

“SMART DIGITAL DISPLAY”

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Abstract -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 an 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.

Key Words:P10 display, Arduino, Android Phone, Bluetooth HC05, IoT(Internet of Things), GSM module.

1. INTRODUCTION

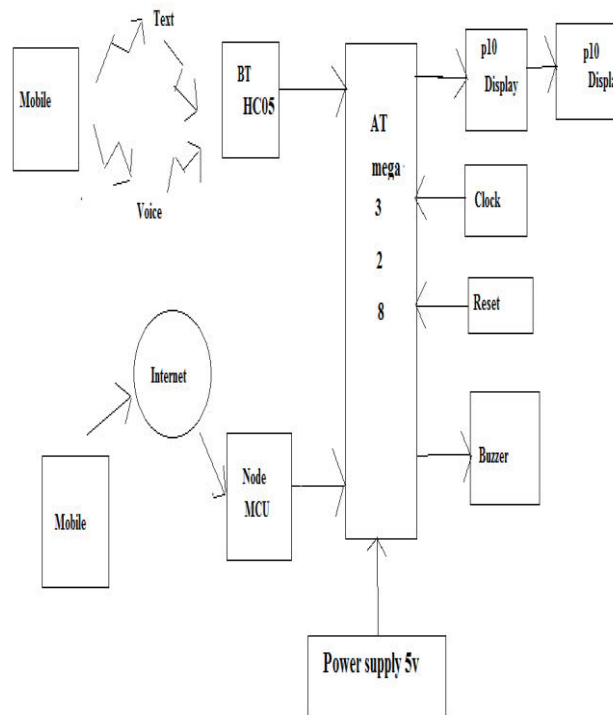
Digital display system is aimed at the colleges and universities for displaying day-to-day information continuously or at regular intervals during the working hours. Being IoT based system; it offers flexibility to display flash news or announcements faster than the programmable system. The digital display system mainly consists of a receiver and a display board which can be programmed from an Arduino. It receives the message through serial port and display the desired information after necessary code conversion. It can serve as an electronic notice board and display the important notices without any delay thus avoiding the latency. The digital display is easy to expand and it allows the user to add more displays at any time and at any location depending on the requirement

2. Body of Paper

I. Motivation

Digital display board is an essential information gathering system in our life .The existing system uses Bluetooth but drawback of this technique is coverage area is small. These problems are resolved by the implementation of digital notice board using IoT technique along with Bluetooth technique. Main concept behind voice operated electronic notice board using rolling display is to show scrolling messages and to control them by using our own voice.

II. Block Diagram



III. System Operation

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 an 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 Smartphone/Tablet etc., with Android OS.

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 an atmega 328 microcontroller family.

The power supply consists of a step down transformer 230/12V, which steps down the voltage to 12V 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. Justification

Wireless digital display board is easy to install and use. IoT connects things to the internet .So, we can access the digital display board from anywhere across the world through internet. IoT based digital display board overcome the disadvantages of existing noticing system. Multiple users are authorized to update notices on the digital display board. Save time, energy and environment.



Fig-1: Figure

3. CONCLUSIONS

After doing this project we come to conclude that, our project is 100% working. We are using Node mcu technology, so doesn't depend on any mobile company for mobile network. But requires live internet connection.

We can change the message from any location throughout the world as our project is Iot Based. We are using Node MCU technology, so doesn't depend on any mobile company for mobile network. But requires live internet connection. We can change the message from any location throughout the world as our project is Iot Based. As the technology is changes every day the, display board system are changing from normal display to digital display.

The IoT based wireless notice board system is technological advancement of the notice board is proposed that will helps in saving time and resources and making the information available instantly to the intended person. The system is simple low cost and easy to use that interacts with the intended users instantly. The system can be used in various applications like banking, schools, restaurants, offices, hospitals, score boards for sports etc.

REFERENCES

1]Research papers

- 1.A Paper on IOT Based Digital Notice Board using Arduino AT Mega 328 by Pooja Pawar¹, Suvarna Langade², Mohini Bandgar³
- 2.Digital Notice Board by 1Modi Tejal Prakash, 2Kureshi Noshin Ayaz, 3Ostwal Pratiksha Sumtila
- 3.IOT Based Digital Notice Board by Vishnu K M, Lalkrishna M D, Mohammed Farshan V T, Anu P M, Nivya Mariya Francis Anooja.B, Malabar College of Engineering & Technology, Calicut University 6.

2] Books

1. The "Internet of Things" by Samuel Greengard
2. Programming Arduino second edition 6.

3] Websites

1. <https://www.ijert.org>
2. <https://www.researchgate.net>