SMART HOME SYSTEM

Group name; Team 6

George Izuchukwu Enekewa
Patrick Nonki
Habeeb Riwan Giwa

APPLICATION FUNCTIONS OF THE SMART HOME DEVICES

01 Bluetooth where LED lights are connected locally in a short range.

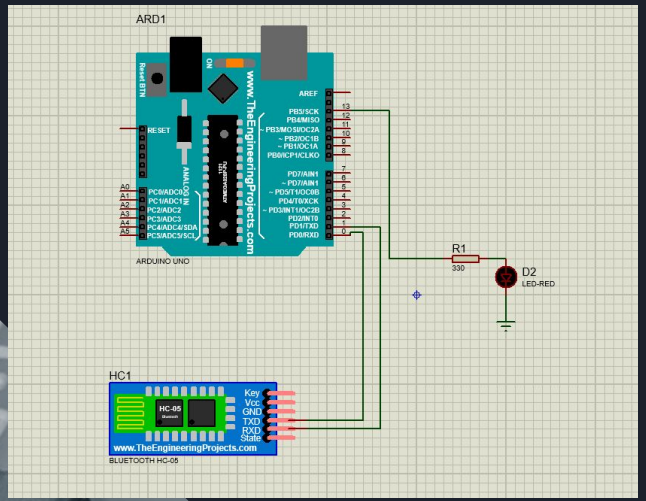
02 LDR or Photoresistor to control when the light should be Turned On or Off.

03 GSM Module System in connection with window blinds.

George Izuchukwu Enekwa
Habeeb Riwan Giwa
Patrick Nonki

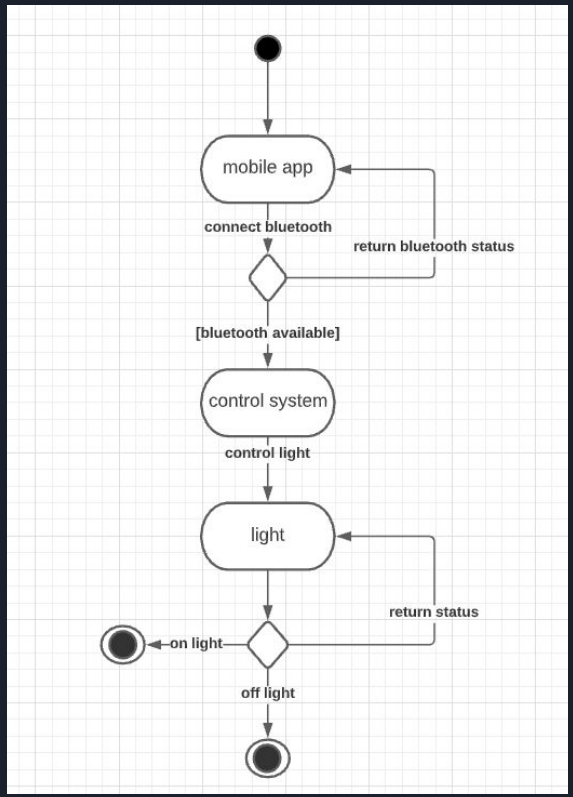
Bluetooth controlled LED Light

```
File Edit Sketch Tools Help

NEWW_Light_Text_Command_C___Light

String text;

void setup() {
pinMode(13, OUTPUT);
Serial.begin(9600);
}

void loop() {
while(Serial.available()){
  delay(10);
  char c = Serial.read();
  text+=c;}

if(text.length() >0){
  Serial.println(text);
  if(text == "on light")
  {digitalWrite(13, HIGH);}
  else if(text == "off light")
  {digitalWrite(13, LOW);}
  text="";}
}
```



