

## IOT Based Smart Home

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### Abstract

Availability of the internet all over the world is increasing continuously. The main aim to design this project is to control the home appliance, security system, on-time monitoring from anywhere from the world using mobile apps. This paper is proposed that it is helpful for elder people, physically disabled and also saves the waste of energy. By using the internet of things (IoT) and mobile app we are capable to control and monitor all the appliances such as light, fan, etc. It is also possible to lock and unlock the home door by mobile password system. In this system internet connectivity modules such as (ESP32), a sensor like MQ135, ACS172, DS18B20, laser sensor, relay module of four relays used as a switching circuit, smart phone. Thus, the main objective of this work is to make our home automation system more secure and intelligent.

**Keywords:** IOT, ESP32, MQ135, APP, Smart Phone

### 1. Introduction

In recent years, internet plays an important role for transferring a data at high speed. This principal is used for the controlling of household devices in a very efficient way. This Project is mainly useful for the specially able peoples and old age peoples. Also most of the time it is require a password based control for the safety purpose. By this project it is possible to change the password and set a new one of the Bluetooth module to protect our system from accessing anyone.

### 2. Methodology

By using the bluetooth module or IOT based controller and mobile app we are capable to control all the appliances in our home such as light, fan, tv, heater, water pump. It is also possible to change the password and set a new one to protect our system from accessing any one. In this system internet connectivity modules such as (ESP32), a sensor like MQ135, ACS172, DS18B20, laser sensor, relay module of four relays used as a switching circuit. In this project, we are introducing IOT. The Internet of things (IoT) is acts like bridge between cell phones, personal computers and other devices to the world wide web in the new era of communication where objects communicate with each other without human intervention.

For the controlling system, ESP32 IOT based controller are used. Also the solenoid latch for locking the home and office door, for starting and stopping the engine we used automatic sparking plug and fuel flow controller. In this the solenoid valve and relay module are used..

### 3. Working

In this project, Power supply is of 5V is to be given to different auxiliary systems such as sensors, microcontroller, relays etc. In this project, we are controlling switches of the devices by using app which is

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designed. When we change the state of the switch that is on to off or off to on then the app sends the capital alphabet to the web page which define for the microcontroller. Then the microcontroller continuously monitoring that webpage, if they set the letter from webpage, gives command to relay module for on or off state & viceversa. In this project we are using multiple sensors for the detection & sensing of different quantities such as air quality, water temperature, current sensor, security etc. According to connection, the microcontroller is continuously taking data from the sensor and calibrated it and send back to webpage.App is continuously reading from that webpage & shown on to the screen.

### 4. Circuit Diagram

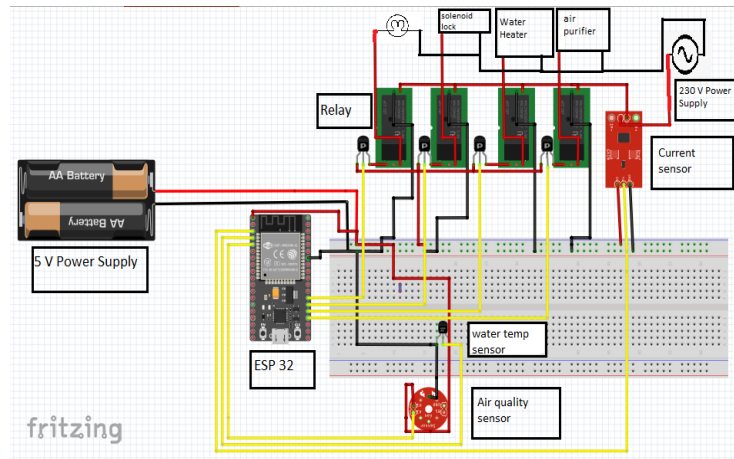


Fig. III. Circuit Diagram

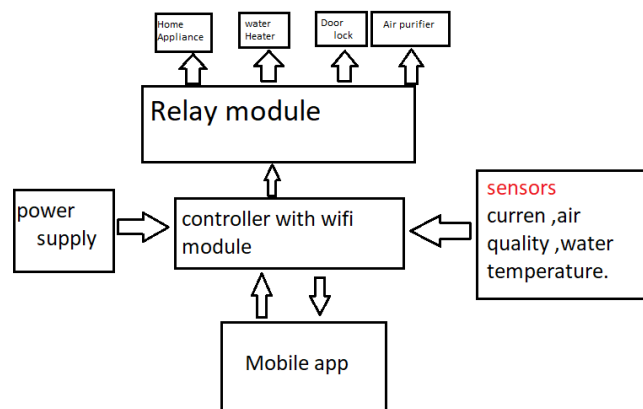


Fig. IV. Block diagram

### 5. Conclusion

This project is helpful for the specially able persons as remotely operated system, automatic controlling . It is very economical & efficient in energy consumption. As password protected, so the theft issue also solved by this project. It makes our home system automised , more secure and intelligt by this project. Air quality also improved so that health issues also minimized.

## 6. Hardware Implementation



## References

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