Smart Kitchen Garden

IoT FoLKs

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Overview

- Introduction
- Motivation & Novelty
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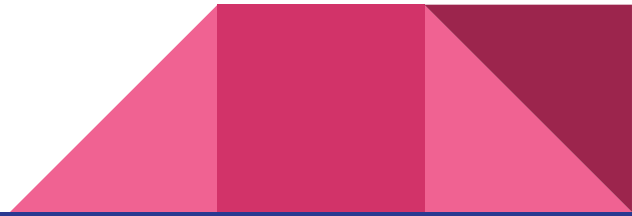
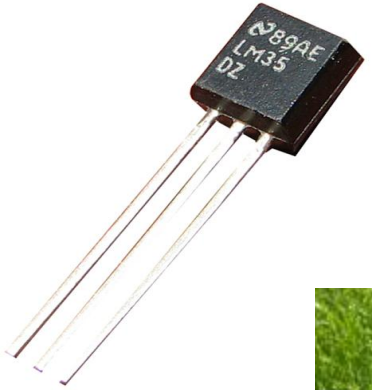


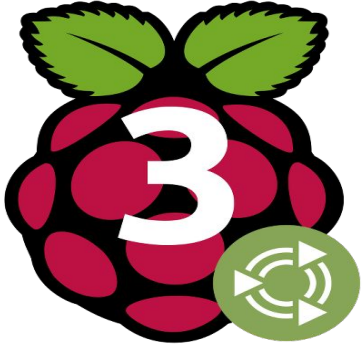
Introduction

Motivation & Novelty

- Potential user wishes to keep an eye on garden when (s)he is away from home.
- Indoor vegetation growth monitoring.
- Scientific advances have shown that the quality of the light and a balanced, optimized spectrum, are far more critical factors for indoor growing success.
- Smart and innovative means of agriculture and horticulture needs more IoTivity over time.

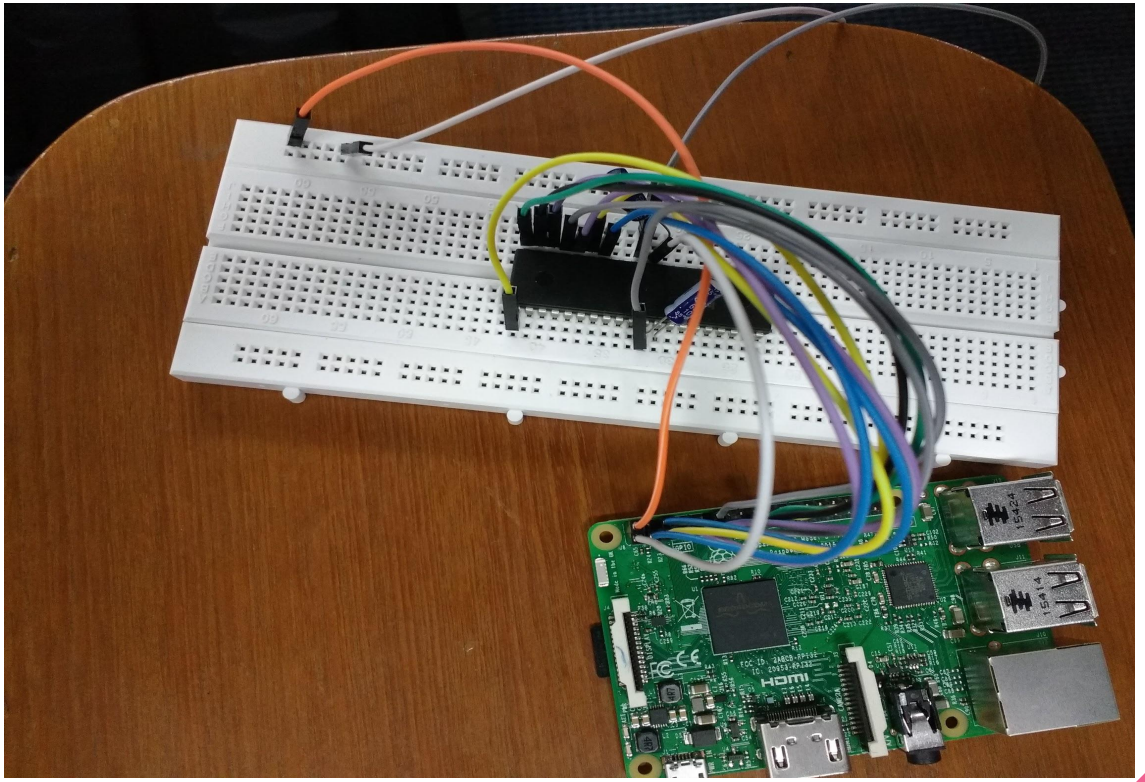
Required Paraphernalia





- Raspberry Pi 3
- Sensors Used:
  - Temperature Sensor
  - Light sensor
  - Moisture Sensor
- Actuator :
  - DC motor for sprinkler

