HERITAGE INSTITUTE OF TECHNOLOGY KOLKATA

PROJECT REPORT
ON

Wireless Notice Board Using Bluetooth and Arduino

A Project report submitted in partial fulfillment of the requirement for the award of

Bachelor of Technology
in
Applied Electronics & Instrumentation Engineering

Submitted by:

Name	University Roll No
Biswajit Gantait	12620005065
Karan Patel	12619005023

Under the guidance of

Prof. Damayanti Ghosh

Department of Applied Electronics & Instrumentation Engineering
The Heritage Institute of Technology, Kolkata

Heritage Institute of Technology

Department
of
Applied Electronics and Instrumentation Engineering

This is to certify that the project work titled

Wireless Notice Board Using Bluetooth and Arduino

has been successfully completed by

Name	University Roll No	University Registration No
Biswajit Gantait	12620005065	20126010552008
Karan Patel	12619005023	029064

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Prof. Damayanti Ghosh
Project Guide
Dept. of AEIE

External Examiner

Prof. (Dr.) Madhurima Chattopadhyay
Head of the Dept.
Dept. of AEIE

External Examiner

Abstract

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 public utility 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 of smart phones or tablet.

Introduction

In this proposed method, the development of a simple and low-cost wireless Android based notice board is presented. The proposed system uses either Bluetooth or Wi-Fi based wireless serial data communication in displaying messages on a remote digital notice board.

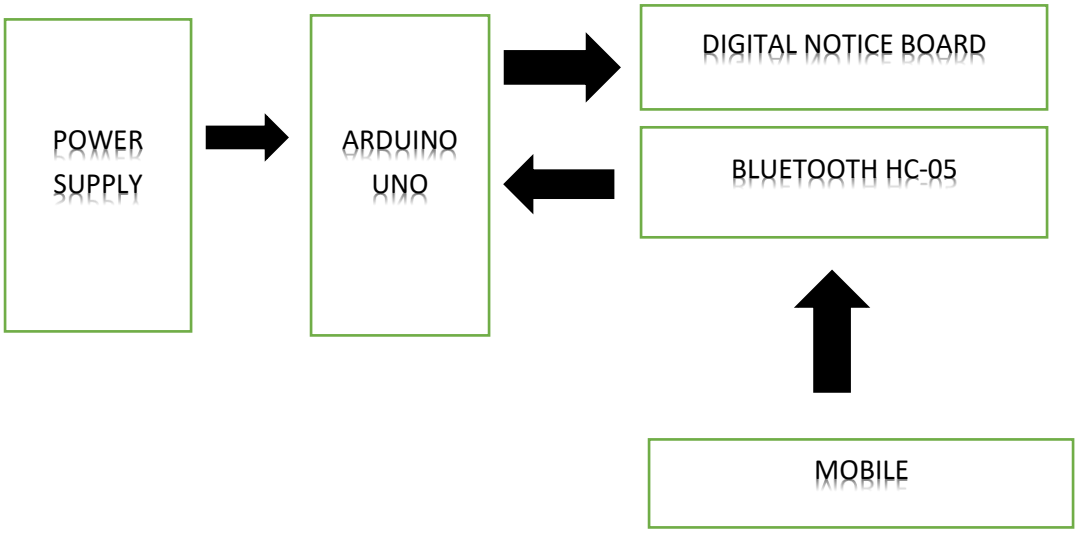
Android based Application programs available for Bluetooth and Wi-Fi communication for personal digital assistant (PDA) devices are used for transmitting the alpha-numeric text messages. Using the Bluetooth or Wi-Fi based serial data communication technique, the corresponding transceiver module has been interfaced with microcontroller board at the receiver end. For this purpose, a low-cost microcontroller board (Arduino Uno) is programmed to receive alphanumeric text messages in any of the above selected communication modes. The proposed system will help in reducing the human effort, paper, printer ink and cost for manual changing of the notices.

The development of cellular networks in the 1970's for increasing the lack of frequencies in the radiotelephone services which in turn lead to introduction of AMPS (Advanced Mobile Phone System) where the transmission was analog based. This was known to be the first generation in cellular networks. The second generation was based on digital transmission and was called with various abbreviations as GSM (Global System for Mobile communications), ERMES (European Radio Messaging System).

