

PROJECT REPORT ON

Electronic Voting Machine Using Arduino & ESP8266

WiFi MODULE

Submitted to

Madhav Institute of Technology & Science, Gwalior

Towards the Partial Fulfillment for the Award of the degree of

Bachelor of Technology

In

ELECTRONICS & TELECOMMUNICATION ENGINEERING



2022-2023

SUBMITTED BY

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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR
(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal, M.P.)



2019-2023

CERTIFICATE OF APPROVAL

This is to certify that the Internship is carried out in **Madhav Institute Of Technology And Science ,Gwalior** submitted by **SHELLY BANSAL (0901ET191061)** student of **B. Tech. IV-Year (VIII Semester)** in partial fulfillment for the award of the degree of **Bachelor of Technology in Electronics & Telecommunication Engineering** under **R.G.P.V., Bhopal**. It is a record of their own work carried by them during internship.

Supervised/Verified by
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Assistant Professor

Approved by
V. V. Thakare
Dr. Vandana Vikas Thakare
H.O.D

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2019-2023

CANDIDATE DECLARATION

We hereby declare that the work which has been carried out during the Project in **Madhav Institute of Technology and Science, Gwalior** in partial fulfillment for the award of the degree of **Bachelor of Technology in Electronics & Telecommunication Engineering** from Madhav Institute of Technology and Science, Gwalior is an authenticated record of our work carried under the supervision /mentorship of **Ravindra Pratap Narwaria (Assistant Professor, MITS, Gwalior)**. The matter embodied in this project report is not submitted for the award of any degree or diploma anywhere else.

Date:
Place: Gwalior

Name and Signature of Students

Shelly Bansal
(0901ET191061)

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2019-2023

ACKNOWLEDGMENT

We express our sincere gratitude and earnest indebtedness to Madhav Institute of Technology & Science, Gwalior (M.P.) for providing us the golden opportunity to complete our project. We acknowledge with great pleasure and grateful indebtedness towards our project mentor Mr. Ravindra Pratap Narwaria for providing us with very useful and beneficial guidance throughout the Project..

We also express our heartfelt gratitude to Dr. Vandana Vikas Thakare, Head of the Electronics Engineering Department for her profound guidance throughout the Project..

We would also like to acknowledge our Director Dr. R. K. Pandit for helping us with the resources needed to accomplish this task. The environment at M.I.T.S. has been a valuable experience for us. With many difficulties, this Internship has blessed us with great knowledge in our field of interest. We also thank all those who have helped us in every path in the completion of this Internship and made this Internship a success.

Date:

Place: Gwalior

Name & Signature of Students
SHELLY BANSAL

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ABSTRACT

Election is one of the major issues when it comes to deciding the representative of the country. The methods which are used today for voting are not accurate and advantageous and the result of this voting is sometimes get inaccurate .That's why , community has no trust on this election process and not also on the parties who take part in elections. This project creates an electronic voting system facilitates the fast , free and fair election of leader. The basic idea used in this machine is to provide a mechanism that will help eliminate fraud and advance form of electronic voting book.

In this proposed system the whole data is upload on the server through ESP8266 WI-FI module and after the voters voted then the result is uploaded on server and the result is displayed on the LCD display. Here, the live votes would also be showed using Thing Speak server to stop any distortion with the votes which can be occur on the old method of voting system.

Internship/Project Expected Outcomes

Session: Jan–June 2023

Student Name: Shelly Bansal

Enrollment No.: 0901ET191061

Internship/Project Title: Electronic Voting Machine Using Arduino & ESP8266 WiFi Module

Objective of Internship/Project:

The manual voting system have various problem like security, and it has room for errors. In order to eliminate this issue, we need a system that is more secure, transparent and fast.

Expected/Achieved Outcomes of Internship/Project:

The voting machine which will help us to secure our votes with uploading data on the thinkspeak server which will stop making distortion in our voting system.

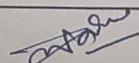
Brief details of Project:

The aim of this challenge is to develop an digital balloting machine the use of Arduino a good way to help to get rid of the use of guide vote casting device that have numerous dangers like inconsistency in statistics access, room for errors, mis-keying statistics.

Social relevanec/Impact of your Internship/Project:

It will secure our manual system by rooms of errors and make it error free and safe.


