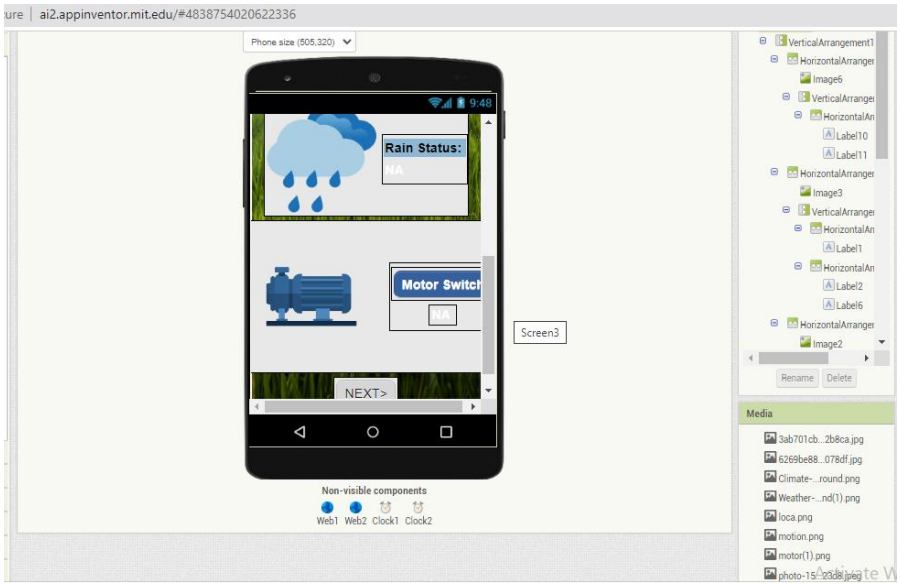
Sprint - 4

Date	16 Nov 2022
Team ID	PNT2022TMID47541
Project name	IOT Based Smart Crop Protection System for Agriculture

