**Junit Test Runner**

**Software Test Report**

**CEN 4072 Software Testing, Spring, 2015**

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**SECTION 1: Unit Test Coverage**

Unit tests were performed to test the following classes: Analyze, CLI\_menu, Results. The line coverage is 95% and branch coverage is 87%.

**SECTION 2: Integration Test Coverage**

Integration test coverage is the same as Unit test coverage as the test classes did not utilize mocks.

**SECTION 3: Functional Tests**

Functional tests were performed in two ways:

1. JUnit based tests were performed to test the requirements in the Junit Test Runner SRS. Below is the table that explains how the test methods in AnalyzeTest, CLI\_menuTest, and ResultsTest support the requirements #1 to #8:

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| **No:** 1 |
| **Statement:** The user shall be able to set annotations for selected test method to designate which tests can and cannot be skipped. |
| **Test Criteria:** Tests will run higher prioritized methods over less prioritized methods and vice versa. |
| **Test Methods:**  RunTestsTest.main: RunTests uses user-input to set a variable amount of tests to run, it returns the amount and kind of tests run and it is seen that more higher priority tests are run over lower priority. |

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| **No:** 2 |
| **Statement:** The test runner user shall be able to designate a subset of tests. |
| **Test Criteria:** The tests that are designated to run will run independently of others test by the test runner. |
| **Test Methods:**  RunTestsTest.main: RunTests uses user-input to set a variable amount of tests to run, it returns the amount and kind of tests run and it is seen that more higher priority tests are run over lower priority. |

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| **No:** 3 |
| **Statement:** The custom annotation of “@desire” and “@must” shall be able to designate the importance of each test. |
| **Test Criteria:** The test runner will run the method in accordance to the custom annotation parameter. |
| **Test Methods:**  AnalyzeTest.num\_of\_desired and AnalyzeTest.num\_of\_must: check if desire and must annotations were found  RunTestsTest.main: RunTests lets us set a variable amount of tests to run, it should return the number of must and desired run so we can see they were run |

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| **No:** 4 |
| **Statement:** The test runner shall be able to decide on test cases based on currently free system resources. |
| **Test Criteria:** Automated tests will perform only that which the system can manage. |
| **Test Methods:**  AnalyzeTest.current\_resources: Sees the amount of resources to run based off |

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| **No:** 5 |
| **Statement:** The user shall be able to set how much resources the test runner shall be allowed. |
| **Test Criteria:** The tests have the ability to utilize every resource but the user many disallow it. |
| **Test Methods:**  RunTestsTest.main: RunTests uses user-input to set a variable amount of tests to run, it returns the amount and kind of tests run and it is seen that more higher priority tests are run over lower priority. |

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| **No:** 6 |
| **Statement:** The test runner shall be able to notify the user if not all tests can be run. |
| **Test Criteria:** If not all tests can be run the user should know that not all tests were run. |
| **Test Methods:**  RunTestsTest.main: Providing a lack of system resources results in a notification |

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| **No:** 7 |
| **Statement:** The test runner shall be able to keep a composite average of how many resources previous run tests took. |
| **Test Plan:** The test runner will better be able to determine which tests it can run if it knows how many resources each test takes. |
| **Test Methods:**  Could not be implemented |

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| **No:** 8 |
| **Statement:** The user shall be able to set whether a test should be run multiple times. |
| **Test Plan:** The test runner shall run designated test multiple times to ensure redundant results. |
| **Test Methods:**  RunTestsTest.main: When run, input the amount of times tests can be run |

**SECTION 5: Issues**

No.7 was not realistic to implement considering the test need to be individually run to determine the resources it will consume. Doing so will defeat the purpose of this feature. Acquiring such resources that each test will consume is not within the scope of this project.

It was found during development that Requirement #7 was too difficult to implement within the time frame provided this semester.

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