
PROJECT PRESENTATION
ON
HOME AUTOMATION PROTOTYPE

SUBMITTED
BY

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OUTLINE OF THE PROJECT

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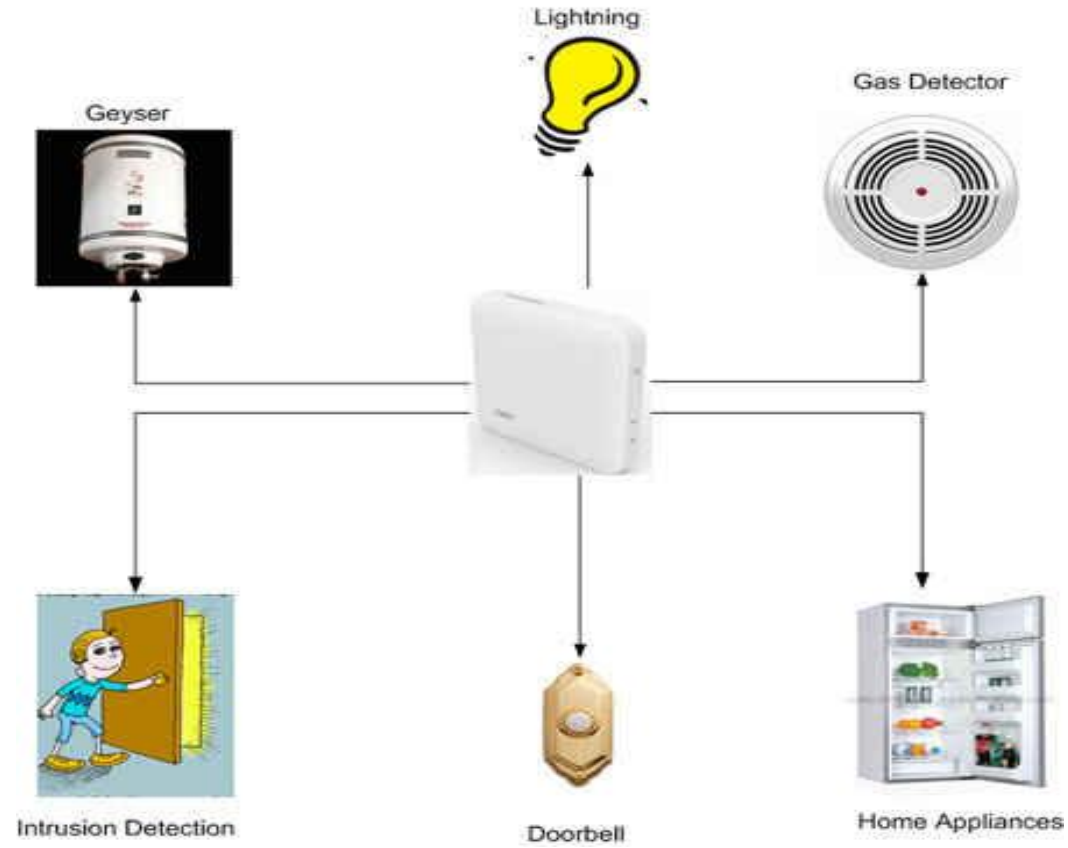
INTRODUCTION

- In this report a low cost and user friendly bluetooth controlled home automation system is presented using Arduino board, Bluetooth module, smartphone, relay and LED's.
- A smartphone application is used in the suggested system which allows the users to control LED's using Bluetooth technology.
- This report also describes the hardware and software architecture of a home automation system.

