



جامعة تكنولوجيا مارا
UNIVERSITI
TEKNOLOGI
MARA

Fakulti
Sains Komputer
Dan Matematik



INDUSTRIAL TRAINING GROUP PROJECT : SMART HOME IOT USING ARDUINO SENSOR

Presented By:

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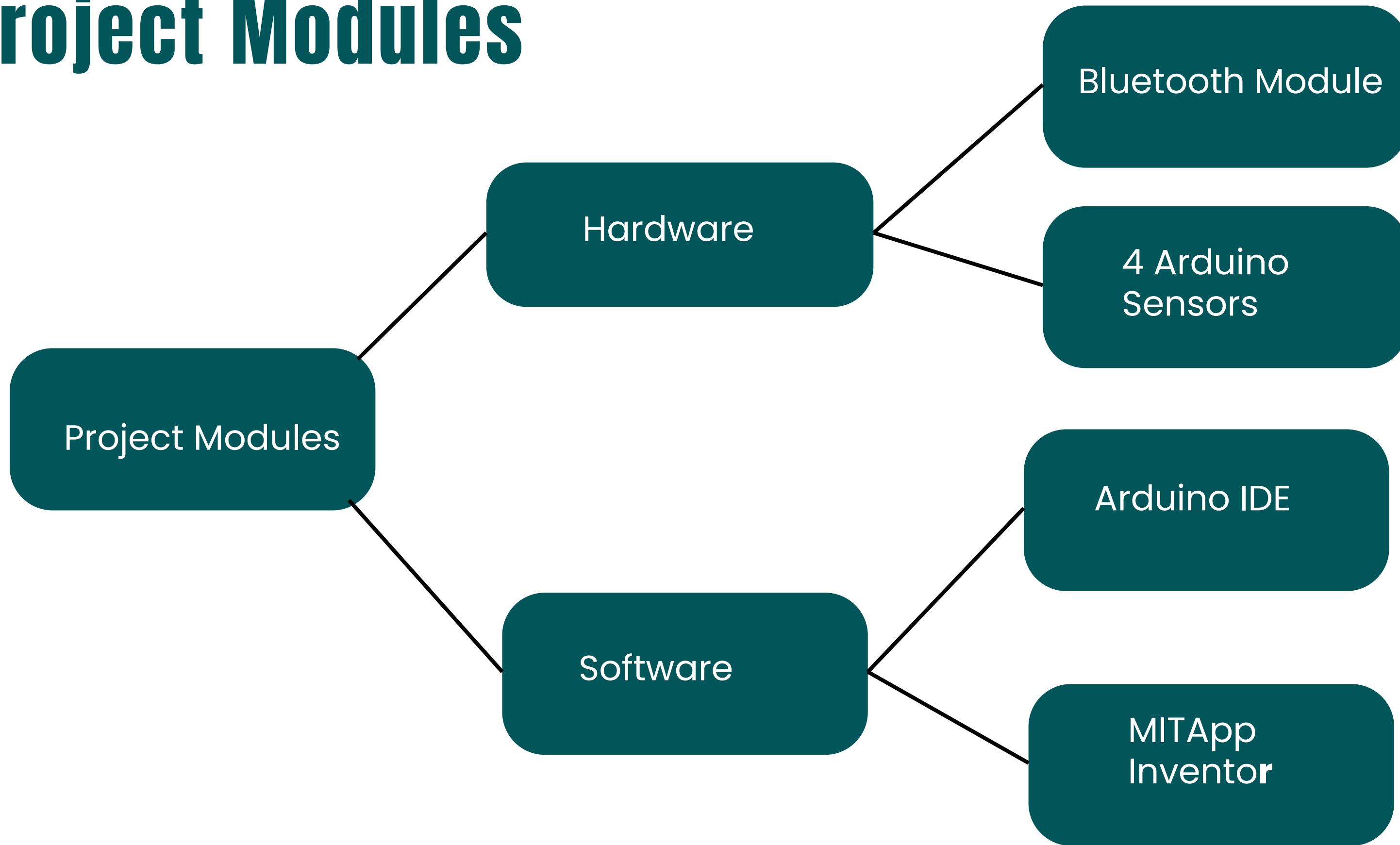
Senior Lecturer

What is Smart Home?

