Software Engineering Group Project  
Testing document

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# 1. Introduction

## 1.1 Purpose

The purpose of this document is to indicate the tests that will be carried out to ensure the software works as intended in the design document. This document will also list the input, output and pass criterial of each test.

## 1.2 Scope

The testing document assumes that the user is familiar with SE.QA.06 [1] as well as the Requirements Specification for Welsh Vocabulary Tutor [2] in order to understand the functions being tested.

## 1.3 Objectives

The objective of this document is to provide details about the testing carried out on the CS22120 group project, a Welsh vocabulary tutor and dictionary.

# 2. Test Specification

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Ref | Req Being Tested | Test Content | Input | Output | Pass Criteria |
| SE-T-001 | FR2 | The dictionary can be ordered by the English words’ order | Start the program. | A sorted dictionary is displayed to the user. | The user can see a list of words ordered alphabetically in English. |
| SE-T-002 | FR1 | The system orders dictionary using English words by default | A list of words as loaded from the JSON file. | The list is sorted by the English alphabet after starting the system up. | When starting the software, the dictionary appears in the English order. |
| SE-T-003 | FR2 | The list is able to be ordered by Welsh words | Switching the list order from English to Welsh. | A now sorted list of words. | The system is able to order the dictionary in the Welsh order |
| SE-T-004 | FR2 | The user is able to switch the list order from welsh to English. | Switching the list order from Welsh to English. | The list is now ordered by English. | The user is able to change the dictionary order from Welsh to English. |
| SE-T-005 | FR2 | Special characters do not throw off the ordering | An ordered list of all welsh words. | A now sorted list of words | Special characters like “ȏ” do not affect the ordering of the dictionary e.g. “tȏ” appearing after “tunell”. |
| SE-T-006 | FR1 | User is able to scroll through the dictionary / list of displayed words. | Scroll bar that can be selected with mouse input from the user | Different part of the list displayed, based on the scroller’s movement. | Words list displays words relevant to the scroll bar’s position. |
| SE-T-007 | FR3 | When the user searches for a word, the correct words and translations appear. | User inputs the word the want to search for. “Originally” in the test case. | The test term is displayed along with its Welsh translation. | Only words starting with inputted characters are displayed. |
| SE-T-008 | FR3 | The user is able to search for words in Welsh. | User inputs the word they want to search for. “tȏ” in the test case. | The test term is displayed along with its English translation. | Words appear as characters are typed with the correct word appearing when the user is finished inputting the test term. |
| SE-T-009 | FR3 | When the user changes the search language the words reorder | The User inputs the test term then changes the dictionary order from English to welsh. “Pen” being the test term. | The displayed terms change in order to the language order of the dictionary. | When the order language changes the words displayed will change to words containing the same test term in the other language. |
| SE-T-010 | FR4 | The system stores words the user wishes to practice on | A word that is not currently part of the practice list. “Ffrwyth” (fruit) as a test term. | The practice list should now contain the added word. | The practice list is modified correctly and stored. |
| SE-T-011 | FR4 | The user can add words to their practice list. | A word not currently in the practice list is added, “Cyfforddus” (Comfortable) as a test term. | The list contains the word added. As well as any other added words. | The user can add words to the practice list without issue. |
| SE-T-012 | FR4 | The user can remove words from their practice list | The content of the practice list. “Ffrwyth”(Fruit) in this case. | The practice list with the chosen word removed. | The user is able to remove words from the practice list without issue. |
| SE-T-013 | FR4 | The user cannot add the same word to the practice list twice. | A word that is currently part of the practice list. “Comfortable” in this case. | The practice list remains unchanged and displays an error message. | The user is unable to add a word to the practice list if the is already part of it. |
| SE-T-014 | FR5 | The user can add their own word to the dictionary | A word that is not currently part of the dictionary. “Cyffug” (Fudge) in this case. | The added word now appears in the dictionary. | The user is able to add their own words, the words are also stored correctly. |
| SE-T-015 | FR5 | A blank word will not be added to the dictionary. | User tries to add a word leaving a blank input instead of using a word. | The system displays an error saying blanks cannot be added. | Nothing is added to the dictionary and an appropriate message is displayed to the user. |
| SE-T-016 | FR5 | All words must have a type | User attempts to add a new word without specifying a type | An error saying all words need a type. | No changes are made to the dictionary and a suitable error is displayed. |
| SE-T-017 | FR5 | All words must have both and English and Welsh version | A word added with either an English or Welsh version missing. “oblivion” without listing its welsh version (Ebargofiant) | An error saying a word needs to be in both Welsh and English to be added. | All words in the dictionary has a welsh and English version, system displays appropriate error otherwise. |
| SE-T-018 | FR5 | The user can not add a duplicate word into the dictionary. | The user cannot add the word “Illegal” into the dictionary. | An error saying the word already exists. | No changes are made to the dictionary and an error is displayed. |
| SE-T-019 | FR5 | User can add a word with the same spelling as long as it is not identical to an already existing word. | Adding the word “lie” (falsehood)to the dictionary. | The word is correctly added to the dictionary | The user can add the word “lie” (falsehood) to the dictionary. |
| SE-T-020 | FR5 | Words with illegal characters cannot be added. | A word using an illegal character cannot be added. “$al%” | An error saying the word is not valid. | Illegal characters that do not appear in either languages are not added into the dictionary, error message is displayed. |
