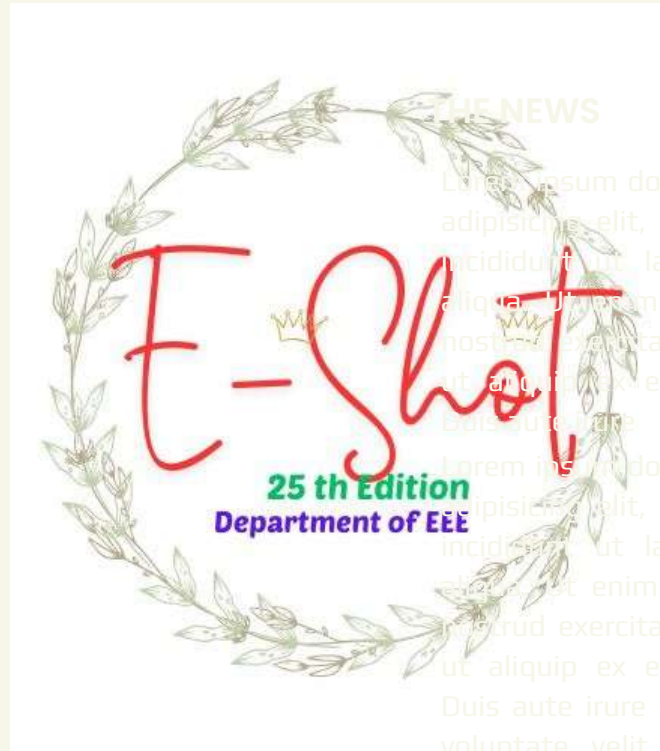


DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING



CONTENT

- Vision & Mission
- PEOs and PSOs
- Student Contribution
- Events Organized
- Student Achievements

OUR STRATEGY

Vision

To make the Department of Electrical and Electronics Engineering of this Institution the unique of its kind in the field of Research and Development activities in this part of the world.

Mission

Department of Electrical and Electronics Engineering is committed to impart highly innovative and technical knowledge in the field of Electrical and Electronics Engineering to the urban and unreachable rural student folks through Total Quality Education.



Program Educational Objectives (PEO)

PEO 1 : Technical Knowledge : To provide basic knowledge in Physics, Chemistry, Mathematics and necessary foundation in various concepts of Electrical and Electronics Engineering.

PEO 2 : Problem Solving : To impart training to enable the students to envisage the real time problems related to the field of Electrical and Electronics Engineering and allied areas faced by the Industries so as to model, analyze and provide appropriate solutions.

PEO 3 : Personality Development : To provide an academic environment for the students to develop team spirit, leadership qualities, communication skills and soft skills.

PEO 4 : Life Long Learning : To motivate students to prepare for competitive examinations enabling them to pursue higher studies, thereby, promoting Research and Development activities



Program Specific Outcomes (PSO)

PSO1 : Ability to design and solve problems in the field of Electrical & Electronics Engineering by applying the knowledge acquired from Circuit & Field theory, Control theory, Electric Power Systems, Analog Electronics & other allied topics.

PSO2 : Ability to understand the recent technological developments in Electrical & Electronics Engineering and develop products/software to cater the societal & Industrial needs.