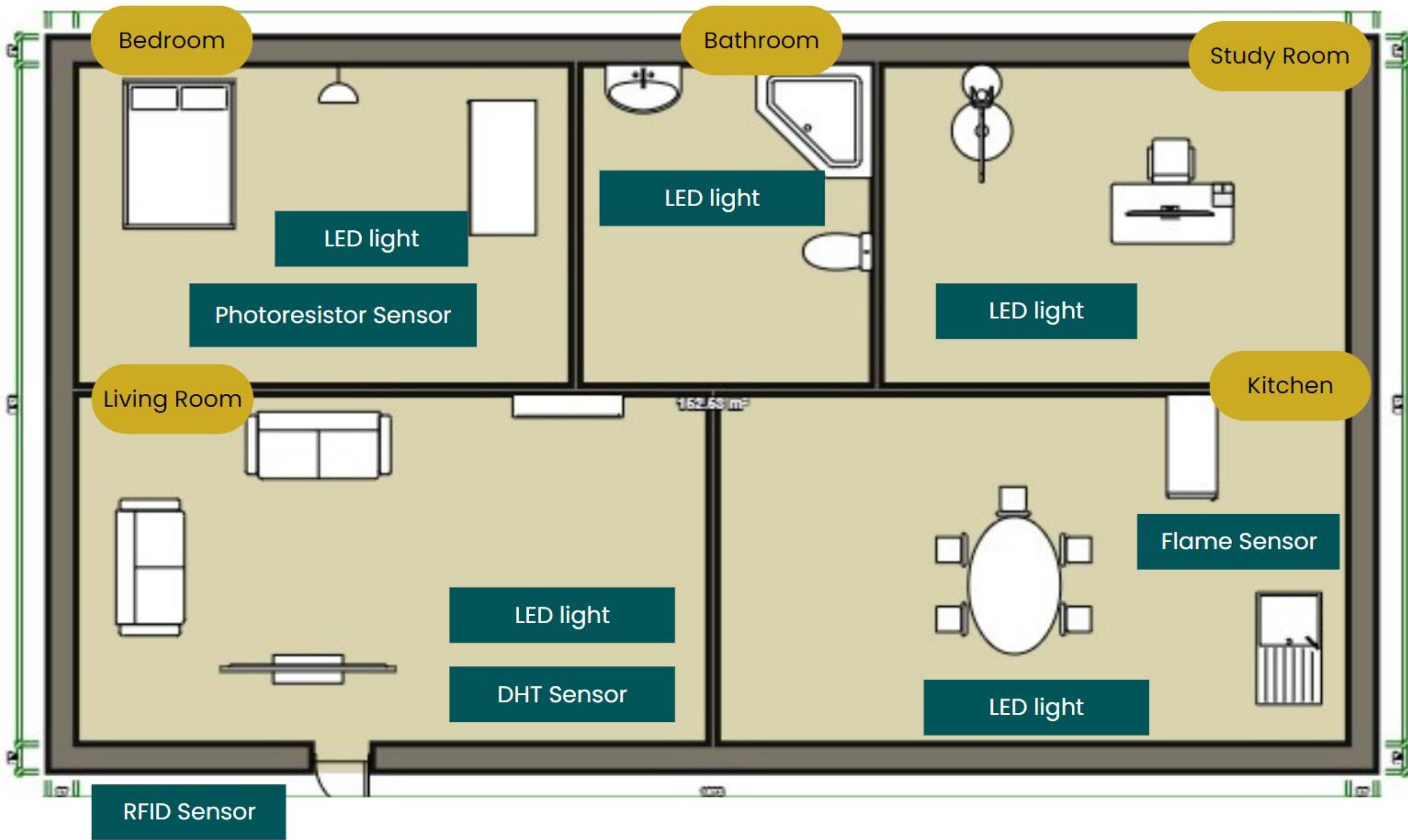
- A Home-Controlling and managing household features, and electronic devices through mobile phones or laptops
- Smart Home contain a remote mobile host controller and client module
- Client module communicate with host controller through bluetooth, an android based smart phone



Project Modules



House Plan and Positions of the Sensors



List of sensors/features used in this project

RFID Sensor

Application: Door

Input: Access Card

Output:

- LED True On-Unlock
- LED False Off-Access denied
- Buzzer Sound-Unlock and Lock
- LCD Screen- Unlock/Access Denied

Flame Sensor

Application: Kitchen

Input: Flame

Output:

- LED On-Fire Detected
- Alarm Sound On-Fire Detected

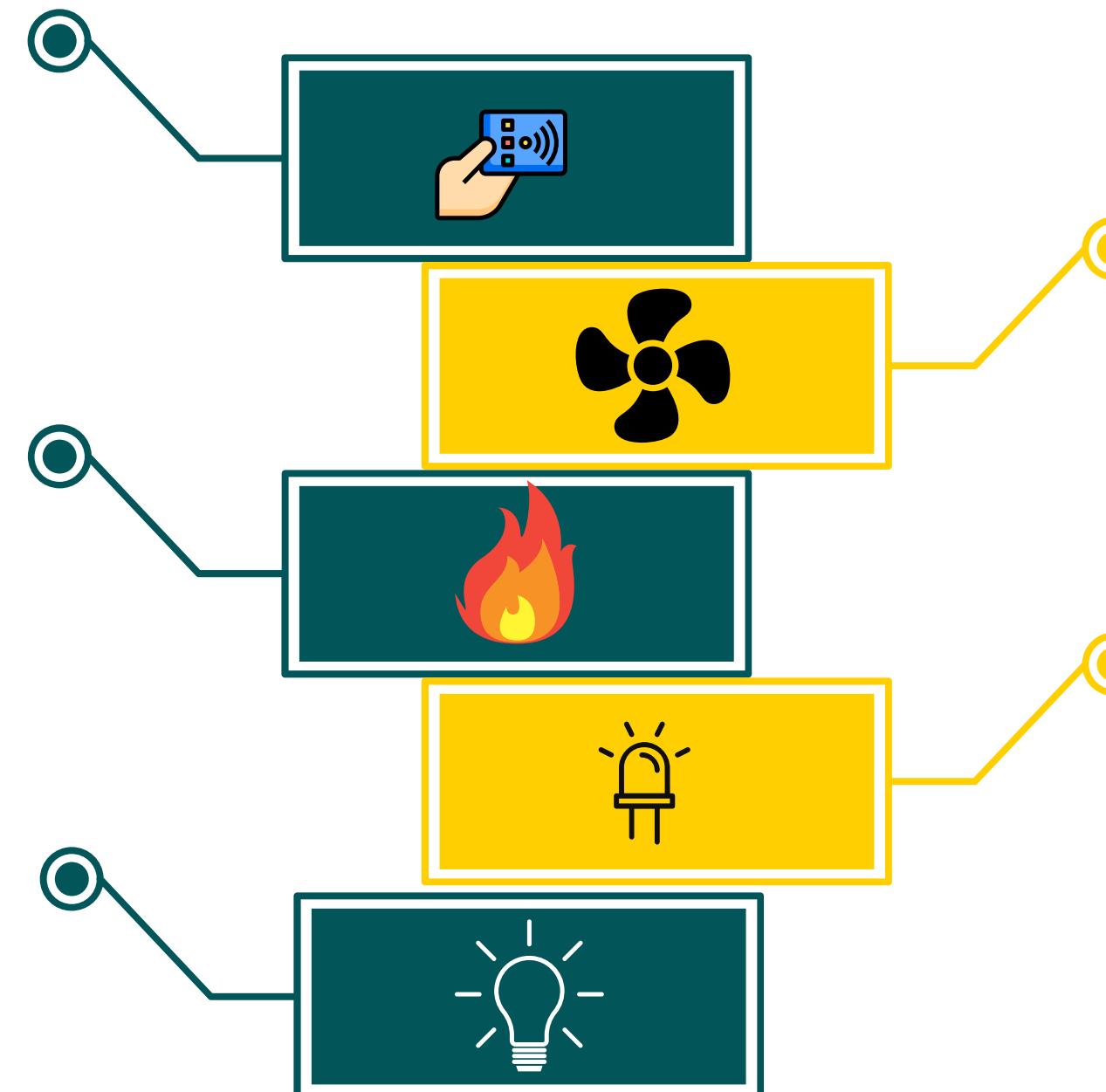
Smart home control device

Application: Each Rooms

Input: Switch On/Off in App

Output:

- LED On/Off



DHT Sensor

Application: Living Room

Input: Room Temperature

Output:

- Fan On-Temperature Exceed Certain Level
- Fan Off-Temperature Not Exceed Certain Level

Photoresistor Sensor

Application: Bedroom

Input: Light Intensity

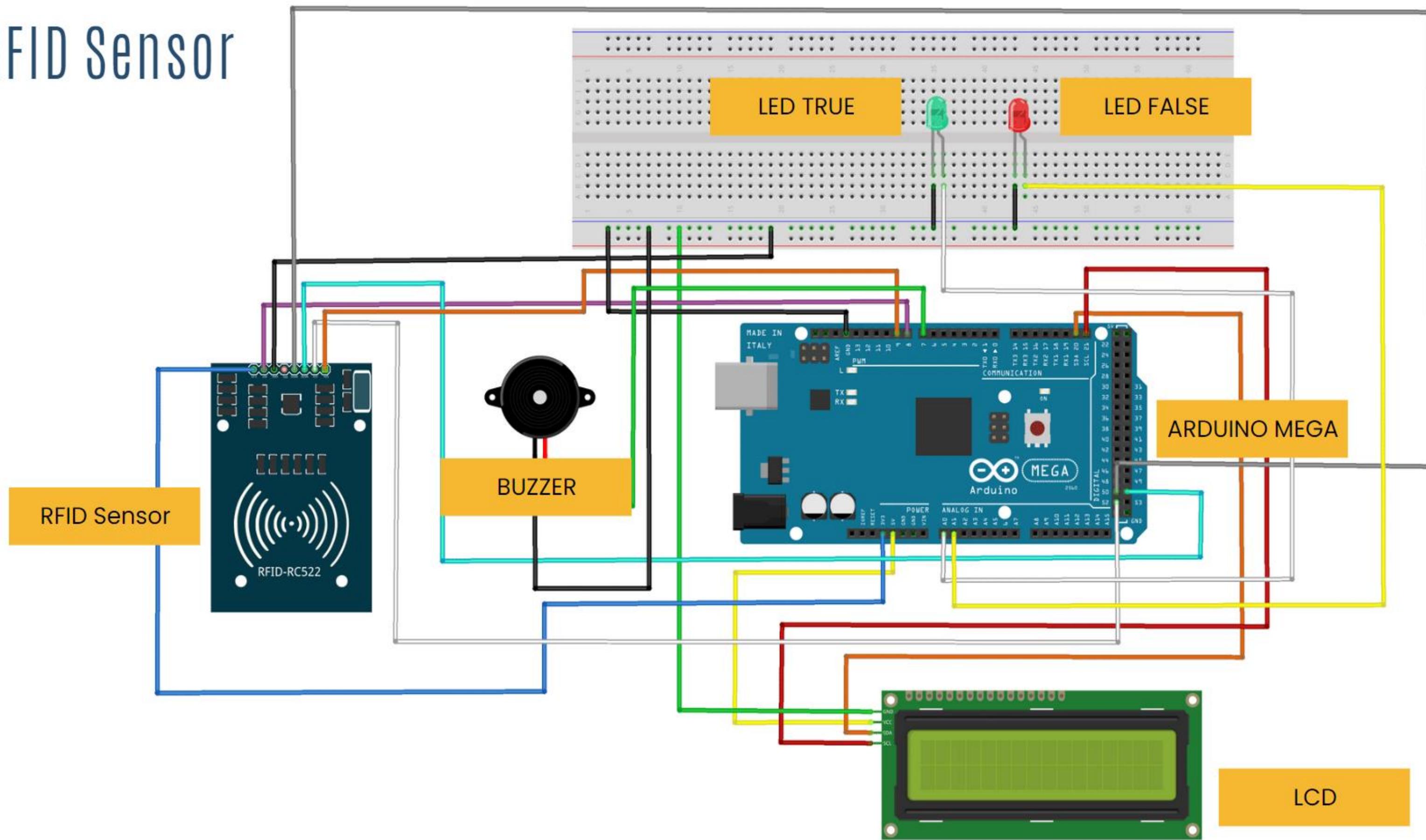
Output:

