**REQUIREMENTS**

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| **No.** | **High Level Functional Requirements** | **Requirement ID** |
| 1 | The tool *must* work on code written in at least one language of your choice. | REQ – 01 |
| 2 | The tool *must* take two programs. | REQ – 02 |
| 3 | The tool *must* go beyond textual "diff". | REQ – 03 |
| 4 | The tool *must* handle multi-file programs (*should* be able to handle files that have been renamed). | REQ – 04 |
| 5 | The tool *should* detect strategies to avoid detection such as renaming variables, extracting code into functions, moving code, changing comments etc. | REQ – 05 |
| 6 | The tool *must* produce an interactive user interface. | REQ – 06 |
| 7 | The tool *must* use a web-based interface. | REQ – 07 |
| 8 | The user interface *should* include kind of visual diff of the code portions. | REQ – 08 |
| 9 | The tool *should* allow a user to selectively examine and compare key portions of the program in the browser. | REQ – 09 |
| 10 | The tool *should* have an Instructor Login. | REQ – 10 |
| 11 | The tool *should* be able to take two modes of input: Text/ Upload Files. | REQ – 11 |
| 12 | The tool *should* display the overall percentage of similarity between two programs as a high-level report. | REQ – 12 |
| 13 | The tool *should* be able to download the Plagiarism Analysis Report. | REQ – 13 |
| 14 | The tool *should* offer an option to Log out. | REQ – 14 |

USE CASES

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| No. | 1 |
| Name | Signing up as a new user |
| Actor | Instructor |
| Scenario | 1. The Instructor loads the Plagiarism Detector web application. 2. The system displays the Login page with the Sign In fields. 3. A ‘New User? Create an account.’ link is displayed above it. 4. The Instructor clicks on the ‘Create an account’ link. 5. The system displays a new page with a Sign-Up form. 6. The Instructor signs up with the username as the school email ID, a password, first name and last name. 7. The Instructor clicks on the ‘Sign Up’ button to sign up. 8. The system displays if the Registration was successful or if the user is already registered. 9. A link to go back to login page is displayed below it. |
| Exceptions | The username is not a school email ID |
| Priority | Should have |
| Requirement ID | REQ-06, REQ-07, REQ-10 |

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| No. | 2 |
| Name | Signing into the web application |
| Actor | Instructor |
| Scenario | 1. The Instructor loads the Plagiarism Detector web application. 2. The system displays the Login page. 3. The Instructor fills in their username and password. 4. The Instructor clicks on the ‘Sign In’ button. 5. The system loads the tool homepage. |
| Exceptions | Login fails – User not registered |
| Priority | Should have |
| Requirement ID | REQ-06, REQ-07, REQ-10 |

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| No. | 3 |
| Name | Selecting the Programming language |
| Actor | Instructor |
| Scenario | 1. The Instructor logs in and loads the tool homepage which displays two panes on each side of the page.  * One pane for each program – each containing two buttons for either Text input or Upload Files. * A drop-down menu on top indicates the selected programming language. * There is at least one language in the menu. * No language is defaulted.  1. The Instructor selects a language. |
| Exceptions |  |
| Priority | Must have |
| Requirement ID | REQ-01, REQ-06, REQ-07, REQ-11 |

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| No. | 4 |
| Name | Inputting the source code for comparison |
| Actor | Instructor |
| Scenario | 1. On the tool homepage, the Instructor either enters the two programs as plain text or uploads them as files (multiple files for each program allowed).  * A ‘Next’ button is displayed at the bottom.  1. The Instructor clicks ‘Next’. |
| Exceptions | The input code does not match the selected language. |
| Priority | Must have |
| Requirement ID | REQ-02, REQ-04, REQ-06, REQ-11 |

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| No. | 5 |
| Name | Instructor compares source code to find similarities |
| Actor | Instructor |
| Scenario | 1. The Instructor logs in and loads the tool homepage. 2. The Instructor either enters the two programs as plain text or uploads them as files (multiple files for each program allowed). 3. The Instructor clicks on the ‘Next’ button after inputting the code, which takes them to the ‘Analytics’ tab. 4. There are 5 sections on the page:    1. Filter criteria, which is currently expanded    2. Match Percentage    3. Similarity Overview    4. Selections for Review    5. Download Report 5. The Instructor chooses from the options in the Filter Criteria to customize the comparison e.g. Ignore whitespaces, ignore comments, ignore Function names, etc. 6. A ‘Compare’ button is displayed below the criteria. 7. The Instructor clicks on ‘Compare’. 8. The ‘Match Percentage’ expands and shows the overall percentage of code match and a high-level similarity analysis. 9. The ‘Similarity Overview’ expands and displays two panes with each program and the sections of code that match as highlighted in the same color. |
| Exceptions |  |
| Priority | Must have |
| Requirement ID | REQ-03, REQ-05, REQ-08, REQ-12 |

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| No. | 6 |
| Name | Selectively Compare code |
| Actor | Instructor |
| Scenario | 1. The Instructor logs in and loads the tool homepage. 2. The Instructor either enters the two programs as plain text or uploads them as files (multiple files for each program allowed). 3. When the Instructor clicks the ‘Compare’ button, the ‘Similarity Overview’ displays the two programs on two panes with the sections of code that match as highlighted with the same color. 4. The Instructor selects any highlighted section (if any) to selectively examine it. 5. The ‘Selection for Review’ section expands and displays the selected code and explains the similarity in more detail. |
| Exceptions |  |
| Priority | Should have |
| Requirement ID | REQ-09 |

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| No. | 7 |
| Name | Download the Analysis report |
| Actor | Instructor |
| Scenario | 1. The Instructor logs in and loads the tool homepage. 2. The Instructor either enters the two programs as plain text or uploads them as files (multiple files for each program allowed). 3. The Instructor runs a code comparison by clicking the ‘Compare’ button on the Analytics tab. 4. Expand the ‘Download Report’ section to download the analysis report. |
| Exceptions |  |
| Priority | Should Have |
| Requirement ID | REQ-13 |

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| No. | 8 |
| Name | Logging out of the web application |
| Actor | Student/Instructor |
| Scenario | 1. The Student/Instructor clicks on the Profile icon. 2. A ‘Log Out’ option displays below it. 3. The Student/Instructor clicks on ‘Log Out’. 4. The Login page is displayed. |
| Exceptions |  |
| Priority | Should have |
| Requirement ID | REQ-14 |