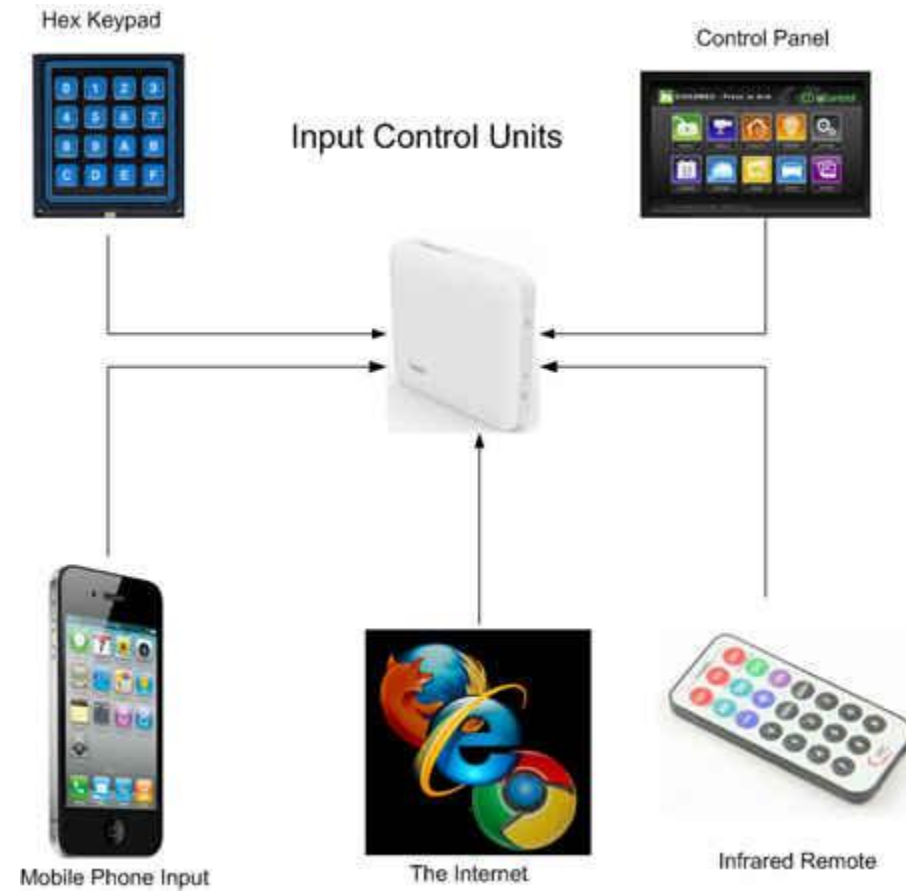
BASIC DESIGN OF HOME AUTOMATION

- Home automation is a method of controlling home appliances automatically for the convenience of users.
- Controls can be as basic as dimming lights with a remote or as complex as setting up a network of items in the home that can be programmed using a main controller or even via cell phone from anywhere in the world.
- Apart from algorithmic automation, devices can be controlled by the user to suit personal requirements using direct buttons, cell phones, the internet, or infrared remotes.
- A network of appliances and sensors can interact with each other and make decisions for operation.