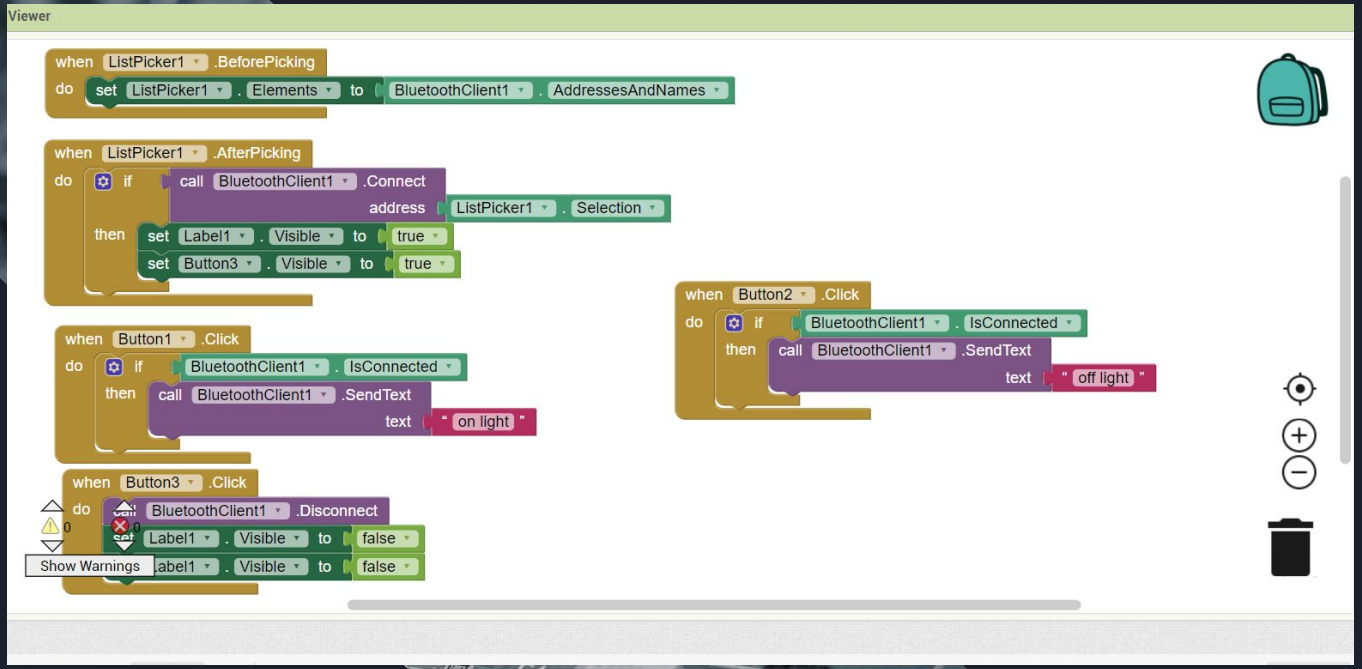
Simulation Connection

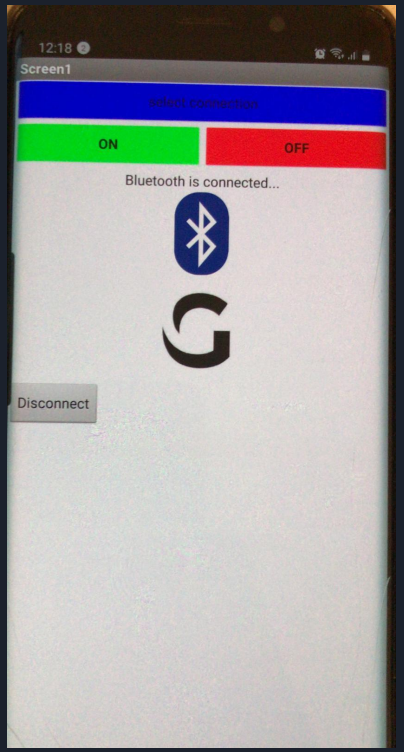
State Machine diagram



George Izuchukwu Enekwa

Bluetooth controlled LED Light (CODES)





