

Smart GreenHouse

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OUTLINE

- * Main idea of project.
- * Structure design.
- * Used components.
- * Mobile app.
- * Future work.



WHAT IS THE PROJECT ?

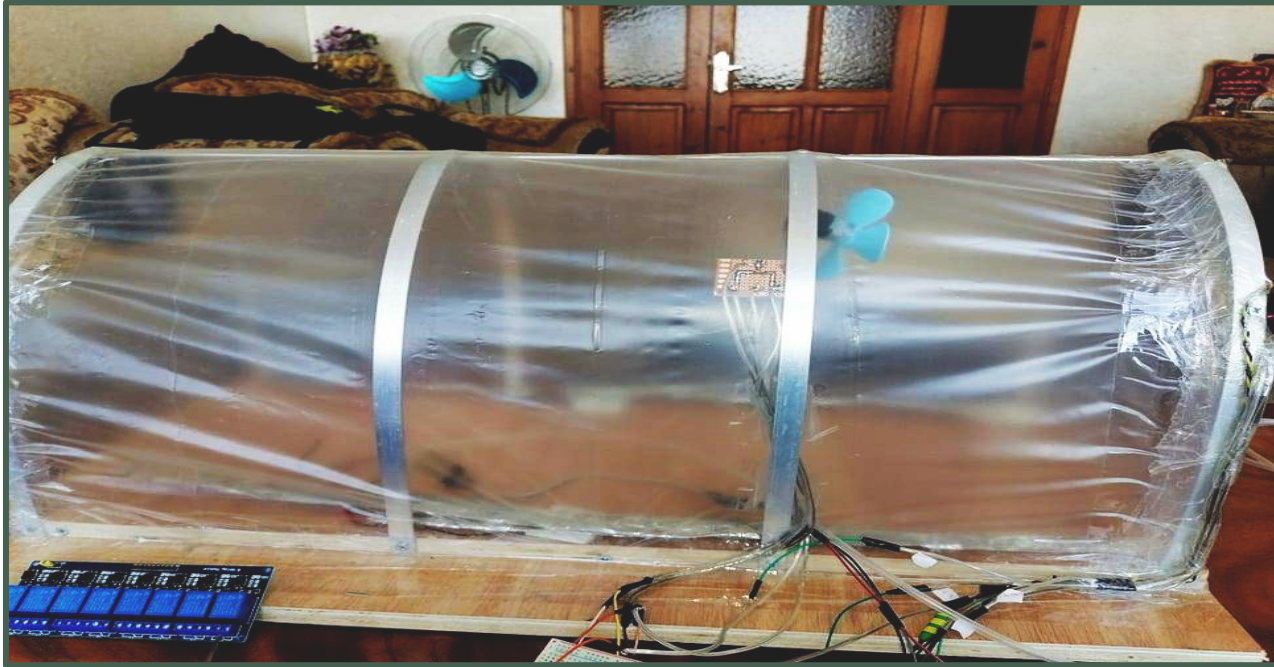
It is a smart greenhouse provides an automated, customizable environment to suit the growth of different types of plants. The project aims to provide this through a smart embedded system that controls various environmental aspects.



IMPORTANCE

The importance of a project is to help the farmer monitor and control the greenhouse Remotely through a mobile app ,Since the farmer does not need to go to the greenhouse, he can monitor the plants and the greenhouse environment through the mobile app.

Structure design



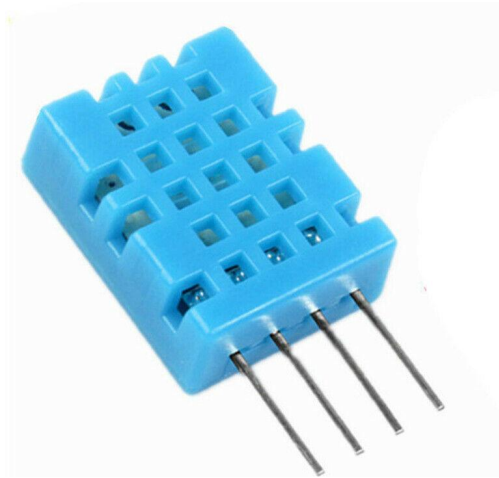




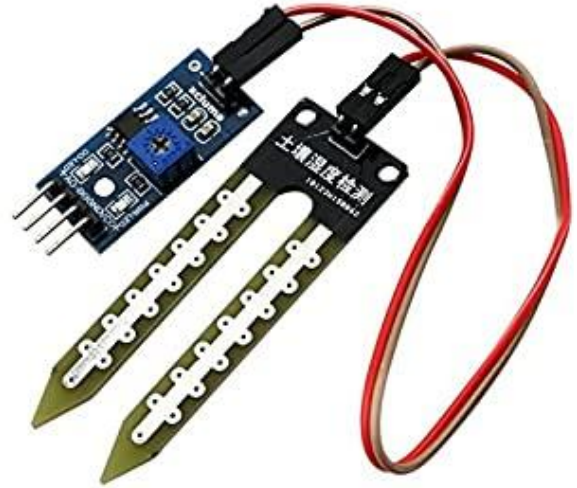
Used components

- Moisture Sensor.
- DHT11 sensor.
- Mini Photocell Light Sensor.
- Uno Arduino.
- Bluetooth HC-05.
- 8 Channel DC 5V Relay Module.
- PC Power Supply.
- 2 Mini Water Pumps 12v.
- Micro DC Gear Motor 12v.
- 2 peltier.
- Digital RGB Flexible LED Strip
- PC Fans
- 2 DC motor with fan.

