**System Test Design Specification**

1. **Purpose**

This document describes in more detail than the STD-2-2014-05-15 the process through which some of PlasmaGraph’s tests will be conducted.

1. **Outline**
   1. **Test Design Specification Identifier**

TDS-01-XX 2014-05-22

* 1. **Features to be Tested**

1. Inspect Data (NR-03) ***[see SRS-3-2014-05-15 section 2.2.2.3]***.
2. Import Data (FR-01) ***[see SRS-3-2014-05-15 section 2.2.1.1]***.
3. Choose Graph Options (FR-03) ***[see SRS-3-2014-05-15 section 2.2.1.3]***.
4. Portability ***[see SRS-3-2014-05-15 section 3.5.4]***.
   1. **Approach Refinements**
      1. **Testing Technique**

All features specified in section 2.2 of this document will be tested using the “Black Box” testing technique. This means that the testers will be oblivious of the system’s architecture and source code. The testers will interact with the system through its graphical user interface by providing inputs and examining outputs without knowing how and where the inputs are worked upon.

The black box testing technique was chosen for the following reasons:

* The testing comprises a very large segment of code.
* The testers need to be able to access all features being tested through a graphical user interface so access to the code is not required.
* The test must focus on the user’s perspective and not the developer’s. Visibly defined roles help achieve this goal.
  + 1. **Methods for Results Analysis**

To evaluate the success or failure of test cases derived from this specification, the output produced by the system at the end of each case must match the output described in section 2.5 of this document.

* + 1. **Common Test Cases Information**

All test cases derived from this specification (except that dealing with portability) must require that the testers repeats all test procedures using three (3) different operating systems and (3) different personal computers.

* 1. **Test Identification**

| Case Identifier | Description | Procedure |
| --- | --- | --- |
| TCS-01-01 | This case focusses on the particular feature where the user orders the system to read a MATLAB LEVEL 5 MAT-File and display its contents on screen.  This case covers feature A as mentioned in section 2.2. | The tester must import a data file into the system and then order the system to inspect the data. |
| TCS-01-02 | This case focusses on the system’s response time and “user friendliness”.  This case covers feature B as mentioned in section 2.2. | The tester must import a data file of 60,000KB into the system and plot a set of X values against a set of Y values in 5 minutes or less. |
| TCS-01-03 | This case focusses on how the system lets the user change the labels of the graph.  This case covers feature C as mentioned in section 2.2. | The tester must import a data file into the system, set a particular name for the chart graph’s title, X axis label, and Y axis label. Then the tester must order the system to make a graph using to sets of values. |
| TCS-01-04 | This case focusses on the system’s ability to function on more than 2 operative systems and more than two different personal computers.  This case covers feature D as mentioned in section 2.2. | The user must perform all other tests in 3 different computers and 3 different operative systems. |

* 1. **Features Pass/Fail Criteria**

Each feature will be considered a success if and only if it passes the following criteria for each of its cases:

* + 1. After running a case, the output provided to the tester by the system must match the expected output provided in the test case specification.
    2. No error messages are produced by the system unless the test case specification explicitly determines that an error message should be produced by the system.