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Smart Notice Board using IOT

Aniket Gundawar[1], Samarth Upadhyay[2], Abhishek Bajpai[3], Tejas Bukkawar[4], Prajwal Awari[5]
Prof. Ravindra Chilbule[6]
Students, Department of Computer Science[1,2,3,4,5]
Guide, Department of Computer Science[6]
Rajiv Gandhi College of Engineering, Research and Technology, Chandrapur, Maharashtra, India

Abstract: *Building a IoT based projects gives the fast transformation of data and the user can access the data from anywhere in the world. In this project , we have developed a IoT based smart notice board. The main objective of this project is develop a automatic , self enabled and highly reliable electronic notice board . A display connected with the cloud will continuously waiting for the message from the user , if the user upload the data in the Thing speak cloud, it will automatically uploaded to the LCD. By using Node-MCU ESP8266 , the user can upload the message to the LCD by accessing the Thing speak IoT cloud . The user can write the data from anywhere in the world to the LCD. This will reduce the time to update the data as well as it will efficiently transfers the data's to the end.*

Keywords: Node-MCU ESP8266, LCD Display, 2C Converter, Connecting Cable, Breadboard

I. INTRODUCTION

Notice boards can be used anywhere and are very useful in hotels, malls, colleges, offices to display messages, alerts, offers, etc. But it is a very tedious task to change the notice every day by using IoT based notice board using NodeMCU we can remotely change the notice using the webbrowser

1.1 INTERNET OF THINGS

The Internet of things is embedded with sensors and other technologies to connect and share data over the internet. IoT is one of the advancing technologies in the current world it is low cost and simple in design.

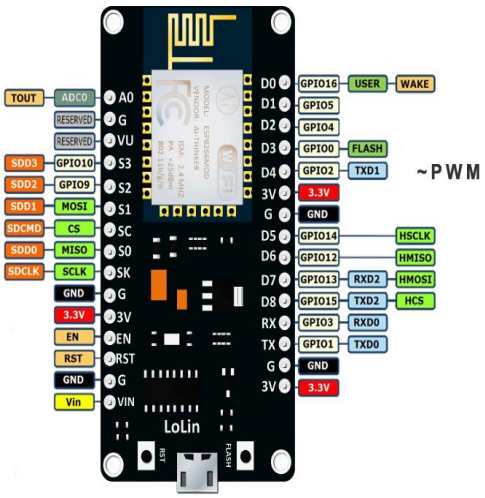

Fig -1: NodeMCU

1.2 Node MCU COMPATIBILITY WITH ARDUINO IDE

NodeMCU gives a variety of development environments, including compatibility with the Arduino IDE (Integrated Development Environment).

The NodeMCU/ESP8266 community took the IDE selection a step further by creating an Arduino add-on; this is the highly recommended environment

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1.3 NodeMCU FEATURES

- Open-source
- Arduino-like hardware
- Status LED
- MicroUSB port
- Reset/Flash buttons
- Interactive and Programmable
- Low cost

