IFN 649

Assessment One: Teensy, Raspberry pi and AWS Demonstration

Github Repository: https://github.com/krieem/IFN649_AssessmentOne

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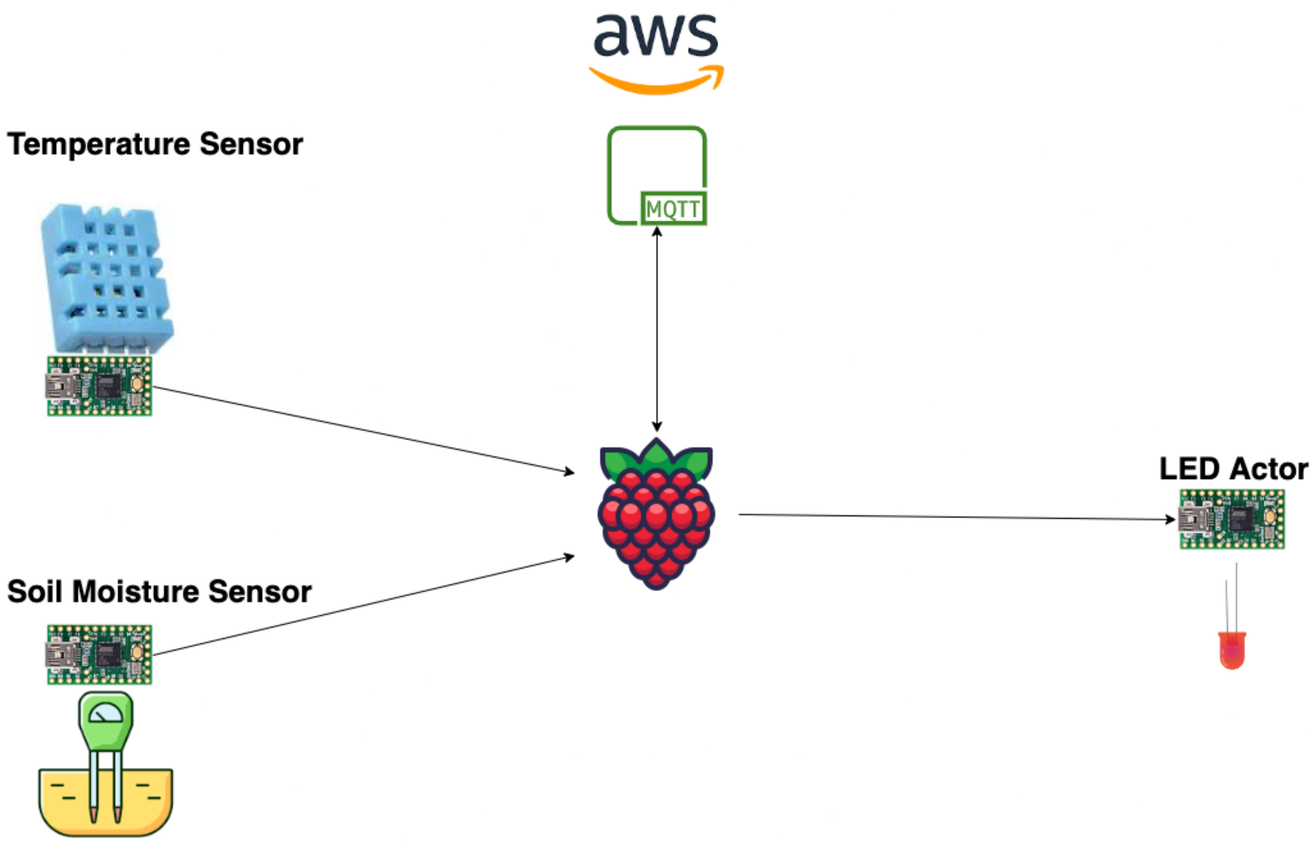
Overview

- MQTT
  - Server: AWS
  - Publisher: Raspberrypi
  - Subscriber: Raspberrypi
- Sensors
  - Temperature: DHT Teensy
  - Soil: Soil Moisture Sensor
- Actors
  - Green LED: Teensy
  - Orange LED: Teensy



