WIRELESS NOTICE BOARD BLUETOOTH MODULE

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Abstract- The main objective is that we are going to make a wireless electronic notice board using arduino and bluetooth. This will help us in passing any message almost immediately without any delay just by sending a text from the app which is better and more reliable than the old traditional way of passing the message on notice board. With new technologies and devices come new business activities, and the need for employees in these technological areas. Engineers who have knowledge of embedded systems and wireless communications will be in high demand. Unfortunately, there are few adorable environments available for development and classroom use, so students often do not learn about these technologies during hands-on lab exercises. The communication mediums were twisted pair, optical fibre.Here introduces a low cost, wireless electronic notice board by using ATmega32 microcontroller and different wireless technologies.When information exchange occurs between people via a network, then authentication and security of data have more priority.

This proposed technology can be used in colleges, many public places, malls or big buildings to enhance the security system and also make awareness of the emergency situations and avoid many dangers. This deals with an innovative rather an interesting manner of intimating the message to the people using a wireless electronic display board which is synchronized using the Bluetooth technology. Using the Bluetooth module which displays the message onto the display board. In this modern world where everything is digitalised, why doesn't the conventional Notice board get a new look. We have realized a common communication receiver hardware for notice board having compatibility with wireless module i.e. Bluetooth.

Key words- Arduino, . Bluetooth, microcontroller

I. INTRODUCTION

In this We come across situations where we need to urgently need to display notices on a screen. For areas like railway stations and other such busy facilities the station master/announcer need not have to type in every announcement message manually on the screen. So here we offer an innovation. Main idea behind voice operated electronic board victimization shows is to point out messages and to regulate them by victimizing our own text. User needs to formulate commands in his/her own text to regulate the messages displayed on electronic boards.

Android based notice display system which allows the user to display the notice without typing manually. Here the announcer/administrator may speak out the message through his/her android phone, the message is then

transferred wirelessly and displayed on the screen. To demonstrate this concept we here use an LCD screen to display messages. Bluetooth wireless technology may be an in style technique within the communication arena, and it is one in all the quickest growing fields within wirelesstechnologies.

The LCD is interfaced with an 8051 family microcontroller. We use a Bluetooth receiver to receive Android-transmitted messages, send them to the microcontroller to decode and further into the process. The microcontroller then displays the message on the LCD screen. Use of this notice board system can be used in various places including railway stations, schools, colleges, offices to display emergency announcements on screen instantly, instead of typing the message at all times. So that voice based notice board project is very useful in different organizations.

The main objective of this project is to display the notice on the notice board with typing them manually. The announcer/administrator may speak out the message through his/her android phone, the message is then transferred wirelessly and displayed on the screen. Android based notice display system which allows the user to display the notice without typing manually. Here the announcer/administrator may text out the message through his/her android phone, the message is then transferred wirelessly and displayed on the screen.

II.   Existing system and Proposed system

Bluetooth is a wireless technology standard used for exchanging data between fixed and mobile devices over short distances using UHF radio waves in the industrial, scientific and medical radio bands, from 2.402 GHz to

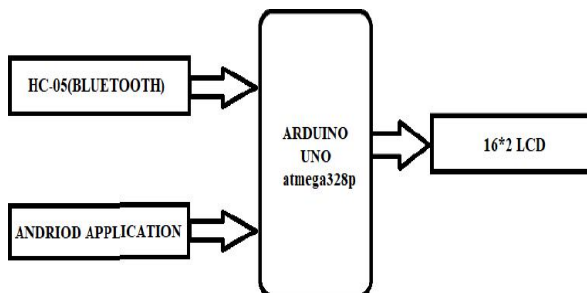2.480 GHz, and building personal area networks (PANs).It was originally conceived as a wireless

Bluetooth is a short-range wireless communication technology standard. Bluetooth is managed by the Bluetooth Special Interest Group (SIG), which has more than 35,000 member companies in the areas of telecommunication, computing, networking, and consumer electronics. The IEEE standardized Bluetooth as IEEE 802.15.1, but no longer maintains the standard. The Bluetooth SIG oversees development of the specification, manages the qualification program, and protects the trademarks. A manufacturer must meet Bluetooth SIG standards to market it as a Bluetooth device. A network of patents apply to the technology, which are licensed to individual qualifying devices. As of

2009, Bluetooth integrated circuit chips ship approximately 920 million units annually.

