Department of Electronic & Telecommunications Engineering

University of Moratuwa

EN3250 Internet of Things / EN2560 Internet of Things Design and Competition

Course Project (Assignment A) – Task 2

2019 Batch _____ Semester 4

Overview

This assignment is the continuation of the previously submitted Task 1 python script. After Task 1 is completed, the submitted Python scripts have been evaluated and implemented to generate live data representing the relevant environment by the Instructors.

For Task 2, each group is assigned one of the above environment to work with. In this task, each group should obtain data pertaining to the assigned IoT environment from the MQTT Broker, and design and develop a NodeRED dashboard to visualize the data in the most effective manner on a Raspberry Pi.

This is a group assignment, to be carried out in the same groups as in Task 1. The following table lists the topic name each group must subscribe to and continue their dashboard development.

Group Name	Topic Name
Group 1	`task_02g`
Group 2	`task_02e`
Group 3	`task_02f`
Group 4	`task_02i`
Group 5	`task_02a`
Group 6	`task_02j`
Group 7	`task_02m`
Group 8	`task_02h`
Group 9	`task_02l`
Group 10	`task_02n`
Group 11	`task_02c`
Group 12	`task_02b`
Group 13	`task_02k`
Group 14	`task_02d`

Task 2: NodeRED view of a live virtual sensor environment

In this task, you will design and deploy a NodeRED dashboard for a live IoT Environment assigned to you. Your group will be given the relevant topic name where you should analyze the messages under it. First, you must identify the sensors in the given IoT environment and use those findings for the dashboard design. Your design should include the most appropriate gauges, graphs, or visualization tools for each sensor type defined under the environment.

Note: NodeRED should be deployed on a Raspberry Pi board.

The server details for the MQTT broker are same as for Task 01 (see Annex).

If there is any difficulty in identifying sensors using the subtopic name, reach out to any instructor mentioned below for assistance.

Submission for Task 2

The NodeRED dashboard should be exported into JSON format and submitted to the Moodle **named a <group_ID_NodeRed.json>**

Submission deadline: 21st July 2022

Evaluation

This course assignment will be evaluated by the submitted files and through a **demonstration & viva**.

Guidance

For any clarification regarding the assignment tasks or issues regarding the servers, please contact following instructors.

Ranush Wickramarathne (ranushw@uom.lk)
Pasan Dharmasiri (pasanl@uom.lk)

ANNEX

MQTT Server Information

Broker	5g-vue.projects.uom.lk
Port	1883
Client ID	<group_ID>
Username	iot_user
Password	iot@1234