Maxis Graduate Programme- Software Engineer Case Study

Name: Ahmad ‘Asim bin Ahmad Izhar

Programme: Digital Development Graduate Programme

Problem Statement

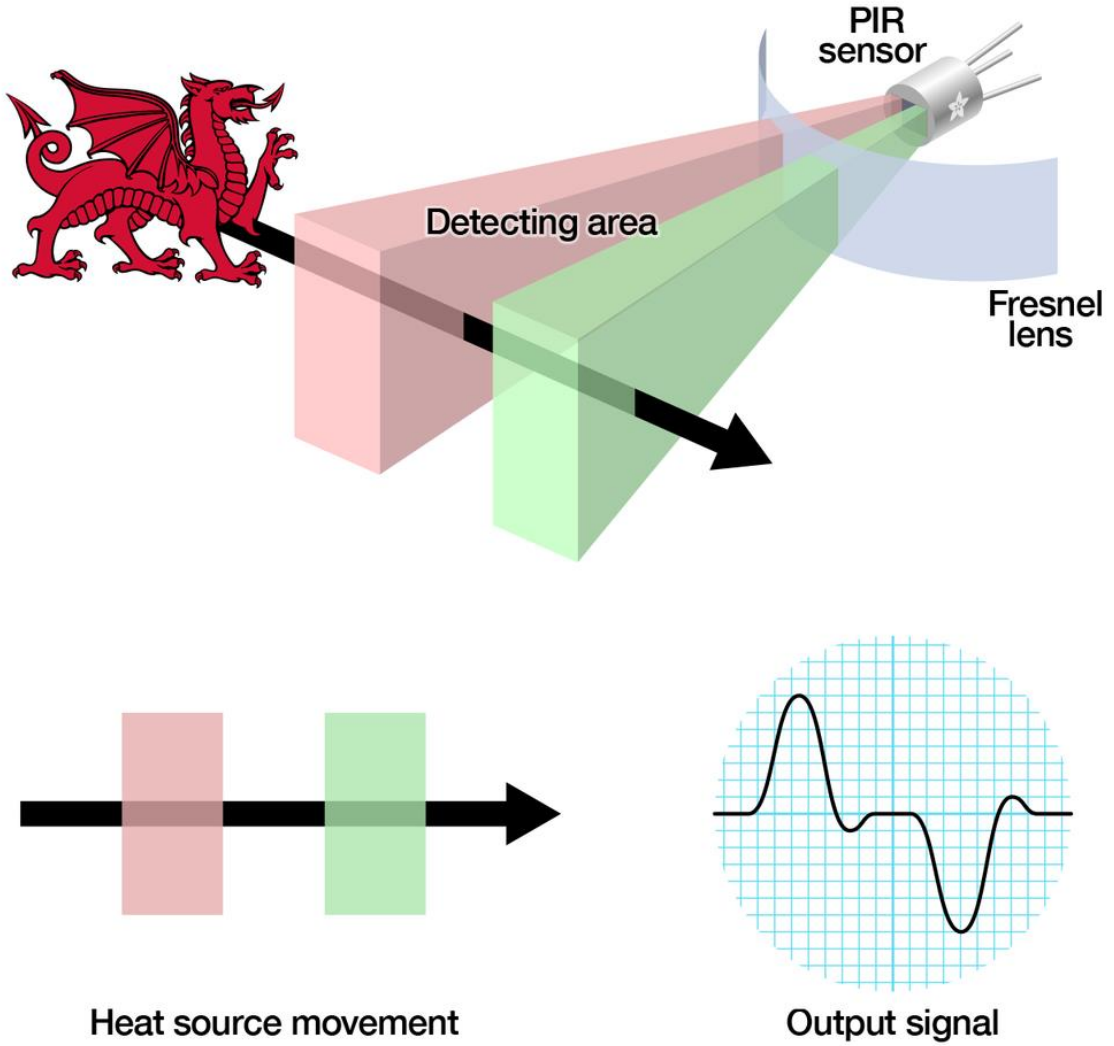
One of Maxis’s big retail client would like to invest and innovate their shop by using Internet of Things

Come out with solution or proposal on how this Internet of Things can be implement to client’s shop so they can understand foot traffic of shoppers across the nation.

