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# WIRELESS NOTICE BOARD USING ARDUINO

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Abstract : Notice board is ideally useful tool for organizing and displaying information these are used in multitude of businesses such as schools, colleges, railway station etc

In this project, we proposed an advanced wireless notice board in which at any time we can add or remove or alter the message according to our requirement. The main aim of this proposed project is to drastically reduce the cost involved, consume smaller amount of power and help in achieving quality of service. Wireless electronic notice boards are a faster alternative to conventional pin-up type notice boards. In this Project we are going to use a LED dot Matrix display module which is also known as LED Display Module to display a Scrolling text by using Arduino UNO. The proposed method consists of electronic notice board that is controlled by an android device and displays message on it. Traditionally, there were notice boards where any information or notice had to be stick daily. This becomes tedious and requires daily maintenance. The project the overcomes this problem by introducing an electronic display notice board interfaced to an android device through Bluetooth connectivity. The Bluetooth receives the message from the android device that is sent to an Arduino .Notice board is a primary thing in any institution/organization or publicutility places like bus stations, railway stations and parks. But sticking various notices day-to-day is a difficult process. The Notice board is a common display for effective mode of providing information to the people, but this is not easy for updating the messages instantly. This project deals about an advanced Hi-Tech wireless Notice Board. This system is enhanced to display the latest information through an Android application

## I. Introduction

In this world Mobile Phones and the related technologies are becoming more and more prevalent. Various technical arenas in the field of Telecommunication and Embedded Systems are becoming omnipresent in the people. The use of cell phones has rapidly increased over the last decade and a half up gradation in networking technologies has encouraged the development and growth of very dense networks .Now-a-days the general mass prefers communicating while on the move therefore landlines usage has been drastically reduced. Notice boards are one of the widely used ones ranging from primary schools to major organizations to convey messages at large. A lot of paper is been used and which is later wasted by the organizations. This in turn leads to a lot of deforestation thus leading to global

warming. Small innovative steps in making use of technology for regular purposes would have an adverse effect on the environment issues which we are presently concerned about. The main aim of this paper is to design a SMS driven automatic display Board which can replace the currently used programmable electronic display and conventional notice boards. It is the main aim of this paper is to design a SMS driven automatic display Board which can replace the currently used programmable electronic display and conventional notice boards. It is proposed to design to receive message in display toolkit which can be used from an authorized mobile phone. The whole process can be described from the transmitter and receiver section.

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## II. LITERATURE SURVEY

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- **Arduino:**

Arduino being open-source hardware is widely used for development of various projects and models. Arduino boards consist of Atmel AVR microcontroller of 8-bit withvariations in the number of pins and different flash memories, features and pins. These boards are used to incorporate into circuits and make connections for programming. These microcontrollers are already programmed with the help of a boot loader that makes uploading programs, on the flash memory chip, easy.

- **Bluetooth:**

This is a wireless technology that facilitates easy data exchange between devices or mobiles over short span of distances which uses short wavelength radio waves and to build personal area networks (PANs). Bluetooth has made communication between devices easier and hassle free due to its wireless technology features. It has a low range.

. ATMega This is an 8-bit microcontroller variant with Reduced Instruction Set (RISC) based architecture. AT stands for Atmel and Mega stands for mega AVR with flash

- **Introduction to Arduino UNO**

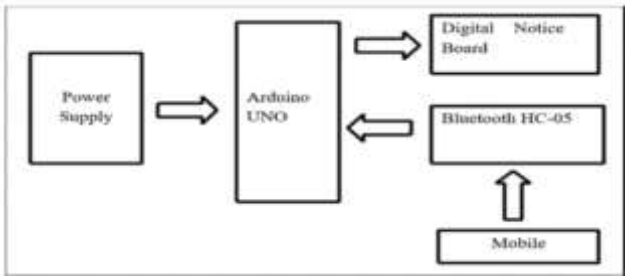
Arduino is a tool for making computers that can sense and control more of the physical world than your desktop computer. It's an open-source physical computering platform based on a simple microcontroller board, and a development environment for writing software for the board. Arduino can be used to develop interactive objects, taking inputs from a variety of switches or sensors, and controlling a variety of lights, motors, and other physical outputs. Arduino projects can be stand-alone, or they can be communicating with software running on your computer. The boards can be assembled by hand or purchased preassembled; the open-source IDE can be downloaded for free. The Arduino programming language is an implementation of Wiring, a similar physical computing

Fig : 1 Block diagram of system

platform, which is based on the Processing multimedia programming environment

## III. METHODOLOGY

. The main aim of this proposed project is to drastically reduce the cost involved, consume smaller amount of power and help in achieving quality of service. Wireless electronic notice boards are a faster alternative to conventional pin-up type notice boards. In this Project we are going to use a LED dot Matrix display module use




**Arduino UNO**

. Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something onlineYou can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so you use the Arduino programming language (based on Wiring), and the Arduino Software (IDE), based on Processing.

