*Florida International University*

*School of Computing and Information Sciences*

Software Engineering Focus

Feature Document

User Story ID 220

**Name:** Add current equation to the app

**Team Member(s):** Galo Romero

**Project:** Biosensing 2.0

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**User Story Name:**

* Description: As an app developer, I want to add the current equation, so that the Android app displays the correct value.

Acceptance Criteria

* Vref\_div and Rtia default values should be 0.1645 and 350000, respectively.
* You should be able to change the values for Vref\_div and Rtia manually.
* Display a message that shows the updated value for Vref\_div and Rtia.

**Use Case**

* Name: Add current equation to the app.
* Actor: App developer.
* Preconditions:

1. Android app is installed on mobile device.
2. Android app was successfully connect to BLE device.
3. Android app can obtain data from BLE device.

* Description <Flow of events>:

1. App developer queries for data from the BLE device.
2. Data from the BLE device is used to calculate current using the current equation.
3. Data is displayed on Android app.
4. App developer selects settings from app’s menu.
5. EquationDialog is displayed.
6. App developer changes values for Vref\_div and Rtia.
7. App displays a message with updated values.
8. Updated values are used to calculate current.
9. Data is displayed on Android app.

**Use Case Diagram**

UseCaseDiagram.png

**Sequence Diagram**

SequenceDiagram.png

**Class Diagram**

ClassDiagram.png

**Unit Test**

* Test case ID: 220-001 (Sunny Day)
* Description/Summary of Test:
* Test if the EquationDialog changes the values for Vref\_div and Rtia correctly.
* Pre-condition:
* Android app is connect to BLE device and can gather data from it.
* Expected Results:
* A message is displayed with the updated values.
* Actual Result:
* Values were shown correctly.
* Status (Fail/Pass):
* Pass.
* Test case ID: 220-002 (Rainy Day)
* Description/Summary of Test:
* Test if no values are entered for Vref\_div and Rtia, then the values should change to zero.
* Pre-condition:
* Android app is connect to BLE device and can gather data from it.
* Expected Results:
* A message is displayed with the updated values.
* Actual Result:
* Values were shown correctly.
* Status (Fail/Pass):
* Pass.

**Visual User Guide**