Design & Implementation



Results

team3@iotSummerSchoolTeam3: ~/iot-folks/Project-jar

```
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 26 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 27 : Turn ON Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 25 : Turn OFF Sprinkler
Publishing topic : iotfolks/temperature To : tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 :
Publish Temperature: 24 : Turn OFF Sprinkler
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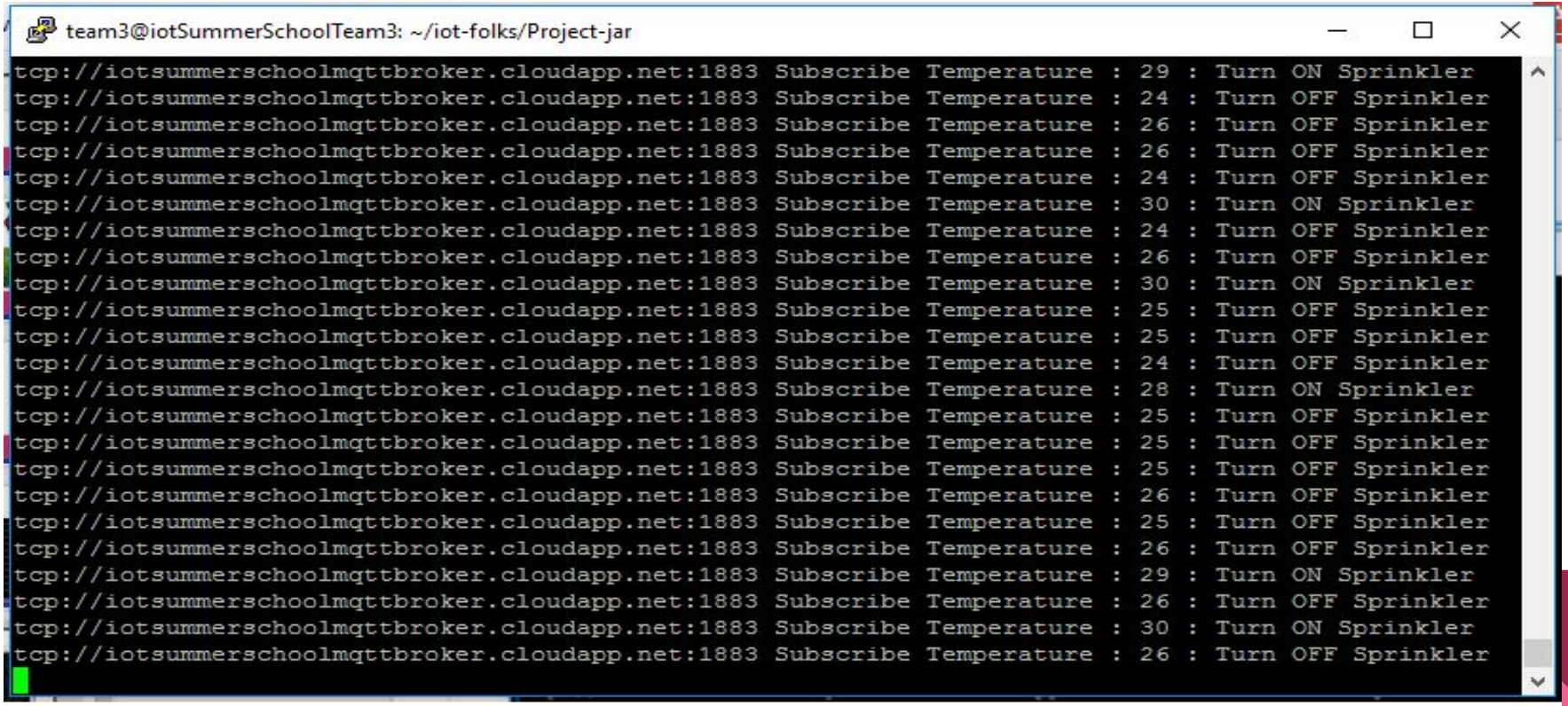
Results


team3@iotSummerSchoolTeam3: ~/iot-folks/Project-jar
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 29 : Turn ON Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 24 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 26 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 26 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 24 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 30 : Turn ON Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 24 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 26 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 30 : Turn ON Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 25 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 25 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 24 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 28 : Turn ON Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 25 : Turn OFF Sprinkler
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tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 26 : Turn OFF Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 30 : Turn ON Sprinkler
tcp://iotsummerschoolmqttbroker.cloudapp.net:1883 Subscribe Temperature : 26 : Turn OFF Sprinkler

Conclusions & Way-Forward

- Successful interfacing of temperature sensor and able to complete the cycle.
- More features can be extracted using prediction, based on the data history.
- An Android App can be designed for real time monitoring of the vegetation.
- The database can be made based on particular plant’s requirement and then decisions can be made.

THANK YOU

QUESTIONS ?