- LED On-Dark
- LED Off-Bright

Circuit Diagram

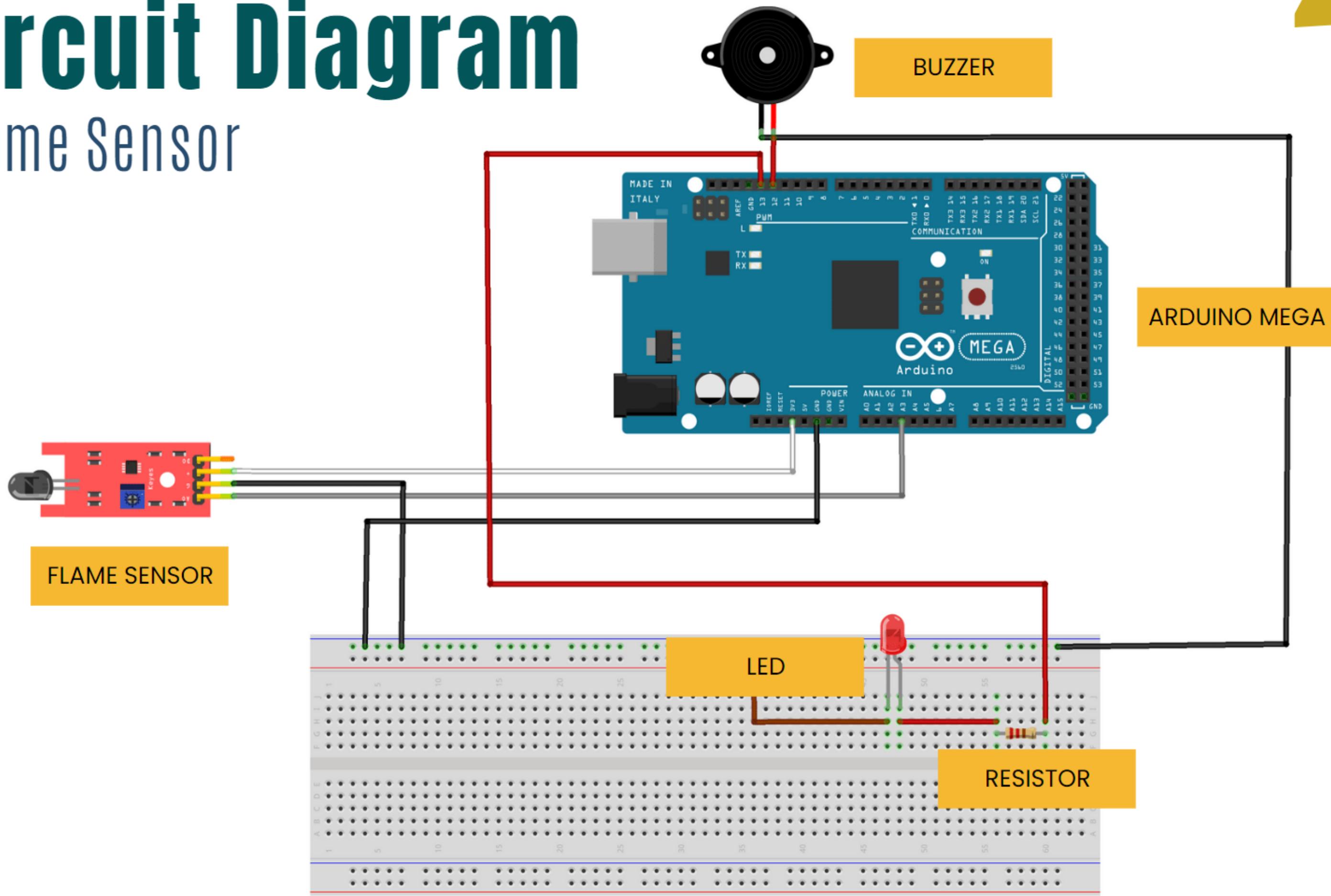


RFID Sensor



Circuit Diagram

