



IoT BASED BIDIRECTIONAL VISITOR COUNTER

Under the Guidance of

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Summary of Stage I

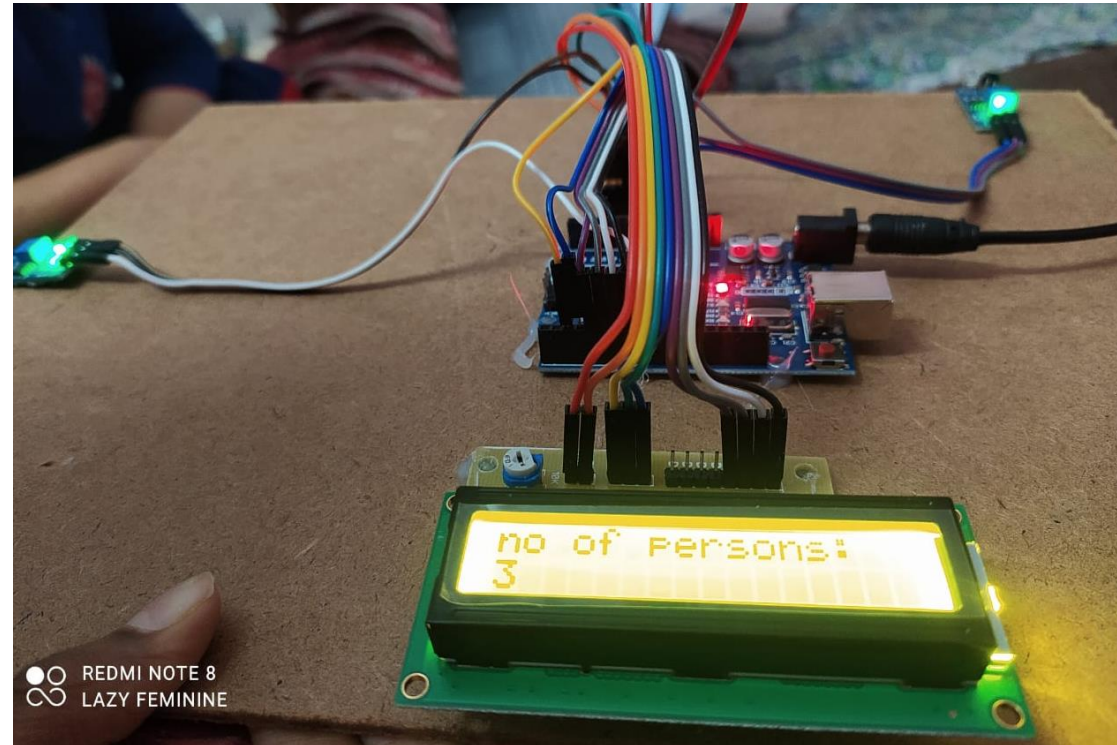
- Stage 1 concludes counting no of visitors incoming and outgoing and display the count on LCD.
- We have used two IR sensors and Arduino as microprocessor



- Visitor Counter

```
void IN()
{
    count++;
    lcd.clear();
    lcd.print("no of persons:");
    lcd.setCursor(0,1);
    lcd.print(count);
    delay(1000);
}

void OUT()
{
    count--;
    lcd.clear();
    lcd.print("no of persons");
    lcd.setCursor(0,1);
    lcd.print(count);
    delay(1000);
}
```

