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Voice Based Wi-Fi Controlled Notice Board

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ABSTRACT: In this paper, a wireless electronic display board is used to convey a message to the audience in a novel and intriguing way. The notice board is used in extreme ways a lot these days. These notice boards can be used in a variety of locations, including as stations, schools, and others, to display announcements or other information for those who need it. The use of technology increased daily along with its development. Digital notice boards can take the role of conventional notice boards. Here, we suggest an android-based notice display system that enables automatic notification display by the user. Here, the user can utilize his or her Android phone to shout out the message, which is subsequently wirelessly sent and displayed on screen.

I. INTRODUCTION

When communicating, humans used paper in the past. Nowadays, printed paper is used to post notices on notice boards. The messages that are to be displayed on these traditional notice boards can alter, but they are not as connected to do so. The primary objective of this project is to develop a user-friendly interface for a wireless bulletin board that displays user-submitted messages and information on an LED display. goal of creating a Wi-Fi-powered automated display board to replace existing bulletin boards and paper bulletin boards. Discover how to use Wi-Fi to alter the data seen on a digital screen. These Notice Boards are a standard part of office and school life, where important announcements may be made to a wide audience in a short amount of time. Thanks to advances in wireless technology, the bulletin boards may now be digitally handled and maintained from afar.

Applying this to the current scenario, the conventional procedures of typing the notice on paper, having a person distribute it to the appropriate groups, or having a person post it on the notice board, are prone to mistakes. The individual delivering it can send it to the incorrect group or alter the information being provided, for example. The fundamental driving force behind such a project is to lessen the physical effort required to operate appliances, particularly for elderly persons. The excessive use of paper for printing notices in educational institutions is another motivation for this effort. Many trees are being cut down as a result of the daily increase in paper consumption, which is bad for the environment. Hence, if alerts are posted electronically everywhere, it would cut down on the use of paper and improve communication.

II. RELATED WORK

Kakunuri Vishwanath et al. concentrate on a useful method for the user to view the notification. Improving the cohesiveness of many electrical systems requires connecting them together. This paper's major objective is to present the idea of wireless communication between a mobile phone and an Arduino controller device. They have created an embedded system for this project that incorporates a wireless sound device and a P10 matrix display unit. Any display that may be attached to a microcontroller is included in the display unit. The converter-to-speech (TTS) converter is converted by a speaker that is managed by a microcontroller. [1]

Using a Wi-Fi transceiver module and an inexpensive NodeMCU microcontroller board, Robin Raju and his team have developed a smart bulletin board that can instantly upload any information that needs to be shown. Messages sent from a remote user are received by a client running Arduino software on a microcontroller through Wi-Fi, with the



communication mode (or Wi-Fi module) being selected for data connection. The NodeMCU automatically refreshes the data on the LED matrix display in real time. Web Application notifications may be seen by authorised users from anywhere through a URL, both as they appear in real time and as they have changed in the past. [2]

Neenu Ann George, among others, unveiled a cutting-edge Android-based digital bulletin board that eliminates the need for human entry of messages. Here, the announcer may use an Android phone and a specially-designed speech-to-text mobile application to read the message aloud. The text is subsequently sent to the Raspberry Pi through Ethernet or a wireless network dongle, where it is then displayed on the HD Display screen. Any display that can be attached to the Raspberry Pi's HDMI connection can be used to show messages to illustrate this idea. This cutting-edge technique can be utilized in many locations, such as train stations, schools, universities, and offices, to immediately show emergency announcements on screens by voicing out the message rather than typing it in each time. As a result, programmed that use voice-based notice boards are quite helpful in many businesses. [3]

According to Prof. V.P. Patil and coworkers, the main objective of this study was to develop a wireless notice board that displays messages submitted by users. A bulletin board is an essential component of every public space, including parks, libraries, and transit hubs. However, maintaining a daily notice is difficult. A different person must provide this notification. The focus of this work is a state-of-the-art wireless bulletin board. The system consists of a graphic LCD, RTC (DS1307), VGA module (VGA-II), microcontroller (PICF4620), and Wi-Fi device (RN-171). (JHD12864E). The purpose of this work is to develop a simple, user-friendly system that can accept and display notifications in a predetermined format with regard to time and date. This will make it less of a chore for the user to check the bulletin board each time he logs into the system. [4]