components



DHT11 sensor



Moisture Sensor

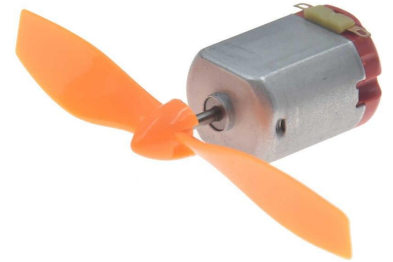
components



Mini Photocell Light Sensor



Bluetooth HC-05

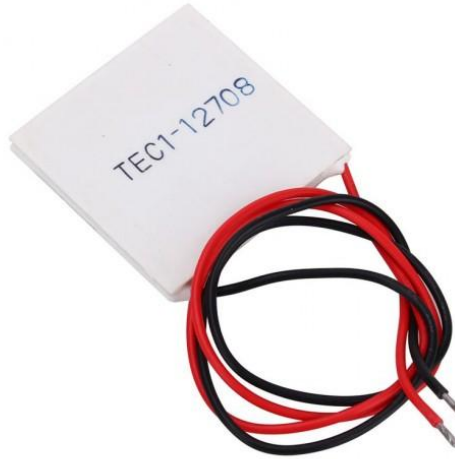


DC motor with fan

components



Micro DC Gear Motor



peltier



Mini Water Pump

components



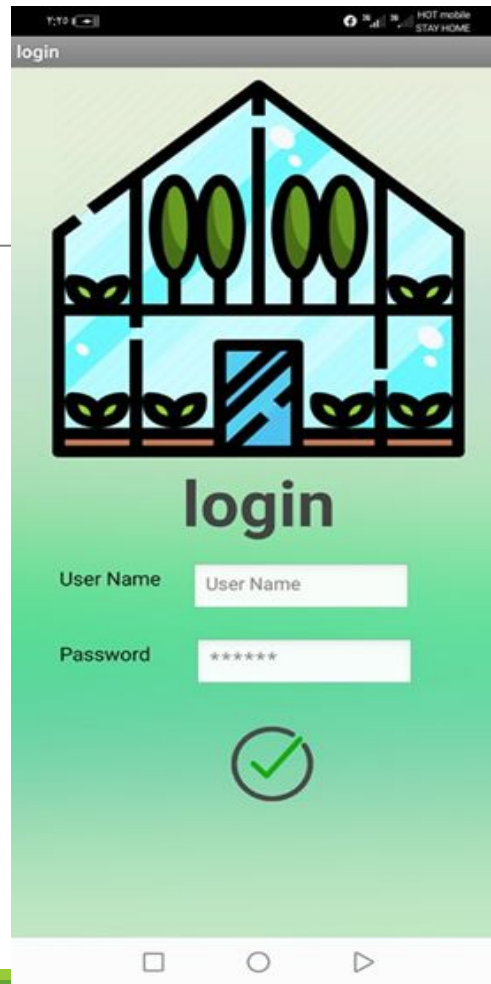
PC Fans



Digital RGB Flexible LED Strip

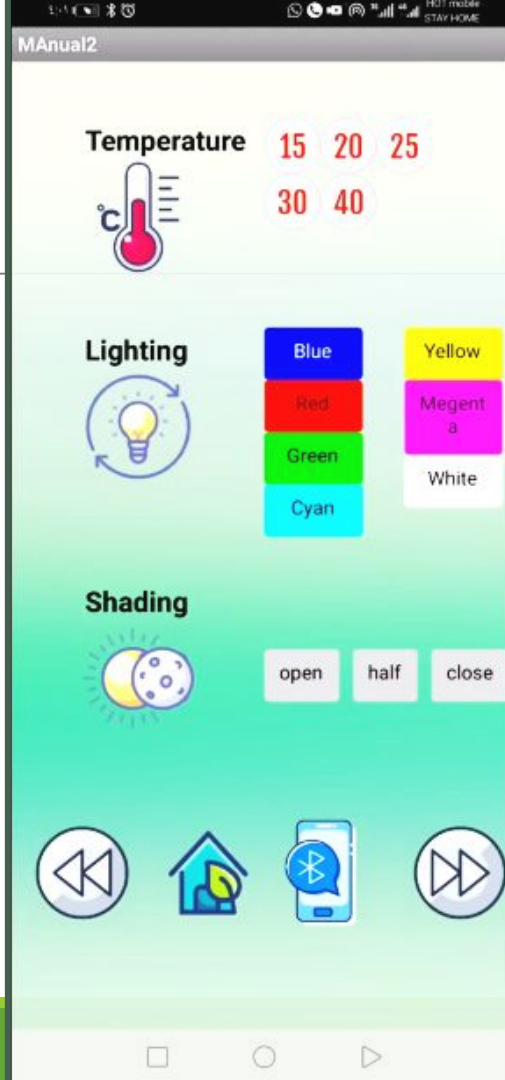
Mobile app

- 1- login page.
- 2- reading (home) page.