Flame Sensor

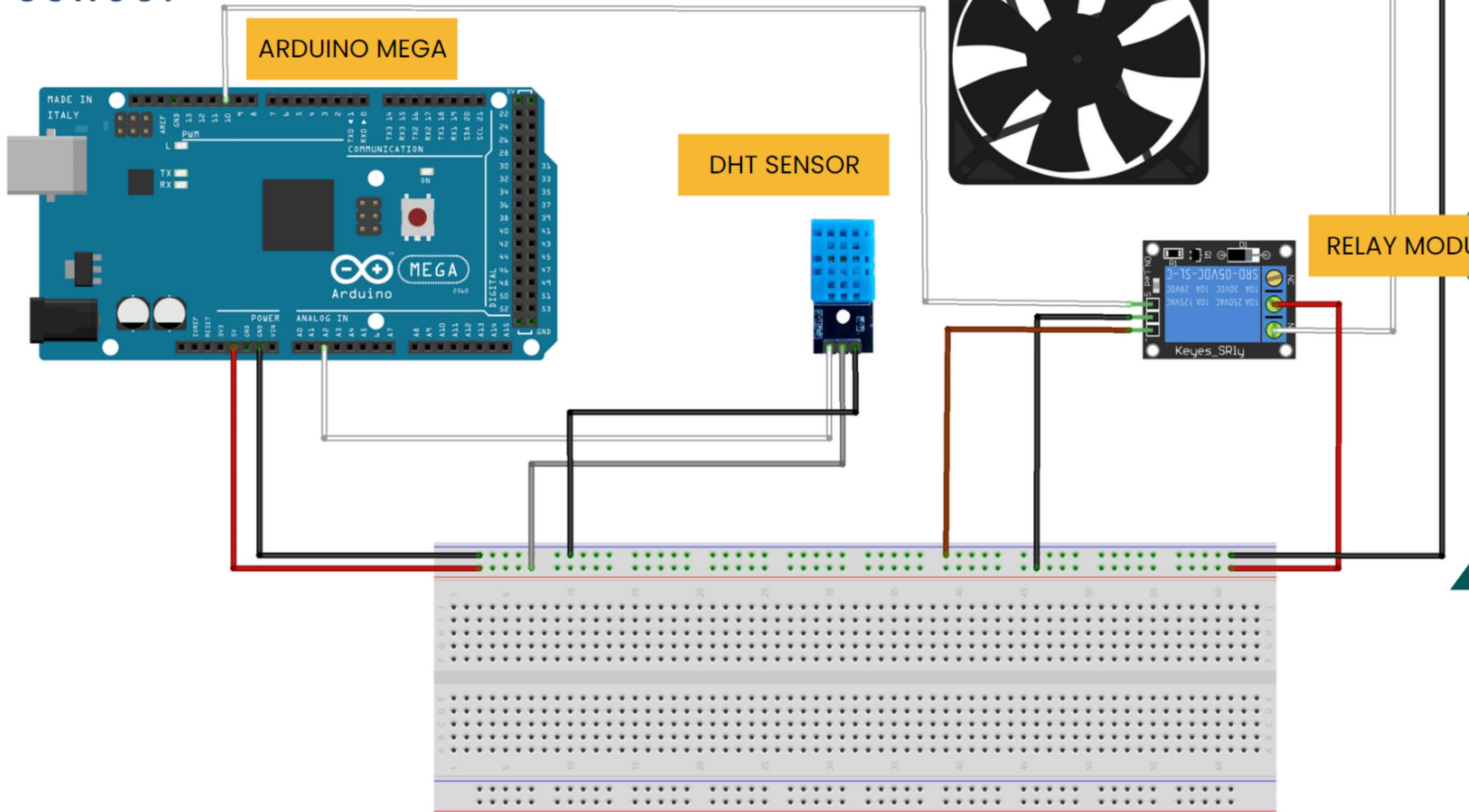


Circuit Diagram

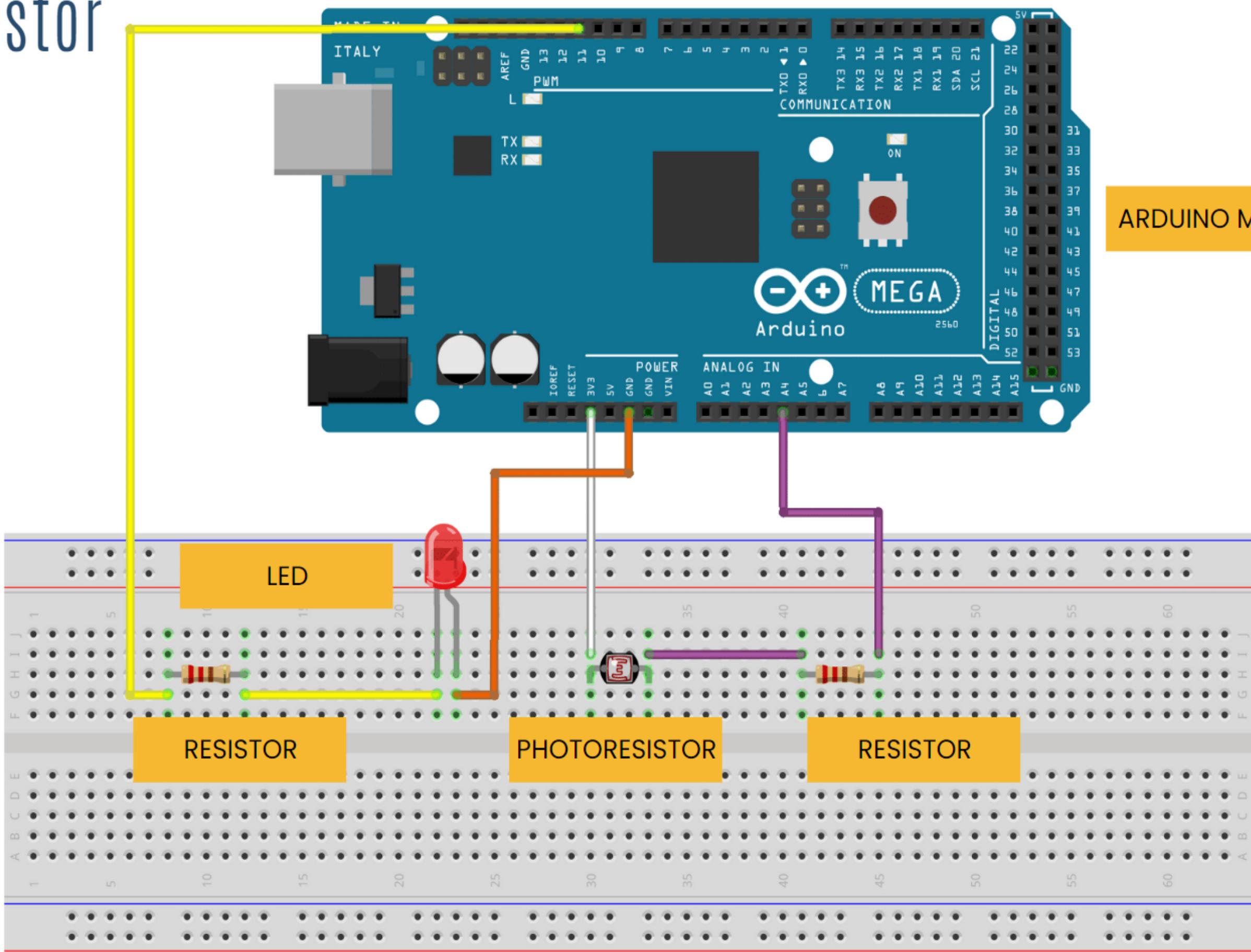