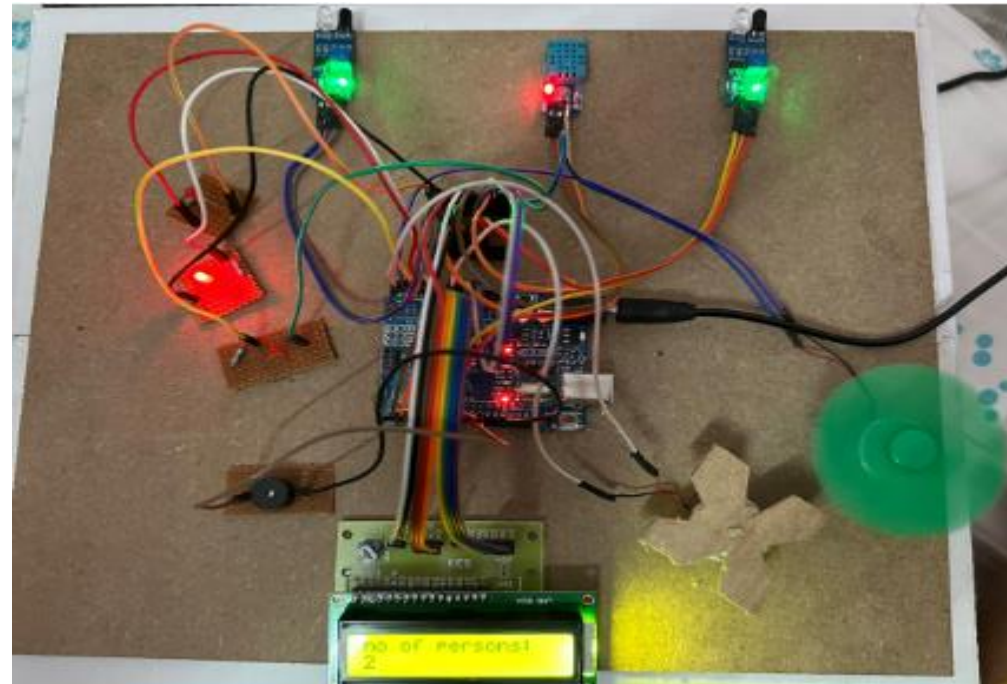


Implementation of Experimental Design



- Device Automation

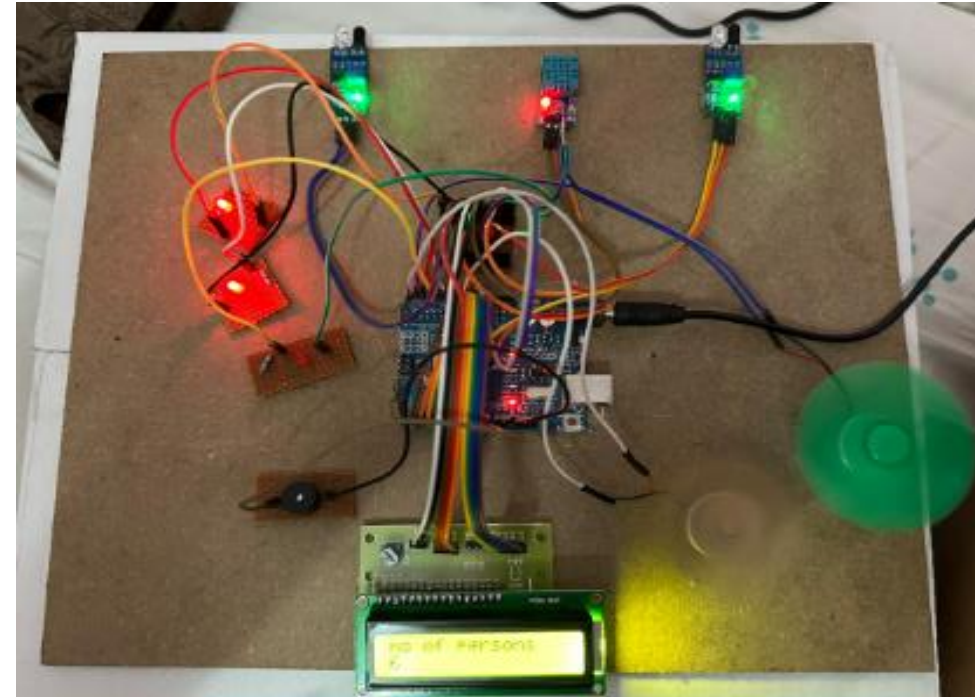
```
getHumidityValue();  
if(count<=0)  
{  
  lcd.clear();  
  digitalWrite(light1, LOW);  
  digitalWrite(light2, LOW);  
  digitalWrite(light3, LOW);  
  lcd.clear();  
  lcd.print("No person in mall");  
  lcd.setCursor(0,1);  
  lcd.print("Light are Off");  
  delay(1000);  
}  
  
else  
{  
  if(count>0)  
  {  
    digitalWrite(light1, HIGH);  
    digitalWrite(fan1, HIGH);  
  }  
  else  
  {  
    digitalWrite(light1, LOW);  
    digitalWrite(fan1, LOW);  
  }  
}
```



