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Group 2

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INTRODUCTION

- Implement and simulate an IoT based Home Automation System(HMS),using Micro controller, an open source IoT platform, to successfully design, develop, and simulate an IoT-based Home.

- Automation System (HMS), giving complete control of all the loads in the system from anywhere in the globe, via a public web application, with an internet connection.

Problem Statement:

- **IoT has improved the life and made it easier to have remote access on a system wirelessly through the internet, yet a system of centralized control has not been seen.**

Objective

- To build a centralized system having the functionality of controlling the household appliances whilst monitoring the moisture of the plants ensuring their growth all through a mobile App.

Literature Review

Sr.No	Name of the Paper	Publication Year	Summary
1.	Enhanced Smart Home Automation System based on Internet of Things	2019	Paper represents IoT based smart home automation approach which is secure and also reduces computation overhead.t. Focus is sifted towards providing confidentiality, authenticity, and integrity of data sensed and exchanged by smart home objects.
2.	**Smart Energy Efficient Home Automation System Using IoT**	**2019**	**In this paper, smart energy efficient home automation system is proposed that can access and control the home equipments from every corner of the world. For this system, Internet connectivity module is attached to the main supply unit of the home system which can be accessed through the Internet.**
3.	IoT Based Smart Security and Home Automation System	2016	The IoT project in this paper focuses on building a smart wireless home security system which sends alerts to the owner by using Internet in case of any trespass and raises an alarm optionally
4.	**Review and Performance Analysis on Wireless Smart Home and Home Automation using IoT**	**2019**	**This research work presents an approach for smart home automation using IoT that can be controlled wirelessly. Home automation system means monitoring and controlling of home appliances remotely using the concept of internet of things (IOT).**
5.	IoT Backyard: Smart Watering Control System	2018	This project introduces an IoT Backyard system as a gardening tool to monitor and control watering for homegrown plants. We apply the Internet of things (IoT) and affordable technology and focus on soil-based plant with a water tank and tap.