**LED MATRIX DISPLAY:**

The 8×8 LED matrix module is a very useful and low-cost way to add display in your electronic circuits. It has16pins to achieve a different combinatioON/OFFthe LEDs. It fits properly into any standard solderless bread board.. It is a Great display for electrical and test equipment. The diameter of the Led is about 3mm with common Anode configuration which emits Red colour. The Exact dimensions of this module are shown in the Schematic image. These Displays are always in high demand in the DIY community as well as in Industrial Projects due to their multipurpose uses and cheap cost. It is also very simple to connect the two modules. Simply connect the previous breakout board's output pins to the new module's input pins, and you can connect as many DOT LED Matrix Modules to the Arduino as you want

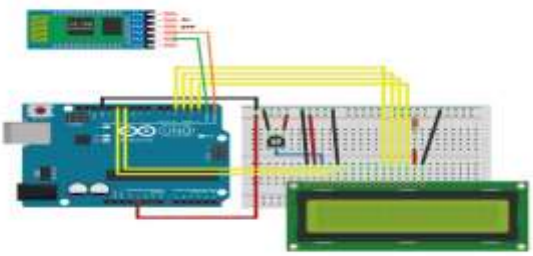


Fig 2 :Circuit diagram of Wireless notice board

- **Bluetooth Module HC-05:**

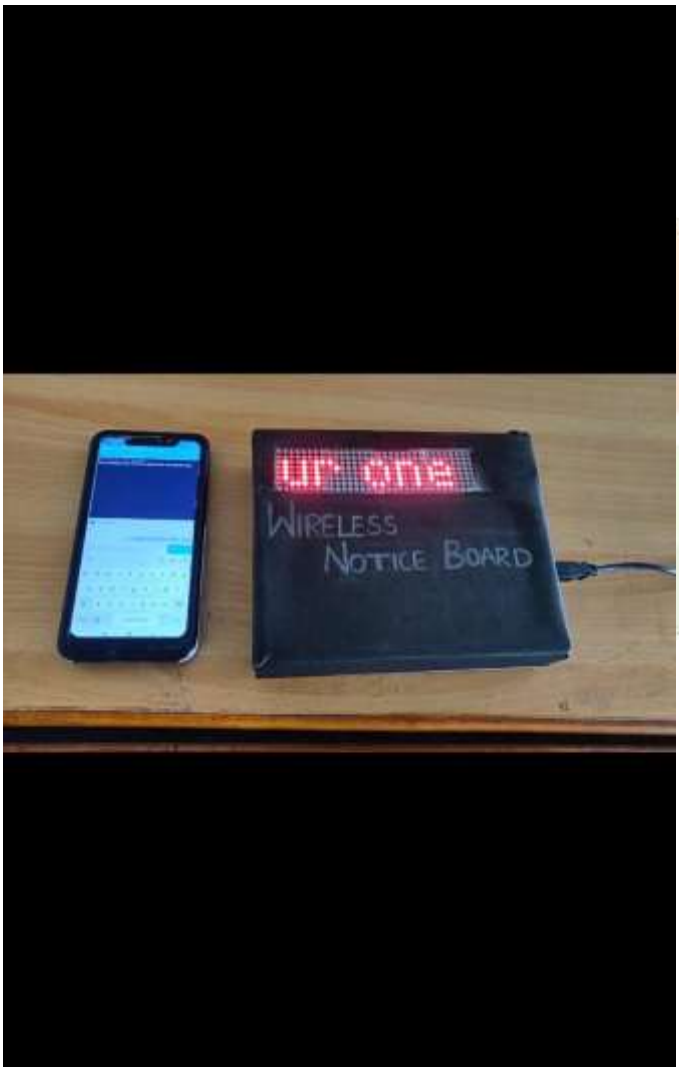
Bluetooth Terminal is an Android application program that enables the Android PDAs to communicate simply with a Bluetooth device via a terminal. Bluetooth Terminal application program therefore enables the Android PDA to transmit (or receive ) the messages in either hexadecal (hex) or string format to (and from ) the connected Bluetooth devices. At the receiver end, the HC-05 module is interfaced with microcontroller that is programmed to store the received message and display that to the LCD screen. The HC-05 is a very cool module which can add two- way (full-duplex)

wireless functionality. The Bluetooth module is used for transmitting data wirelessly from the transmitter to receiver. The HC-05 module works on the same principle but on the different operation. The HC-05 Bluetooth module has four pins: TX pin – Transmitting pin which is used to transmit the data. RX pin – the pin that receives data from the receiver. VCC pin – power supply pin. GND pin – power supply pin.

- **Jumper Wires**

A jump wire is an electrical wire, or group of them in a cable, with a connector or pin at Stranded 22AWG jump wires with solid tips. Individual jump wires are fitted by inserting their "end connectors" into the slots provided in a breadboard

## IV. RESULT




## V CONCLUSION

As the technology is advancing every day the display board systems are moving from Normal hand writing display to digital display. Further to Wireless display units. This paper develops a photo type laboratory model wireless notice board system with GSM modem connected to it, which displays the desired message of the user through an SMS in a most populated or crowded places. This proposed system has many upcoming applications in educational institutions and organizations, crime prevention, traffic management, railways, advertisements etc. Been user friendly, long range and faster means of conveying information are major bolsters for this application. By using this proposed methodology we can enhance the security system and also make awareness of the emergency situations and avoid many dange

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