Neeraj Khara and others working on development of simple, inexpensive wireless notice boards powered by Android are discussed in this work. The proposed setup makes use of Bluetooth or Wi-Fi for wireless serial data transmission. This is why there are Android app options for making wireless connections through Bluetooth and Wi-Fi between PDAs running Android and remote display boards. On the receiving end, messages may be received in any of the aforementioned channels, and displayed on a cheap microcontroller board (Arduino Uno). Using the given infrastructure, we were able to develop two separate applications: one for wireless person interaction, and another for putting messages on a remote digital notice board. With this system in place, information can be sent wirelessly to the intended audience, saving both time and resources by eliminating the need for physical copies. [5]

III. METHODOLOGY

The core components of our suggested model are the Transmitters and Receivers modules. Wi-Fi connection and a computer or smartphone interface make up the transmitter module. The remote end's receiver module may link to the microcontroller and display through Wi-Fi, too. Here, a wireless adaptor is used to link a Raspberry Pi computer to the web.

The display turns on when the notice board is hooked into a power source and starts to show the most recent message that was sent. When a new message is sent, the current message on the display is instantly replaced and the new message is started. Longer characters can be displayed in the future using additional memory like RAM and more advanced microcontrollers, enabling the system to transmit longer messages.

We have the ability to display messages and are simple to set or modify from anywhere in the world. The information is sent using a mobile application in addition. Here, the voice is processed by a voice recognition system, which then displays the data. The cloud will receive this message from the system. Next it moves on to the notice board that is Wi-Fi connected to the internet. It is processed by the processor and shown on the screen. We can also visit the display by entering the specified URL in any browser to access the notice board. We can choose to broadcast the message to a certain screen or all screens



IV. EXPERIMENTAL RESULTS

The web page that can only be accessed by the admin where they can curate notices and deploy them to everyone or a particular individual in the network. is shown in Fig 2. A webpage displaying all the information given by a new user while registering an account in the network fills in to create an account which will help in authentication the user is shown in Fig 3 .Database management system that can be accessed by the admin with the help of XAMPP which has allowed hosting of the web server. With the help of this DBMS all the data can be stored and managed including keeping the history of the notices made by the admin. Page that the user arrives when they want to access the notice board remotely to allow only authenticated users to access the information put out on the web page or make changes in on their respective accounts as shown in Fig. 5. When a person wants to create an account to gain access to the user side of the notice board they arrive at this page, all the information given here can be seen by the admin and the admin decides whether or not to accept the user. The result can be seen in Fig 6.

