

Software Engineering Group Project 20

Test Procedure Standards

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1 Introduction

1.1 Purpose of this Document

This document's purpose is to provide a clear set of guidelines to aid the production of a high-quality program for Group 20 in CS22120.

1.2 Scope

This document lays the groundwork for the standards that must be followed when software test specifications and reports are written. This document also outlines the main stages of testing to be followed.

This document must be read in full by all members of the Group 20 team. It is assumed that all members of group 20 are already clearly familiar with the QA Plan [1].

1.3 Objectives

The objectives of this document are to outline a clear plan for testing, formatting, and the information that must be supplied for the test specifications and test reports.

2 Relevant QA Documents

This Test Specification and the following Test Report are to be produced in full to the quality standards outlined within the QA Plan [1]. These files must also be stored and maintained within the configuration management system following the guidelines given in Operating Procedures and Configuration Management Standards [3]. The basic layout of the documents along with all of the information within them must also follow the structure and guidelines given within General Documentation Standards [4].

3 General Approach to Testing

Testing boundary situations is important. Tests for both the expected values and illegal values should be conducted to see if the test both outputs correct values and throws the correct errors when illegal values are entered, or vital fields left blank.

Software should be subjected to three levels of testing, Module, system and acceptance testing. Module testing is testing individual parts of the program in isolation from the rest of the system. For our project a module will probably consist of a single class. System testing tests all the modules together as one complete system. Acceptance testing tests the software against criteria set by the client with the aim that once all acceptance tests are passed then the client agrees to accept the product as complete. These tests would usually be carried out by the client in the presence of all group members.

4 Test Plan

For this project our testing plan will consist of:

Module testing; conducted by the coder, as the list of tests should already be written, most testing can be done as each part of the code is written to see if it works as intended.

System testing: a system testing specification will be written during the design phase; all major functionality should be covered by this. Once the system is complete, a test report will detail all tests of only features that did not pass.

5 Test Specifications

Test Reference	Requirement Being Tested	Test Content	Input	Output	Pass Criteria
GR20T1	FR1	Check That words shown are arranged alphabetically by their English Words.	N / A.	English words shown in ascending order alphabetically.	Correct data displayed.
GR20T2	FR2	Selecting the language option should reorder the list to alphabetically show Welsh words over English.	Clicking the language button.	Welsh words shown in ascending order alphabetically.	Correct data displayed.
GR20T3	FR3	Typing an English word in the search bar while the list is sorted by English should only show words starting with those letters.	Typing “ap”	Words displayed should be words starting with the written input. E.g. “Apple”	Correct data displayed.
GR20T4	FR3	Typing a Welsh word in the search bar while the list is sorted by Welsh should only show words starting with those letters.	Typing “af”	Words displayed should be words starting with the written input. E.g. “Afal”	Correct data displayed.
GR20T5	FR4	Highlighted words should	Select word with left	Word should be updated	Word correctly

		all be placed in a practice list.	click to highlight.	into the practice list.	added to practice list.
GR20T6	FR4	Words deselected should be removed from the practice list.	Select word with left click to remove highlight.	Word should be removed from the practice list.	Word correctly removed from practice list.
GR20T7	FR5	Trying to add a new word to the dictionary without supplying a translation.	Add “Apple” [Leave translation field blank.]	An error message warning of incorrect input should be shown.	System displays input error message.
GR20T8	FR5	Trying to add a word that is already in the program.	Add “Apple” [Afal]	An error message warning of duplicate data attempt should be shown.	System displays duplicate data error message.
GR20T9	FR6	Selecting A word should show whether it is “masculine” “feminine” “noun” or a “verb.”	Select a word from the list.	Word information is given.	Word information matches the data stored within the stored file.
GR20T10	FR7	Clicking the “Practice List” menu should show all practice words the user has highlighted.	Navigate to “Practice List” menu option.	All practice words should be shown in alphabetical order.	Practice words shown in alphabetical order.
GR20T11	FR8	Flash cards should randomly show either Welsh or English for the user to answer.	Navigate to “Flash Cards” menu option.	Flash cards correctly show Welsh or English word with the correct counterpart word when flipped.	Flash card shown to user correctly.
GR20T12	FR9	Starting a “Options” test should	Navigate to Tests. Select	Test word must be shown along	Correct data displayed.