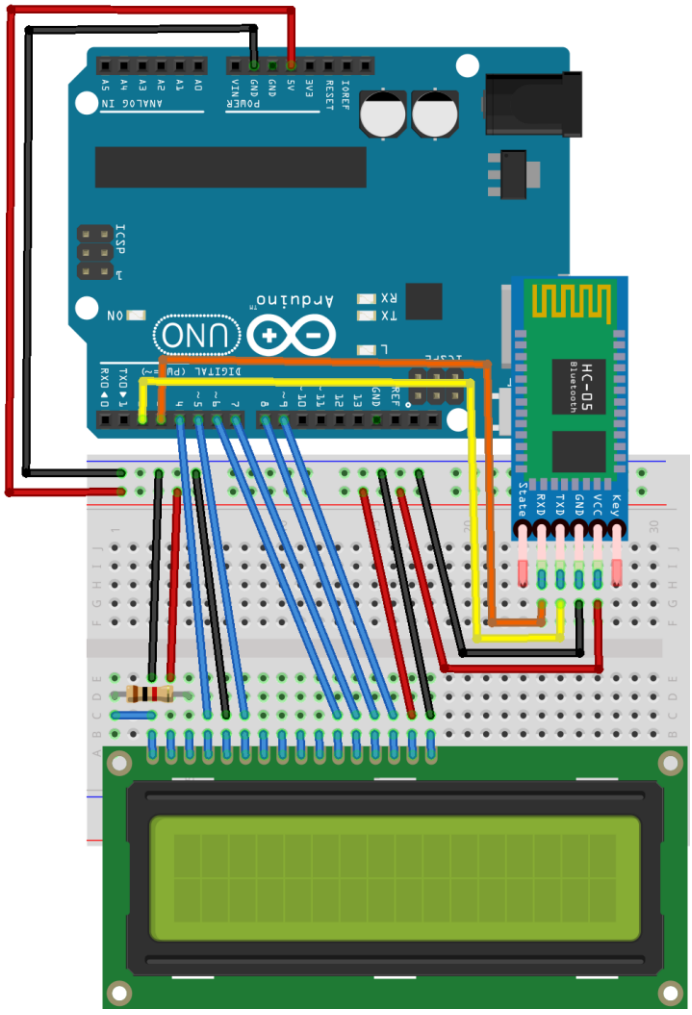
Proposed Methodology

The proposed method consists of power supply, Arduino UNO, LED module, Bluetooth HC-05 and mobile application. After uploading the program in Arduino UNO, we will give them external power supply. Due to that all functions of equipment's are on. At that time, we will pass the notice/SMS which we want using mobile. Then this notice/SMS will receive by Bluetooth. And by using Arduino this notice/SMS will display on digital notice board.

This proposed system in this project 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 dangers.



Block Diagram



Components

- Arduino uno
- Bluetooth HC05
- Lcd display
- Bread board
- Jumper wire

Software Requirements

Arduino IDE

Program

```
#include <LiquidCrystal.h>
char str[34],L=2;
int draft=0,i=0;
int Pass=0,p=0;
int c,x,d;

LiquidCrystal lcd(11,10,5,4,3,2);

void setup()
{
    Serial.begin(9600);
    pinMode(7,OUTPUT);
    lcd.begin(16, 2);
}
void loop()
{
  if(draft==1)
  {
    check();
      draft=0;
      i=0;
      delay(1000);
   }
```

```
}
void serialEvent()
 {
      while (Serial.available())
      {
         char inChar=Serial.read();
         str[i++]=inChar;
         delay(10);
      }
      for (p=i+1;p<34;p++)
      {
            str[i++]=32;
      }
      draft=1;
      Serial.write(str);
      lcd.setCursor(0, 0);
      lcd.print(str);
      if(i>16)
       {
            d=16;
            for (x=0;x<=17;x++)
            {
                lcd.setCursor(x,2);
                lcd.print(str[d]);
```

```
                d++;
            }
        }
 }

void check()
{
    if(!(strncmp(str,"1",1)))
    {
        digitalWrite(7,50);
        lcd.clear();
    }
    else if(!(strncmp(str,"2",1)))
    {
        digitalWrite(7,LOW);
        lcd.clear();
     }
}
```

RESULTS

The result of the proposed method is a simple display of the message on the LCD screen. The output helps us to analyze that the result which was intended to achieve is so successful.

The output displayed on the screen is the message sent using HC-05 Bluetooth terminal. The sample message that will be displayed on the screen is seen where the message is on the interface.