Name and Signature of Students


Name & Signature of Institute Mentor

LIST OF FIGURES

Figure Name
Fig. 2.1 Arduino UNO
Fig. 2.2 LCD
Fig. 2.3 Potentiometer
Fig. 2.4 Push Buttons
Fig. 2.5 Connecting Wires
Fig. 2.6 Breadboard
Fig. 2.7 ESP8266 Wi-Fi Module
Fig. 2.8 Workflow of the Project
Fig. 3.1 Connections with Arduino, ESP8266, LCD, Potentiometer
Fig. 3.2 Initial Phase of LCD
Fig. 3.3 Final Phase of LCD
Fig. 3.4 Results Displayed on the LCD
Fig. 3.5 Wi-Fi Connection Setup through Serial Monitor
Fig. 3.6 ThingSpeak Server Results

CONTENT

ACKNOWLEDGEMENT

ABSTRACT

LIST OF FIGUERS

1. INTRODUCTION

1.1 INTRODUCTION

1.2 PROBLEM STATEMENT

1.3 LITERATURE REVIEW

2. METHODOLGY

2.1 TOOLS/TECHNOLOGY USED

2.2 LANGUAGE/LIBRARY USED

2.3 COMPONENT

2.4 PROPOSED TECHNOLOGY

2.5 WORK FLOW

3. RESULT AND DISCUSSION

4. CONCLUSION AND FUTURE SCOPE

4.1 CONCLUSION

4.2 FUTURE SCOPE

5. REFERENCES

CHAPTER -1 INTRODUCTION

1.1 INTRODUCTION

An election is the process in which a party can give the vote to an individual without any force. In addition, elections may include any type of voting which will depend on location most positions within regional, state, and central government vote in many types of elections. In Paper relational elections, persons give their poll by actually placing their votes in locked boxes located throughout the constituencies in a round. After the end of the electoral period, some of these containers are unlocked and the polls are counted in the existence of some authorities.

Therefore, the counting of votes may not be accurate, or in some cases, voters may find ways to cast more votes. In some cases, advocacy even influenced election results in favor of candidates. To circumvent these situations, Indian authorities have developed Direct Register Electronic (DRE) voting machines, usually Electronic Voting Machines (EVM).

The Objective of this challenge is to make a digital balloting machine the use of Arduino a good way to help to get rid of the use of a paper vote casting device that has numerous dangers like inconsistency in statistics access, room for *error*, *is*-keying statistics. The present system will be used to create a clear environment without distortion of information, as it is capable of instantly freezing the vote. The gadget right here refers to n different switches in which n represents a number of political events like BJP, congress and many others.

The user/voter selects the preferred candidate from the alternatives. The very last vote is then displayed on the LCD and the final result is mechanically obtained by clicking the output option. It is here that live voices can additionally be displayed using the ThingSpeak server to avoid any distortion of statistics that might happen if we save on external power.

1.2 PROBLEM STATEMENT

The manual voting system has various problems like security, and it has room for errors. In order to eliminate this problem, we need a mechanism that is more secure, transparent and fast. Further, the use of ballot paper was an inefficient way of voting. To introduce a new voting way, we need to make sure it is user-friendly and cost-efficient. The growing technologies of face recognition and IoT can help us to make a new system which is more reliable.

1.3 LITERATURE REVIEW

Rahil Rezwani et al. (2017) “Biometrically Secured Electronic Voting Machine” The use of Arduino and fingerprint scanner is explained, which will help identify all users and avoid fake voters. The planning process is digital and secure and is already used in countries like Bangladesh. [1].

Kone Sri Krishna Swetha et al. (2019) “A study on Smart Electronic Voting Machine Using Face recognition and Aadhar Verification with IOT” Introduced technology where voting is very secure as it uses Aadhar identifiers to identify users, facial recognition via IoT. It is specially designed for different purposes, long-term use and data security. [2]

Mohammad Khasawneh et al. (2008) “A Biometric-Secure e- Voting System for Processes”The proposed system uses a real and secure identification system for voters using simple biometrics. The system uses a flag that ensures that no voter can press the button more than once, because when the button is pressed all flags are turned off and only when the admin raises the flag when other Voters arrive. Therefore, the proposed strategy guarantees the transparency of the voting. [3]

Also, many researchers are working to improve voting using blockchain to make data more secure as it will be encrypted. There are also attempts to create a voting system to help people with disabilities. An optical voting system has also been developed in the past, which uses an optical machine to read ballots and calculate results.

CHAPTER 2 METHODOLOGY

2.1 Tools /Technology Used

Arduino - Arduino Integrated Development Environment(IDE) is an integrated programming written in C and C++. Widely used on Arduino forum to write and add packages, but with the help of 1/3 of the famous cores from other dealer developer forums.