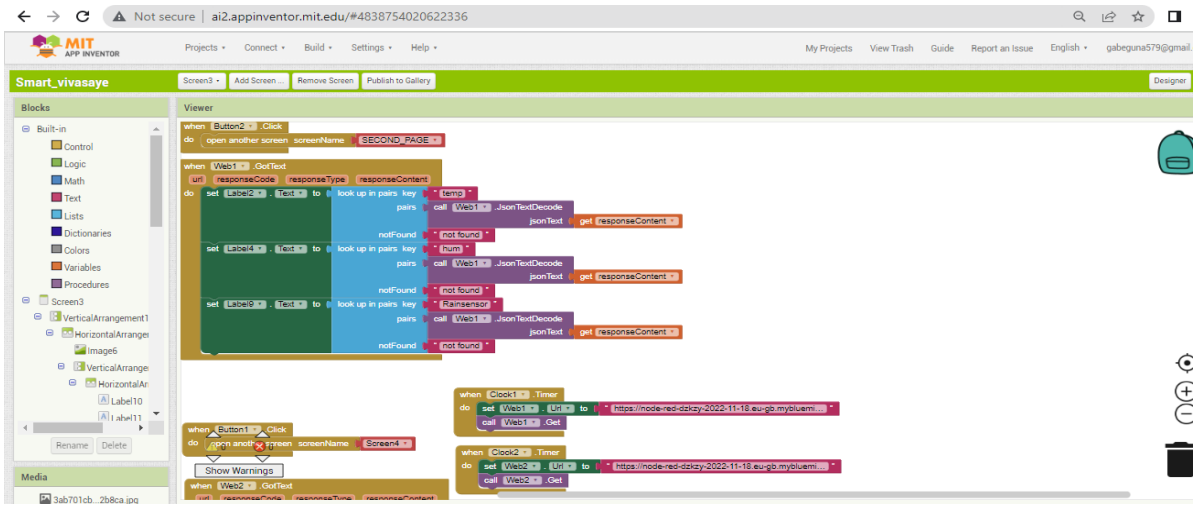
1.MIT App Design

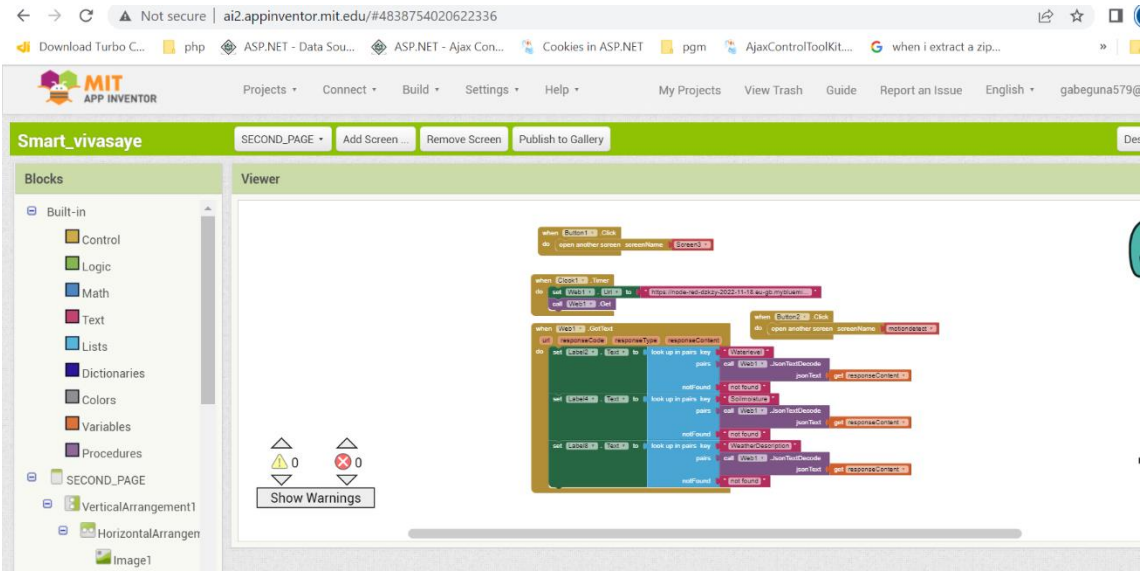
Screen 3



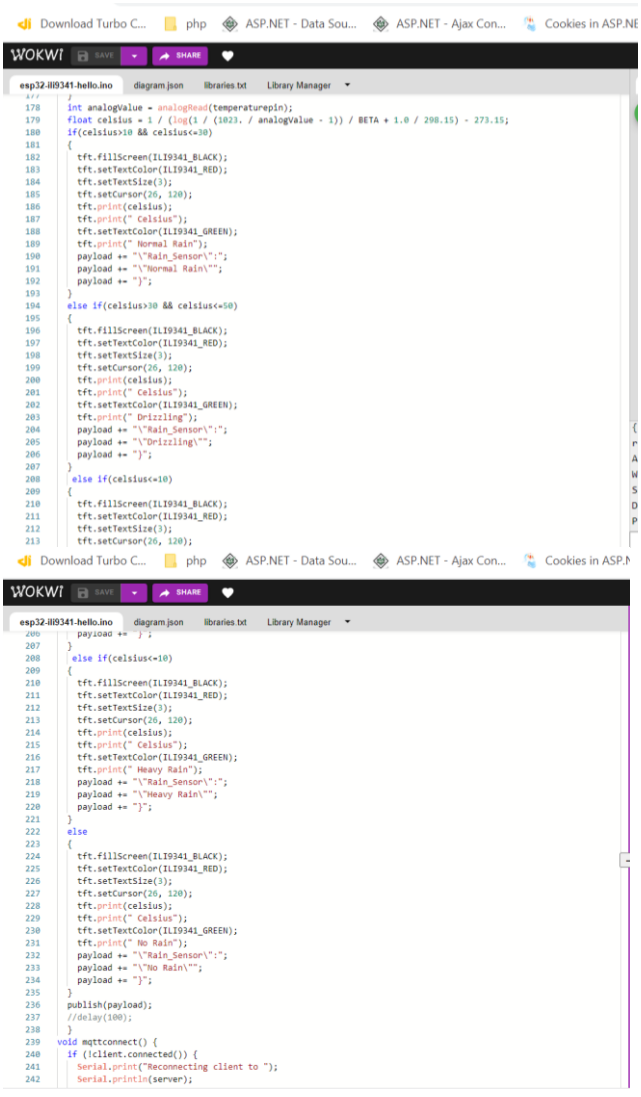
2.MIT App Inventor Blocks

Screen 3





3. Code

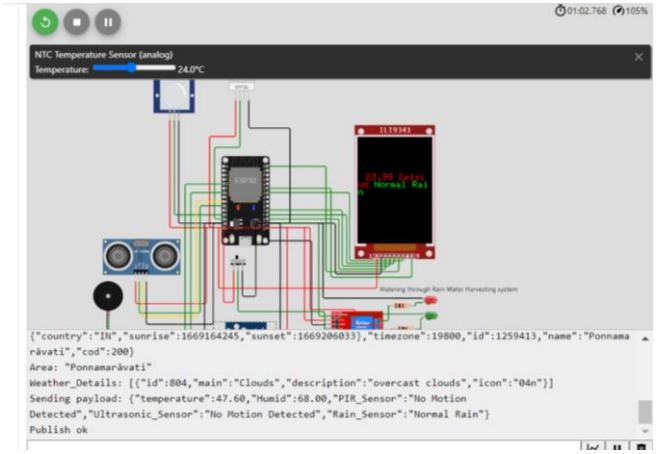


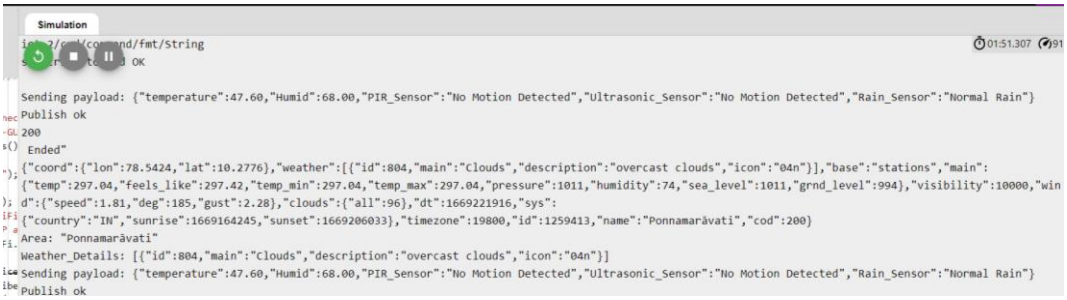

```
int analogValue = analogRead(temperaturepin);
float celsius = 1 / (log(1 / (1023. / analogValue - 1)) / BETA + 1.0 / 298.15) - 273.15;
if(celsius>10 && celsius<=30)
{
  tft.fillScreen(ILI9341_BLACK);
  tft.setTextColor(ILI9341_RED);
  tft.setTextSize(3);
  tft.setCursor(26, 120);
  tft.print(celsius);
  tft.print(" Celsius");
  tft.setTextColor(ILI9341_GREEN);
  tft.print(" Normal Rain");
  payload += "\"Rain_Sensor\":";
  payload += "\"Normal Rain\"";
  payload += "}";
}
else if(celsius>30 && celsius<=50)
{
  tft.fillScreen(ILI9341_BLACK);
  tft.setTextColor(ILI9341_RED);
  tft.setTextSize(3);
  tft.setCursor(26, 120);
  tft.print(celsius);
  tft.print(" Celsius");
  tft.setTextColor(ILI9341_GREEN);
  tft.print(" Drizzling");
  payload += "\"Rain_Sensor\":";
  payload += "\"Drizzling\"";