Literature Review

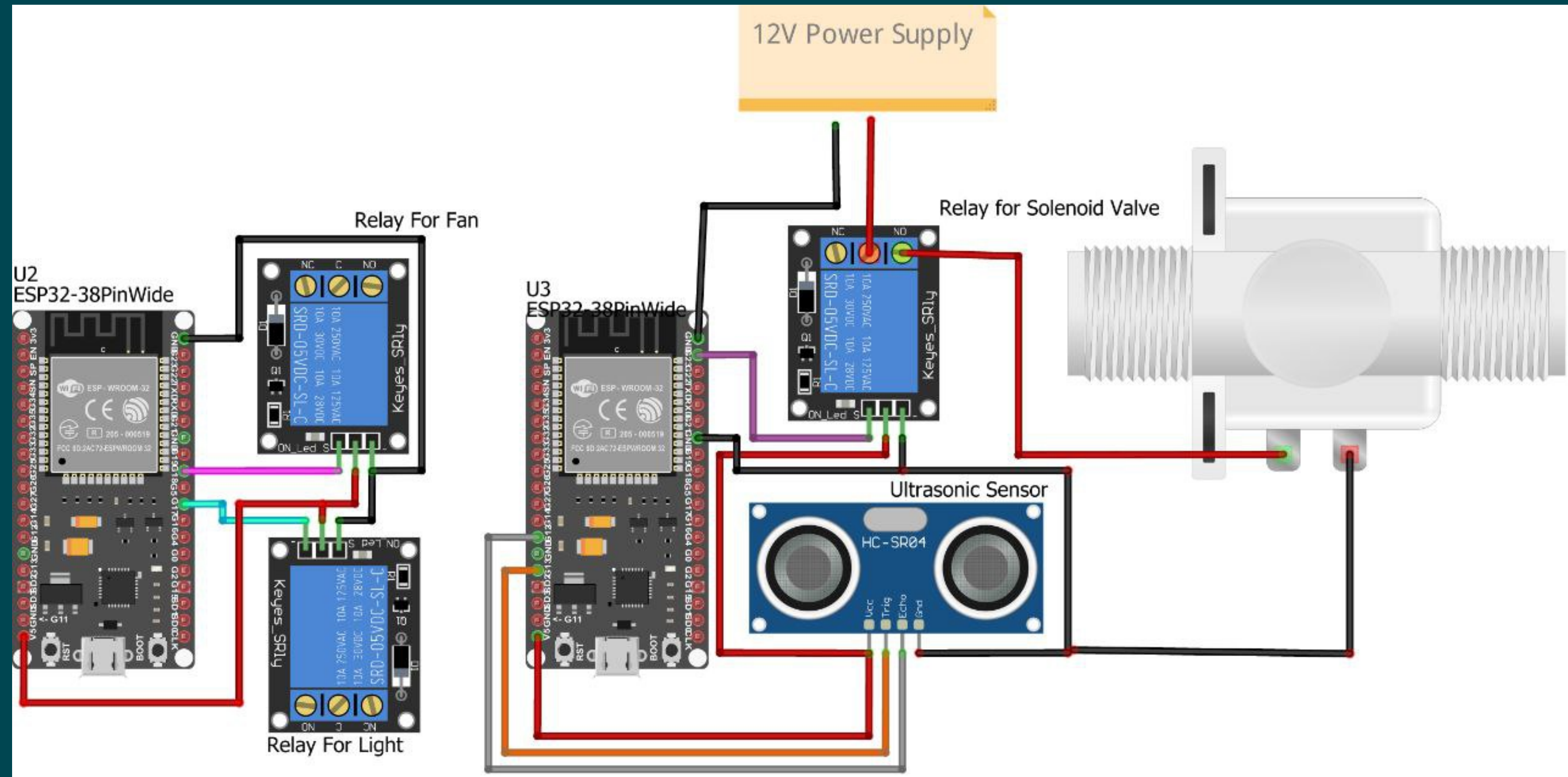| Sr.No	Name of the Paper	Publication Year	Summary
6.	Smart-Home Automation using IoT-based Sensing and Monitoring Platform	2019	This paper presents the complete design of an IoT based sensing and monitoring system for smart home automation. The proposed design uses the EmonCMS platform for collecting and visualizing monitored data and remote controlling of home appliances and devices.
7.	**IoT Based Smart Security and Home Automation**	**2018**	**This project focuses on building a home security system which will be wireless. Security over a network is achieved using AES encryption. Security of house is managed by sending notifications to the user using Internet in case of any trespasser and it can also ring an alarm if required.**
8.	IoT based Monitoring and Control System for Home Automation	2015	The project proposes an efficient implementation for IoT (Internet of Things) used for monitoring and controlling the home appliances via World Wide Web. Home automation system uses the portable devices as a user interface. They can communicate with home automation network through an Internet gateway.
9.	**An IoT based Home Automation Using Android Application**	**2016**	**This paper describes how to control and monitor home appliances using android application over internet. There are number of commercial home automation systems available in market. However, these are designed for limited use.**
10.	Visual Machine Intelligence for Home Automation	2018	In this paper, we present a vision-based machine intelligence system to sense the ON/OFF state of commonly used household appliances like Television, Fan, and Tube light/CFL.