DHT Sensor



FAN

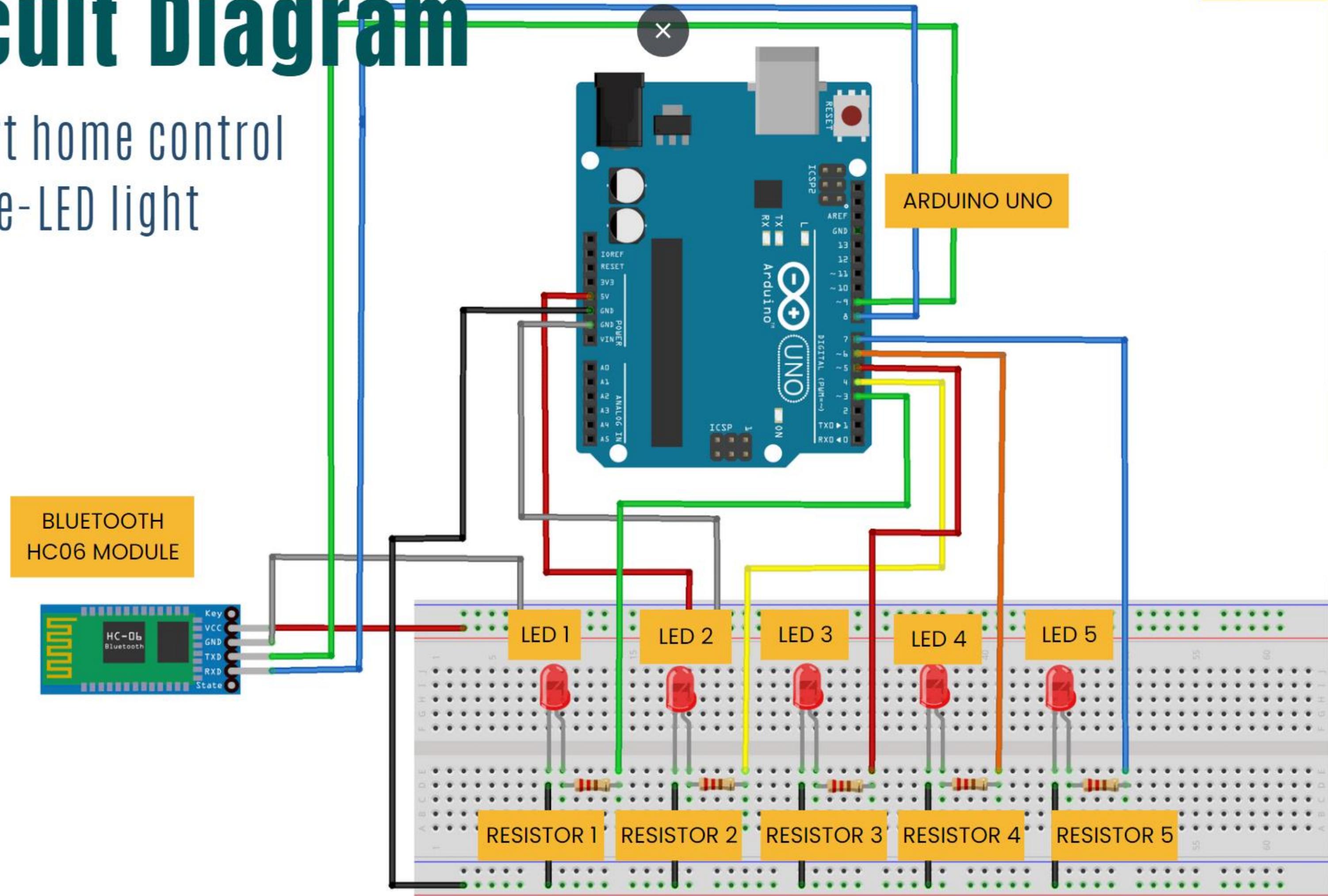


Circuit Diagram



circuit Diagram

Smart home control