  payload += "}";
}
 else if(celsius<=10)
{
  tft.fillScreen(ILI9341_BLACK);
  tft.setTextColor(ILI9341_RED);
  tft.setTextSize(3);
  tft.setCursor(26, 120);
```



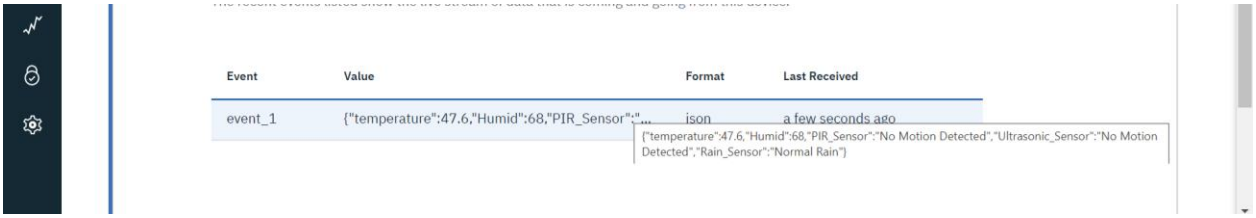
```
    payload += "}";
  }
 else if(celsius<=10)
  {
    tft.fillScreen(ILI9341_BLACK);
    tft.setTextColor(ILI9341_RED);
    tft.setTextSize(3);
    tft.setCursor(26, 120);
    tft.print(celsius);
    tft.print(" Celsius");
    tft.setTextColor(ILI9341_GREEN);
    tft.print(" Heavy Rain");
    payload += "\"Rain_Sensor\":";
    payload += "\"Heavy Rain\"";
    payload += "}";
  }
  else
  {
    tft.fillScreen(ILI9341_BLACK);
    tft.setTextColor(ILI9341_RED);
    tft.setTextSize(3);
    tft.setCursor(26, 120);
    tft.print(celsius);
    tft.print(" Celsius");
    tft.setTextColor(ILI9341_GREEN);
    tft.print(" No Rain");
    payload += "\"Rain_Sensor\":";
    payload += "\"No Rain\"";
    payload += "}";
  }
  publish(payload);
  //delay(100);
  }
void mqttconnect() {
  if (!client.connected()) {
    Serial.print("Reconnecting client to ");
    Serial.println(server);
```