Home Automation System



BASIC HOME AUTOMATION SYSTEM

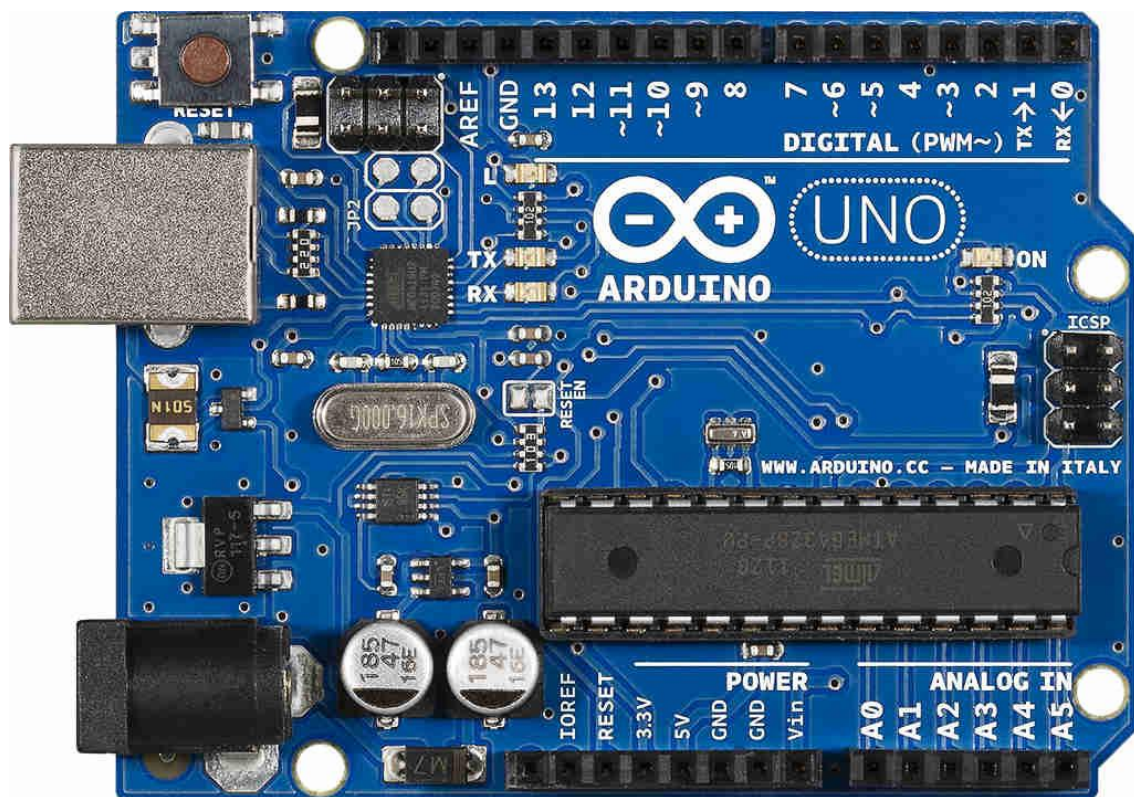


CONTROL UNIT EXAMPLES

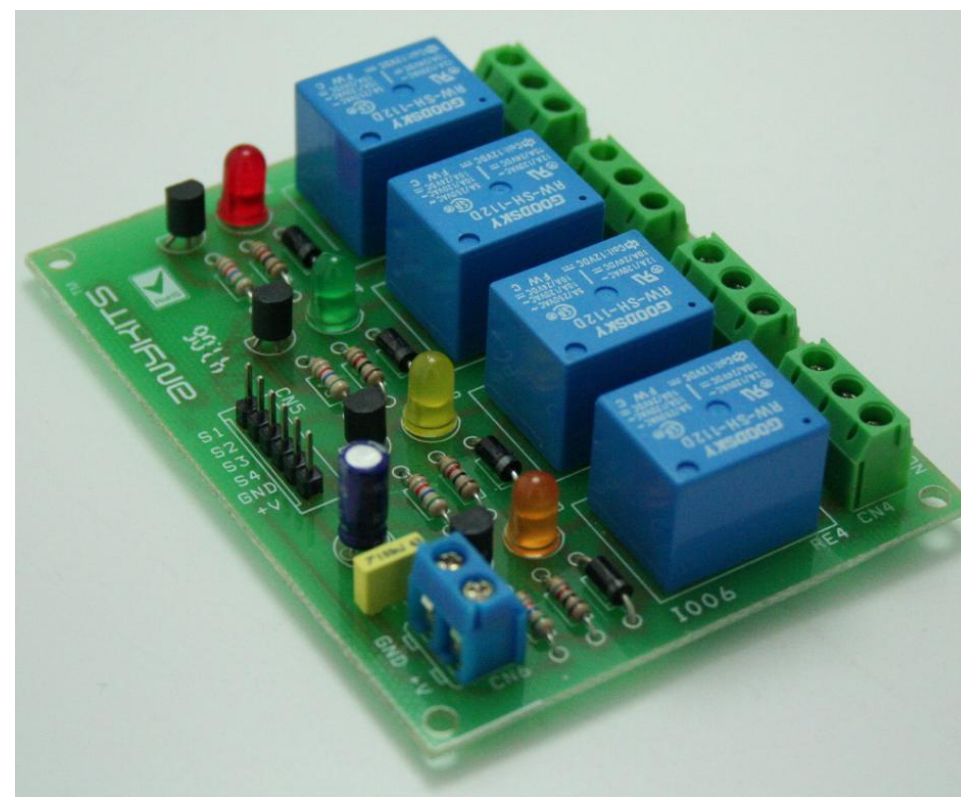
HARDWARE

The hardware components used in our project are:

- **Arduino UNO**
- **Relay**
- **Bluetooth Module**
- **LED**
- **Breadboard**
- **Jumper Wires**
- **Resistors**



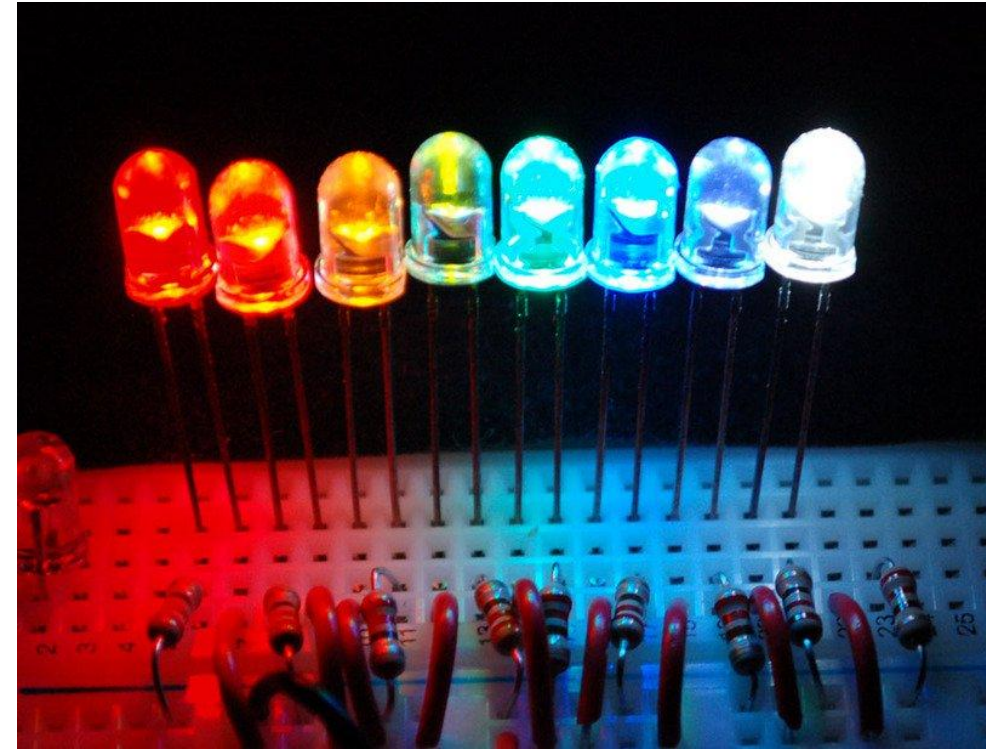
ARDUINO UNO



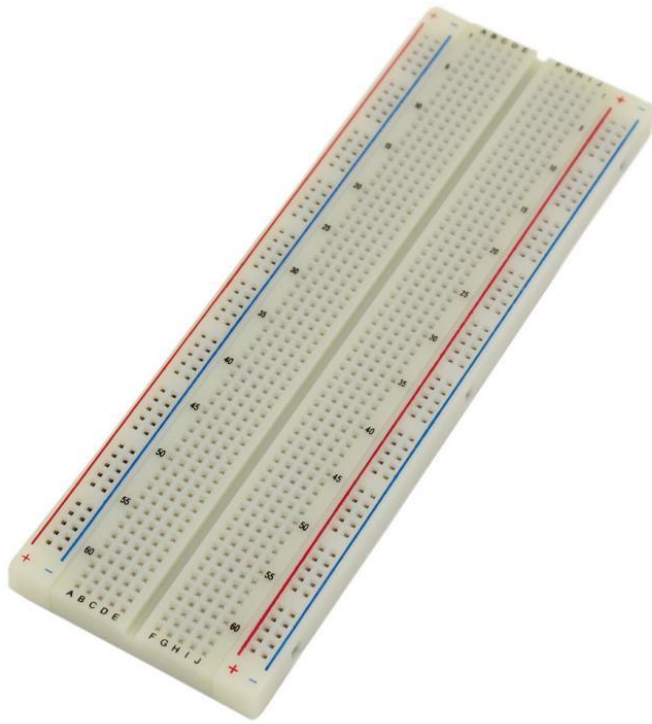
RELAY



**BLUETOOTH
MODULE**



**LED'S (LIGHT EMITTING
DIODES)**



BREADBOARD



JUMPER WIRES



RESISTORS

ARDUINO CODE IMPLEMENTED

```
include <SoftwareSerial.h>
```

```
SoftwareSerial BTSerial(6, 7); // RX, TX
```

```
char data;          //Variable for storing received data
```

```
void setup()
```

```
{
```

```
    BTSerial.begin(9600);
```

```
    pinMode(2, OUTPUT);
```

```
    pinMode(3, OUTPUT);
```

```
    pinMode(8, OUTPUT);
```

```
    pinMode(9, OUTPUT);
```

```
    digitalWrite(2, HIGH);
```

```
