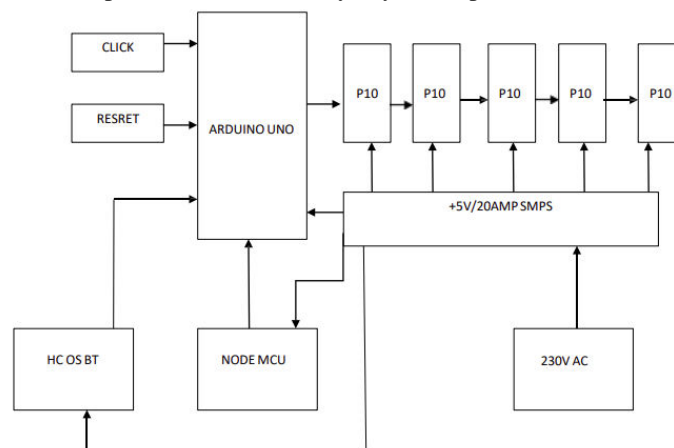

Fig. 1. Block Diagram

While the user sends the message from the android application device, it is received and retrieved by the Node mcu device at the display unit. The Node mcu access password will only be known to the user. It is then sent to the microcontroller that further displays the notice sent from the user on to the electronic notice board which is equipped with a LED Matrix display. It uses a at mega 328 microcontroller family. The power supply consists of a step down transformer 230/12V, which steps down thevoltageto12V AC. This is converted to DC using a Bridge rectifier. The ripples are removed using a capacitive filter and it is then regulated to +5V using a voltage regulator 7805 which is required for the operation of the microcontroller and other components.

IV. SYSTEM REQUIREMENT

Arduino Board

Arduino is an open source platform used to build electronics projects. Contains Arduino
A physical programmable circuit board and a piece of software or IDE (integrated development environment) that runs on your computer, which is used to write and upload computer code to a physical board.The Arduino platform has become very popular among electronics enthusiasts and beginners alike Good reason. Unlike most previous programmable circuit boards, the Arduino does not require disassembly A piece of hardware (called a programmer) to load new code onto the board - you can simply use A USB cable. Additionally, the Arduino IDE uses a simplified version of C++, which makes it easy to learn for the program. Finally, Arduino provides a standard form factor that breaks down the functions of a microcontroller into a more accessible package.

P10 LED Display:

A large dot matrix LED panel to connect to your Flextronics Eleven, Ether Ten and more! This large, bright 512 LED matrix panel features on-board controller circuitry designed to be easy to use directly from your board. Clocks, status displays, graphics readouts and all kinds of impressive display projects are easy to create using this display. To make it really easy to get started we include a breakout board and ribbon cable with the display module, so you can plug it directly into an Arduino-compatible board and start playing with it right away.

Power Supply:

One P10 module requires 4 amps current when all LEDs are on with 100% brightness. So our project requires 5 Volts and 10Amp current. So we are using SMPS of 5V/10 Amp.

Node MCU Module

Node MCU is a low-cost open source IoT platform. It initially included firmware which runs on the ESP8266 Wi-Fi SoC from Espress if Systems, and hardware which was based on the ESP 12 module. Later, support for the ESP32 32-bit MCU was added.
1 Memory: 128kBytes
2Developer: ESP8266 Open Source Community
3- Operating system: XTOS
4- CPU: ESP8266(LX106)
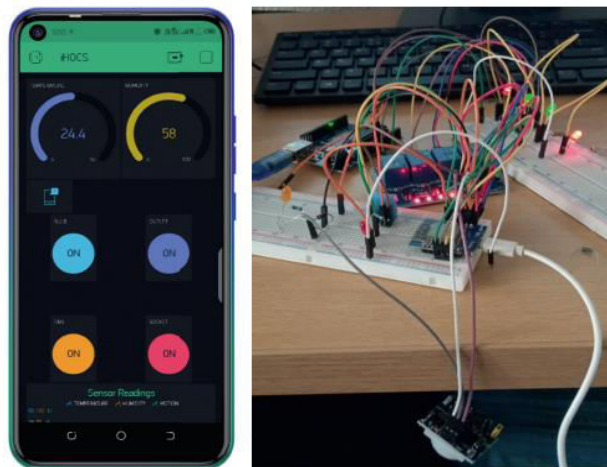5- Storage: 4MBytes 6-Power: USB.

V. RESULTS

Fig.2. Hardware Setup

Fig.3. Output

VI. CONCLUSION

This paper gives a clear description of both hardware and software of IOT based digital notice board. Recovering Advantages of the Internet of Things (IoT), it is a useful technological commodity. A digital notice board is a Systematic alignment of the desired information display that directs through the appropriate channel, helps reach the user Their destination may be in any field .Designing a notice board may be a simple task but integrating it with high level language will charge some brilliance. A developed web application is provided using Arduino board with a well secured system. In this paper we propose a model that monitors the congested area. When compared to In the past, where paper notices were critical, we have favored these digital notice boards because of the hassle of paper work. I sure do This type of display board is expected to rule the next decades and keep a good voice in technology.

REFERENCES

[1]. Dharmendra Kumar Sharma and Vineet Tiwari, "Small and medium range wireless electronic notice board using Bluetooth and ZigBee" IEEE 2015.

[2]. Neeraj Khera and DivyaShukla "Development of simple and low-cost Android based wireless notice board" IEEE 2016. [3]. AniketPramanik, Rishikesh and Vikash Nagar "GSM based Smart home and digital notice board" IEEE 2016.

[4]. KruthikaSimha, Shreya and Chethan Kumar "Electronic notice board with multiple output display" IEEE 2017.

[5]. S. Rubin Bose and J. Jasper Prem "Design and Implementation of Digital Notice BoardUsing IoT" IJRIER 2017.

[6]. M. Arun, P. Monika and G. Lavanya "Raspberry Pi Controlled Smart e-Notice Board using Arduino" IJCAT 2017.

[7]. Uma UllasPradhan, Suma.N, SeemaRamachandra and Shilpa S kulkarni, "Arduino and GSM Based wireless notice board" p-ISSN 0975-9484, e-ISSN 2395-5538.

[8]. Fizzahamid, Nusrat Hamid shah, "Wireless notice board Based on Arduino and GSM Technology" International Journal of Engineering Science and Research Technology, ISSN:2277-9655, Impact factor:5.164 CODEN: LJESS7.

[9] R. Majeed, N. A. Abdullah, I. Ashraf, Y. B. Zikria, M. F. Mushtaq, and M. Umer, "An intelligent, secure, and smart home automation system," Scientific Programming, vol. 2020, Article ID 4579291, 14 pages, 2020.

[10] S. A. Khan, A. Farhad, M. Ibrar, and M. Arif, "Real TIme algorithm for the smart home automation based on the in ternet of things," International Journal of Computer Science and Information Security, vol. 14, no. 7, pp. 94–99, 2016.

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