1. Setting up of devices and establising the 2 full functioning environments to facilitate testing

2. functional testing to check if they are working properly

3. whether data is properly captured and analysing that data.

Embedded system:

- checking mcu communication is reliable (unit/functional)

- data (4 parameters) is being communicated via the path properly or not (integration)

- dissembing device and pulling memory directly from device and analysing for embedded passwords (security)-also can be automated

- incase of new parameters to be added in the testing, the only the communication part need to be tested as part of regression/automation

Cloud API: (using Bluetooth low energy)

- Proper authentication & storage of data (system)

- scripting over multiple sites is encrypted(security)

- identifiers in the tracking id should be secure(security)

- multiple users log in to the same app at a time(performance load testing)

- optimal user experience while switching to different pages (browser performance testing)

**Mobile:**

Functional Testing – Is API working as expected? (Postman)

* Temperature, Humidity, Pressure & Location are properly displayed
* Whether units of these 4 parameters(degree C, %, mbar, geocordinates) are displayed correctly
* Values of these parameters fall between the optimal range

Load Testing (Jmeter)

* Whether the API’s are handling if multiple users are logging at the same time
* Testing during regular and peak traffic (10 users vs 100 users)

Runtime/Error Testing:

* Whether empty/null value is returned.
* What type of data is being returned during invalid scenarios/ invalid data is being entered

Compatibilty Testing:

* Whether the Application is supported in both ios & Android devices.

UI testing: (Manual)

* Optimal user experience
* Changing pages for different sensors in the app
* Renaming those pages
* Changing the frequency of time the sensor gets to read data.