device-LED light



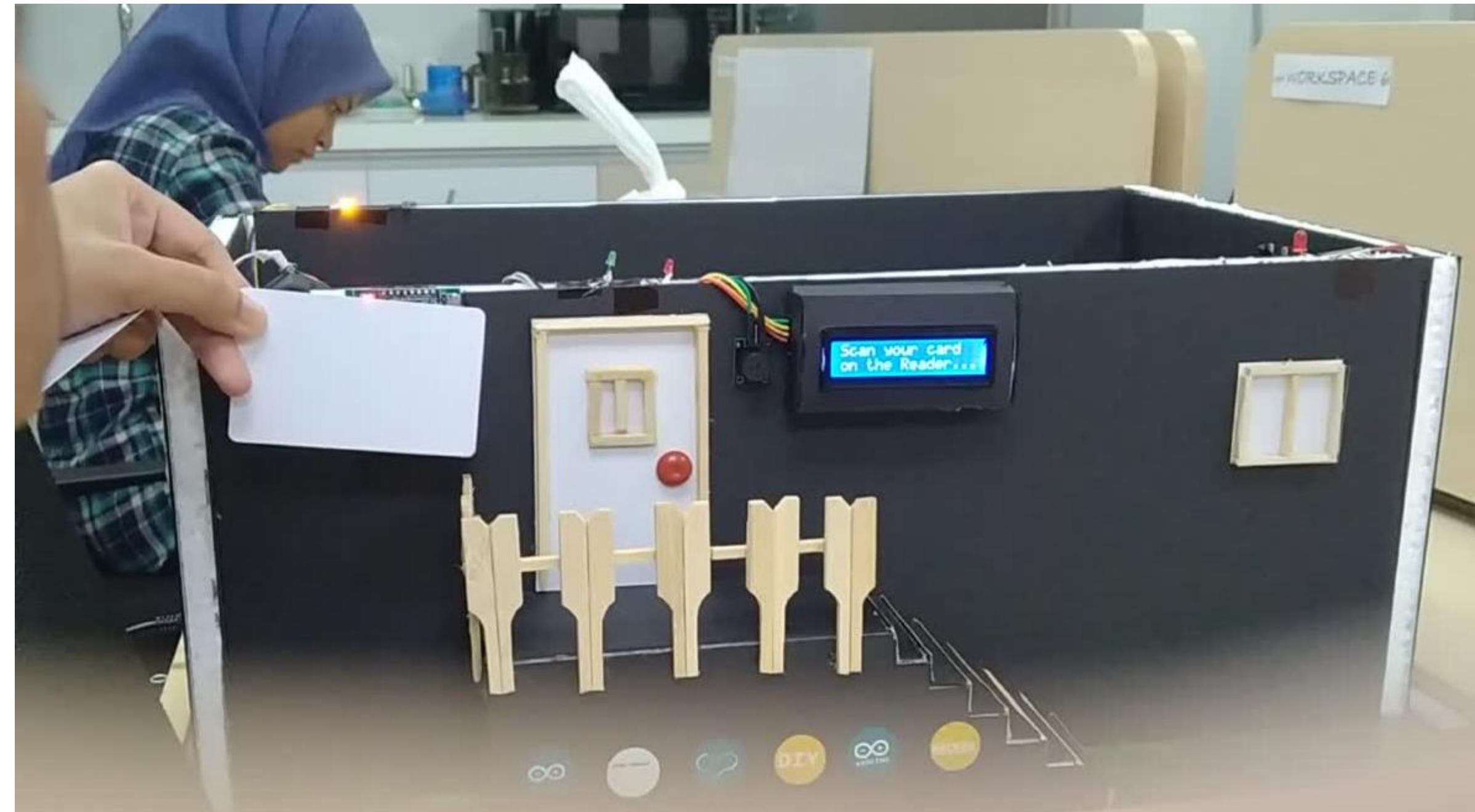
SMART HOME MODEL

Smart Home IoT Project

Sensors Used :

