



# SMART NOTICE BOARD

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**Abstract:**-LCD display system is used at the public places for displaying day-to-day information continuously. The electronic notice board can display the important notices without any delay. The LCD display is easy to expand and it allows the user to display the messages at any time and at any location depending on the requirement. The electronic notice boards are being made through various devices like GSM, IoT and many more, here we are using GSM to display the notice on the notice board so the message can be transmitted and received from any place.

**Keywords:**-GSM, LCD Display, Arduino, Notice Board

## INTRODUCTION

GSM module is used in many wireless communication devices. It is used to interact with GSM network with the help of a computer. GSM module only understands AT commands, and it responds accordingly. The most basic command is “AT”. The GSM responds “OK” when it is working otherwise it responds “ERROR”. There are various AT commands they are, ATA to answer a call, ATD to dial a call, AT+CMGR to read the message and AT+CMGS to send the SMS, using this messages can be displayed on the LCD screen.

The Arduino Uno used here is a type of microcontroller board based on ATmega328P (datasheet). It has 14 pins input/output pins with input voltage 6-20V, operating voltage 5V and 6 analog input pins.

## LITERATURE SURVEY

### Review on Electronic Notice Board

**Done by Darshika Morey, Mamta Taikar, Rageeni Wagmare, Vivek Ghumde, International Research Journal of Engineering and Technology (IRJET), 2018.**

Notice board is a necessary thing in any public places, but conveying various messages day to day manually is a difficult process, a separate person is needed to take care of these notice boards. Hence electronic notice boards are used to convey the message which provides multiple users to update the messages in the notice board with security.

In this paper we study the various technologies included in electronic notice board by reviewing different researches done over time, which uses GSM and Wi-Fi module to convey the notice and is displayed in the LCD screen. The wireless notice board is enhanced to display the information through an android application where the message is received by the Bluetooth device at the display unit, it is then sent to the microcontroller which further displays the notice sent on the LCD display. When using the GSM technology the GSM module is used instead of the microcontroller. [1]

### Digital Notice Board

**Done by Modi Tejal Prakash, Kureshi Noshin Ayaz, Oswal Pratiksha Sumtilal, International journal Of Engineering Development and Research (IJEDR), 2017.**

Notice Board is the basic thing in any organization or institution. This paper deals with digital notice board with raspberry pie in which there is an android application that is connected with LCD display. The main feature of this application is scheduling of notices on the basis of priority and backup facility.



The wireless notice board is designed using Raspberry pie connected to it which displays the message through a notification on the mobile. Here we study how raspberry pie is used to add, update, delete and send the notice according to the time and date set by the user and as per the scheduling the notice is displayed on the notice board. [2]

#### **GSM Based Wireless Electronic Notice Board**

**Done by Swapnil S. Kambale, Nilesh B. Swami, Punam S. Kadam, Prof. Vijay. J. Madane, International Research Journal of Engineering and Technology (IRJET), 2018.**

Now a day, the advertisement process is done digitally. Hence, scrolling LED displays are used to represent in the form of notice boards by the well-developed educational institutes. GSM means Global System for Mobile Communication. Due to this international roaming capability of GSM messages are sent and received from any part of the world.

In this paper we study about an electronic notice board with GSM modem at the receiver end. Here we send message to the GSM module using a mobile phone. Then the GSM module receives or accepts the message that is sent and transfers the message to the microcontroller. Now the microcontroller displays the sent message on LED display. [3]

#### **Wireless Digital Notice Board using GSM Technology**

**Done by Ramachandra K. Gaurav, Rohit Jagtap, International Research Journal of Engineering and Technology (IRJET), 2015.**

GSM – More than 212 countries and territories globally access a digital mobile telephony system which is in turn used to display the message sent by a user on LED without any delay. The GSM is available with more salient features with constant up gradation of technology. Hence, it is more convenient to use this module to receive and send the message.

In this proposed system the message is sent from the authorized user to GSM Module. Now this message is received by the GSM module and is displayed on LED / LCD. Max 232 shifts the level of signal which converts the signal from the microcontroller to GSM module. Only after this conversion the signal will be displayed on the notice board. [4]

#### **Display message on Notice Board using GSM**

**Done by Foram Kamdar, Anubhav Malhotra, Pritish Mahadik, Research India Publications, 2013.**

Notice board is one of the important things in any organization or public places like bus stops, railway stations, parks etc. GSM is widely used to facilitate the communication for displaying messages and this paper deals with advanced notice board incorporating the GSM.