Implementation of Experimental Design



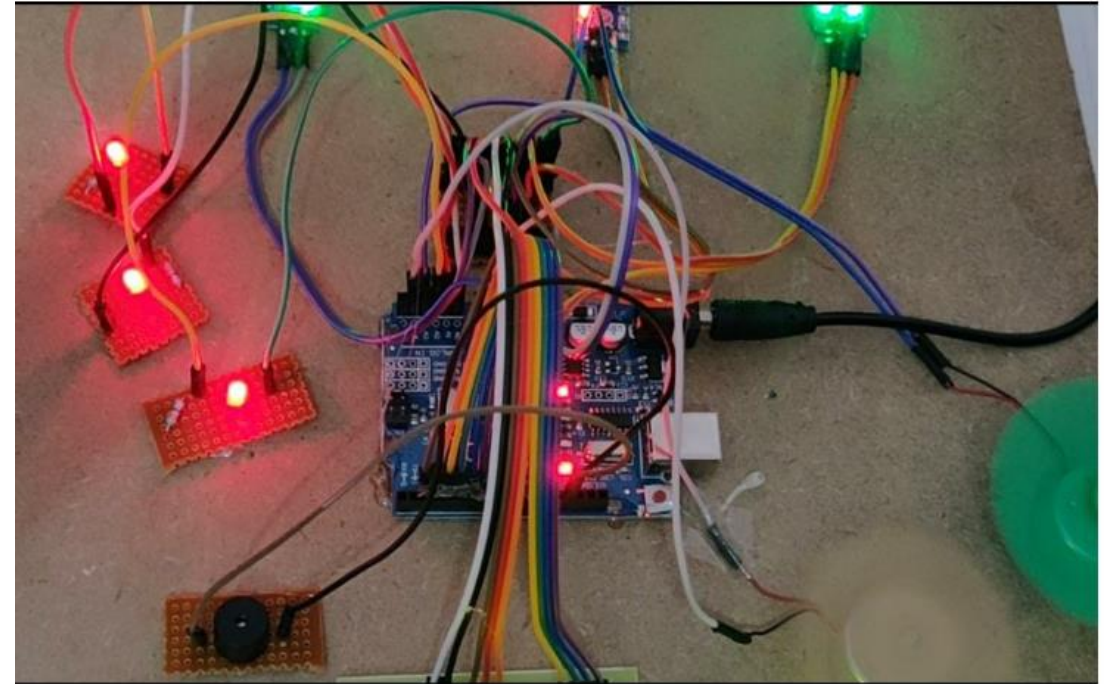
```
if(count>5)
{
digitalWrite(light2, HIGH);
digitalWrite(fan2, HIGH);
}
else
{
digitalWrite(light2, LOW);
digitalWrite(fan2, LOW);
}
```



Implementation of Experimental Design



```
,  
if(count>10)  
{  
digitalWrite(light3, HIGH);  
}  
else  
{  
digitalWrite(light3, LOW);  
}
```



Implementation of Experimental Design

- Environment Monitoring

```
String getTemperatureValue() {  
  
    dhtObject.read(dht_apin);  
    Serial.print("Temperature(C)= ");  
    lcd.setCursor(0, 1);  
    lcd.print("Temperature=");  
    float temp = dhtObject.temperature;  
    Serial.println(temp);  
    lcd.print(temp);  
    delay(1000);  
    return String(temp);  
}  
  
String getHumidityValue() {  
  
    dhtObject.read(dht_apin);  
  
    Serial.print(" Humidity in %=");  
    lcd.clear();  
    lcd.print("Humidity%=");  
    float humidity = dhtObject.humidity;  
    Serial.println(humidity);  
    lcd.print(humidity);  
    delay(1000);  
    return String(humidity);  
}
```