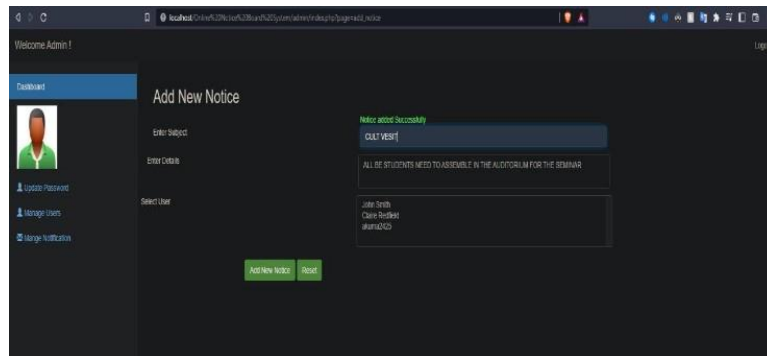


Fig. 2. Admin webpage to update notices

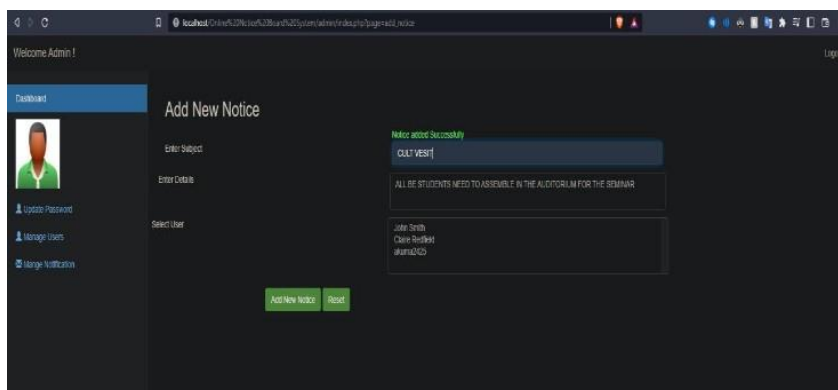


Fig. 3. Admin page displaying all the users that are in the database

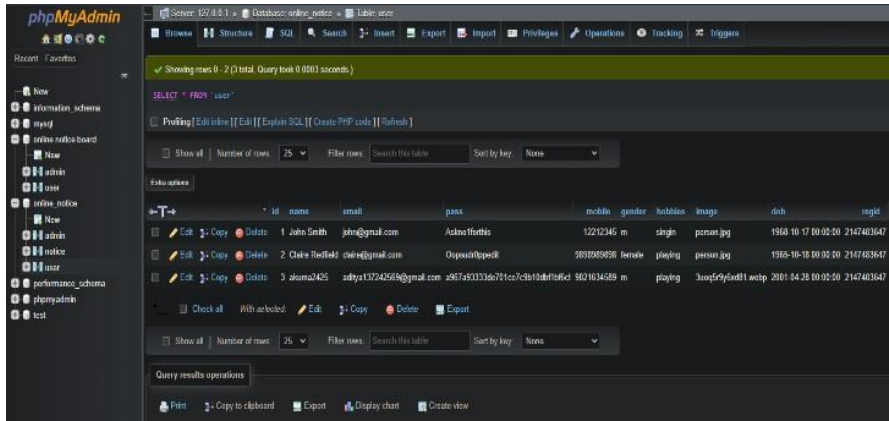


Fig. 4 Server-side Database management system

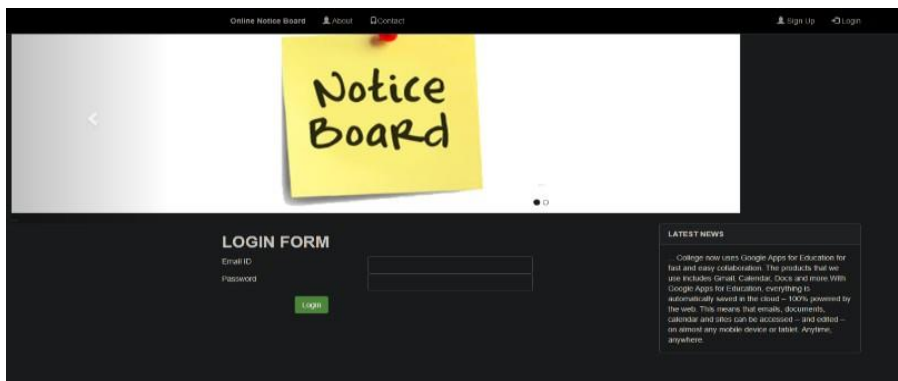


Fig. 5. Login page for user

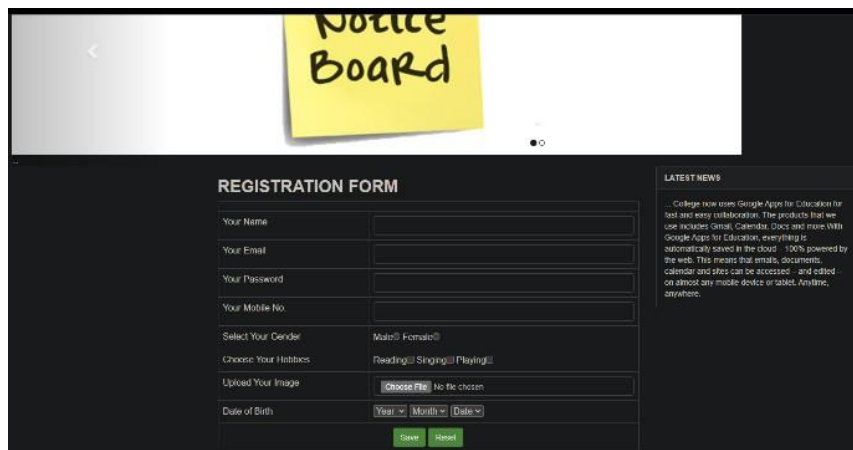


Fig. 6. Registration page for new users

V. CONCLUSION

The software portion has been completed; it has been tested, and it functions flawlessly. Eventually, we made the necessary purchases, and testing is currently being done on them. We have begun working on the hardware



implementation as soon shall be over, at which point our project will be finished. As soon as the project is finished, we also plan to place our display on the monitors in the college's hallway, which will make it much easier and more effective for teachers to broadcast notices.

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