ThingSpeak - Things speak free software net of factors (IOT) application and API to shop and retrieve information from things the use of the HTTP and MQTT protocol over the internet or via local region network. Thing Speak permits the introduction of sensor logs, place tracking programs and all type of relationship with popularity updates.” Thing speak change into originally released with the aid of io Bridge in 2010 as Service in guide of IOT packages. Thingspeak Integrates instructions from Math Works' math software MATLAB, allowing Thing Speak users to review and visualize data downloaded using Matlab without obtaining a Matlab license from Math Work.

2.2 Language/ Library Used

Arduino Libraries : This library is considered advanced, extending the Capabilities of the Arduino IDE. This means that these libraries provide additional functionality to the Arduino programming platform. Libraries on Arduino are written in C or C++ (.cpp). These libraries allow us to manipulate data and hardware.

2.3 Components

S. No.	Components	Description	Quantity
1 .	Arduino Board	Arduino UNO R3	1
2 .	LCD Display	16x2 LCD Display	1
3 .	Potentiometer	10k	1
4 .	Push Buttons	Push-To-O N	4
5 .	Connecting Wires	Jumper Wires	20 -2 5
6 .	Breadboard	-	1
7 .	ESP8266 WiFi Module	-	1

Table :2.1 Components

Component Details

Arduino UNO: Arduino UNO is a free source microcontroller board based entirely on Microchip ATmega328P microcontroller and developed by Arduino.cc.

The board is interact with the digital and analog input/output (i/o) pins of various development groups (development forums) and other circuits.



Figure 2.1 Arduino UNO

LCD Display - LCD modules form a very crucial in lots of Arduino based totally embedded gadget designs to enhance the person interface of the system. Interfacing with Arduino gives the programmer greater freedom to customize the code effortlessly.



Figure 2.2 LCD

Potentiometer: :A potentiometer is a simple switch on the Arduino board that provides a differential that we can read analogously.



Figure 2.3 Potentiometer

Push Button- :These button is a simple sort of transfer that controls an order method.typically the buttons are plastic or metallic. Buttons can be finger or hand fashioned for ease of use, or just undeniable.



Figure 2.4 Push Buttons

Connecting wires: Jumper offer a medium for electric powered modern -day to journey from one point of a circuit to another.. inside the case of computer systems, wires are embedded into circuit forums to carry pulses of electricity. The connected wires of a tool are used to attract electricity and strength and perform particular tasks.



Figure 2.5 Connecting Wires

Breadboards :Breadboards have spring clip contacts, usually arranged in a matrix, with some clips already connected to each other. Connected components and connectors (multiple long wires with pins at both ends) to clips to create the circuit structure. These boards usually have metal strips on the side for power lines and bus signals.



Figure 2.6 Breadboard

ESP8266 WiFi module: To ESP module is a standalone SOC with a TCP/IP protocol that lets in any microcontroller to access on your WiFi community. ESP8266 can host internet software or load all net features from different electronic device.

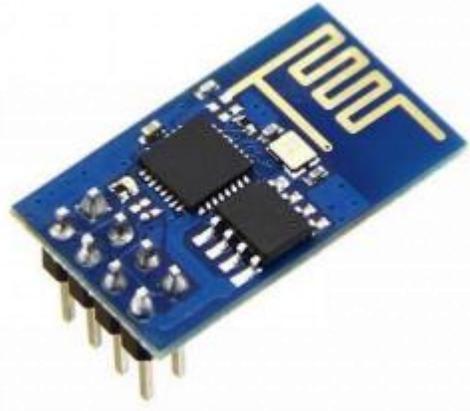


Figure 2.7 ESP8266 WiFi Module

2.4 Proposed Technology

1. First , step is to cast a vote to one of the parties displayed on the screen.
2. Second , step is to display the vote on the LCD screen as well as upload it to thingspeak server to count the vote live. We will also use the Blynk app to upload data.

2.5 Work flow of the Project

STEP 1 : CAST A VOTE

The system here is modeled using Arduino UNO board. The four buttons are used for person competing in the election. Three buttons are used for candidates A, B, C and the las button is used to view the election results. By pressing three buttons, the voting results are displayed on the LCD to the voters. Also, in the case of the ballot box, each press of the button will increase the candidate's vote Value by one. When the voting is finished, use the results button to view the results on the LCD. The whole process is done with the help of Arduino UNO Board which plays an important role to this whole mechanism .