    digitalWrite(3, HIGH);
```

```
    digitalWrite(8, HIGH);
```

```
    digitalWrite(9, HIGH);
```

```
}
```

```
void loop()
{
  if(BTSerial.available() > 0)
  {
    data = BTSerial.read();
    BTSerial.print(data);
    BTSerial.print("\n");
    if(data == 'A')
      digitalWrite(2, LOW);
    else if(data == 'a')
      digitalWrite(2, HIGH);
    else if(data == 'B')
      digitalWrite(3, LOW);
    else if(data == 'b')
      digitalWrite(3, HIGH);
```

```
else if(data == 'C')
```

```
    digitalWrite(8, LOW);
```

```
else if(data == 'c')
```

```
    digitalWrite(8, HIGH);
```

```
else if(data == 'D')
```

```
    digitalWrite(9, LOW);
```

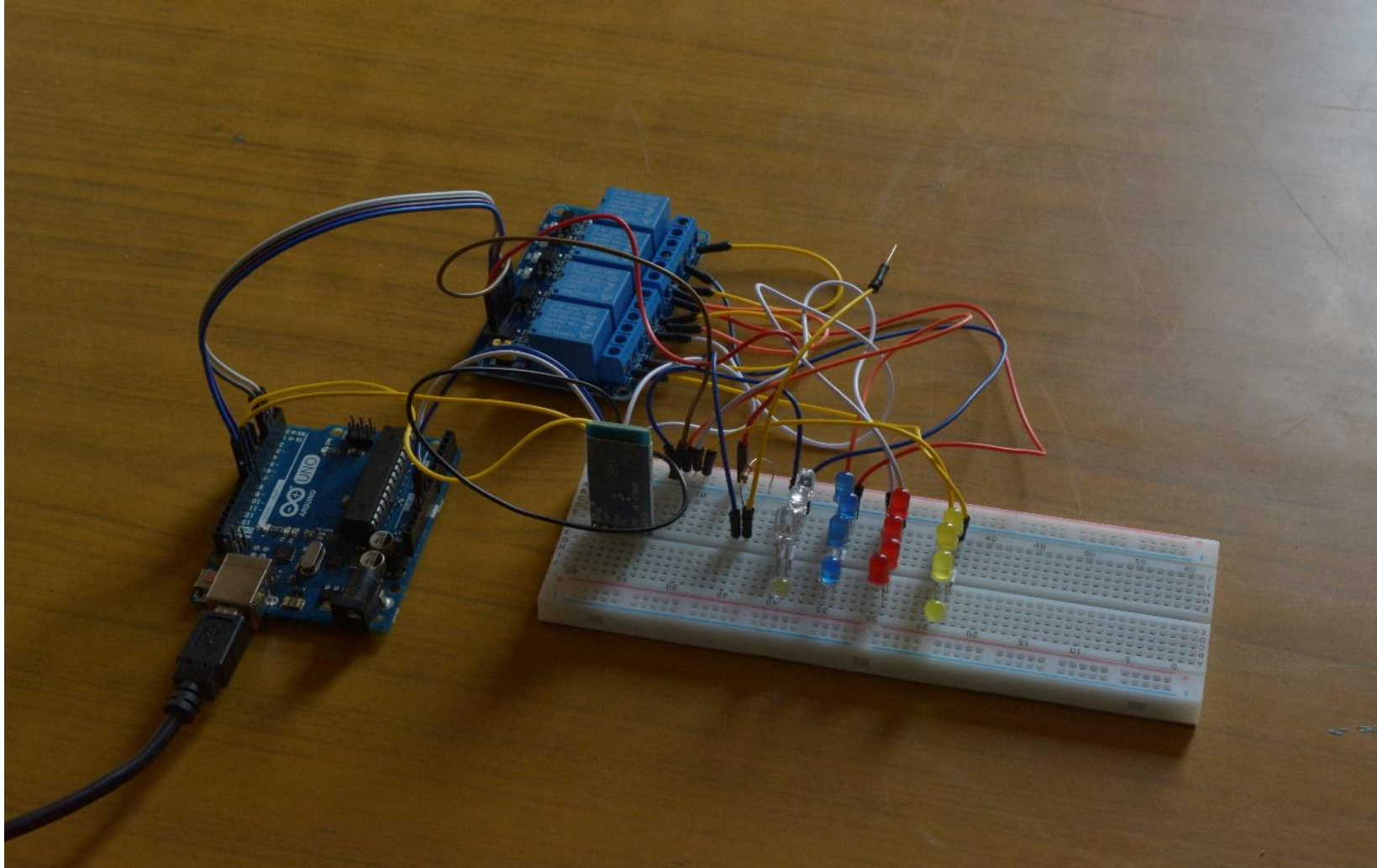
```
else if(data == 'd')
```

```
    digitalWrite(9, HIGH);
```