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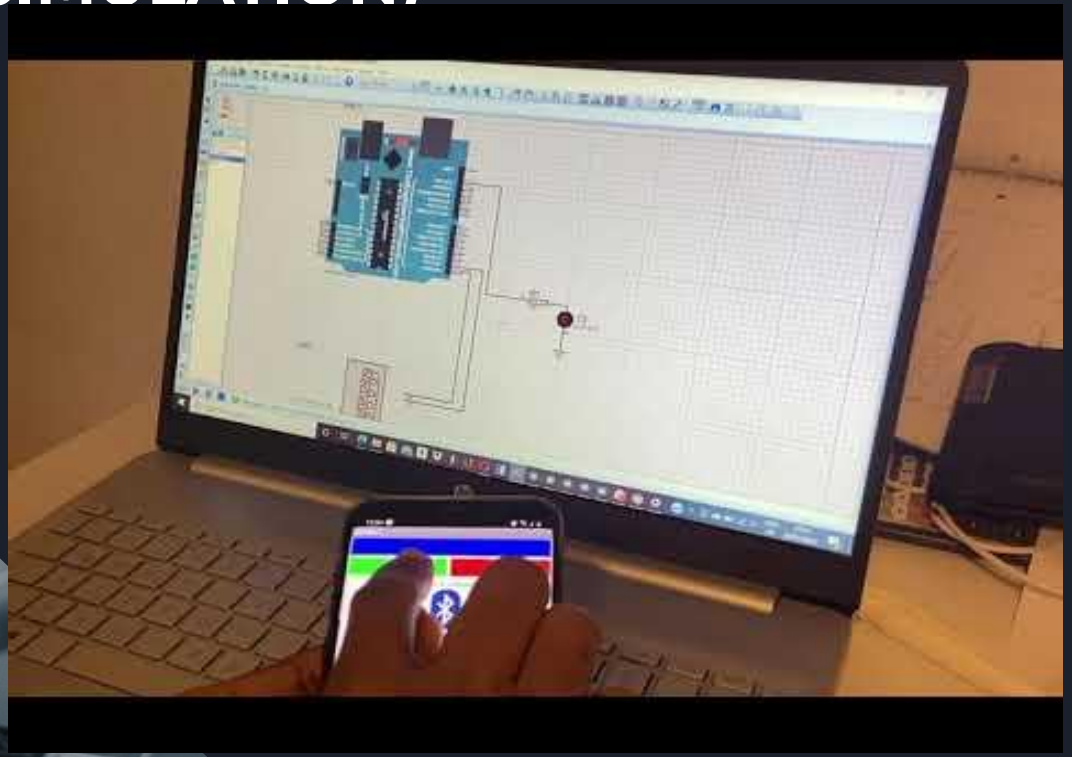
Bluetooth controlled LED Light (SIMULATION)