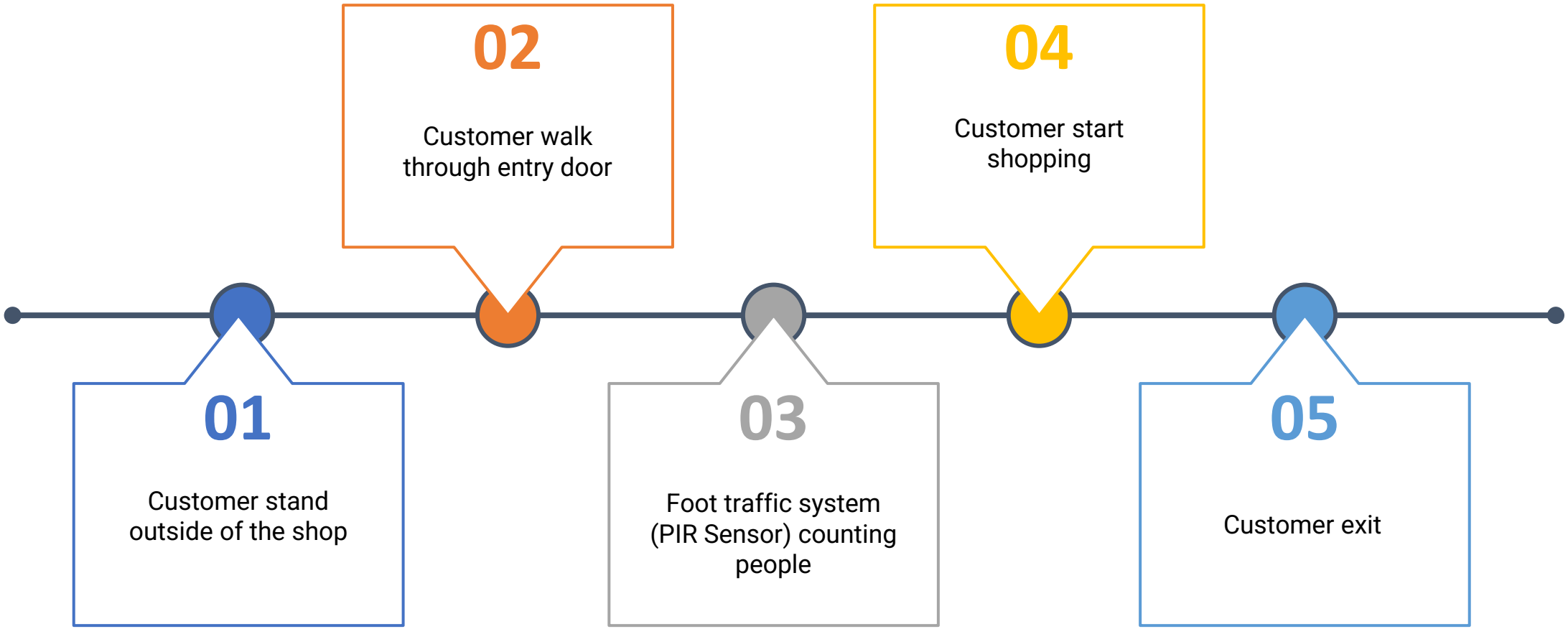
Convince the client that the proposal or solution that have been proposed can be realised.