4. Output

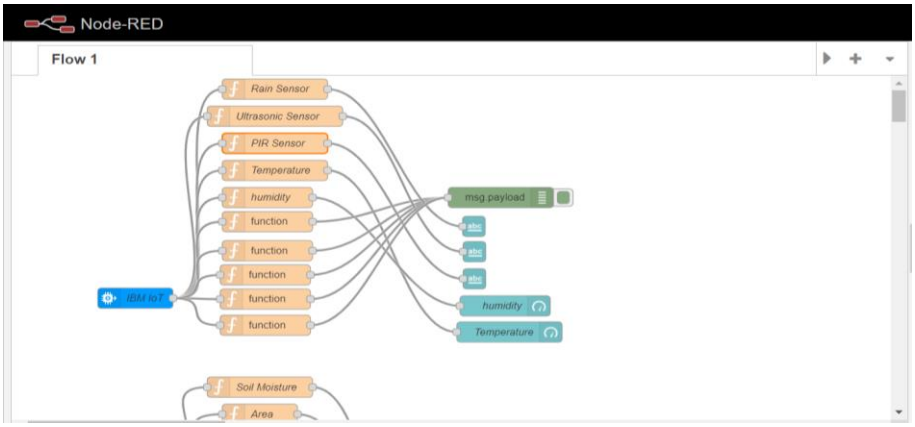




5.Payload sent to IBM Watson IoT Platform

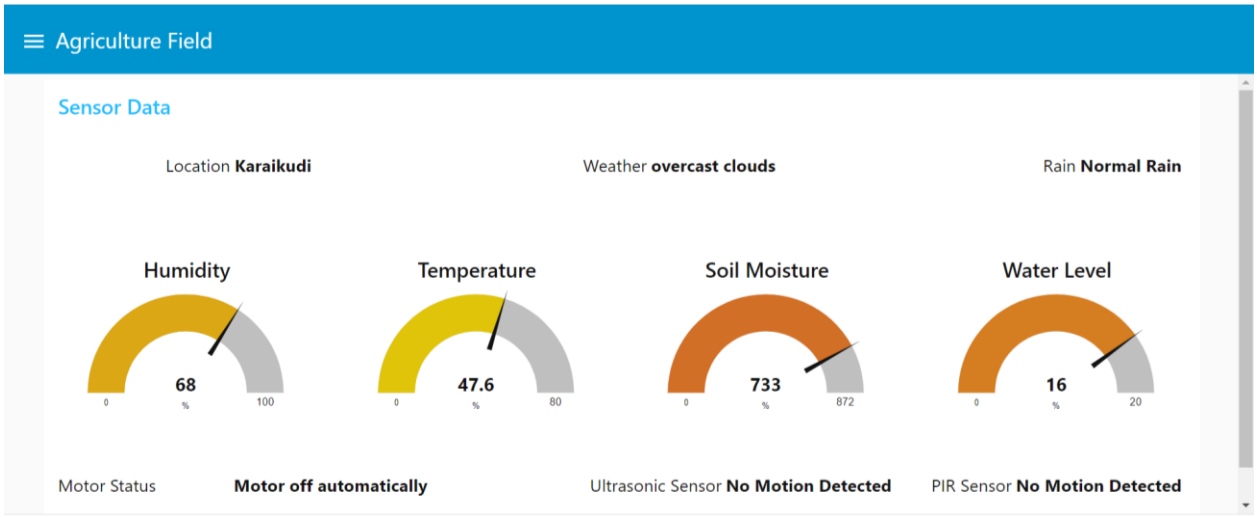
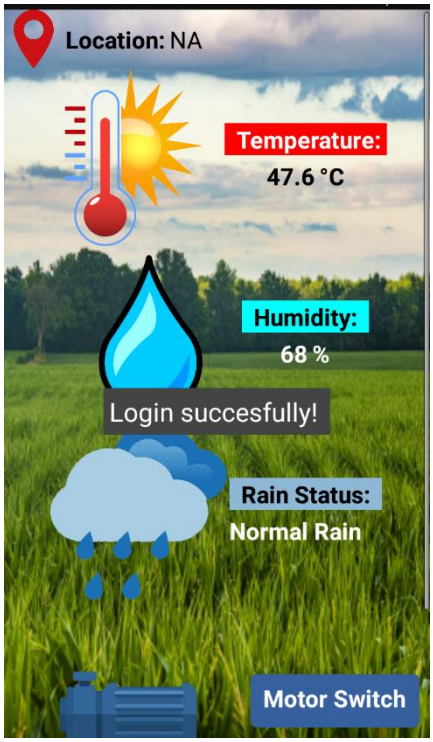


6. Node-Red flows



7.Payload sent from IBM Watson IoT Platform to Node-Red

8.Node-Red Dashboard



9. App Screenshot