

Group: G14

Project Title: Home Automation System

Description

AVR Module: You have to automate a room of a house containing 2 fans and 3 lights. From those 2 fans, attach one fan on a PWM pin of Atmega328p to control the speed of that fan. Receive the on/off command from your smartphone from MQTT Dash app to control the lights and fans. Also detect the intensity of the light in the room using LDR sensor.

IoT Module: In ESP32, communicate with the MQTT Dash app from your smartphone where in the app create 4 buttons to turn on and off the 3 lights and 1 fan individually and create 1 range button to turn on and off the 4th fan and control its speed as well. Send the value of LDR and the status of all the lights and fans to the [ThingSpeak](#) cloud as well. Also send these values to your smartphone on MQTT Dash app using MQTT protocol.

Components Required:

Components	Quantity	Image Link
Arduino UNO with USB Cable	1	Link
ESP32 Development Board with Micro USB Cable	1	Link
Breadboard	1	Link
Pin-to-Hole Jumper Wires	10	Link
Pin-to-Pin Jumper Wires	20	Link
LEDs	5	Link
5V Fan	2	Link
LDR Module	1	Link