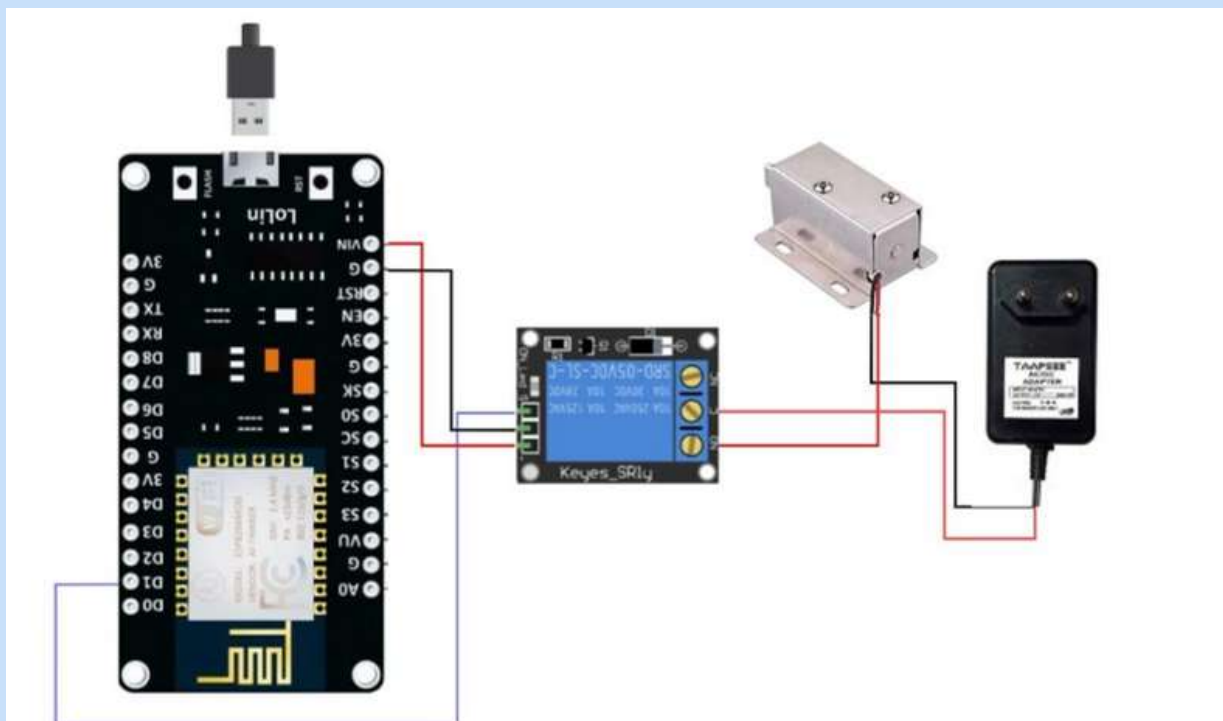


ESP32 WEB-SERVER BASED AUTOMATED DOOR LOCK SYSTEM FOR SECURITY

Introduction:

An ESP32 Web-Server Based Automated Door Lock System is an innovative and efficient solution for enhancing home and office security. The system utilizes the powerful ESP32 microcontroller, equipped with built-in Wi-Fi capabilities, to control and monitor door locking mechanisms remotely via a web-based interface.

Circuit Diagram:



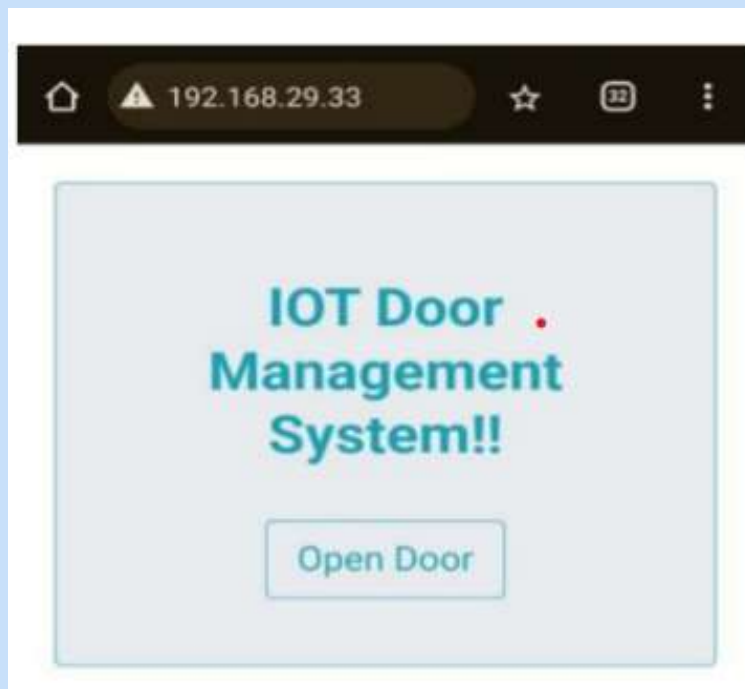
Circuit Diagram for ESP32 Web Server based Automated Door Lock System



Working:

Here, the coding is uploaded to the ESP32 using the Arduino IDE software. When the laptop and the ESP32 is connected to the same wifi, we can control the lock of the door. The adapter will give the power supply for the solenoid valve. The command given by the user through the webserver is identified by the controller and the signal will be sent to the relay according to the command. The relay will control the solenoid valve state. The relay state, door state and the time will be sent to the database using python code. The database and the table are created using the php portal. The graphical visualization can be obtained in the Grafana software. User can give the command using the user interface that is created by html in the Arduino IDE. That code also uploaded to the ESP 32. When the user gives the command the state of the relay and the door is inserted in the table and also the message will publish in the MyMQTT application.