A standard Arduino Uno or Mega. Any 5volt Arduino should suffice. An HC-05 or HC-06 bluetooth module issued. The HC-06 operates as a slave only but is entirely suitable for this exercise. The HC-05 can operate as a master and thus has more commands. I don't think there is much difference in the price, and its extra versatility may be of value in the future. A breadboard lash up would suffice, or female-male leads direct into the Arduino headers. You could solder the module directly into a proto shield. In this event, it would be wise to have a jumper in the 5v line so that Bluetooth can be isolated while the code is uploaded. This may be as simple as running 1k and 2k between Tx and ground.

The multi terminal is intended for simultaneous management of multiple accounts, such as WIFI and Bluetooth for which is mostly helpful for transmitting message to the display. The new terminal successfully combine great functionalities that allow effective transferring with many accounts and with exceptional usability. Terminal can easily get acquainted to this new program within a few minutes. After installing the application in mobile phone it need to configure with password.

Wireless Notice board using bluetooth is designed with ATMega32 microcontroller, HC-05 Bluetooth module, 16X2 LCD. From the block diagram, a regulated power supply module provides the required voltages to the microcontroller and other devices. The input i.e., commands are given to the microcontroller through the android app, LCD displays the output. The fig. below shows the block diagram of the project.

The Arduino is a family of microcontroller boards to simplify electronic design, prototyping and experimenting for artists, hackers, hobbyists, but also many professionals. People use it as brains for their robots, to build new digital music instruments, or to build a system that lets your house plants tweet you when they're dry. Arduino(we use the standard Arduino Uno) are built around an ATMega microcontroller - essentially a complete computer with CPU, RAM, Flash memory, and input/output pins, all on a single chip. Unlike, say, a Raspberry Pi, it's designed to attach all kinds of sensors, LEDs, small motors and speakers,servos, etc, directly to

these pins, which can read in or output digital or analog voltages between 0 and 5 volts.

The Arduino connects to your computer via USB, where you program it in a simple language (C/C++, similar to Java) from inside the free Arduino IDE by uploading yourcompiled code to the board.

Once programmed, the Arduino can run with the USB link back to your computer, or stand-alone without it - nokeyboard or screen needed, just power. The Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller. Simply connect it to a computer with a USB cable or power it with an AC-to-DC adapter or battery to get started. You can tinker with your UNO without worrying too much about doing something wrong, worst case scenario you can replace the chip for a few dollars and start over again. "Uno" means one in Italian and was chosen to mark the release of Arduino Software (IDE) 1.0.

Arduino IDE

The Arduino Integrated Development Environment - or Arduino Software (IDE) - contains a text editor for writing code. It connects to the Arduino and Genuine hardware to upload programs and communicate with them. Programs written using Arduino Software (IDE) are called sketches. These sketches are written in the text editor and are saved with the file extension. The editor has features for cutting and for searching/replacing text. The message area gives feedback while saving and exporting and also displays errors. The console displays text output by the Arduino Software (IDE), including complete error messages and other information. Libraries provide extra functionality for use in sketches, e.g. working with hardware or manipulating data.

