**CHAPTER 11**

**TESTING**

**11.1 Unit Testing**

11.1.1 File options

* *Test Definition:* Checking file options of new, open, save, close
* *Entry criteria:* The application must be open
* *Exit Criteria:* The application is closed.
* *Test input:* Name of the document
* *Test Output:* New document is created/existing document is opened, modified, saved and closed

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| **Test Case** | **Expected Result** | **Actual Result** | **Conclusion** |
| If the currently open file is modified “save?” option must appear | User must be given the option of saving current file | User is given the option of saving current file | Success |
| Create a blank new document | Blank new document is created and opened | Blank new document is created and opened | Success |
| Open an existing file | Existing file opens. | Existing file is opened | Success |
| Open a non-existent file | Failure in opening file | File opening failed | Success |
| Upon opening an existing file, display of file name in title bar | Display of file name is title bar | File name is displayed in title bar | Success |
| Saving a file after it is modified | Give save option | Save option given | Success |
| Closing an unsaved file | Give save option | Save option given | Success |

11.1.2 File’s edit options

* *Test Definition:* Editing a file*.*
* *Entry Criteria:* The application is open*.*
* *Exit Criteria:* All edit options are tested
* *Test Input:* Text
* *Test Output:* Text

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| **Test Case** | **Expected Result** | **Actual Result** | **Conclusion** |
| Copying/cutting and pasting after selecting text | Write same text again | Text is copied/cut and pasted | Success |
| Copying text when nothing is selected | Disable copy option | Copy option disabled | Success |
| Undo when no changes are made in the editor | Disable undo option | Undo option disabled | Success |
| Redo when there is no prior undo | Disable redo option | Redo option disabled | Success |
| Redo changes undone | Perform redo | Redo is performed | Success |

11.1.3 Formats

* *Test Definition:* Typing text in a format*.*
* *Entry Criteria:* A format UI is open*.*
* *Exit Criteria:* Format data appears in editor window
* *Requirement:* “OK” is pressed in the format window
* *Test Input:* Text
* *Test Output:* Text in editor window

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| **Test Case** | **Expected Result** | **Actual Result** | **Conclusion** |
| Filling all text boxes in the format | Write text in the order entered, into the editor window | The text appears in the order entered, into the editor window | Success |
| Leaving a few text boxes blank in the format | Text written, along with help text for those fields left blank | Text written, along with help text for those fields left blank appears in editor window | Success |
| All fields left blank | Write help text for all fields in to editor window | Help text for all fields appears in editor window | Success |

11.1.4 Stylistic comments

* *Test Definition:* Stylistic comment list
* *Entry Criteria:* A list of stylistic comments
* *Exit Criteria:* Highlighting text and displaying comments only of the colour specified
* *Requirement:* Comments of all colours and multiple comments for the same sentence
* *Test Input:* Text and colour option
* *Test Output:* Text highlighting

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| **Test Case** | **Expected Result** | **Actual Result** | **Conclusion** |
| Clicking a comment | Highlighting the sentence associated with the comment | The sentence associated with the comment is highlighted | Success |
| Changing the text and clicking a related comment | No highlighting | No text is highlighted | Success |
| Choosing a comment colour option | Displaying comments only of that colour | Comments only of that colour are displayed | Success |

11.1.5 Stylistic analysis

* *Test Definition:* Detection of stylistic errors
* *Entry Criteria:* A piece of text
* *Exit Criteria:* Completion of stylistic analysis
* *Requirement:* Grammatically correct text
* *Test Input:* Text data
* *Test Output:* Presence or absence of stylistic error

11.1.5.1 Test cases for rules of style

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| **Test Case** | **Input** | **Actual Result** | **Conclusion** |
| Detection of passive voice | A sentence with simple passive voice | Passive voice detected | Success |
|  | A sentence in active voice | Passive voice not detected | Success |
| Detection of a preposition ending | A sentence with a preposition at the end | Preposition ending detected | Success |
|  | A sentence without a preposition at the end | Preposition ending not detected | Success |
| Detection of multiple tenses in the same sentence | A sentence with multiple tenses | Tense inconsistency detected | Success |
|  | A sentence in a single tense | Tense inconsistency not detected | Success |
| Detection of misuse of words | A sentence with “then” instead of “than” | Misused word detected | Success |
| Detection of Indian English | A sentence with “yesterday night” instead of “last night” | Indian English detected | Success |
| Detection of long sentences | A sentence with length > 25 | Long sentence detected | Success |

11.1.5.2 Test cases for stylistic statistics

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| **Test Case** | **Input** | **Actual Result** | **Conclusion** |
| Floweriness | A sentence with 2 adjectives and 3 adverbs | Floweriness is 5 | Success |
| Obscurity | A sentence with 2 infrequent or rare words of English | Obscurity is 2 | Success |

**11.2 Integration testing**

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| **Component** | **Number of Test Cases** | **Test case Description** | **Result** | **Conclusion** | **Issues faced and fixed/ Comments** |
| Opening text file | 4 | Create a new file | Text file created | Success |  |
|  |  | Open an existing file | Text from existing file loaded into the editor window | Success | No comments |
|  |  | Try to open an existing file and then cancel | Existing file not opened | Success |  |
|  |  | Type into an untitled file and then save it | File saved in the target directory | Success |  |
| Evaluating Readability | 4 | Evaluate readability of a blank document by clicking on Evaluate readability | Readability is 0 | Success | No Comments |
|  |  | Evaluate readability of the text while typing | Appropriate readability displayed | Success | No comments |
|  |  | Close the document and reload it. Check readability now | Readability remains the same as the previous time | Success | No Comments |
|  |  | Check readability while typing by enabling auto-evaluate | Readability evaluated every time there is the space bar is pressed | Success | Event is triggered when the space is encountered |
| Setting Target Readability | 3 | Set readability as Children  Test a document with a higher readability | Readability comments change colour | Success | No comments |
|  |  | Test an existing document for different readabilities. Do not click Evaluate | No change | Success | No comments |
|  |  | Test an existing document with different readabilities by pressing evaluate every time. | Colour changes for everything except target readability | Success | No Comments |
| Generating comments | 11 | Give a poem as a text | Proper comments not generated | Failed | Limitation of the parsing system being used, in this case NLTK |
|  |  | Use multiple tenses in the same sentence | Appropriate comments generated | Success | The writer should stick to one tense in a sentence |
|  |  | Multiple tenses across sentences in a paragraph | No Comments generated | Success | Checking of tenses is a sentence level functionality |
|  |  | Sentence with 30 words | “Sentence may be too long” comment generated | Success | The sentence should not be more than 25 words. |
|  |  | Sentence with 20 words | No comment generated | Success | No comments |
|  |  | Sentence with 3 adjectives in a sentence | Floweriness: 3.0 per sentence | Success | Floweriness = Number of Adjectives per sentence |
|  |  | Sentence with no adjectives | Floweriness  : 0.0 per sentence | Success | Floweriness = Number of Adjectives per sentence |
|  |  | Sentence with passive voice | Passive Voice comment generated | Success |  |
|  |  | Sentence in active voice | Passive voice comment not generated | Success |  |
|  |  | Sentence with 3 rare words in a sentence | Comment: Obscurity: 3.0 per sentence | Success | Obscurity = Number of words with frequency <5 per sentence |
|  |  | Sentence with 0 rare words in a sentence | Comment: Obscurity: 0.0 per sentence | Success | Obscurity = Number of words with frequency <5 per sentence |
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