SMART KITCHEN EQUIPMENT

TEAM: PROTOGEM

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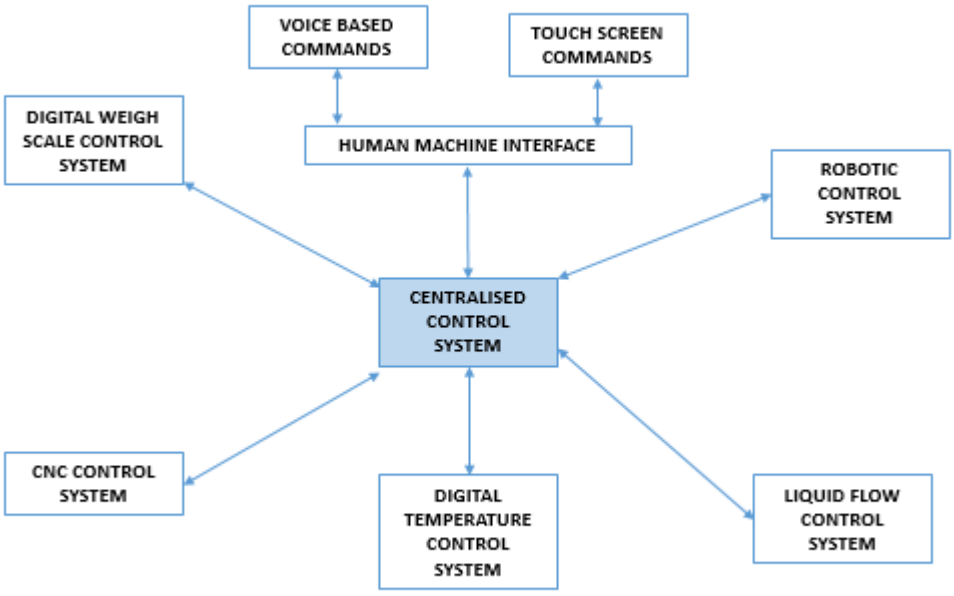
A. PROBLEM STATEMENT

In our daily routine life, food plays important role for healthy and good life. While cooking or food processing, cook always repeat the task of cutting the vegetables, mixing ingredients, moving ingredients from one container to cooking vessel, increasing the temperature of cooking, etc… This requires lot of efforts, time and energy to prepare the food.

B. SOLUTION

We are planning to develop the machine which can be automatically prepare the food on single click using IoT & Robotic technology. The following diagram illustrates the solution of Smart Kitchen Equipment. This machine should cost below Rs 15,000/-.



C. CURRENT STATUS

This project has been started since Oct 2017. We have the solution to the following systems,

1. Digital Weighing Scale System.
2. Liquid Flow Control System.
3. IoT Protocols.

We are in the process of

1. Identifying and Procurement of mechanical & electronic materials.
2. Development of detailed design of equipment.
3. Developing the Framework.
4. Building ecosystem.
5. Patent.

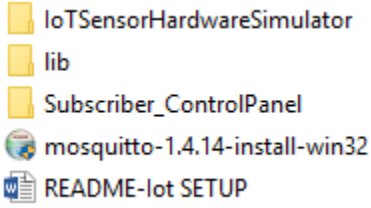
D. SCREENSHOTS.

E. IOT DEMO SETUP

I was travelling and unfortunately I have not brought the hardware and sensors to demonstrate the existing solutions.

During this Hackathon, we are developing the IoT sensor & Hardware Simulator and Control Panel.

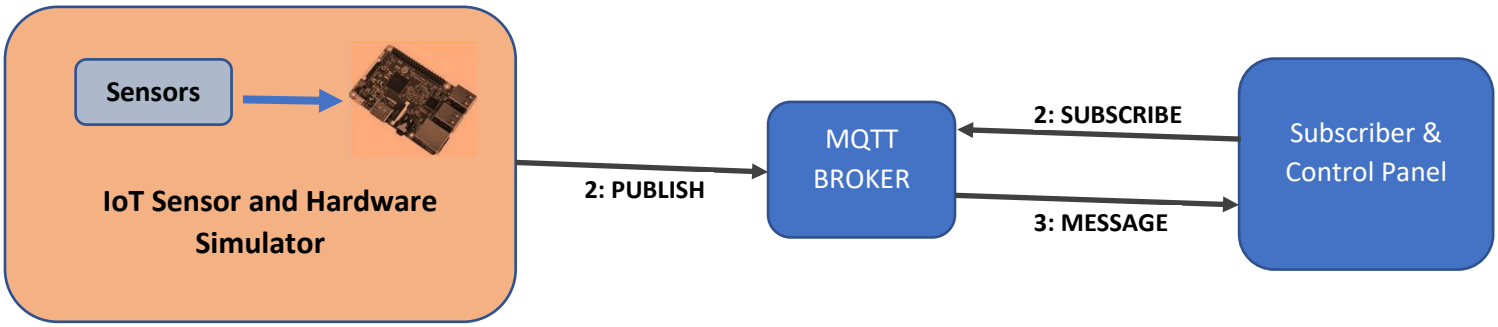
1. Extract **IoT.rar** file under c:\
2. C:\IoT folder contains following items



To demonstrate basic IoT MQTT application, we have developed the simulators and applications with basic Graphical User Interface.