Proposed Solution

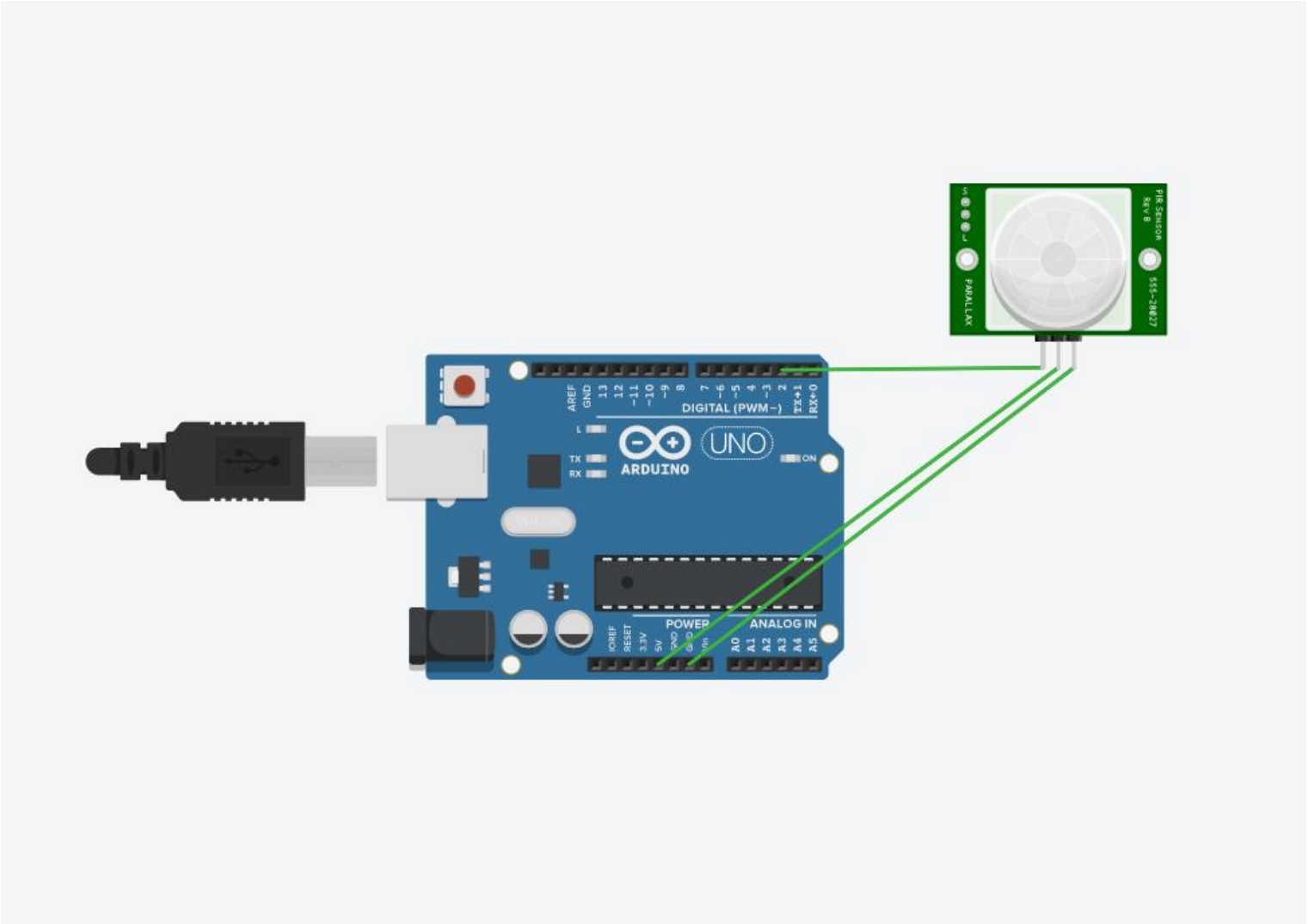
- PIR Sensor can be used as foot traffic system.
- PIR Sensor detect movement from infrared radiation produce by human.



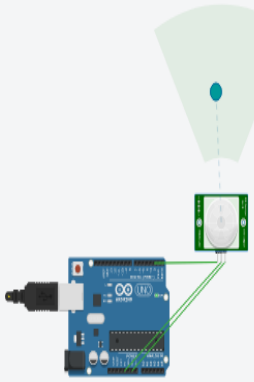
Customer Journey Map



Prototype Design



Prototype Simulation



Simulator time: 00:00:11

Code | Stop Simulation | Export | Share

PIR Sensor

Name 2

1 (Arduino Uno R3)

```
int sensorPin=2;                                    //sensorPin on digital pin 2
int numberPeople=0;                                 //initialize numberPeople (customer) to zero
boolean state = true;                               // to indicate if there is people or not

void setup() {
Serial.begin(9600);                                 //opens serial port,sets data rate to 9600 bps
pinMode(sensorPin, INPUT);                          //set sensorPin to input
}

void loop() {
  if (!digitalRead(sensorPin) && state){            //when the sensorPin is LOW (0) and state is true
      numberPeople++;                               // increase number of people
      state = false;                                // set state to false
      Serial.print("Number of people enter is : "); // print out text "Number of people enter is: "
      Serial.println(numberPeople);                 // print value for numberPeople (customer enter)
      delay(100);
  }
  if (digitalRead(sensorPin)){                      //when sensorPin is HIGH (1)
     state = true;                                  //set state is true
      delay(100);
  }

}
```

Serial Monitor

```
Number of people enter is : 1
Number of people enter is : 2
Number of people enter is : 3
Number of people enter is : 4
Number of people enter is : 5
```

Send | Clear

Conclusion

SUCCESSFULLY PROVIDE A SOLUTION FOR THE CLIENT TO INNOVATE THEIR SHOP USING INTERNET OF THINGS.

THE CLIENT WILL BE ABLE TO IMPLEMENT FOOT TRAFFIC SYSTEM ON THEIR SHOP'S ENTRANCE.

THIS FOOT TRAFFIC SYSTEM CAN BE MONITORED THROUGH COMPUTER OR ACCESS REMOTELY THROUGH THE CLOUD.