

“Customized Amenity Management Access Control And Space Optimization”

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Abstract: In this paper the aim of this project is to save electricity. As we know the electricity plays very important role in our daily life. Electricity is as important as food and water to people in the 21st century. However, with the growing human population and the need of electricity in our lives. As we see in the various places like school and colleges there is huge amount of electricity is wastage. Sometimes in the classroom there is light, fans, projector etc equipment's are turned on continuously and students are also forget or ignored to switch off these equipment's. This problem should be considered as serious and technology should be implemented to reduce the electricity. IOT technology which has the ability to track and control the entire process. In this project the light is automatically turned off when no one is in the classroom. So from this technique more electricity is saved.

Keywords: Arduino Uno, LCD Display , IR Sensor , RFID Card etc.

I. INTRODUCTION

The most objective of this paper is to develop a system to save the electricity. This project is based on RFID Card. The cards are provided by their priorities. High priority and low priority. Higher priority consist of professors, lecturers, principle and other higher faculty. Lower priority consist of Students. Main purpose of this project is to save electricity and make cost efficient. Whenever the lower priority (students) RFID card is swiped the only limited equipment's will be accessed . limited equipment's means the light and fan and rest of equipment's will be denied. After swiping the card it will access the particular equipment's and then IR sensor will detect the entrance of students and monitor there attendance. If higher priority will swipe the card then each and every equipment will be accessed like fan, lights, AC, projector, fridge. And when will exit the room automatically all equipment's will turn off. Using this technique we will save electricity by accessing there priorities.

II. METHDOLOGY

A. *Hardware:*

I. *Block diagram:*

In this paper a simple RFID card will detect the card and provide access from the priority. and the IR sensor count the persons which is enter from the door in the classroom and when all will exit the room the gets zero then all amenities which is present in the class will turn off automatically.

- level 1 (highest authority): users with level 1 access enjoy full control over all room amenities, including lights, air conditioning, projector, fridge, and more.
- level 2: individuals at this level have access to controlling lights and fans, ensuring basic comfort and energy efficiency.

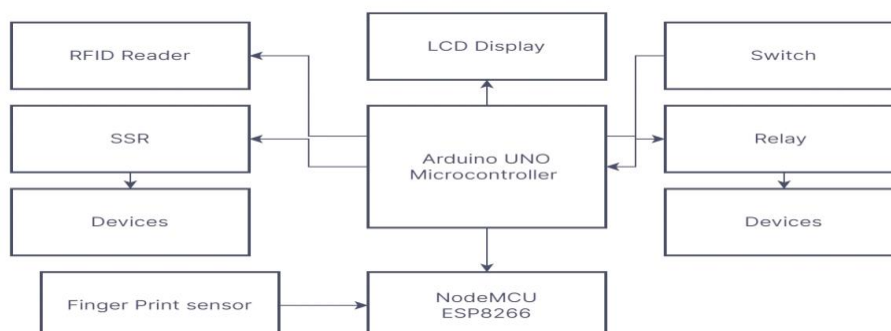


Fig. I. Block diagram

I. **Arduino:** Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online.

II. **Relay:** Relays are the switches that aim at closing and opening the circuits electronically as well as electromechanically. It controls the opening and closing of the circuit contacts of an electronic circuit. When the relay contact is open (NO), the relay isn't energized with the open contact.

III. **RFID card:** The full form of RFID is Radio Frequency Identification. It is an automated method of identification that utilizes non-contact wireless radio frequency signals wherein information is digitally embedded in RFID tags or smart labels which can be interpreted by radio signals by the reader.

IV. **Card Reader:** The RFID reader is a network-connected device that can be portable or permanently attached. It uses radio waves to transmit signals that activate the tag. Once activated, the tag sends a wave back to the antenna, where it is translated into data. The transponder is in the RFID tag itself.

V. **LCD display:** The liquid crystal display (LCD) panel is designed to project on-screen information of a microcomputer onto a larger screen with the aid of a standard overhead projector, so that large audiences may view on-screen information without having to crowd around the TV monitor.