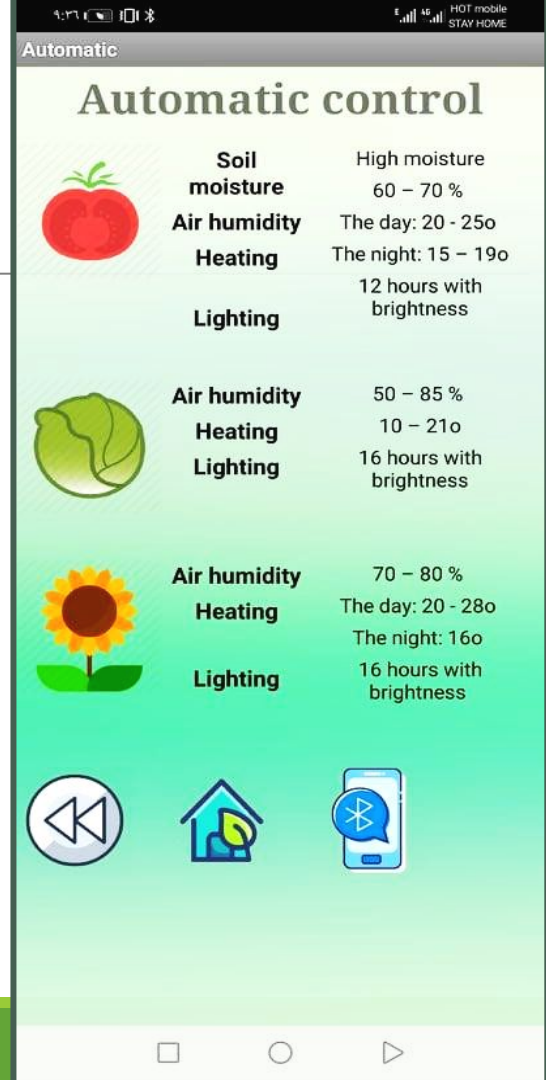
Mobile app

Manual pages.



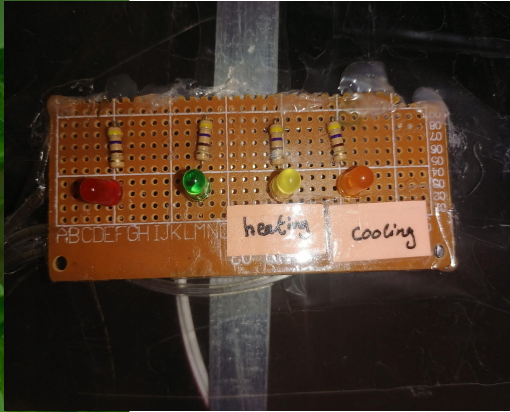
Mobile app

Automatic page.



The parts of the greenhouse

Heating and cooling system



The parts of the greenhouse

Irrigation system



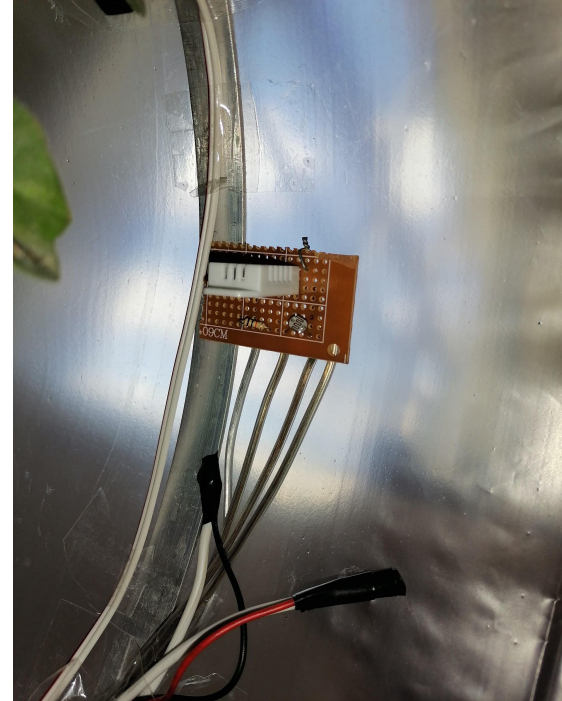
The parts of the greenhouse

Lighting system



The parts of the greenhouse

Shading system





Future work

- Add door safety device. Also, a gas and smoke alarm should be installed inside the greenhouse.
- The ability to send notifications to mobile.
- Creating a greenhouse monitoring website with the possibility of linking it to the surveillance camera.

THANKS FOR LISTENING