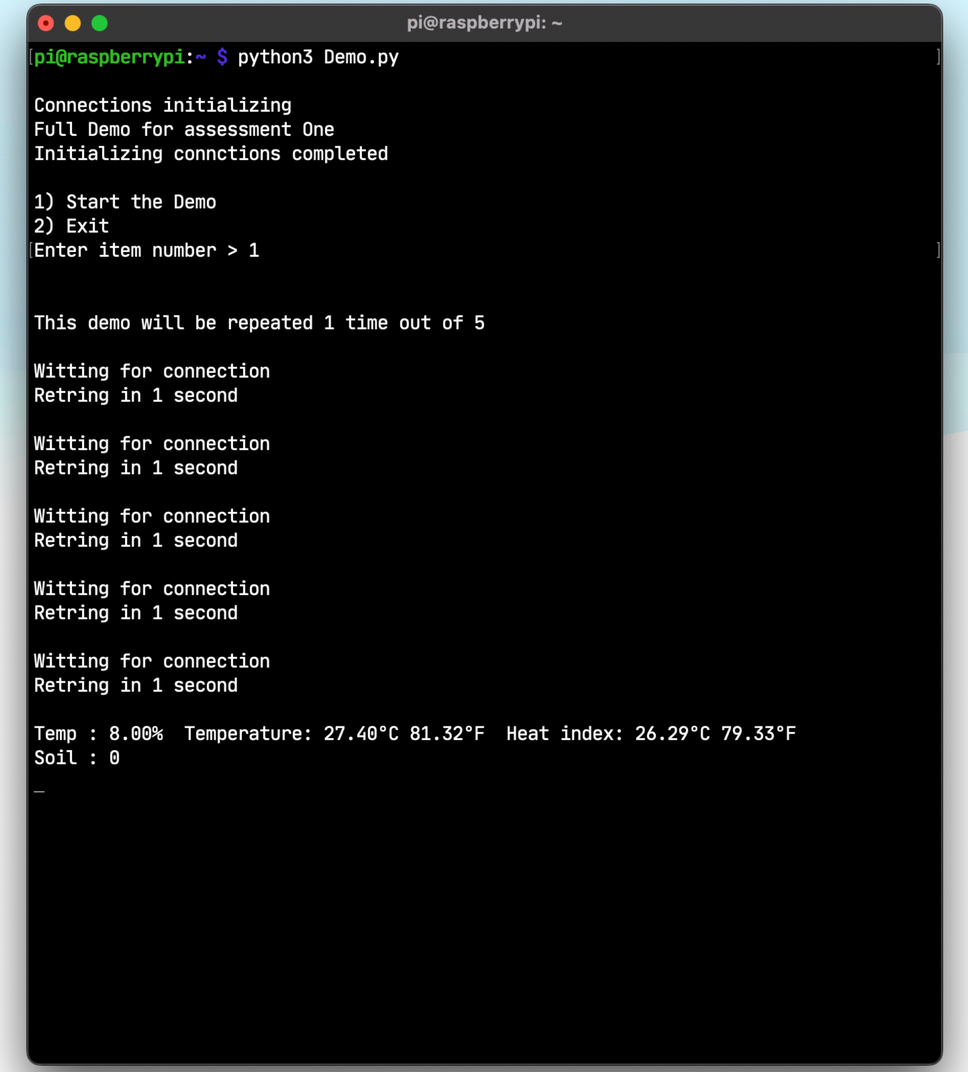
Data Collection

1. Raspberrypi will initialise the bluetooth connection to both Teensy sensors.

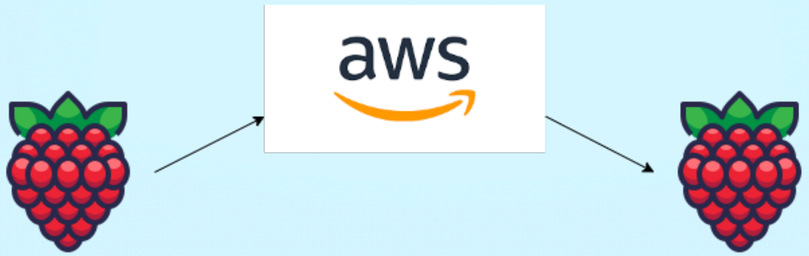
2. The connection will be established and serial data will be received.

3. The received data will be cleaned and processed.

4. Information will be displayed on the terminal screen



MQTT



Publisher (Demo.py)

1. While the Raspberrypi receives the data a connection to AWS instance will be established.
2. MQTT connection as a publisher will be created
3. The MQTT publisher will publish the data to three topics.

Subscriber (aws.py)

1. MQTT subscriber should be deployed to receive data.
2. The subscriber will subscribe to the topics defined on the publisher.
3. The subscriber will listen to the server and wait for messages.

MQTT Topics

Heat & Temperature & Humidity & Soil

Actor

1. When the subscriber receives the data the information will be displayed on the terminal screen.

2. LED indications on the Teensy actor

    1. Orange LED will be emitted indicating waiting from data.

    2. Green LED will be emitted during the data transmission.