Short name:

Data Concurrency

Project Partner Requirement:

Multiple users should not be able to modify the same data simultaneously.

Engineering Requirement:

Only one user can modify a specific data entry within the database at a time.

Verification Method:

Test

Testing Process:

1. Provide two or more users access to the web application.
2. Navigate the users to a set of logged data.
3. Have the users to simultaneously update the set of logged data.
4. Verify that only one user’s changes are reflected in the database with a query.

Testing Pass Condition:

Only one user modified a specific data entry within the database at a time.

Short name:

Display data

Project Partner Requirement:

Sensor data needs to be displayed.

Engineering Requirement:

Sensor data will be displayed via a web application.

Verification Method:

Demonstration

Testing Process:

1. Verify that the sensor data (the database) is accessible to the web application.
2. Use the web application to display the data on the sensor page.
3. Visually verify that the displayed sensor data aligns with the data given to the web application.

Testing Pass Condition:

Sensor data was displayed in the web application.

Short name:

Hosting

Project Partner Requirement:

The web application needs to be on the cloud.

Engineering Requirement:

The web application will be hosted on the cloud.

Verification Method:

Test

Testing Process:

1. Have the web application hosted with a cloud service provider.
2. Start the web application on the server side.
3. Attempt to reach the web application with an internet browser from at least 3 different devices operating on different networks with internet access.
4. Verify that the devices in step 3 were able to reach the web application.

Testing Pass Condition:

The web application was hosted on the cloud.

Short name:

Parsing Data

Project Partner Requirement:

Sensor data needs to be formatted for the web application.

Engineering Requirement:

Sensor data will be parsed to the format that the database accepts.

Verification Method:

Test

Testing Process:

1. Parse sensor data.
2. Compare the parsed data with the data before it was parsed.
3. Verify that the parsed data contains the same information as the pre-parsed data.
4. Verify that the parsed data is in the format that the database accepts.

Testing Pass Condition:

Steps 3 and 4 of the testing process were verified a success.

Short name:

Send data to be stored

Project Partner Requirement:

Sensor data needs to be sent to storage.

Engineering Requirement:

Sensor data will be sent to a database.

Verification Method:

Test

Testing Process:

1. Send parsed sensor data to the database.
2. Write a database query to pull the sensor data sent in step 1.
3. Run the query from step 2.
4. Verify the output from the query to see if it matches the data sent to the database.

Testing Pass Condition:

Sensor data was sent to the database.

Short name:

Filtering Data

Project Partner Requirement:

Sensor data will be filterable on the web application.

Engineering Requirement:

The web application user interface will filter the type of sensor data displayed.

Verification Method:

Demonstration

Testing Process:

1. Navigate to the sensor data page of the web application.
2. Filter the results using the filter options in the user interface.
3. Verify that the sensor data has omitted results based on the filter options.

Testing Pass Condition:

The web application user interface filtered the type of sensor data displayed.

Short name:

Storing Data

Project Partner Requirement:

Sensor data needs to be stored.

Engineering Requirement:

Sensor data will be stored in a database.

Verification Method:

Test

Testing Process:

1. Send sensor data to the database.
2. Write a database query to pull the sensor data sent in step 1.
3. Run the query from step 2.
4. Verify the output from the query to see if it matches the data sent to the database.

Testing Pass Condition:

Sensor data was stored in the database.

Short name:

Web application navigation

Project Partner Requirement:

The sensor data sets will be navigable on the web application.

Engineering Requirement:

The web application user interface will navigate to each of the sensor data sets.

Verification Method:

Demonstration

Testing Process:

1. Start the web application on the server side.
2. Send 5 sensor data sets to the database.
3. Navigate to the web application in a web browser using a computer with internet access.
4. Verify that the web application allows the user to navigate to the 5 different data sets described in step 2.

Testing Pass Condition:

The web application user interface navigated to each of the sensor data sets.