

Remote Control Electronic Notice Board Using Bluetooth Technology

Pranjali Bohra

Student

(2016pietecpranjali051@poornima.org)

Mayank Agrawal

Student

(2016pietecmayank035@poornima.org)

Parul Dhabria

Student

(2016pietecparul049@poornima.org)

Minal Jain

Student

(2016pietecminal037@poornima.org)

Abhishek Shrimal

Student

(2016pietecabhishek002@poornima.org)

Deepak Sharma

Assistant Professor

(deepak_382@poornima.org)

Abstract:

At the point when data trade happens between individuals by means of a system, at that point verification and security of information have greater need. This paper presents an ease, handheld, remote electronic notification board by utilizing Arduino ATmega328 microcontroller and Bluetooth Technology and their presentation examination dependent on the parameter, for example, go, signal constriction and force utilization. The notification board gets sequential information from remote module recipient and presentations it on the lcd Monitor. This will help us in passing any message very quickly immediately just by sending a SMS which is preferred and progressively solid over the old conventional method for passing the message on notice board. This proposed innovation can be utilized in universities numerous open spots, shopping centres or huge structures to upgrade the security framework and furthermore make attention to the crisis circumstances and maintain a strategic distance from numerous threats.

Keyword:

Bluetooth Technology, Remote Control, Programmable, Communication

1. Introduction

Remote innovation has an enormous advancement in the course of recent years. The ever-expanding utilization of remote systems fills in as a pointer of the advancement in the region of remote systems. Generally, there were notice sheets where any data or notice must be stick day by day. This gets monotonous and requires day by day support. Right now where everything is digitalised,

why not ordinary Notice board gets another look. So here we are dealing with Remotely Controlled Arduino based Electronic Notice Board utilizing Bluetooth innovation which can be utilized instead of static notification board. We created notice board utilizing the Bluetooth remote modules shows various attributes dependent on numerous parameters and have diverse approach to get to them, in this manner it is usable at various area, for variable range purposes either neighbourhood medium range notice board. An android based Bluetooth application has been created to interface/ update the notification board utilizing the android based cell phone when utilizing Bluetooth module as notice recipient. We created notice board utilizing the Bluetooth remote modules shows various qualities dependent on numerous parameters and have diverse approach to get to them, therefore it is usable at various area, for variable range purposes either neighbourhood medium range notice board. An android based Bluetooth application has been created to interface/update the notification board utilizing the android based cell phone when utilizing Bluetooth module as notice collector.

2. Proposed Solution

The framework is contained both programming and equipment. Programming region incorporates the Bluetooth android application improvement and code calculation for microcontroller to get and show a notification on screen. The equipment zone incorporates the improvement of collector equipment utilizing Arduino ATmega328 microcontroller and its arrangement with Bluetooth module.

Major Components

- Arduino Uno Board
- LCD Monitor
- Bluetooth (HC-05)

- variable resistor
- Resistors
- Wires

Right now, UNO is utilized for controlling the entire procedure, Bluetooth module to get the message sent from cell phone and LCD Monitor to show the message.

We are taking a shot at venture with an Arduino Uno Board. It has a Bluetooth Module that can be associated by means of an advanced mobile phone. Client can send content from his/her advanced mobile phone with a straightforward application to show it on the presentation. Right now, Bluetooth module that we utilized (HC-05) has an open source free android application (Bluetooth Terminal HD-05) to send sequential info (content) to the Arduino board. We got the sequential information and appeared on a LCD Monitor. For a model, we utilized a littler and easier showcase to lessen the expense and multifaceted nature. We utilized a circle to show the yields iteratively and it keeps on demonstrating the yields until the client needs it to stop. By giving a solitary character input "x", the yield cycle will stop and the showcase will be cleared. In the event that, at that point the client gives more information, it begins emphasizing once more. Each new info will include toward the finish of the circle. Thus, the presentation will keep on demonstrating the information sources that client gives individually.



Figure 1. Block Diagram of E-Notice Board

3. Hardware Description

3.1 Arduino:

The Arduino Uno is an open-source microcontroller board reliant on the Microchip ATmega328P microcontroller. The board is outfitted with sets of cutting edge and straightforward data/yield (I/O) sticks that may be interfaced to various advancement sheets (shields)

and various circuits. The board has 14 analog I/O pins, 6 basic I/O digital pins, and is programmable with the Arduino IDE by methods for a sort B USB connect. It might be constrained by the USB connect or by an outside 9-volt battery, anyway it recognizes voltages some place in the scope of 7 and 20 volts.