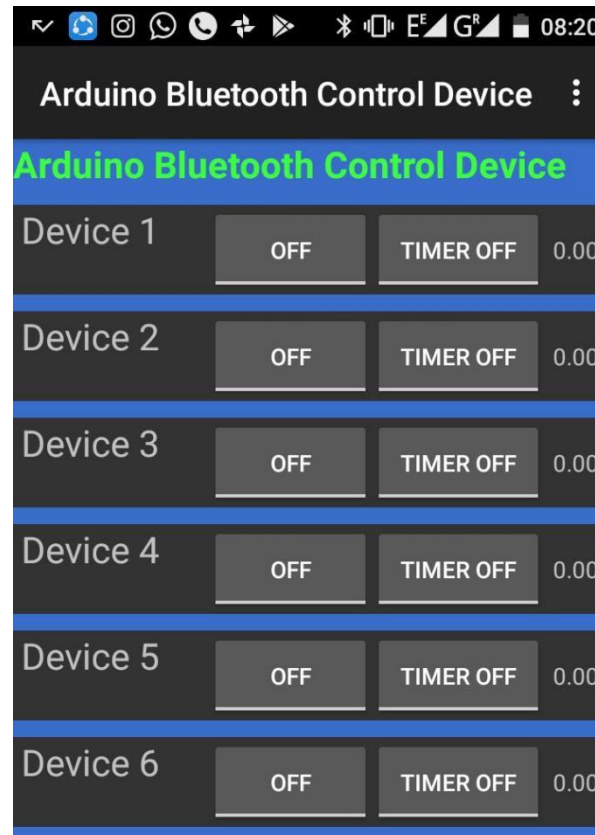
```
}
```

```
}
```

PHOTOGRAPH OF THE MODEL



PHOTOGRAPH OF THE APPLICATION USED FOR THE OPERATION OF THE MODEL



CONCLUSION

- Future scope for the home automation systems involves making homes even smarter.
- Homes can be interfaced with sensors including motion sensors, light sensors and temperature sensors and provide automated toggling of devices based on conditions.
- More energy can be conserved by ensuring occupation of the house before turning on devices and checking brightness and turning off lights if not necessary.