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# **Smart Notice Board using IOT**

Aniket Gundawar<sup>1</sup>, Samarth Upadhyay<sup>2</sup>, Abhishek Bajpai<sup>3</sup>, Tejas Bukkawar<sup>4</sup>, Prajwal Awari<sup>5</sup> Prof. Ravindra Chilbule<sup>6</sup>

Students, Department of Computer Science<sup>1,2,3,4,5</sup>

Guide, Department of Computer Science<sup>6</sup>

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.



#### 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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297

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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





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**3. I2C CONVERTOR** 

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298

#### 2. 16\*2 LCD



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IJARSCT

Volume 3, Issue 2, June 2023

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 of the 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 and install. Select *Close* to complete the installation.

✓ ESP8266			
esp8266 by ESP8266 Community Boards included in this packages Generic ESP82656 Module, Generic ESP8285 Module, ESPDuino (ESP-13 XineBox CW01, ESPresso Lite J.O., ESPresso Lite J.O., Ponenix I.O., PM (ESP-121 Audule), Olimax KOV-WITC-ESP8265-DV), Sparkform ESP82 ESP-210, LOLIN(WEMOS) D1 R2 & mini, LOLIN(WEMOS) D1 mini Pro. L Module), ThaEasyElec's ESPino, Willinfo, Arduino, 4D Bystems gen4 to Seeed Wio Link, ESPectro Core. Colline help.	Module, ESPDuino (ESP-13 Moo o Lite 2.0, Phoenix 1.0, Phoenis 2566/DEV), SparkSru ESPB266 VLIN(WEMOS) D1 mini Pro, LOLL Iduino, 4D Systems gen4 IoD R	dule), Adafruit Feather HUZZAH ESP8265, Invent One, Ix 2.0, NodeMCU 0.9 (ESP-12 Module), NodeMCU 1.0 Thing, Sparkfore SEP826 Thing Dev. SweetSea IN(WEMOS) D1 mini Lite, WeMos D1 R1, ESPino (ESP-12 Tange: Digistump Oak, WiFiduino, Amperka WiFi Slot,	
		2.5.2 V Instal	
	S266 Community in this package: Nodule, Generic ESP285 ESPresso Lite 1.0; ESPress b), Olimex MOD-WIFL-ESPI WEMOS) D1 R2 & mini, LC syElec's ESPino, Wiflinfo, A ESPectro Core.	ESP2206     S260 Community     In this package:     Nodule, ESP2016 (ESP-13 Mo     S279450 UE 2.0, Phoenix 1.0, Phoen ), Olimex MOD-WIT-ESP2266(-D2V), SparkFun ESP2266 WEMOS) D1 R2 & mini, LOLUN(VEMOS) D1 mini Pro, LOLU 94642: ESP10, Wiftho, Arduino, 40 Systems gen4 IoD I ESPectro Core.	ESP6206  8266 Community In this package: In this package: In doile, ESP238 Module, ESPDuino (ESP-13 Module), Adafruit Feather HUZZAH ESP8265, Trivent One, ESPress Ute 10, ESPress O. Lite 2-0, Phoenix 1.0, Phoenix 2.0, NodeMCU 0.9 (ESP-12 Module), NodeMCU 1.0 b), Olimex MOD-WITI-ESP8266(-DEV), SparkFun ESP8266 Thing, SparkFun ESP8266 Thing Dev, SmetPea WEMOS) D1 R 2.6 mini, ILOUIN(VEMOS) D1 mini Pro, LOLIN(VEMOS) D1 mini Lite, Welde D1 R1, ESPino (ESP-12 Syldec's ESPino, Wiftino, Arduino, 40 Systems gen4 IoD Range, Digistump Oak, WiFiduino, Amperka WiFi Slot, ESPectro Core.

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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