#include statements will insert one or more at the top of the sketch and compiles the library with your sketch. Because libraries are uploaded to the board with your sketch, they increase the amount of space it takes up. If a sketch no longer needs a library, simply delete its #include statements from the top of your code. If you want to program your Arduino Uno while offline you need to install the Arduino Desktop (IDE). The Uno is programmed using the Arduino Software (IDE), our
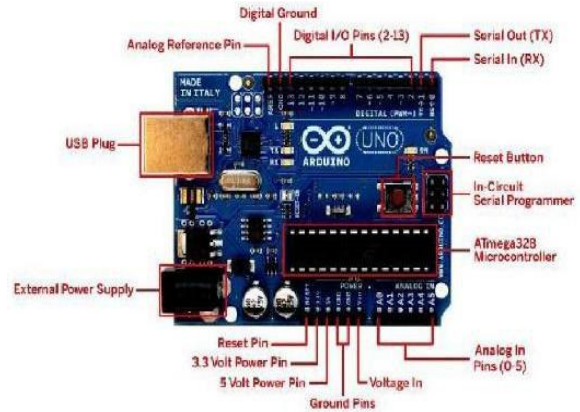
Integrated Development Environment common to all our boards.The serial monitor displays serial sent from the Arduino or Genuine board over USB or serial connector. To send data to the board, enter text and click on the "send" button or press enter.Note that on Windows, Mac or Linux the board will reset (it will rerun your sketch) when you connect with the serial monitor. Please note that the External terminal program and connect it to the COM port assigned to your Arduino board Serial Monitor does not process control characters; if your sketch needs a complete management of the serial communication with control.
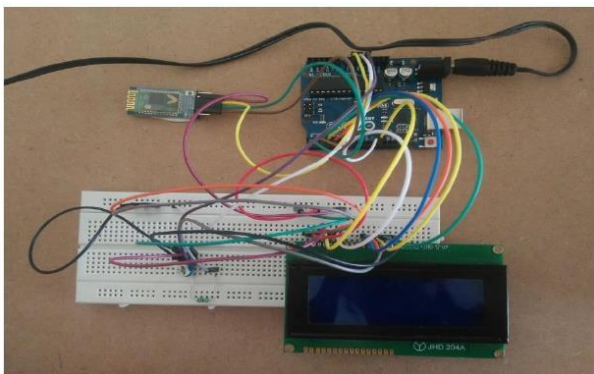

Fig.1 arduino uno

The Uno is programmed using the Arduino Software (IDE).Connect your Uno board with an USB cable

4.2 arduino uno and usb cable

The LCD pins are connected to Arduino pin 12, 11, 5, 4, 3, 2 as shown in the circuit diagram now we are more than half way mark. Connect the potentiometer to the shown pin of the LCD to control the contrast. Now comes the bluetooth module which will have its Rx, Tx pin connected with Tx, Rx pin of Arduino respectively. Battery or power adapter of 5-6V is required. So, data sent to the bluetooth module using mobile or any bluetooth enabled devices through bluetooth terminal apps are fetched to the Arduino and in return displayed on the LCD 41 Install Arduino Bluetooth Control app from play store.

https://play.google.com/store/apps/details?id=com. this is one of the best app for the Blue tooth terminal pair our HC05 bluetooth with the pin 1234 to my mobile

SYSTEM HARDWARE


This Chapter provides step by step procedural simulationresults and detailed description of the steps involved andactions to be taken while texting in the Arduino automation app. **STEP-I:** The connections of the projectare as shown below in the Fig.5.1. This is the case when the power supply is not enabled.