STEP 2: DISPLAY THE CASTED VOTE

Here the surveys will be displayed on the LCD and use the equipment to maintain data management. This will also help count the votes on the site. We will also use the Blynk App to view the information.

CHAPTER 3: RESULTS AND DISCUSSION



Figure 3.1 Connections with Arduino, ESP8266, LCD, Potentiometer



Figure 3.2 Initial Phase of LCD

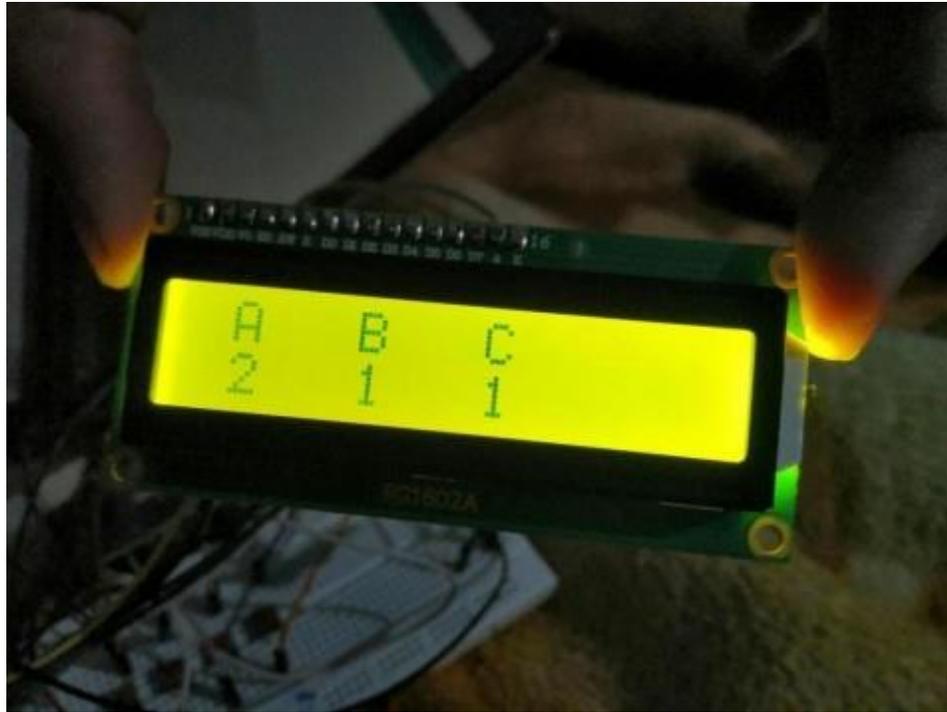


Figure 3.3 Final Phase of LCD



Figure 3.4 Results Displayed on the LCD

```
COM4
AT Command ==> AT+RST
AT Command ==> AT+CWMODE=1
AT Command ==> AT+CWJAP="Hi", "justdoit"
AT Command ==> AT+CIPMUX=1
AT Command ==> AT+CIPSTART=0, "TCP", "api.thingspeak.com", 80
AT Command ==> AT+CIPSEND=0, 49
Value to be sent: 1
AT Command ==> AT+CIPMUX=1
AT Command ==> AT+CIPSTART=0, "TCP", "api.thingspeak.com", 80
AT Command ==> AT+CIPSEND=0, 49
Value to be sent: 1
AT Command ==> AT+CIPMUX=1
AT Command ==> AT+CIPSTART=0, "TCP", "api.thingspeak.com", 80
AT Command ==> AT+CIPSEND=0, 49
Value to be sent: 2
```

Figure 3.5 WiFi Connection Setup through Serial Monitor



Figure 3.6 ThingSpeak Server Results

CHAPTER 4: CONCLUSION & FUTURE SCOPE

4.1 CONCLUSION

The intention of the presented system is to expand the model , which is of higher quality and more reliable than the previous ones. in addition, we used two-step verification before casting the vote. IoT is used to improvise on the general efficiency of the system through frequent sending of reliable election facts to the crucial server of the election branch of the Government of India.

