**Automated Test Tool for GUIs**

**Testing Plan and Test Scripts**

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**1.** **Project Overview**

This project stems from the need to quickly test development GUIs. Previous testing procedures required manually initiating GUI mouse actions, a time-intensive process. Additionally, currently available testing suites are resolution dependent, while the customer routinely develops on and for various system configurations. This program aims to automate that testing process while integrating with Google Test and utilizing Google Mock. Previous GUI actions will be stored in a file for input to Google Test, thus drastically reducing the overhead time required to test GUIs and C++ classes.

**2. Validation Plan Overview**

**3. Related Documents**

Documents relating to the testing script are the Requirements Document, the Design Document, and the Validation and Traceability Matrix.

**4. Test Environment**

The testing environment will be in a Linux Redhat, and will consist of the following requirements:

**A.requirements**

1. **Software**

The tester must have RHEL 7 or newer version on their system for this system to function correctly. The tester may have CodeBlocks or have a method to run test script from the terminal and to direct test files into the program.

1. **Requirements**

**Operating System:** Linux (RHEL 7 or newer )

**IDE:** code blocks

**Frameworks :**

Motif

Google Test

Googlemock

C++ , C and python

1. **Hardware**

1.Requirements

Computer with redhat linux installed or download linux in virtual box.

1. **Personnel**

1. Recommended

The tester should have experience with RedHat Linux, google test, motif, c+, c and google mock. The tester will also need to be able to clearly record and communicate the results of the test to their teams. The tester should also be proficient in reading and analyzing source code in the IDE to verify the requirements.

**5.** **Glossary**

**GUI:**

Graphical User Interface

**Linux PC:**

A laptop or desktop computer that is responsible for running the Linux PC program.

**RHEL:**

Redhat Enterprise Linux

**Google test:**

Google Test (also known as Gtest for e.g. the [ROS](https://en.wikipedia.org/wiki/Robot_Operating_System) environment) is a [unit testing](https://en.wikipedia.org/wiki/Unit_testing) library for the [C++ programming language](https://en.wikipedia.org/wiki/C%2B%2B)

**Google mock :**

Google's framework for writing and using C++ mock classes. It can help you derive better designs of your system and write better tests.

**Motif :**

The motif includes all the standard GUI elements: Push Buttons, Radio Buttons, Text Fields, Labels, Scrollbars, Lists, etc. Motif, although written in C, is object-oriented in design.

**6. Test Scripts**

The test scripts start on the next page -