Results:

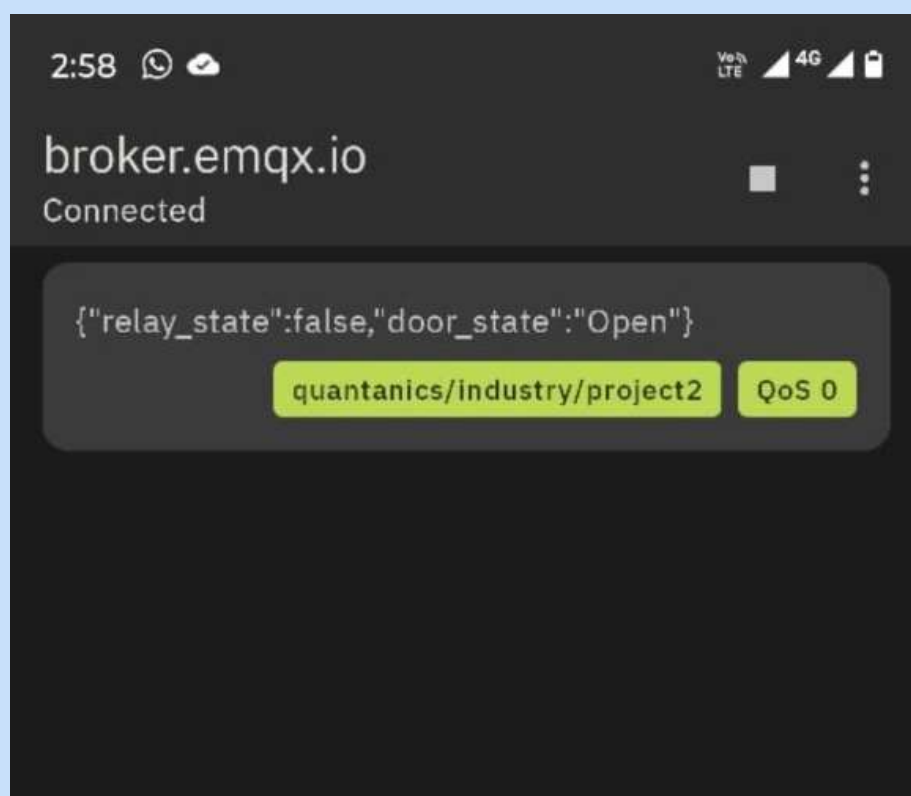


Front Panel



id	relay_state	door_state	timestamp
6	1	Close	2024-07-13 11:33:54
8	1	Close	2024-07-13 11:34:05
10	1	Close	2024-07-13 12:21:41
13	1	Close	2024-07-13 12:21:52
16	1	Close	2024-07-13 12:24:06
20	1	Close	2024-07-13 12:28:46
22	1	Close	2024-07-13 12:29:02
24	1	Close	2024-07-13 12:29:25
25	1	Close	2024-07-13 12:29:28
27	1	Close	2024-07-13 12:29:38
5	0	Open	2024-07-13 11:33:39
7	0	Open	2024-07-13 11:34:02
9	0	Open	2024-07-13 12:21:41
11	0	Open	2024-07-13 12:21:41
12	0	Open	2024-07-13 12:21:52
14	0	Open	2024-07-13 12:21:53

Table in PHP



MyMQTT Application



Advantages:

- **Increased Reliability:** Eliminate the risk of lost or stolen keys.
- **Keyless Entry:** Offers a convenient and touchless way to unlock doors.
- **Scalability:** The system can be easily expanded to manage multiple doors within a building or complex.
- **Customization:** The web interface can be customized to your preferences and access control needs.
- **Potential Cost Savings:** Over time, eliminating the need for physical keys and their replacements can save money.
- **Automation Compatibility:** Integrate the system with smart home platforms to automate actions like turning on lights when the door unlocks.