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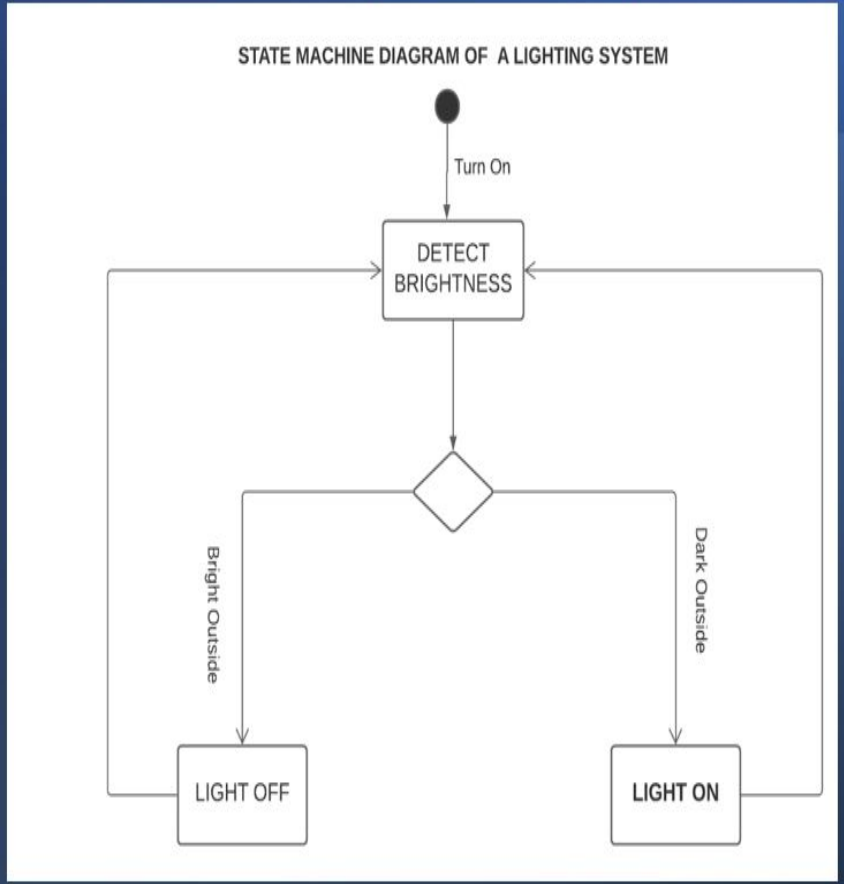
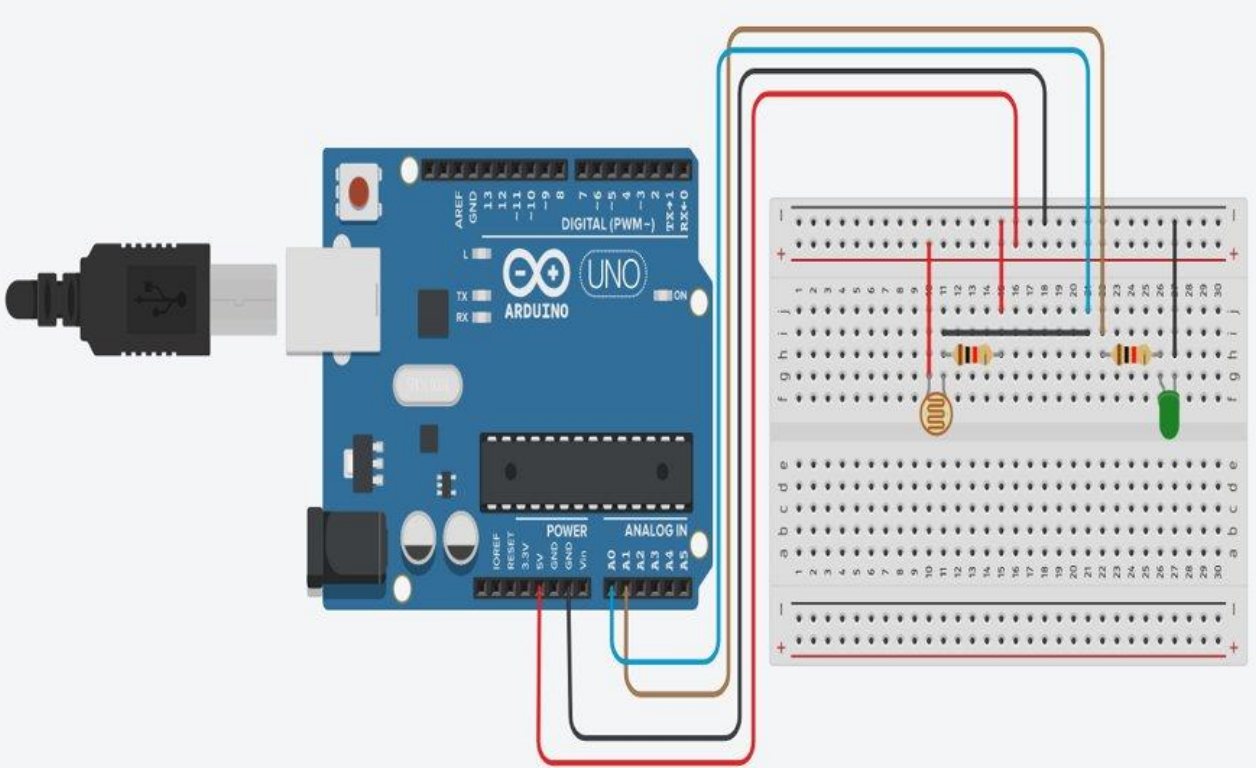
MODELLING :