4.2 FUTURE SCOPE

In future scope , we can make this voting system more secure and make it error free with the help of face recognition and biometric verification. We can also provide power back-up supply during the power loss and make it more reliable. If we want make this system more transparent we can add block-chain system in our electronic voting machine in this system a single cryptocurrency or token is given to each voter .In this system each candidate have a unique wallet address . The voters will vote by sending their token or crypto to the candidate of their choice.This system is basically based on IOT which has limitless use in future and which make our system more authenticate and secure with the help of face

REFERENCES

- R. Rezwana, H. Ahmed, M. R. N. Biplob, S. M. Shuvo and M. A. Rahman, "Biometrically secured electronic voting machine," 2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC), Dhaka, 2017, pp. 510- 512, doi: 10.1109/R10-HTC.2017.8289010.
- Srikrishnaswetha, Kone & Kumar, Sandeep & Mahmood, Md. (2019). A Study on Smart Electronics Voting Machine Using Face Recognition and Aadhar Verification with IOT. 10.1007/978-981-13-3765-9_10.
- M. Khasawneh, M. Malkawi, O. Al-Jarrah, L. Barakat, T. S. Hayajneh and M. S. Ebaid, "A biometric-secure e-voting system for election processes,2008.
- Sri Krishna Swetha, Kone Kumar, Sandeep Mahmood, Smart Electronics Voting Machine Using Face Recognition and Adhar Verification with IOT. 10.1007/978-981-13-3765-9_10.
- M. Khasawneh, M. Malkawi, O. Al-Jarrah, L. Barakat, T. S.Hayajneh and M. S. Ebaid, "A biometric-secure voting system for election process," 2008 5th International Symposium on Mechatronics and Its Applications, Amman, 2008, pp. 1-8:0.1109/ISMA.2008.4648818.
- M. Jagtap, V. Kesarkar and A. Supekar,"Electronic Voting System Using Biometrics, Raspberry Pi and TFT," 2019 3rd International Conference on Trends in Electronics and Informatics (ICOEI),Tirunelveli, India, 2019, pp. 977-982: 10.1109/ICOEI.2019.8862671.
- R. Rezwana, H. Ahmed, M. R. N. Biplob, S. M. Shuvo and M. A. Rahman, "Biometric secured e voting machine," 2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC), Dhaka, 2017, pp. 510- 512: 10.1109/R10-HTC.2017.8289010.
- B. R., R. B. S., S. P. and K. V.K.G., "Smart voting," 2017 2nd International Conference on Computing and Communications Technologies (ICCCT), Chennai, 2017, pp. 143-147:10.1109/ICCCT2.2017.7972261.
- V. K. Priya, V. Vimaladevi, B. Pandimeenal and T. Dhivya,"Arduino based smart voting machine," 2017 International Conference on Trends in Electronics and Informatics (ICEI), Tirunelveli, 2017, pp. 641-644: 10.1109/ICOEI.2017.8300781.
- S. S. Ramprasad, R. Swathi, K. N. Shireesha and V. S. Gavannawar," Convenient Voting System," 2018 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT), Bangalore, India, 2018, pp. 2145-2149: 10.1109/RTEICT42901.2018.9012373.
- S. Bhattacharya, D. Roy, E. Pramanik, T. Nath and S. Kundu,"Voting Machines," 2019 International Conference on Opto-Electronics and Applied Optics(Optronix).

- Gehlot, Kanwardeep & Jain, Divanshu. (2020). Biometric fingerprint based voting machine using ATmega328P microcontroller. Materials Today: Proceedings. 10.1016/j.matpr.2020.11.087.
- Manoharan, Samuel. "Embedded Imaging System Based Behavior Analysis of Dairy Cow." Journal of Electronics 2, no. 02 (2020):148-154.
- Raj, Jennifer S., and J. Vijitha Ananthi. "Vision Intensification Using Augmented Reality with Metasurface Application." Journal of Information Technology 1, no. 02 (2019): 87-95.
- www.jetbrains.com
- www.thingspeak.com
- www.python.org
- www.opencv.org.

Internship/Project Daily Diary

Session: Jan–June 2023

Name of Students: Shelly Bansal

Enrollment Number: 0901ET191061

Branch and Year: ET (final Year)

Internship/Project Title: Electronic Voting Machine Using Arduino &ESP8266 WiFi Module

Students must mention the daily progress details with dates in the given format such as daily work done/ software learn/coding/testing/site or field visit/hardware implementation, etc.

Month	Date	Daily Progress Details
Jan. 2023	16-2-23	Thinking about model of my project .
	17-1-23	Start doing research about it .
	18-1-23	Learning basics of arduino.
	19-1-23	Lerning about Thinkspeak server
	20-1-23	Doing Course from Youtube about Arduino.
	21-1-23	Saturday off
	22-1-23	Sunday off
	23-1-23	Arduino Doubts Clear.
	24-1-23	Learning how to use Arduino Uno board.
	25-1-23	learn the Arduino Programming.
	26-1-23	Learn how to install Ardunio in my system.
	27-1-23	Make Id on Arduino Server.
	28-1-23	Saturday off.
	29-1-23	Sunday Off.
30-1-23	Make Id on Thinkspeak Server.	
31-1-23	Learn the basics of Server.	