B. *Software:*

I. *Flowchart:*

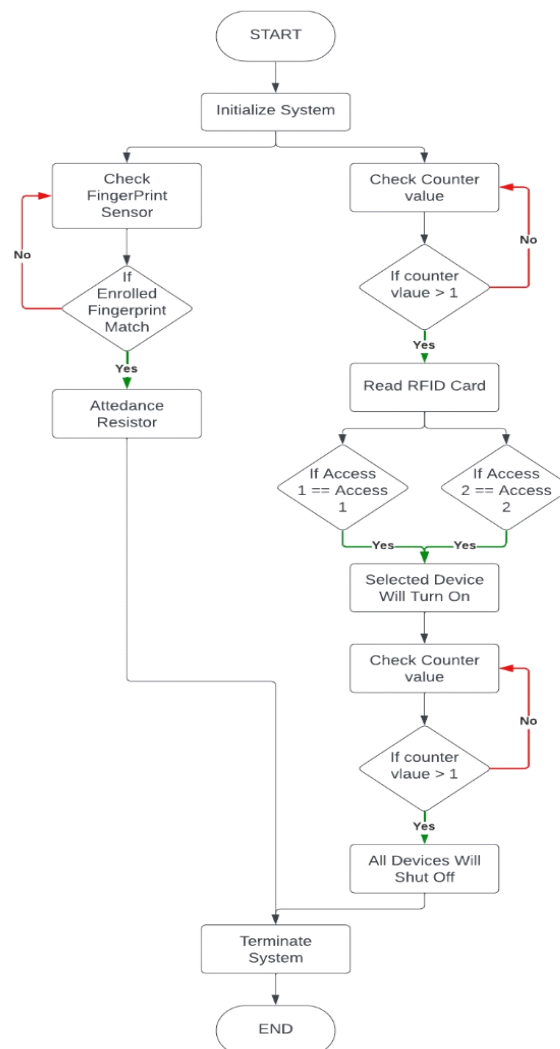
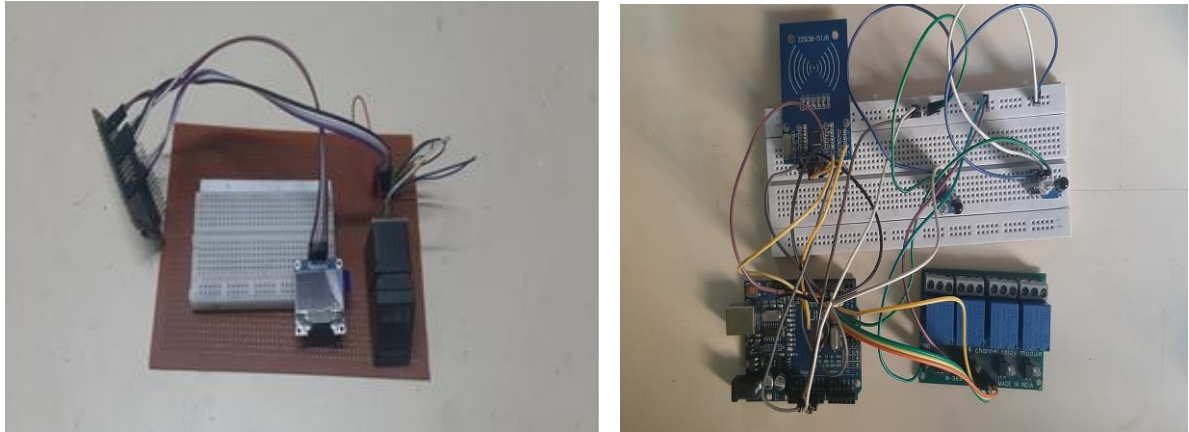


Fig. II. Flowchart of proposed system

Result



III. CONCLUSION

A sensor detect and count the people which is enter in the class and when class is empty and counter is equal to the zero all equipment's are turned off automatically. And Using this technique we save our electricity. In this project we marked attendance of students also.

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