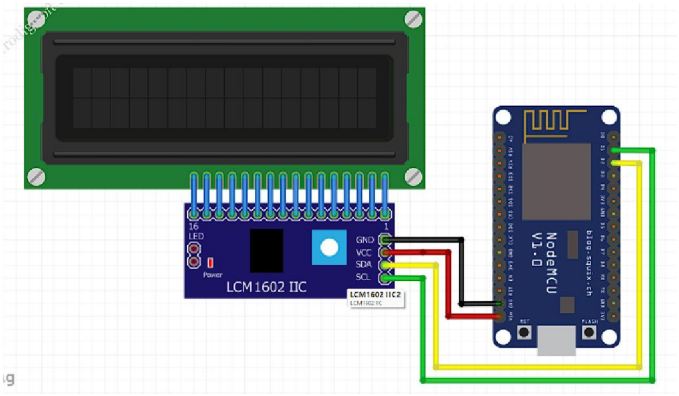


Fig -2: Smart Notice Board circuit

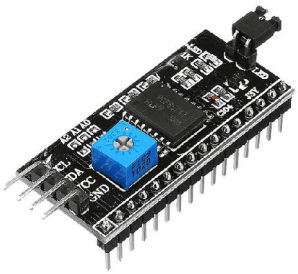
II. CIRCUIT IMPLEMENTATION

2.1 COMPONENTS USED

1. NodeMCU

2. 16*2 LCD

3. I2C CONVERTOR



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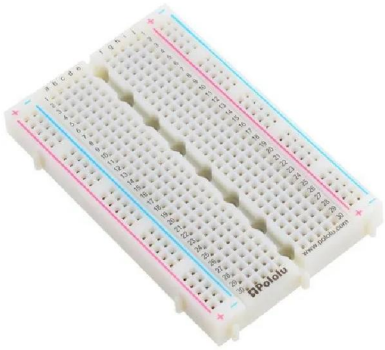
4. Jumper wires

5. Breadboard



III. IMPLEMENTATION PROCESS

It is very easy to connect the LCD to the I2C and then connect it to the NodeMCU.
Registers of LCDs from D0 to D7 and VCC, GND, RS, R/W pins will be connected to I2C.
GND pin of I2C connects to the ground pin (GND) of the nodeMCU.
VCC pin of I2C connects to the win pin of nodeMCU. (Because we need to supply 5v for LCD)
SDA pin of I2C connects to the D2 of the nodeMCU.
SCL pin node of I2C connects to the D1 pin of the MCU.
16*2 LCD works on 5V so we have to supply 5v.

3.1 SOFTWARE IMPLEMENTATION

We have used Arduino IDE for writing the codes .since NodeMCU is not available we have to add a library file to it. Selecting the NodeMCU Board Driverfrom the Boards Manager window, enter esp8266 in the search bar.
This will display the new ESP8266 driver as supplied by the ESP8266 Community. At the bottom ofthe options box, select the version to be setup
Now select *Install* to complete the installation of the driver which will take a few seconds to download andinstall. Select *Close* to complete the installation.

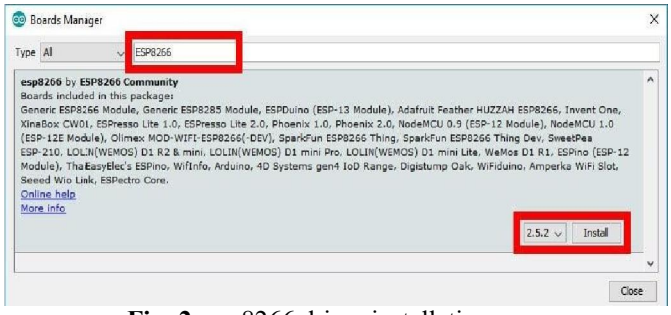


Fig -2: esp8266 driver installation

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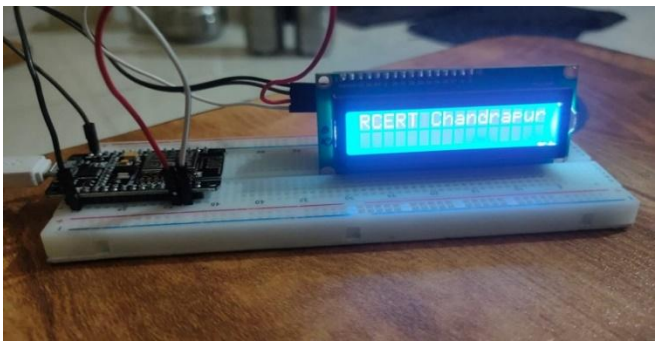

Fig -3: working project

IV. APPLICATION AREAS

- Smart notice boards can be used widely used in School colleges to display important notices without any delay and also in bus and railway station about the delay invehicles.
- It will reduce the pressure of on spot presence to give the immediate message by using wireless communication.

V. CONCLUSION

A smart notice board using IoT can greatly enhance the efficiency and convenience of information dissemination in various settings. It enables real-time updates, remote access, and automated notifications, among other features, making it ideal for use in schools, offices, public places, and other similar environments.

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