# Functionality Testing, 08-10-18

## Import Screen

### Version Selection

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Clicking up | Users can move up versions and import to that specific version. Users can import as many versions as they wish, no upper limit | PASS |
| Clicking Down | Users can move down versions and import to the selected number. Users cannot move below version 1. | PASS |
| Manual number entry | Users can manually enter versions. If a user tries to enter a negative number, or a non-integer, when they press enter to confirm data entry, they are reset to the last selection. | FAIL |
| Manual number entry | If a string is entered into the version selection area, the user is not alerted that they entered invalid data, and it appears to the user that they have made a valid selection, until they confirm | FAIL |

**Fails:** Manual number entry: When a user tries to enter a non-integer number, with a decimal place, it appears as if this operation is successful, however the imported version will be the last version selected. It should revert to the last selected version when the user presses enter or prompt the user that version numbers must be integers.

### File Browser

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| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Click Browse | User is prompted with a file browser, to select a directory. Direct file imports are not supported. | PASS |
| Select a Valid Directory | When a user selects a version of a program that contains code that is parseable by the Java parser library, it is imported to the selected version. | PASS |
| Select a Non-Valid Directory | When a user tries to import a directory that does not contain valid code, or there is a problem parsing discovered code due to a compilation or syntax error, the user is alerted, and no directory is imported. | FAIL |

**Fails:** If a user tries to import a directory that does not contain valid Java code, an empty version is imported. This should not be permitted, only valid version importation. When a user tries to select a directory that contains unparseable code, it appears that the version has been correctly selected, however when a user confirms import, it will silently fail. Users should be alerted to the failure, and the reason.

**Import Screen User Stories:**

**Version Selection**

Acceptance Criteria:

* Can browse computer and select files or directory
* Can name or number the version entered
* Can set the hierarchy or timeline between versions

**ACCEPTANCE PASSED**

**Structure Recognition**

Acceptance Criteria:

The program can recognise the structure of the files in a program, and identify classes, methods and packages, and differentiate between them.

**ACCEPTANCE PASSED**

## Project Window

### Version Selection

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Select A Version | Users can select a version to view the structure of. Versions are generated from the versions imported into the program. | PASS |
| Version Switching | Clicking on a version switches to that version, preserving the users place in the structure in the tree. | FAIL |

**Fails:** When user switch between versions of a program, the place in the tree is lost. Minor problem.

**Version Select User Stories:**

### Structure Traversal

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Click on a Package | If the package has metadata parsed by the javaparser, such as a package contents description, it is displayed to the right in the code window, otherwise the code window remains blank. | PASS |
| Expand a Package | When a user clicks the arrow next to a package, or double clicks the package name, the package is expanded to show all the contained Java classes within the package. Double clicking again collapses the package. | PASS |
| Click on a Package | When a user clicks on a class, the contents of that class are displayed in the code window, as read by the Javaparser. | PASS |
| Expand a Class | When a user clicks the arrow next to a class, or double clicks the package name, the package is expanded to show all the contained Java methods within the class. Double clicking again collapses the class. | PASS |
| Click on a Method | When a user clicks on a method, the class is shown in the code window, with that method highlighted. If the method is off the screen in the code window, the user is taken to that part of the class and displayed the method. | PASS |

**Fails: -**

**Structure Traversal User Stories:**

### Code View

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Highlight from the Window | Users can select and highlight code. | PASS |
| Interact with the window | Users should not be able to type or edit code in the window, as it is for display only, not code editing. | FAIL |

**Fails:** Users should not be able to edit code inside the code view, or interact with the window, as it may mislead users into thinking they are making changes that are not preserved.

**Code View User Stories**

**Code Contribution**

Acceptance Criteria: A user can view sections of code that caused a change in the value of the metric, a user can iterate between code points that caused the change.

**ACCEPTANCE FAILED**

## Overview Window

### Level selection

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Select Project | Sets the metric selection menu to available project level metrics. | PASS |
| Select Package | Sets the metric selection menu to available package level metrics. | PASS |
| Select Class | Sets the metric selection menu to available class level metrics. | PASS |
| Select Method | Sets the metric selection menu to available method level metrics. | PASS |
| Switch Level | On any level switch the populated data changes to match the selected level and metric |  |

**Fails: -**

**Level Selection User Stories:**

**Metric Package Application**

Acceptance Criteria: The ability for the user to specify a Package to have the metric algorithm applied against.

**ACCEPTANCE PASSED**

**Metric Class Application**

Acceptance Criteria: The ability for the user to specify a Class to have the metric algorithm applied against.

**ACCEPTANCE PASSED**

**Metric Method Application**

Acceptance Criteria: The ability for the user to specify a Method to have the metric algorithm applied against.