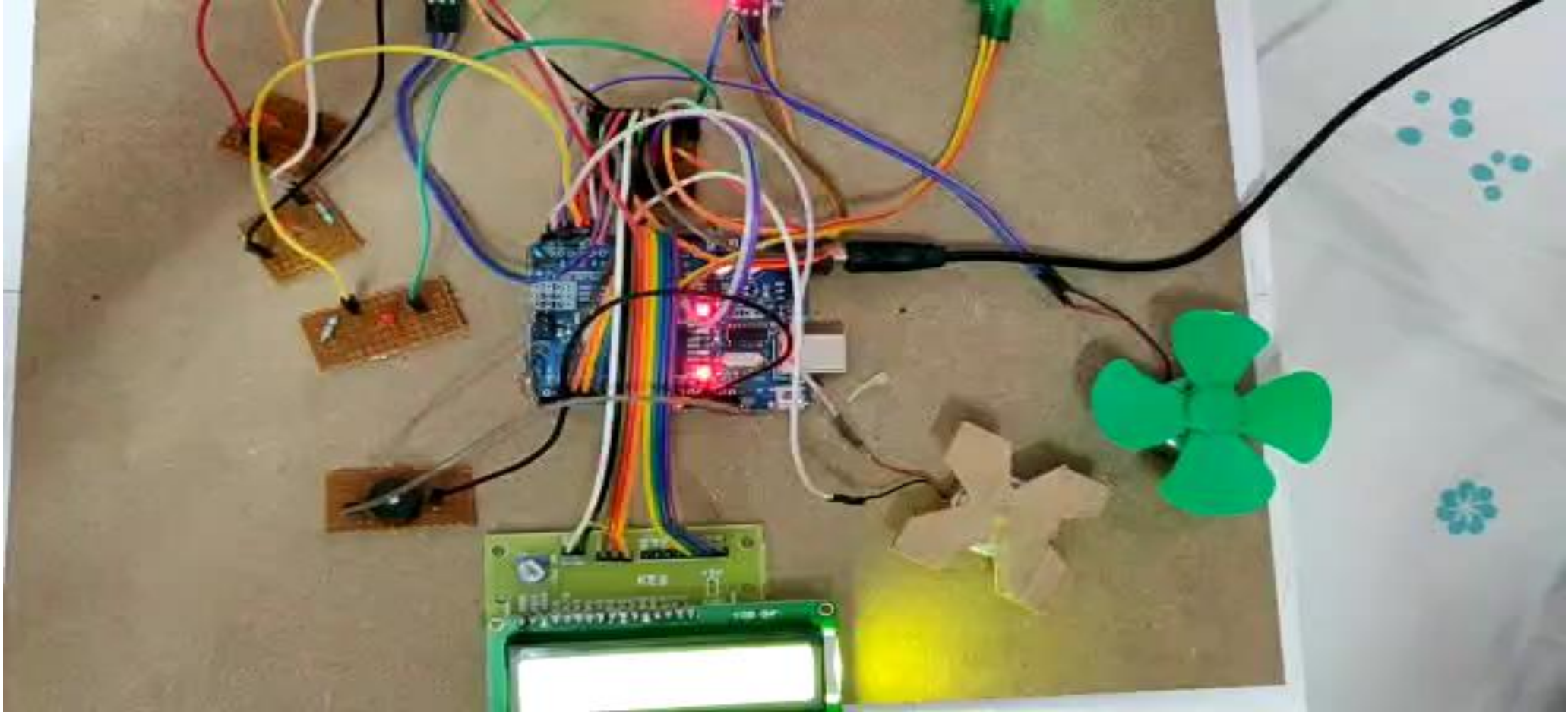
Implementation of Experimental Design

- Buzzer

```
if(count>15)
{
  digitalWrite(buz, HIGH);
}
else
{
  digitalWrite(buz, LOW);
}
```



Execution Video





Analysis of Result

- Count of incoming and outgoing visitors is completed.
- Device automation is completed.
- Environment monitoring is completed.
- Adding buzzer is completed



Conclusion & Future Scope

- This project demonstrates the potential of IoT technology to improve our daily lives by increasing efficiency and reducing energy consumption.
- Real life implementation by adding camera to identify people that are incoming and outgoing rather than IR sensor for better accuracy and results.