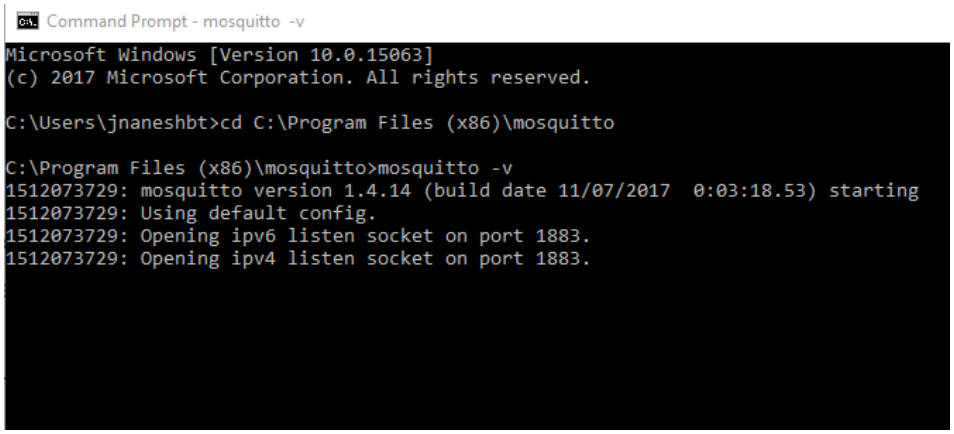
The following entities are used in the IoT architecture.

1. **Sensors**
2. **Hardware.**
3. **MQTT Broker.**
4. **IoT Subscriber and Control Panel.**
   - **Android application. (under development).**
   - **Web Browser Interface (under development).**



1. Install any MQTT broker **mosquitto-1.4.14-install-win32.exe**

2. Run command prompt.
3. Change directory to **C:\Program Files (x86)\mosquitto**
4. Type and execute **mosquitto** service **as**
    a. **mosquitto –v**



5. Open another command prompt
6. Run Sensor Hardware Simulator

    java –jar …\IoT\IoTSensorHardwareSimulator\dist\IoTSensorHardwareSimulator.jar

7. Open another command prompt
8. Run Subscriber Control Panel.

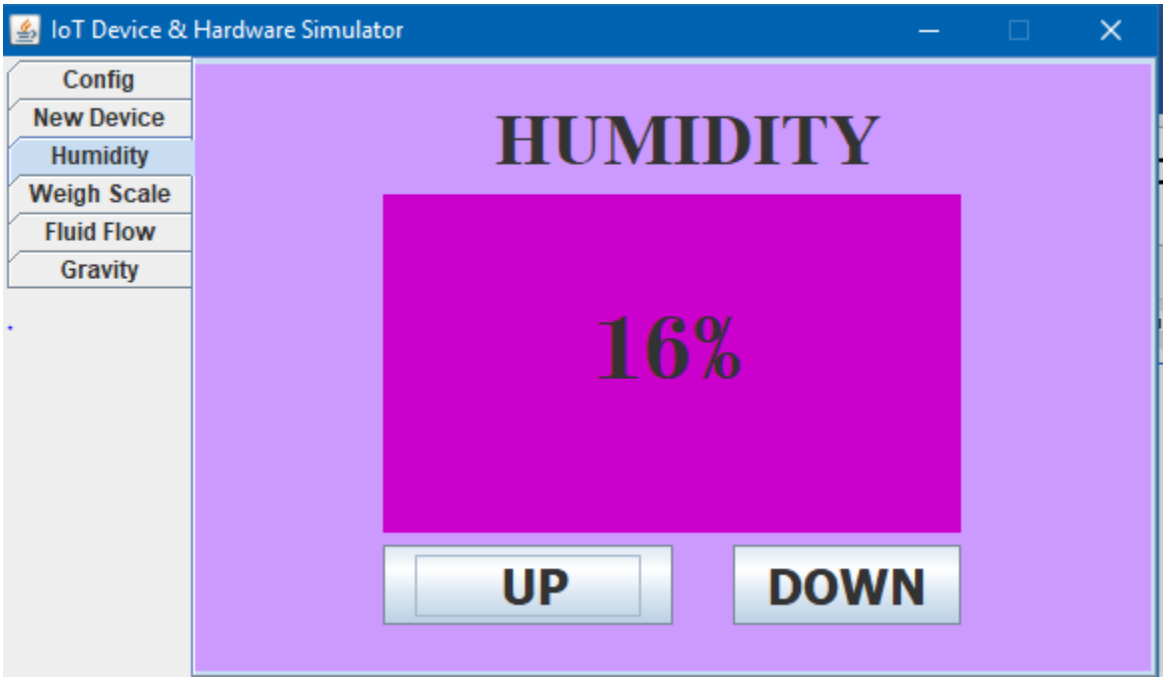
    java –jar …\IoT\Subscriber_ControlPanel\dist\Subscriber_ControlPanel.jar

F. ADD NEW DEVICE TO IOT SENSOR

To add new Sensor Device in IoTSensorHardwareSimulator, select menu **New Device** and enter new device name . Click on ADD button.

G. To UPDATE SENSOR VALUE

To update Humidity Sensor Value in IoTSensorHardwareSimulator, select menu **Humidity** on left tab and click on **UP/DOWN** button.



H. TO SUBSCRIBE TOPIC OR DEVICE VALUE

To subscribe Humidity Sensor value, enter Humidity in Topic Name and Click on SUBSCRIBE name.