Here we study the operation of notice board based on microcontrollers ATMEGA32 programmed in assembly language. A SIM300 GSM modem with a sim card is connected to the ports of microcontroller. SIM300 GSM receives an SMS sent by a registered number at the receiver's end. IC MAX32 is the level shifter through which the GSM is connected to the microcontroller. Therefore, the message is fetched into the microcontroller. The message in the microcontroller is now displayed on an electronic notice board equipped with LCD display. [5]

#### **Message displayed on LCD screen using GSM and Bluetooth Technology**

**Done by Sravan Shah, Electronics and Communication Engineering Department, L.J Institute of Engineering and Technology, 2015.**

In today's world, displaying message and advertisement is an important part of communication. Recently wireless communication has announced its arrival on a bigger platform. The whole world is becoming familiar and gaining knowledge about smart phone technology.



In this paper, by introducing the concept of wireless technology, our communication is made more efficient and faster. With greater efficiency, the displaying of messages on the notice board is done with less number of errors and maintenance. [6]

#### **GSM based Wireless Notice Board**

**Done by Abhishek Gupta, Rani Borkar, Samita Gawas, Sarang Joshi, Professor Ravindra Joshi, Department of Electronics and Telecommunication, KCCEMSR, 2016.**

In this world, everyone needs a comfortable life. Humans have researched different technologies for the sake of their lives. In today's world, people are becoming accustomed to easy access to the information, whether it is through the internet or television. People want to be informed and kept updated with the latest events happening all over the world.

Here, a system which will enable people to wirelessly transmit notices to the notice board is proposed. This is done using Wi-Fi or through the data access over a mobile phone. Here, only an authorized person can access the notice board. It requires less time due to fast data transmission through Wi-Fi, less cost and saves resources like humans, ink and majorly paper. [7]

#### **Smart Home and Digital Notice Board based on GSMs**

**Done by Aniketh Pramanik, Rishikesh, Vikash Nagar, Satyam Dwivedi, Biplav Choudhry, National Institute of Technology, 2016.**

In this project, the idea is to provide its uses with a simple, fast and reliable way to put up important notices. The user can send a message that is to be displayed in the LCD.

The main motivation is to reduce physical effort for operating appliances. Another reason is over usage of paper in educational institutes for printing notices. A lot of trees are being cut which is harmful for the environment. So, if all the important notices are displayed electronically, it would reduce paper usage and makes the communication easier and faster. There is no risk of getting hacked as a GSM based system is flexible and durable. Such a system has low cost of installation and maintenance. [8]

#### **GSM based LED Scrolling Display Board**

**Done by Hardik Guptha, Pooja Shukla, Ankita Nagwekar, Electronics and Telecommunication Engineering Department, Rajiv Gandhi Institute of Technology, 2013.**

Scrolling display board is a common sight in today's world. Usually the advertisements we see are all digital. The use of LED scrolling display at huge stores, railway station, educational institutes is gradually becoming an effective mode of communication in providing information to people.

This project explains how GSM based LED scrolling board can be developed, by integrating features of all the hardware components used. The scrolling speed is controlled using the software. Due to the use of multiplexing technique the power dissipated by the LED is low. Greater efficiency is achieved by using wireless communication. It is advised to use a better antenna as there can be some latency involved in delivering the message to the GSM modem. [9]

#### **Wireless Notice Board – Our Real-Time Solution**

**Done by Asst. Prof. Darshankumar C. Dalwadi, Ninad Trivedi, Amit Kasundra, Electronics and Telecommunication Department, BVM Engineering College, 2013.**

GSM network is used widely either for calling or sending an SMS. Places like Colleges, Railway Stations, Share Markets need urgent notices to be displayed. This needs to be in real-time which is why we need an appropriate type of notice board.



Here, in this project, a remote notice board is used with a modem connected to it. When the user sends messages in SMS format, it is displayed on the notice board. The message is received by the modem which is in the display system. It updates the display according to the message. The system will check for source number for every message received. If the source number is correct, then the controller will display the message. [10]

### **WORKING**

In this project, Arduino UNO is used for controlling the whole project, GSM module (SIM900A) is used to receive the SMS/message sent from mobile phone and LCD is used to display the message.

When we send SMS from mobile phone to GSM module, the GSM module receives that SMS and sends it to the Arduino and then the Arduino reads the SMS and extracts the main message from the received string and stores that message in another string, then it sends the extracted message to 16\*2 LCD display by using the suitable commands.

### **CONCLUSION**

In this system a message or notice can be displayed to some display device like LCD. This message can be easily set or changed from anywhere in the world, just by using the SMS facility of the mobile handset. Whatever notice is to be displayed, just the SMS of that text is to be sent, with some prefix and suffix.

### **REFERENCES**

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