

Sri Lanka Institute of Information Technology

Internet of Things and Big Data Analytics (IT4021)

Continuous Assignment – 2023, Semester 1

Weekly Report 1

GROUP ID: 2023_057



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Member 1 (IT201 550 70)

1. What they planned to do this week.

- We planned to complete the initial document since this has been the first week of the assignment.
- Planned to find all the required sensors, screens, actuators, and other components to use in the project.
- Planned the distribution of components equally among the team members.
- Planned to do the hardware setup and initial setup of the Arduino Uno board.
- Planned to reference some materials, read articles, and watch YouTube videos on the implementation of ESP8266 (NodeMCU) and how to use that in the assignment.
- Planned to reference some materials, read articles, and watch YouTube videos on MQTT cloud broker and how it can be used in the assignment.

2. How much they have completed of the planned work for the week.

- We were able to complete most of the planned tasks except gathering all the hardware resources and creating initial dataflows that are related to the data visualization of temperature and humidity using the Node-RED dashboard.

3. If they couldn't complete the planned amount of work, reasons for that.

- We could not able to find the remaining few resources because they were out of stock at the places that we have searched.
- To perform visualization using past data, it is important to create workflows in the Node-RED workspace and connect the nodes which are in the workspace with the MQTT cloud broker. Since we are still in the initial stage of learning, we could not complete that task but we referred and materials about how to do so.

4. Any difficulties, challenges they faced, and solutions found for these.

- It takes much more time to be familiar with MQTT and ESP8266 than expected.

5. What they plan to do the next week.

- Planning to complete the initial hardware setup.
- Initial workflow creation and establishing a connection between Arduino Uno and MQTT which are related to temperature data in past in the Node-RED dashboard.

6. Anything else important related to their part of the assignment.

- We learned how to select and use the correct and suitable components for the assignment with the help of the instructions provided by the instructor.



Member 2 (IT201 060 10)

1. What they planned to do this week.

- We planned to complete the initial document since this has been the first week of the assignment.
- Planned to find all the required sensors, screens, actuators, and other components to use in the project.
- Planned the distribution of components equally among the team members.
- Planned to do the hardware setup and initial setup of the Arduino Uno board.
- Planned to reference some materials, read articles, and watch YouTube videos on the ARIMA model and its usage.
- Planned to reference some materials, read articles, and watch YouTube videos on MQTT cloud broker and how it can be used in the assignment.

2. How much they have completed of the planned work for the week.

- We were able to complete most of the planned tasks except gathering all the hardware resources and creating initial dataflows that are related to the data visualization of temperature and humidity using the Node-RED dashboard.

3. If they couldn't complete the planned amount of work, reasons for that.

- We could not able to find the remaining few resources because they were out of stock at the places that we have searched.
- To perform visualization using past data, it is important to create workflows in the Node-RED workspace and connect the nodes which are in the workspace with the MQTT cloud broker. Since we are still in the initial stage of learning, we could not complete that task but we referred and materials about how to do so.

4. Any difficulties, challenges they faced, and solutions found for these.

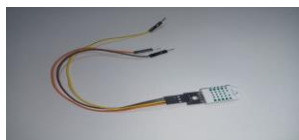
- It takes much more time to be familiar with the ARIMA model than expected.

5. What they plan to do the next week.

- Planning to complete the initial hardware setup.
- Initial workflow creation and establishing a connection between Arduino Uno and MQTT which are related to temperature data in past in the Node-RED dashboard.

6. Anything else important related to their part of the assignment.

- We learned how to select and use the correct and suitable components for the assignment with the help of the instructions provided by the instructor.



Member 3 (IT202 303 88)

1. What they planned to do this week.

- We planned to complete the initial document since this has been the first week of the assignment.
- Planned to find all the required sensors, screens, actuators, and other components to use in the project.
- Planned the distribution of components equally among the team members.
- Planned to do the hardware setup and initial setup of the Arduino Uno board.
- Planned to reference some materials, read articles, and watch YouTube videos on MQTT cloud broker and how it can be used in the assignment.
- Planned to reference some materials, read articles, and watch YouTube videos related to Node-RED dashboard visualization.

2. How much they have completed of the planned work for the week.

- We were able to complete most of the planned tasks except gathering all the hardware resources and creating initial dataflows that are related to the data visualization of temperature and humidity using the Node-RED dashboard.
- To perform visualization using past data, it is important to create workflows in the Node-RED workspace and connect the nodes which are in the workspace with the MQTT cloud broker. Since we are still in the initial stage of learning, we could not complete that task but we referred and materials about how to do so.

3. If they couldn't complete the planned amount of work, reasons for that.

- We could not able to find the remaining few resources because they were out of stock at the places that we have searched.
- To perform visualization using past data, it is important to create workflows in the Node-RED workspace and connect the nodes which are in the workspace with the MQTT cloud broker. Since we are still in the initial stage of learning, we could not complete that task but we referred and materials about how to do so.

4. Any difficulties, challenges they faced, and solutions found for these.

- It takes much more time to be familiar with Node-RED workflows, nodes and visualizations than expected.

5. What they plan to do the next week.

- Planning to complete the initial hardware setup.
- Initial workflow creation and establishing a connection between Arduino Uno and MQTT which are related to temperature data in past in the Node-RED dashboard.

6. Anything else important related to their part of the assignment.

- We learned how to select and use the correct and suitable components for the assignment with the help of the instructions provided by the instructor.

Member 4 (IT201 531 68)

1. What they planned to do this week.

- We planned to complete the initial document since this has been the first week of the assignment.
- Planned to find all the required sensors, screens, actuators, and other components to use in the project.
- Planned the distribution of components equally among the team members.
- Planned to do the hardware setup and initial setup of the Arduino Uno board.
- Planned to reference some materials, read articles, and watch YouTube videos on MQTT cloud broker and how it can be used in the assignment.
- Planned to reference some materials, read articles, and watch YouTube videos on the hardware implementation of the Arduino Uno board and how to use that in the assignment.

2. How much they have completed of the planned work for the week.

- We were able to complete most of the planned tasks except gathering all the hardware resources and creating initial dataflows that are related to the data visualization of temperature and humidity using the Node-RED dashboard.
- To perform visualization using past data, it is important to create workflows in the Node-RED workspace and connect the nodes which are in the workspace with the MQTT cloud broker. Since we are still in the initial stage of learning, we could not complete that task but we referred and materials about how to do so.

3. If they couldn't complete the planned amount of work, reasons for that.

- We could not able to find the remaining few resources because they were out of stock at the places that we have searched.
- To perform visualization using past data, it is important to create workflows in the Node-RED workspace and connect the nodes which are in the workspace with the MQTT cloud broker. Since we are still in the initial stage of learning, we could not complete that task but we referred and materials about how to do so.

4. Any difficulties, challenges they faced, and solutions found for these.

It takes much more time to be familiar with DHT22 and other hardware components than expected.

5. What they plan to do the next week.

- Planning to complete the initial hardware setup.
- Initial workflow creation and establishing a connection between Arduino Uno and MQTT which are related to temperature data in past in the Node-RED dashboard.

6. Anything else important related to their part of the assignment.

- We learned how to select and use the correct and suitable components for the assignment with the help of the instructions provided by the instructor.