**ACCEPTANCE PASSED**

### Metric Selection

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| No Analysis Run | The list of metrics is empty no analysis has been performed, and no metrics have been applied. | FAIL |
| Analysis Run | The list of available metrics matches the level specification selected, populated with available metric data. | PASS |
| Switch Metric | Populates the results table with data associated with the selected level and metric. | PASS |

**Fails:** When No analysis has been performed, the metric selection checkbox should read no analysis performed, or something similar, so users are aware of the control flow of the application.

**Metric Selection User Stories:**

### Results Table

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Loading Data | The table populates with the data from the metric analysis. | PASS |
| Clicking Column Headers | The table will reorganise itself based on ascending, descending order, or back to the default ordering, based on which column it is ordered by. Clicking through all the options cycles back to the start. | PASS |
| Dynamic Column Generation | Columns are generated based on the number of versions imported to the program | PASS |
| Dynamic Scroll Generation | Scroll bars are dynamically generated for both vertical and horizontal scroll, only when required, keeping the interface clean | PASS |
| Null indicator | There is a clear indicator to the user when there is no data for a datapoint | PASS |

**Fails: -**

**Results Table User Stories:**

**Results Table:**

Acceptance Criteria: A user can view a table of analysed data, with data clearly displayed, and visual indicators as to the trend of the metrics.

**ACCEPTANCE PASSED**

## Metric Analysis Page

### Run Analysis

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Run Analysis | The analysis with the selected metrics is performed against all versions, the result is displayed to the user in the code window, in raw data dump data form | PASS |
| Run Analysis, No Metrics Selected | If no metrics are selected, the user should be alerted that they must select at least one metric for analysis to be performed. | FAIL |

**Fails:**  When a user tries to run an analysis with no metric selected, it silently fails. The user should be alerted as to why no analysis is running.

**Run Analysis User Stories:**

### Metric Selection Boxes

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| No Metrics by default | As it is more likely that a user may want to run a specific metric, or subset of metrics, the default is to have no metrics selected, so users can specify only the ones they want. | PASS |
| Check a Box | Checking a box adds that metric to the list of applied metrics. | PASS |
| Uncheck a Box | Unchecking a box removes that metrics from the list of applied metrics. | PASS |
| Automatic Scaling | Metric checkboxes are drawn from the metrics that are within the program, and automatically add any additional metrics added to the program. | PASS |
| Automatic Scrolling | If too many metrics are added to fit onscreen at one time, a scroll box is added to allow all metrics to be viewed. | FAIL |

**Fails:** When too many metrics are added to the program currently, they will list off the screen, and the user will be unable to click on them to add them.

**Metric Selection User Stories:**

**Custom Metrics**

Acceptance Criteria: A user can design a metric class, and have it slot in with other metrics classes, and become a part of the analysis suite. The software should be able to recognise classes that are introduced and operate on them the same as any other metric class designed with the program.

**ACCEPTANCE PASSED**

**Metric Selection**

Acceptance Criteria: A user can view sections of code that caused a change in the value of the metric, a user can iterate between code points that caused the change.

**ACCEPTANCE PASSED**

### Export as CSV

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Click on the Dropdown Menu | The menu displayed contains all the export options that are available to the user. | PASS |
| Select Method Metrics | The text window should populate with the CSV string data, and the user should be presented with a dialog box to select a location to save the data into, in CSV format. | FAIL |
| Select Class Metrics | The text window should populate with the CSV string data, and the user should be presented with a dialog box to select a location to save the data into, in CSV format. | FAIL |
| Select Package Metrics | The text window should populate with the CSV string data, and the user should be presented with a dialog box to select a location to save the data into, in CSV format. | FAIL |

**Fails:** Currently when selected, the text window is populated with the data, but the user is not presented with a way to save the data, only copy and pasting it into a separate file. The user needs to be able to select a location and a name to save the data to.

**Export as CSV User Stories**

Acceptance Criteria: The data from an analysis can be exported into a commonly used file format, for example CSV, and be imported into another program for further data analysis. Potential for support for multiple file formats.

**ACCEPTANCE FAILED**

## Menu Bar

### File Bar

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Click on the Dropdown Menu | A menu is presented to the user with associated options. | PASS |
| Click Close | The Program should ask for confirmation before closing. | FAIL |

**Fails:** The close button currently does nothing. Should be implemented.

### Edit Bar

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Click on the Dropdown Menu | A menu is presented to the user with associated options. | PASS |
| Click Delete |  | FAIL |

**Fails:** The delete button currently does nothing. Should be removed.

### Help Bar

|  |  |  |
| --- | --- | --- |
| **Action** | **Effect** | **Result** |
| Click on the Dropdown Menu | A menu is presented to the user with associated options. | PASS |
| Click About | The user should be presented with a dialog displaying information about the program, as well as a short usage guide. | FAIL |

**Fails:** The about button currently does nothing. Should be implemented.