Cross Media Requirements

# Functional Requirements

1. The application must retrieve and parse relevant data from a webservice
2. The application must be able to send data to a webservice to interact with actuators
3. The application must have a responsive user interface
4. The application should utilize authentication to sign in
5. The application should have a settings menu
6. The application should persist some data locally on the device
7. The application must be under version control for the entire development process
8. The application must be developed using the official Android framework
9. The application must be developed with Java
10. The application should follow the Google Material Design guidelines
11. The source code should be structured using an architectural pattern

Embedded Requirements

# Functional Requirements

1. The system should measure the level of CO2.
2. The system should measure the ambient temperature.
3. The system should measure the humidity in the air.
4. The system should send gathered data to MongoDB.

# Non-Functional Requirements

1. The system must use at least five tasks.
2. Some data must be used by more than one task.
3. The system must use semaphores, mutex and queues.
4. Part of the system must be tested by using unit test.
5. The system should use LoRaWAN and Bridge application to transfer the data to database from device.

Data Engineering Requirements

# Functional Requirements

General Requirements

# Functional Requirements

1. Users must be able to collect information from all the sensors (air temperature, CO2 and humidity)
2. Users could be able to see the maximum and minimum standard parameters
3. Users should be able to get push notifications
4. Data must be stored in a database
5. Users should be able to control the actuator
6. Administrators must be able to add, edit and remove users

Non-functional Requirements

1. SCRUM & AUP must be use for the development process
2. The project and process report must include authors for each section
3. Links must be handed in to the source code on GitHub
4. A link to a video demonstration on YouTube must be presented