Giwa Habeeb Riwan

HARDWARE SETUP

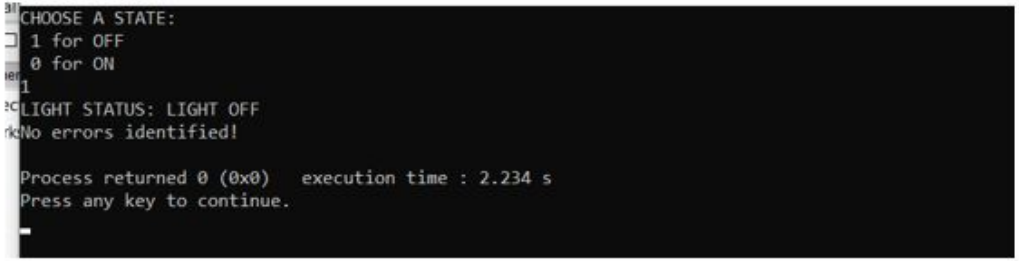


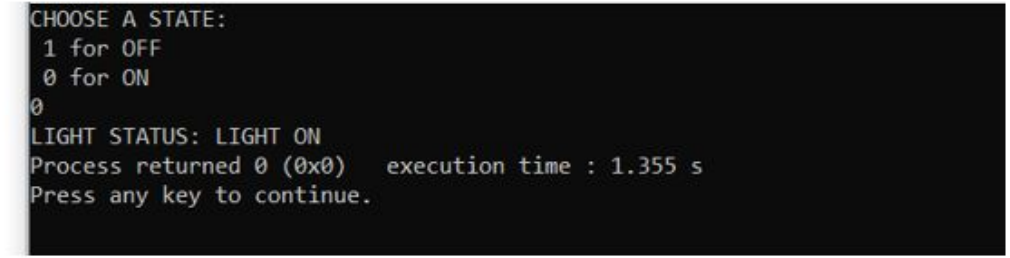
Giwa Habeeb Riwan

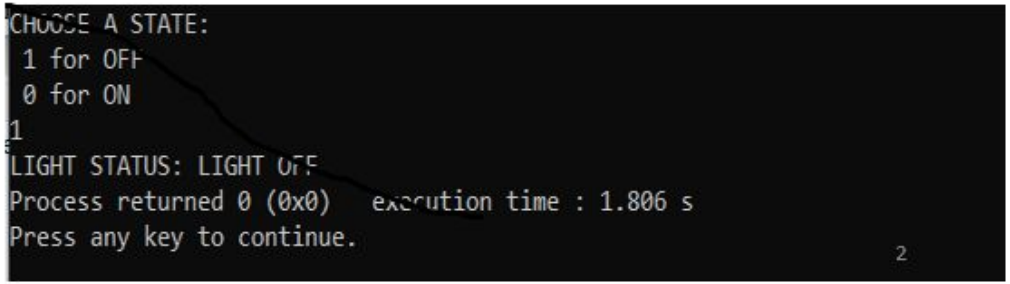
TINKERCAD CODE SNIPPET

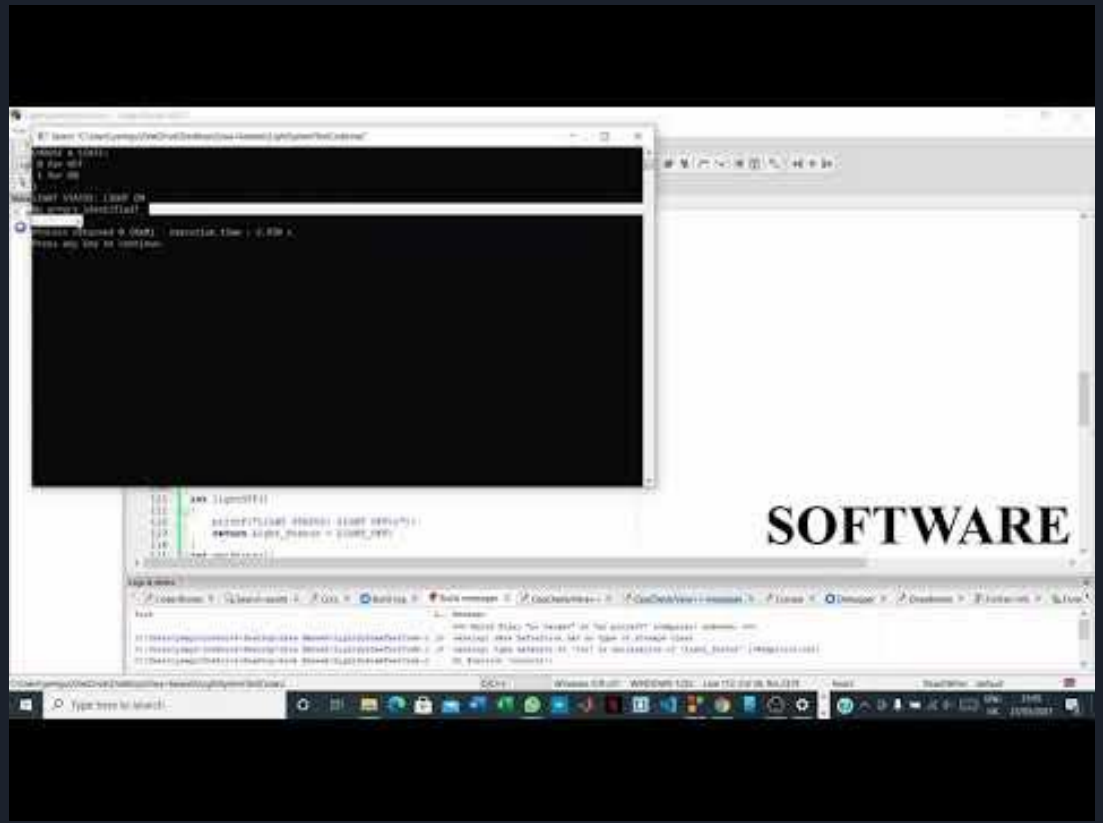
```
int brightness;
void setup()
{
  pinMode(A1, OUTPUT);
  pinMode(A0, INPUT);
}

void loop()

{

  brightness= analogRead(A0);

  if(brightness <350)
  {
    digitalWrite(A1, HIGH);
  }
  else
  {
     digitalWrite(A1, LOW);
  }
```