Feb. 2023	1-2-23 2-2-23 3-2-23 4-2-23 5-2-23 6-2-23 7-2-23 8-2-23 9-2-23 10-2-23 11-2-23 12-2-23 13-2-23 14-2-23 15-2-23 16-2-23 17-2-23 18-2-23 19-2-23 20-2-23 21-2-23 22-2-23 23-2-23 24-2-23 25-2-23 26-2-23 27-2-23 28-2-23	Learned about the idea of the hardware used in project Get knowledge about the ESP wifi module Learn to know the coding of the Esp Wifi Module. Saturday Off . Sunday Off. Then Set its user Id Set the password of the Esp module. Then Learn to upload the code. Able to get knowledge about Esp module. Knowing about the requirments of hardware . Saturday Off . Sunday Off. Adding Functionality to ESp Module Building the base of my project. Modules for my Projects. Adding Hooks for data uploading. Starting the coding part of My Arduino. Saturday Off . Sunday Off. Installation of basic Libraries to learn coding. Using the servers . Learn to do codes. Make the end to end encryption. Research about different modules . Saturday Off . Sunday Off. Learning About usage of Different Hardware Projects. Completion of coding Part.
March 2023	1-3-23 2-3-23 3-3-23 4-3-23 5-3-23 6-3-23 7-3-23 8-3-23 9-3-23 10-3-23 11-3-23 12-3-23 13-3-23 14-3-23 15-3-23 16-3-23 17-3-23 18-3-23	Different method for connection. Learning about LCD Display Learning how to show data on the LCD display. Saturday off. Sunday Off. Holi leave . Holi leave . Holi leave . Holi leave . Different way to connect. Saturday off. Sunday Off. Learning about the various Pins Of LCD display. Knowing the basics of the connection. Starting to prepare hardware of my project. Learn to use hardware. Buying breadboard. Saturday off.

	19-3-23 20-3-23 21-3-23 22-3-23 23-3-23 24-3-23 25-3-23 26-3-23 27-3-23 28-3-23 29-3-23 30-3--23 31-3-23	Sunday Off. Buying LCD display . Buying Jumper wires. Buying ESP module. Buying resistor. NPTEL Exam leave. Saturday off. Sunday Off. Start developing the model theoretically. Learn to do the connection on the software. Connection between breadboard and the LCD module. Connection between breadboard and the Arduino. Connection between breadboard and the ESP module.
April 2023	1-4-23 2-4-23 3-4-23 4-4-23 5-4-23 6-4-23 7-4-23 8-4-23 9-4-23 10-4-23 11-4-23 12-4-23 13-4-23 14-4-23 15-4-23 16-4-23 17-4-23 18-4-23 19-4-23 20-4-23 21-4-23 22-4-23 23-4-23 24-4-23 25-4-23 26-4-23 27-4-23 28-4-23 29-4-23 30-4-23	Saturday Off Sunday off Trying to connect the model practically. Taking jumper wires. Connect with Ground Pins. Coonection with other pins. Learning to connect arduino. Saturday Off. Sunday off. Trying to connect the model. Connection with Esp Module. Connection with Arduino. Connection with BreadBoard. Saturday Off Sunday off Connection of pushbuttons . Breadboard connected with resistor. Trying to connect the whole model. Connection completed. Assigned the functioning of model. Saturday Off Sunday off Connect the model with arduino Connect the hardware with the system. Trying to upload the code on the Arduino. Code upload Successfully. Nptel Preparation leave . Exam Leave. Saturday Off Sunday off

May 2023	1-5-23	Giving input through Push Buttons.
	2-5-23	Successfully Output come.
	3-5-23	Data Upload on Thing Speak Server.
	4-5-23	Meeting For progress of Project.
	5-5-23	Started making of project Paper.
	6-5-23	Saturday Off.
	7-5-23	Sunday Off.
	8-5-23	Giving different output.
	9-5-23	Checking the Model .
	10-5-23	Making Paper.
	11-5-23	Removing Plague.
	12-5-23	Saturday Off
	13-5-23	Sunday Off.
	14-5-23	Formatting the Document.
	15-5-23	Set the whole hardware.

Shelly

Name and Signature of Students

Atalw

Name & Signature of Institute Mentor



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