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| **Prepared by** | | | | | **Checked by** | | | |
| Tanner Gaskin | | | | | Jonathan Meldrum | | | |
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1. Purpose

This document describes the test procedures that we have or will take in order to validate that our software subsystem meets the software subsystem requirements, as defined in our software subsystem requirements matrix.

2. Testing

Performance

To estimate the performance of our end product we will evaluate the Big O of our data processing algorithm. The end goal of the product is to be able to measure the exact amount of time it takes to process all of the data that needs to be processed in a testing sequence. However, since that can’t occur until system refinement when we are integrating all of our subsystems the performance measure for this subsystem is the Big O, which allows us to estimate if our algorithm will be fast enough to meet our performance specs. We are targeting a Big O of n and will evaluate if we have met that by doing a Big O analysis on our data processing algorithm.

User Input Mechanism

The ease with which the user can add new input mechanism’s will be evaluated by having the electronics platform support multiple input mechanisms. We will then be able to evaluate the ease with which we are able to add software support for the different input types and know if we have met our target goal of it being moderately easy to add new input mechanism’s.

Intuitiveness of GUI

For evaluating how intuitive our GUI is we are going to have individuals who are not members of our capstone team, but familiar with the overall purpose of our project, and train them on how to use our device/GUI. From their feedback and from the amount of time that it takes us to train them we will be able to evaluate how intuitive our GUI is and if we have met our target of being moderately intuitive.

Scalability of Design

Our evaluation method for the scalability of our design is to have another team take our software system and have them add a sensor to the system and see how easy it is for them to add another input mechanism to our package. It is from their reports that we will be able to determine if we have met our target goal of having an easy integration for adding new sensors.