When the power supply is given to the system, then thecomponents get activated as shown in Fig
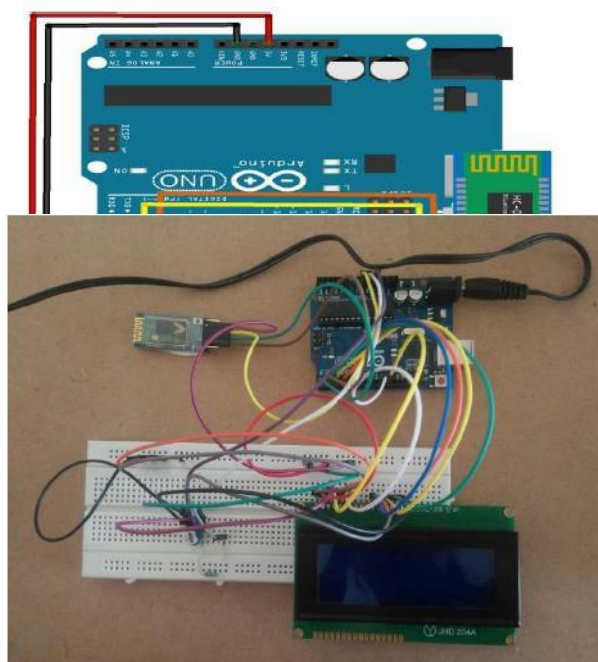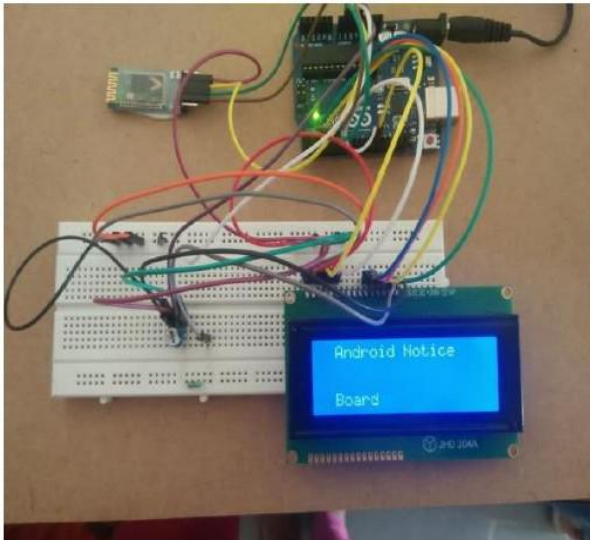
When the input is given in the Arduino automation App as shown in Fig
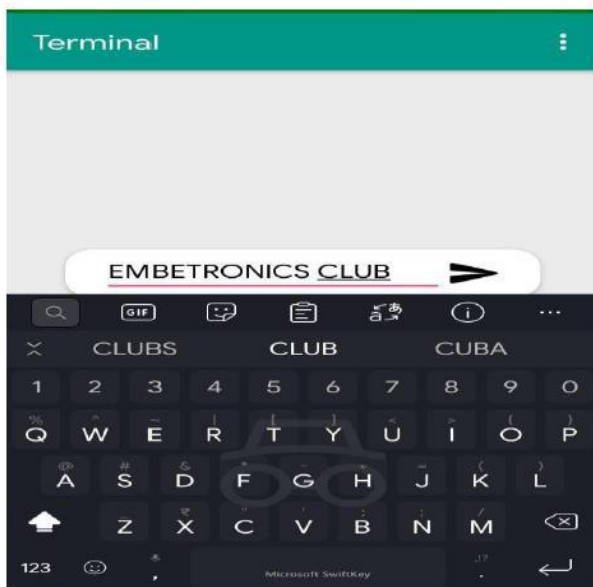
When the input is displayed on the LCD is shown in the Fig.

RESULT

As a result, a wireless electronic notice board using arduino and Bluetooth is made. This will help us in passing any message almost immediately without any delay just by sending a text or information through Arduino Bluetooth control app. Android based notice display system which allows the user to display the notice without typing manually. Here the announcer/administrator may text out the message through his/her android phone, the message is then transferred wirelessly and displayed on the screen.

APPLICATIONS

1. Educational organizations (schools and colleges): To inform any changes in the timetable or important information

2. Hospitals: To inform a doctor's name and her or his department
3. Restaurants: To inform the kitchen staff
4. Offices: To inform the status (busy, available, out of the office, etc) of the boss inside office.

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 ARDUINO and BLUETOOTH connected to it, which displays the desired message of the user through an TEXT 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 danger. Hence, we will be concluding that, by introducing the concept of wireless technology in the field of communication we can make our communication more efficient and faster, with greater efficiency we can display the messages with less errors and maintenance. We have presented an approach of using the Bluetooth technology for mobile printing, from a palm handheld and explained the application for the purpose of printing from a mobile device.

FUTURE SCOPE

1. The implemented system can be used in shopping malls and bus stations for dynamic updating of notices/messages. Also scan copy of notices can be displayed using the proposed system.
2. The voice feature can be added to this design for

advertisement/ announcement of notices in public places.

3. Temperature display during periods wherein no message buffers are empty is one such theoretical improvement that is well possible.

4. Another very interesting and significant improvement would be to accommodate multiple receiver MODEMS at different positions in the geographical area carrying duplicate SIM cards.

5. Multilingual displays can be another added variation in the project. The Bluetooth printing has been implemented successfully with android phone and outputs have been verified. Future work focuses on implementation of Wi-Fi printing.

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