Software & Hardware Used:

- Flutter
- Arduino IDE
- ESP32
- Solenoid Valve
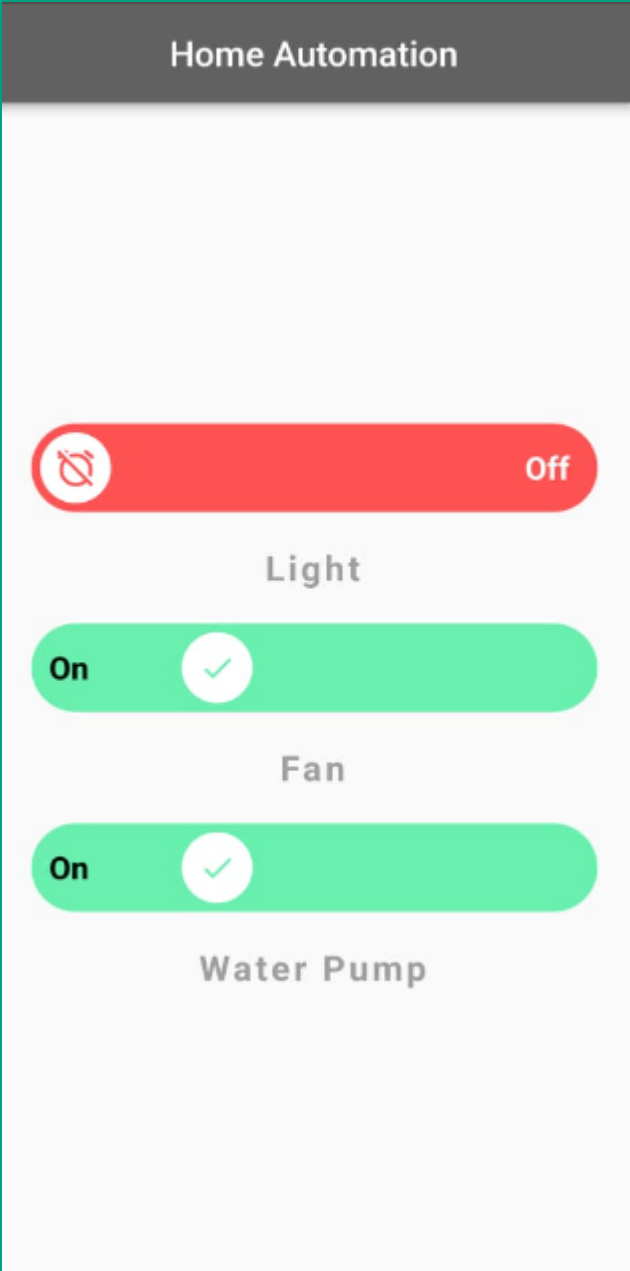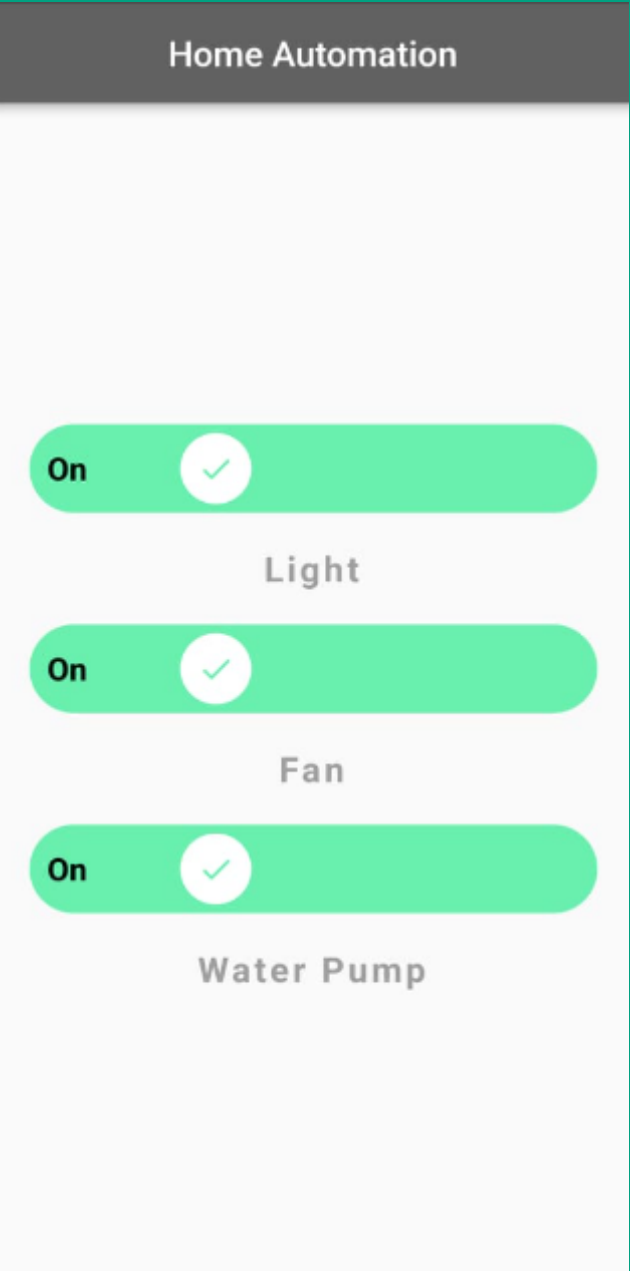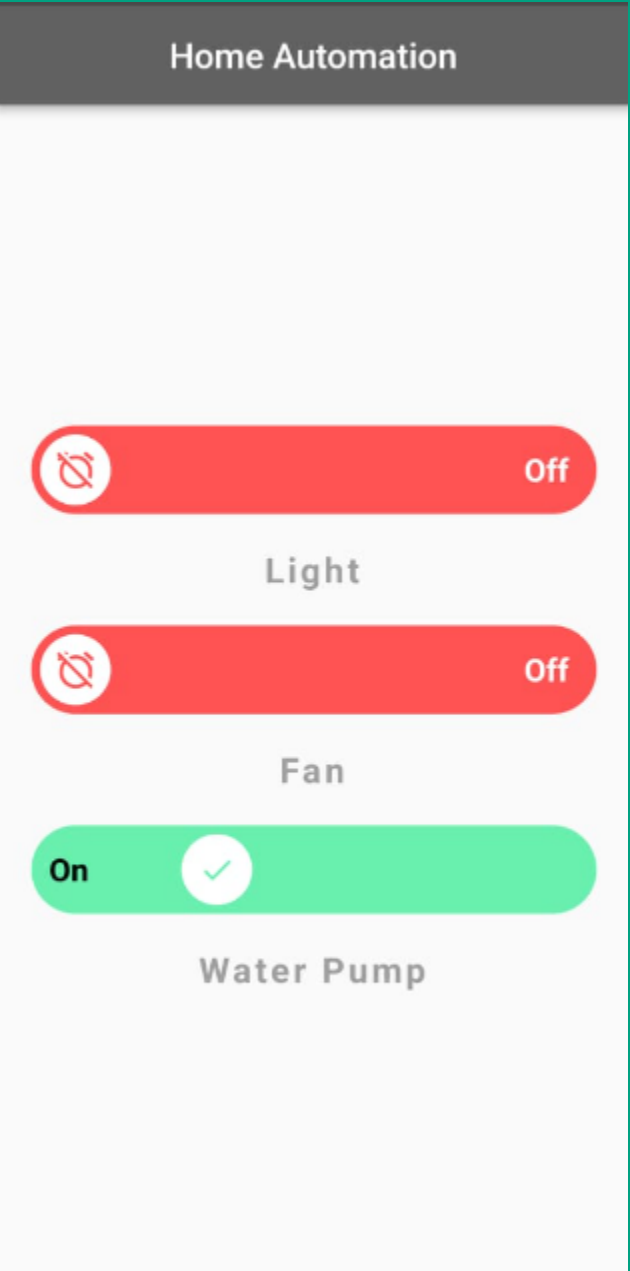- Relay Module
- Ultrasonic Sensor
- Firebase

Progress:

- The App interface controlling the system is ready with basic functionality.

- Layout of the system components with each other.

- System layout for the plant watering is also being done.

Circuit Diagram:

App UI:

Do you have any questions?

THANK YOU !