Conclusion

- In conclusion, an ESP32 web server based automated door lock system presents a compelling solution for enhanced security and convenient access control. It offers remote access capabilities, user management features, and the potential for integration with broader smart home systems. These features translate to improved security through two-factor authentication, access logs, and remote locking. Additionally, the system eliminates the risks of lost keys and provides a touchless entry method.
- Keyless Entry:** Offers a convenient and touchless way to unlock doors.



M. Kesavan
III EEE



G. Prem
III EEE



S. John Raj
III EEE





Chittoor, Tamil Nadu, India
MXF7+9XG, Chittoor, Tamil Nadu 625701, India

Name of the Program:

Application of AC Machines in Industries

Date of the Program:

18.07.2024

Participants:

III EEE Students





Name of the Program:

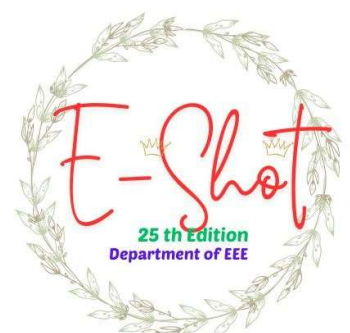
**Awareness on Artificial Intelligence
and Data Science**

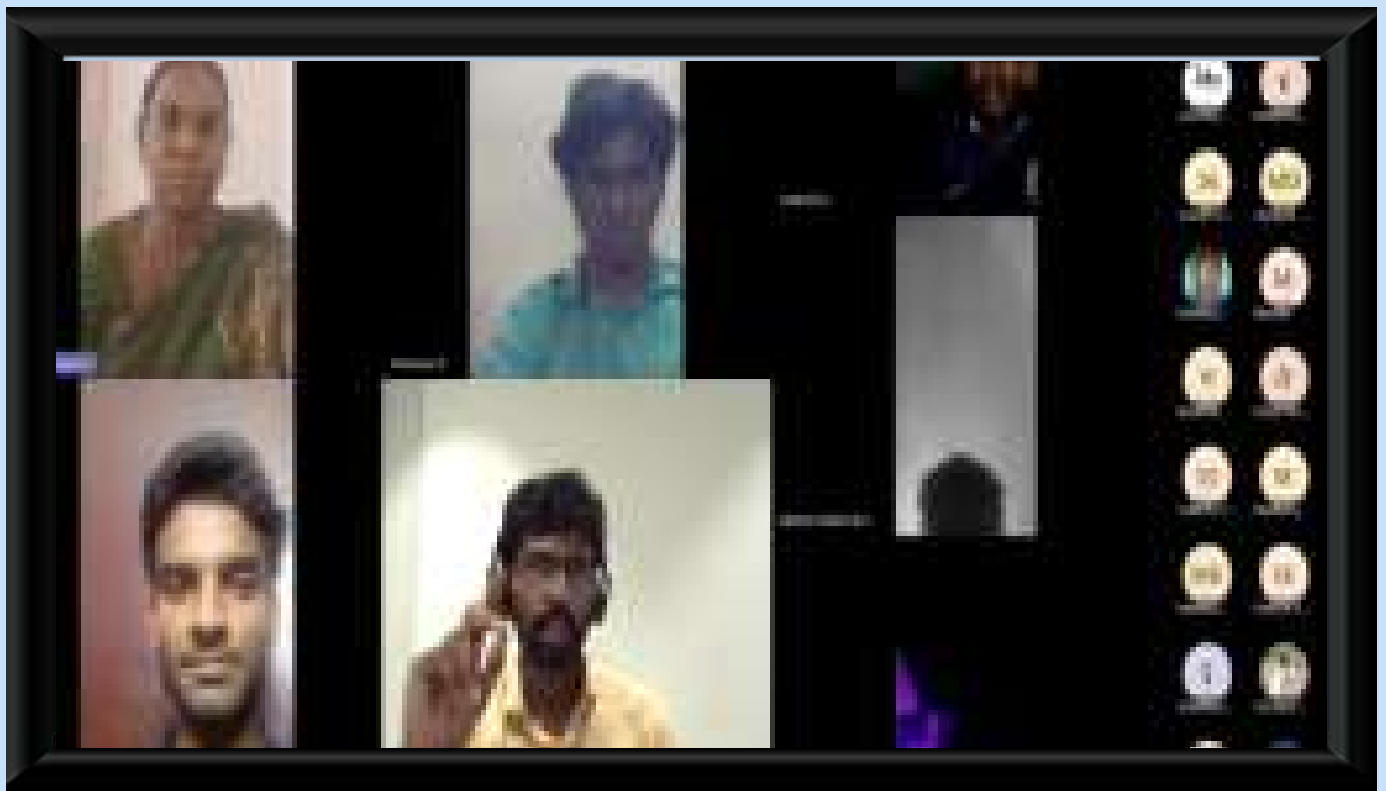
Date of the Program:

21.08.2024

Participants:

II & III EEE Students





Name of the Program:

PLC and Automation

Date of the Program:

11.09.2024

Participants:

IV & III EEE Students





Name of the Program:

**Introduction to Microsoft Office
and MATLAB Basics**

Date of the Program:

18.09.2024

Participants:

III EEE Students





Name of the Program:

**Effective Time Management for
GATE 2025 Preparation:
Strategies and Tips**

Date of the Program:

04.11.2024

Participants:

IV & III EEE Students





Name of the Program:

**Energy-Efficient Power Solutions for
Modern Railway Systems and
Electric Transportation**

Date of the Program:

15.11.2024

Participants:

IV & III EEE Students



Co-Curricular Activities

- **Mr. S. Hari Prasad and M. Surya Prakash Kumar of II EEE has Published a paper in a journal with titled “ Crashworthiness Characterization on Thin-Walled Tube with Rubberized Coir Filled in Quasi- Static Loading”, Springer, 13.09.2024**
- **Ms. G. Charu Priya of III EEE has presented a paper in conference titled, “Ionic Conductivity of Ammonium Nitrate and Ammonium Iodide Doped Polymer Electrolytes for Proton Exchange Membrane Fuel Cell.”, in Third International Conference on Advanced Nanomaterials for Energy, Environment and Healthcare application from 21.10.2024 to 23.10.2024**
- **Mr. G. Prem, Mr. M. Yogan Dhanush, Mr. S. John Raj and Mr. R. Joshuva Raj have won first prize in paper presentation held at Hindustan College of Engineering between 22.08.2024 and 23.08.2024.**
- **Mr. S.Partha sarathy, Mr. M. Mukilan, Mr. M.Siva Pardeepan, Mr. K.Vairavan, Mr.S.Vishaal , Mr. K. Manikandan, Mr. V.Ram, Mr. S. Vignesh, Mr. M. Harikumar, Mr. R. Dilipan, Mr. K. Harish Kumar, Mr. M. Kesavan, Mr. M. Sethupathi, Mr. G. Paul Ebinesh, Mr. N. Amuthan, Mr. V. Harish Kumar, Mr. F. Abdul Rahman Faizal, Mr. A.Joseph Amalraj and Mr. R. Vishal have participated in paper presentation held at Hindustan College of Engineering between 22.08.2024 and 23.08.2024.**
- **Mr. K. Jaya Bala Guru and Ms. K. Mareeswari have participated in paper presentation held at Hindustan College of Engineering on 25.08.2024**