| SE-T-021 | FR5 | Word types can only be masculine/feminine nouns, verbs or other. | The user selects a word type from the dropdown menu, so there can | An error telling the user the type is invalid. | The user is unable to add a word with an unsupported type. |
| SE-T-022 | FR5 | New words are added to the practice list. | A new word input by the user. “Amazing” | The word amazing and its welsh translation is now listed in the practice list. | Any new word is automatically added to the practice list. |
| SE-T-023 | FR6 | When a noun is displayed, the system shows what the words gender is welsh is. | “Abbey” is listed as basing a masculine noun.  “Actress” is listed as being a feminine noun. | The welsh form’s gender is shown. | All nouns in the dictionary show their gender when displayed. |
| SE-T-024 | FR6 | When a verb is displayed the English form is prefaced by “to”. | The words “add” and “admire” are prefaced by “to”. | The English form has “to” before it. | All verbs in the dictionary are prefaced with “to” |
| SE-T-025 | FR7 | The user can view their practice list. | A button is pressed to bring the user’s practice list up. | The practice list is displayed, including words added earlier “Cyffug”,”Amazing” and “Comfortable” as well as their translations. | The user is able to access their practice list. |
| SE-T-026 | FR7 | The user’s practice list will not be displayed if it is empty. (Note, that this test will be run before any words are added to the practice list) | A button is pressed to access the practice list. | An error is displayed saying the list is empty. | The user cannot access the practice list if there is nothing in it. |
| SE-T-027 | FR8 | User is able to generate English flashcards based on words in the practice list. | The contents of the practice list. | A flashcard containing a word from the practice list. | The user is able to see an English flashcard with a word from their practice list. |
| SE-T-028 | FR8 | User is able to generate Welsh flashcards based off the words in the practice list. | The contents of the practice list. | A flashcard containing a welsh word from the list | The user is able to see a Welsh word on a flashcard. |
| SE-T-029 | FR8 | User is able to see the flashcards translation after seeing the flashcard. | The word on the flashcard. | The translated version of the word on the flashcard. | The user is able to view the flashcards translation. |
| SE-T-030 | FR8 | The user is able to generate multiple flashcards based off the practice list. | A queue of all words in the practice list. | Words are taken out of the queue until the user is done. | User is able to go through flashcards one by one. |
| SE-T-031 | FR9 | A word is displayed, and the user is given 6 words to choose from for the correct translation. This is to test a correct answer. | A random word from the practice list. | The user is congratulated on getting a correct answer. | The user is given 6 options to choose as a translation for the displayed word, 5 are random 1 is correct.  System behaves appropriately congratulating the user when a correct answer is chosen. |
| SE-T-032 | FR9 | A word is displayed, and the user is given 6 words to chose from for the correct translation. This is to test an incorrect answer. | A random word from the practice list. | The user is given positive feedback and told the correct answer. | If the user picks the wrong answer, they are given positive reinforcement and told the correct answer before moving on. |
| SE-T-033 | FR9 | User is given a word in one language and asked to translate it. | Translation to displayed word typed by the user. | A message is displayed if the user is incorrect, otherwise the user is told their answer was correct. | System is able to see if the user typed the correct translation. |
| SE-T-034 | FR9 | Jumble practice method is only available if there are at least 4 words in the practice list. | The contents of the practice list. | An error is thrown if there are not at least 4 words in the practice list. | The practice method will not start unless there are 4 or more words in the practice list. |
| SE-T-035 | FR9 | User is given 4 words and their translations all jumbled up, must match them. | Pairs of words from the practice list sorted by the user. | User is told if they are right or wrong. | System checks if the user matched all words correctly and behaves appropriately. |
| SE-T-036 | FR10 | User is able to run tests from their practice list. | User presses a button to sort practicing. | System queues several practice methods for the user. | Several practices are queued up for the user to go through. (Selected randomly) |
| SE-T-037 | FR10 | User has a tally of how many tests they got right | A tally is increased every time the user gets a test right. | The tally is output once all tests are over. | With every test the user passes they are given a point, the tally of these points is kept and displayed once all tests are done. |
| SE-T-038 | FR10 | User is given positive feedback on getting a test right. | The test output saying the user passed it. | Some kind of congratulatory message to encourage the user. | The system displays positive feedback to the user when they pass tests and do well. |
| SE-T-039 | FR10 | User is given the correct answer to a test after getting it wrong. | The test output saying the user has failed. | The correct answer is displayed. | The user is shown the correct answer to the previously completed test after failing it. |
| SE-T-40 | PR1 | Any user input is reflected onscreen within 1 second. | Any input provided by the user | The user’s input displayed on screen | Any input is reflected on the users’ screen within a second. |
| SE-T-41 | PR2 | The software runs on a standard PC within the Department of Computer Science | The software is run. | The software displays and runs correctly. | The system runs correctly on a standard pc. |

# 3. References

SE.QA.06 - Test Procedure standards [1]  
Requirements Specification for Welsh Vocabulary Tutor [2]  
SE.QA.04 - User Interface Specification Standards [3]  
SE.QA.02 General Documentation Standards [4]

# 4.Changes

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| --- | --- | --- | --- | --- |
| Version | CCF NO# | Date | Changes made to document | Changed By |
| 1.0  2.0 | N/A  #4 | 22/2/20  27/4/20 | Acted on feedback for the draft document.  Added introduction and table of contents.  Made changes to tests: Adding new tests, making inputs clear and the tests repeatable. | Ryb11  Ryb11 |