- RFID Sensor
- Flame Sensor
- DHT Sensor
- Photoresistor Sensor

1 RFID SENSOR



SMART HOME MODEL

Smart Home IoT Project

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2 FLAME SENSOR



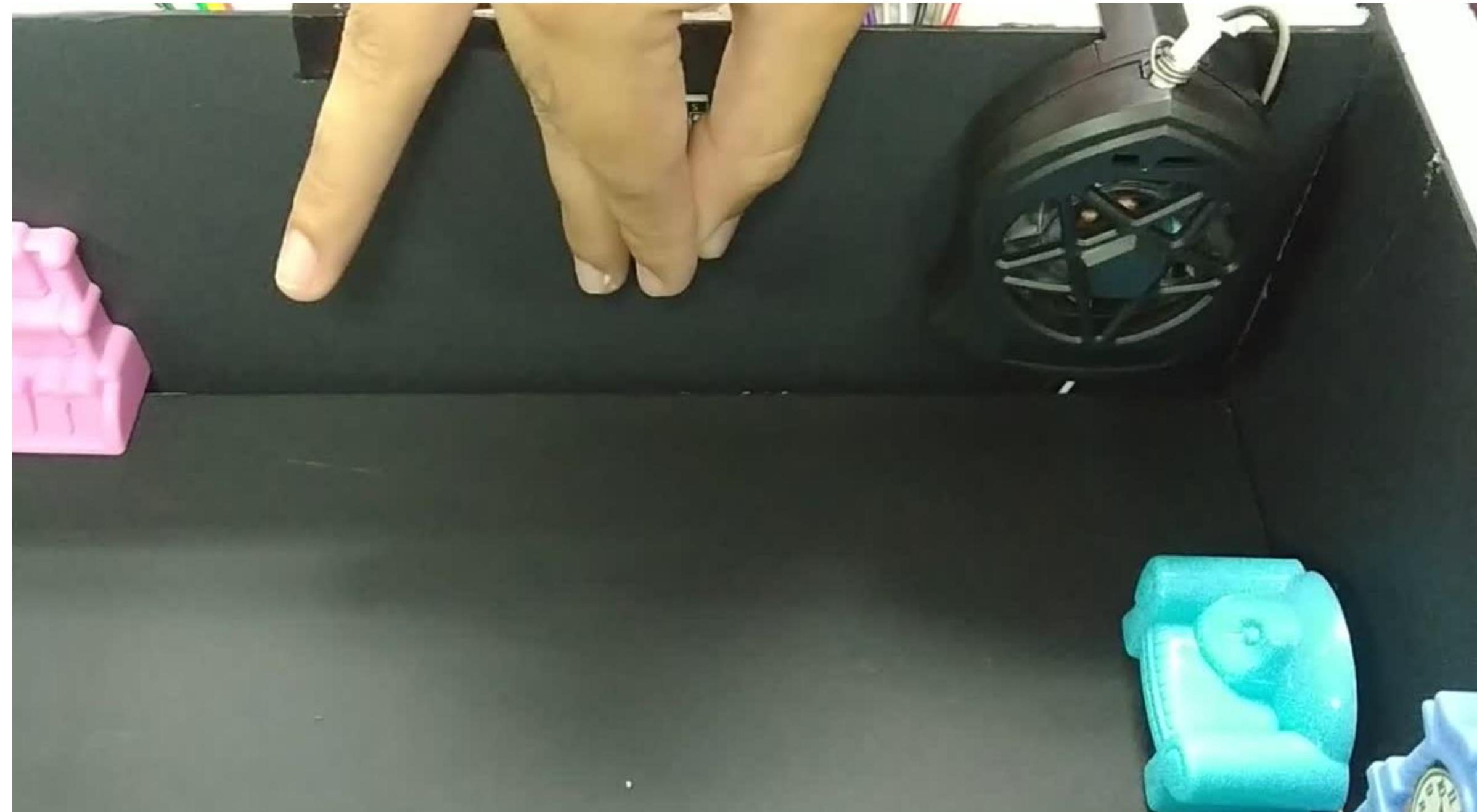
SMART HOME MODEL

Smart Home IoT Project

Sensors Used :

- RFID Sensor
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3 DHT SENSOR



SMART HOME MODEL

Smart Home IoT Project

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4 PHOTORESISTOR SENSOR



User Interfaces



Conclusion

- Smart Home consists of few sensors using Arduino such as RFID sensor, Flame sensor, DHT sensor and Photoresistor sensor and LED light bluetooth control.
- The project has proposed the idea of smart homes that can support a lot of home automation systems.
- Smart homes are a huge system that includes multiple technologies and applications that can be used to provide security and control of the home easily.



Limitation

- Limited time
- Some components unavailable in department to be used in this project
- Bluetooth range limit only less than 100 meters
- Bluetooth module cannot connect to Arduino Mega
- Bluetooth module can connect only to one device
- High cost-consume more electricity



Recommendation

- Add more sensors
- Replace bluetooth with wifi
- Add prediction model to improve technology of smart home
- Electricity replace with battery power supply



QNA SESSION

THANK YOU