- **Mr. S. Karuppasamy has participated in paper presentation and Project Presentation held at PSRR Engineering College on 20.09.2024**
- **Mr. M. Surya Prakash Kumar, Mr. J. Mithun Prasath, Mr. S. Hari Prasad, Ms.S.Shanthini. and Ms. P.V. Deepthika have participated online paper presentation held at St. Mother Theresa Engineering College on 28.09.2024**
- **Mr. K. Vairavan, Mr. A. Joseph Amalraj and Mr. A. Kankesh Raj have participated in paper presentation held at PSG College of Information Technology on 05.10.2024**
- **Ms. M. Madhumitha, Ms. M. Lavanya, Ms. K. Pooja, Mr. N. Amuthan, Mr. D.J. Jim Allen, Mr. S. Harikumar, Ms. S. Deepavishali, Mr. C. Sanjay and Mr. Prasanna have attended paper presentation held at Vaigai College of Engineering on 09.10.2024**
- **Mr. S. Vignesh, Mr. V. Harish Kumar, Mr. V.K. Sudharsan, Mr. F. Abdul Rahman Faizal, Mr. K. Manikandan, Mr. A.Hari Basakaran, Mr. D.J. Jim Allen, Ms. J. Santhiys and Ms. P. Manjula Devi have participated in Project Presentation held at Kalasalingam Academy of Research and Education on 28.09.2024**
- **Ms. K. Pooja, Ms. M. Lavanya and Ms. S. Deepavishali have participated in Ideathon held at Thiyagarajar College of Engineering, Madurai on 14.09.2024**
- **Mr. Thameesh Ahamed has participated in Hackathon held at DTU Innovation and Incubation, Delhi on 20.09.2024**

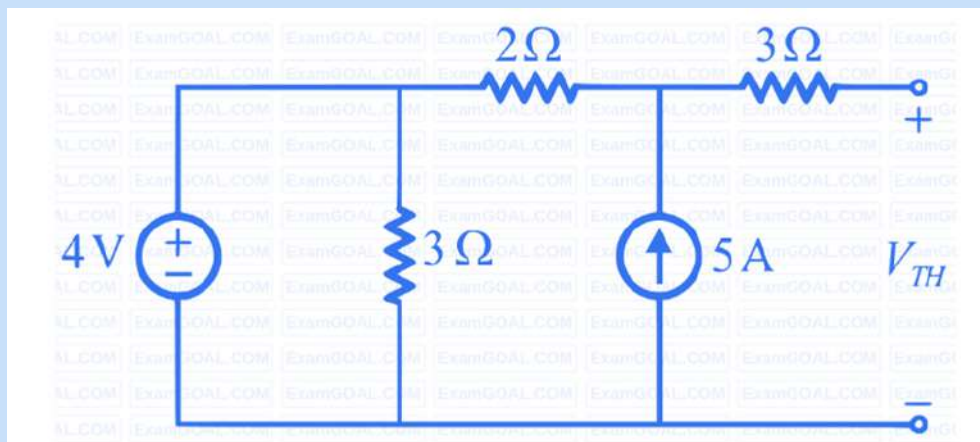


- **10 Students have completed online certification course in Programming Using Java at Infosys Spring Board Platform**
- **2 Students have completed online certification course in Embedded for Beginners at National Institute of Electronics and Information Technology, Calicut .**
- **7 Students have completed offline certification course in Simatic S7 1200 using TIA Portal**
- **Mr. K. Mukilan has attended CATC- CUM GP RDC TRG1 from 04.09.2024 to 13.09.2024 and CATC- CUM GP RDC TRG1I from 14.09.2024 to 23.09.2024**
- **Ms. P.V. Deepthika has participated in district level Yoga Competition**
- **Mr. R. Dilipan won First Place in Zonal Level Volley ball Competition**
- **Mr. N. Manikandan, Mr.A. Nantha Kumar and Mr. M. Raguram won the third place in zonal level Kabaddi Competition**



Gate Questions

- The minimum number of 2-input NAND gates required to implement a 2-input XOR gate is
a. 4 b. 5 c. 6 d. 7
- Ans : a. 4
- A traffic signal cycles from GREEN to YELLOW, YELLOW to RED and RED to GREEN. In each cycle, GREEN is turned on for 70 seconds, YELLOW is turned on for 5 seconds and the RED is turned on for 75 seconds. This traffic light has to be implemented using a finite state machine (FSM). The only input to this FSM is a clock of 5 second period. The minimum number of flip-flops required to implement this FSM is _____
a. 7 b. 5 c. 10 d. 15
- Ans : b. 5
- The Thevenin equivalent voltage, V_{th} , in V) of the network shown below, is _____



- Ans : 14 V



CHIEF EDITOR:

Dr. D. Prince Winston

Prof & Head /EEE

EDITOR:

Dr. A.Rajavel

AP/EEE