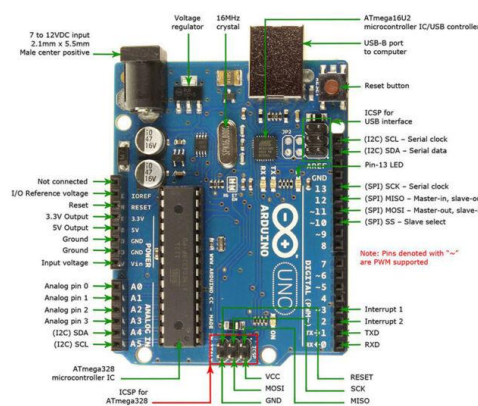


Figure 2. Arduino UNO

3.2 Bluetooth:

HC-05 module is a simple to utilize Bluetooth SPP (Serial Port Protocol) module, designed for straight forward remote sequential association arrangement. The HC-05 Bluetooth Module can be utilized in a Master or Slave design, making it an extraordinary answer for remote correspondence. It is utilized for some, applications like remote headset, game controllers, remote mouse, remote console and a lot more purchaser applications. It has extend up to <100m which relies on transmitter and recipient, climate, geographic and urban conditions. It utilizes sequential correspondence to speak with gadgets. It speaks with microcontroller utilizing sequential port (USART).



Figure 3. Bluetooth Module (HC05)

3.3 LCD Monitor:

A liquid crystal diode (LCD) screen is a PC screen or show that uses LCD development to show clear pictures, and is found generally in PDAs level board screens. This development has superseded the customary cathode ray tube (CRT) screens, which were the past standard and used to be considered to have favoured picture quality over early LCD varieties.



Figure 4. LCD Monitor

3.4 VGA Connector:

A **Video Graphics Array (VGA) connector** is a three-row 15-pin DE-15 connector. The 15-pin VGA connector was provided on many video cards, computer monitors, laptop computers, projectors, and high definition television sets. On laptop computers or other small devices, a mini-VGA port was sometimes used in place of the full-sized VGA connector.

Few new devices now include VGA connectors, and it generally coexists with DVI or the newer and more compact HDMI and DisplayPort interface connectors.



Figure 5. VGA Connector

3.5 VGA Cable:

VGA stands for Video Graphics Array. A VGA cable is a device used to transfer video signals. It does this by acting as a link between the computer and the monitor or between the computer and the television screen. The video graphic cable comes in

two types, male and female connector. It is made of high-quality materials and carries an unconditional warranty. Chiefly, it is an electronic connector with three rows of 15 pins on it.



Figure 6. VGA Cable

4. Software Description

ANDROID APP: BT Terminal is a terminal application with UART successive correspondence show that transmits and gets data remotely through Bluetooth connections. The application can be used for Robotics Communication, Configuring Bluetooth Modules (using AT Commands), Home Automation, etc.

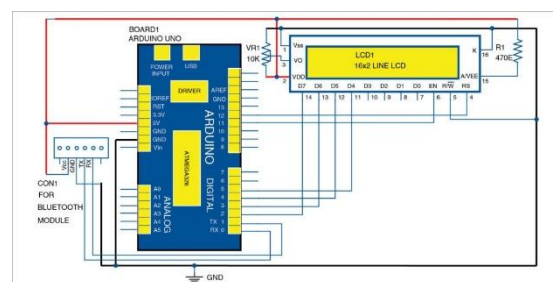


Figure 7. Circuit Diagram

5. Project Features

The created notice board framework has the accompanying highlights that makes it ideal and perfect for notice arrangement in any industry like school, workplaces and so forth.

- The project is very economical since it uses low cost micro-controller.
- Only authorized person can access the notice board.

6. Cost Analysis

Notice sheets can change the path correspondence with one another, utilizing notice sheets is a valuable strategy for elevating significant data to countless individuals. Notice board is in a perfect world helpful device for sorting out and showing data and it likewise decreases cost as:

- This framework decreases the work cost.
- It decreases the Cost of printing and photocopying is likewise diminished.
- It is an online notification board creator where data can be given to a gathering of individuals effectively and there will be no expense of sending notification to all.
- It utilizes minimal effort small scale controller and Bluetooth module.

7. Applications

- Educational associations (schools and universities). To educate any adjustments in the timetable or significant data.
- Hospitals. To advise a specialist's name and her or his specialization.
- Restaurants. To advise the kitchen staff and educate clients about the request number.
- Offices. To advise the status (occupied, accessible, out of the workplace, and so on) of the supervisor inside the workplace.

8. Conclusion

This paper survey innovation associated with Electronic notification board. As the innovation is getting propelled highlights of advanced notification board are likewise improved. Each innovation examine above have its own points of interest and detriments and by utilizing them we can make a productive remote electronic notification showing framework. Numerous messages can likewise be shown by chipping away at these frameworks. In any case, the principle parameter is the expense.

9. Reference

- [i] D Dalwadi, N Trivedi and A Kasundra (2011), Article in Nation conference on recent trends in engineering and technology, INDIA
- [ii] T. Padmapriya and V. Saminadan, "Inter-cell Load Balancing Technique for Multi- class Traffic in MIMO -LTE - A Networks", International Conference

on Advanced Computer Science and Information Technology , Singapore, vol.3, no.8, July 2015.

[iii]https://www.academia.edu/notice_boad_using_bluetooth_module

[iv]<https://prezi.com/ezyvbuu446zm/bluetooth-based-digital-notice-board-with-display-on-scrolli/>

[5]<https://www.ijert.org/research/wireless-e-notice-board-using-bluetooth-technology-.pdf>

[6]https://www.researchgate.net/publication/wireless_electronic_notice_board_using_Bluetooth