IDE CODE SNIPPET








SOFTWARE

Features and characterics

Windows Blinds

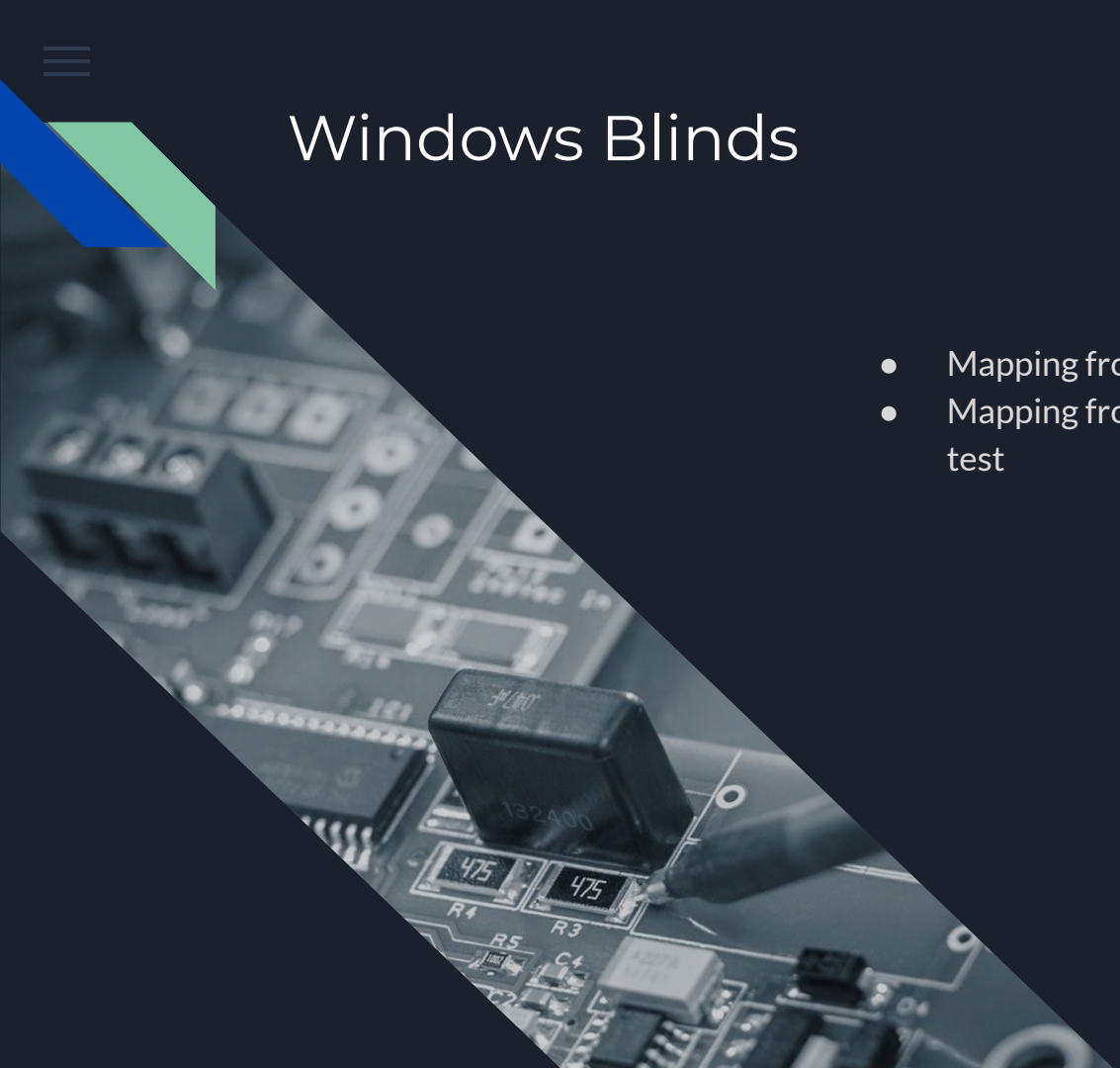
Patrich Nonki

Windows blinds

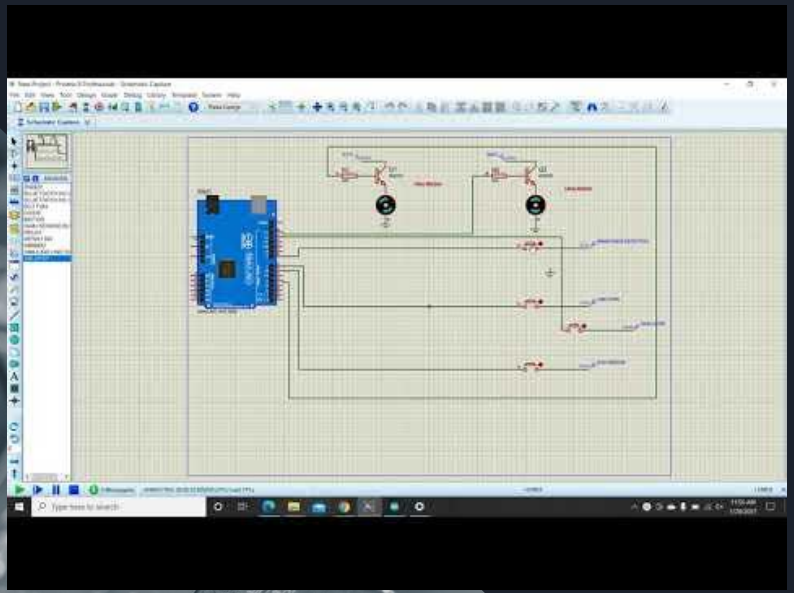
- Mode based analysis

  - Class diagram
  - Sequence diagram
  - State machine diagram

Windows Blinds



- Mapping from class diagram to code and test
- Mapping from state machine diagram to code and test



Windows Blinds

- From code to ide (Arduino)
- Simulation tool (Proteus professional
- Simulation

Windows Blinds

Reliability and quality

Windows Blinds

- Reliability over time and users
- Ensuring real time improvement (Scrum working method)

THANK YOU....