		show a word followed by six words in the opposite language. (One of which being correct.)	“Options” as a test type.	with six possible answers (One of which must be correct.)	
GR20T13	FR9	Starting a “Translate” test should show a word followed by a text box where the translated word can be entered by the user.	Navigate to “Tests.” Select “Translate” as a test type.	Test word must be shown along with a text box, where inserting the correct translation must show as correct. Inserting an incorrect translation must show as incorrect.	Data shown correctly. Correct prompts shown on pass or failure of the translation.
GR20T14	FR9	Starting a “Match” test should show four practice list words along with four matching (unordered) meanings. The four meanings can be matched with the words.	Navigate to Tests. Select “Match” as a test type.	Four test words must be shown along with their four jumbled meanings. Matching them correctly must be shown as correct while matching them incorrectly must be shown as incorrect.	Data shown correctly, Pass or Fail correctly shown upon the matching of words and meanings.
GR20T15	FR9 (SPECIFICALLY GR20T12)	The “Match” test option must not be available unless there are at least FOUR words added to the practice list.	Navigate to “Tests.” Select “Match” as a test type.	The user must be shown an error message if there are less than FOUR words added to the practice list. Otherwise the test will begin.	If less than FOUR words are present within the test list. An error message is shown. If FOUR words are present the test will proceed without an

					error message following test parameters outlines within (GR20T12.)
GR20T16	FR10	When the user starts a test, the words loaded should be from the practice list.	Navigate to Tests.	Words shown must only be those that were added to the practice list by the user.	Correct data displayed.
GR20T17	FR10	With each answer the user gives, a score counter should reflect the number of questions answered along with how many the user has answered correctly.	Start one of the tests within the “Test” menu.	A score table must be shown. This counter must show the number of questions that have been answered along with the number that the user has entered correctly.	Data, correct questions and number of questions shown and counted correctly.
GR20T18	FR10	At the conclusion of the test the user should be shown clear feedback of praise if they are correct. Otherwise the feedback should be information on what the correct answer is.	Navigate to “Tests” and complete one of them using both known correct and incorrect answers.	Feedback shown at the end of each test must be the correct outcome along with showing the correct assistance feedback if required.	Data shown correctly in feedback text field.
GR20T19	FR10	Selecting the random game button should start one of the games should start at random.	Navigate to the “Random” option in the game’s menu.	One of the games must be selected and started at random.	All games accessible from the menu and a random game is selected each time.

6 Test Result Reporting

All details appertaining to test results must be maintained and kept within the test folder stored within the group project repository on GitLab. Two folders must be present with one being labelled “Module Tests” and the other being labelled “System Tests.”

Each section must contain a dated report which is added and updated whenever a new version of the software is built. This test must include all information of tests that have failed within said build.

When the project is completed with all tests able to be run and all tests have passed. All results must be submitted within a final report as a Test Report following the guidelines set within “Producing a Final Report [2]”.

References

- [1] QA Document SE.QA.01 - Quality Assurance Plan.
- [2] QA Document SE.QA.10 - Producing a Final Report.
- [3] QA Document SE.QA.08 - Operating Procedures and Configuration Management Standards.
- [4] QA Document SE.QA.02 - General Documentation Standards.

Document History

Version	CCF No.	Date	Changes Made to Document	Changed by
0.1	N / A	2020-02-15	Initial Creation	NCW
0.2	N / A	2020-02-17	Updates to TEST SPECIFICATIONS	NCW
0.3	N / A	2020-02-19	Updates to TEST SPECIFICATIONS and FORMATING	NCW
0.4	N / A	2020-02-21	Minor grammatical chances	NCW
0.5	N / A	2020-02-25	(3 GENERAL APPROACH TO TESTING) and (4 TEST PLAN) designed incorrectly and are to be redone.	NCW
0.6	N / A	2020-02-27	Sections 3 and 4	HJD3
0.7	N / A	2020-02-28	Minor Grammatical changes.	NCW