**Test Plan**

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Version: 1.2

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Author** | **Version** | **Changed details** |
| 5/24/2015 | Kevin and Yohanness | 1.1 | * Add ID 1-20 test cases |
| 5/25/2015 | Yohanness | 1.1 | * Add to Features to be tested * Add to Introduction * Add to known issues and risks * Add to Exit Criteria |
| 5/26/2015 | Kevin | 1.1 | * Add to References * Update Introduction * Update objective * Add to Supported Configurations * Update Features to be tested |
| 5/27/2015 | Kevin | 1.1 | * Update Features to be tested * Add to Features not to be tested * Add to Test Strategy * Update Exit Criteria * Delete Known issues and risks * Add to Test Schedule * Add to SFPDO |
| 5/28/15 | Kevin | 1.1 | * Update Introduction * Update Objective * Update Supported Configurations * Update Features to be tested * Update Features not to be tested * Update test strategy * Update Exit Criteria * Update ID 1-6 test cases |
| 5/29/15 | Kevin | 1.1 | * Delete ID 1-4, 14, 16, 18, 20 test cases * Update ID 1-12 test cases |
| 6/10/15 | Kevin | 1.2 | * Update Supported Configuration * Update Feature to be tested * Update Feature not to be tested * Update Exit Criteria * Update test cases |

**References**

Refer to the LANguage app Lifecycle Architecture Review v3 for requirements specification and task schedule.

**Introduction**

The purpose of this test plan document is to facilitate the process of testing the LANguage app browser extension. This document contains the objective, supported configurations, features to be tested, features not to be tested, test strategy, exit criteria, test Schedule, and test cases.

**Objective**

This test document helps the developer on the team to communicate effectively about how to test the LANguage app browser extension, what to test, and why test those features. This document is a place to keep records of test cases that has passed and to add new test cases for future version of the LANguage app browser extension. The test team is responsible to use this document to test the LANguage app and ensure it meets the product’s requirements. The three features that are to be tested: quiz mini-game, single translation, and progress report. The test team are the testing developers on this project.

**Supported Configurations**

The LANguage app browser extension will be run on Chrome browser. The user will be able to download the LANguage App extension version 1.0.1 from the Chrome web store. An extension icon will appear on the toolbar for the user to interact with the extension. The browser extension is connected to the Dictionary API to ensure direct translation. Progress on how will be saved on the local storage.

**Features to be tested**

Quiz Mini-Game

For MVP, the most important feature that distinguish this browser extension from other existing competitor is the quiz mini game feature. This feature provides a fun and interactive way for the user to learn vocabulary in German (MVP). Extension will randomly highlight words on the webpage for users to choose from to initiate the quiz. When the users choose the correct answer, a congratulation screen will appear. If the user did not choose a correct answer, the meaning of the incorrect answer will be displayed, and user can choose again.

Aspects of the quiz-mini game to be tested:

* Using HTML parser, the extension should extract the text content from the web page that the user is currently viewing.

This will allow the extension to proceed to randomly highlight five words that can be translated into German.

* Five words with known translations should be highlighted and clickable for the user to initiate the quiz.

All five words should be highlighted using CSS styles. When user click on them, a quiz box should pop up.

* Extension will display five German words, along with the translation of the one that the users chose, from a list of common words in German embedded in the extension.

The translation of the word that the user chose is the correct answer, while the other four are not.

* The extension should respond in two way, when user choose the right answer and when user choose the wrong answer.

If it was the right answer, a congratulation screen will be displayed. If it was the wrong answer, then it will tell user the meaning of the incorrect answer and the user can choose other answers.

Progress Record

For MVP, the progress record will be the second main feature to be implemented. Basically, every time the user does a quiz on a certain word, the results will be record to the progress report page. The progress report page will have information on how many times, the user successfully completed a quiz, the accuracy of the user’s accumulated quiz results, and the accumulated total time of taking quizzes. The information will remain on the page even after the browser is closed. The user can access the page by clicking LANguage app icon on the browser toolbar. User can also reset the progress.

Aspects of the progress record to be tested:

* The number of times the user successfully taken the quiz will be saved to the progress record page.

The user should be able to see how many times they have taken the quiz and answer the question successfully.

* The accuracy should correspond to exactly how many times the users got the right answer out of the total tries that the user did. It should be saved to the progress record page so that it is different every time the user finished a quiz.
* The time counter should also count exactly how much time it took the user to answer all the quiz they have so far. It should be saved to the progress record page so that it is different every time the user finished a quiz.
* Information from the progress record will be loaded in from local storage whenever the extension is enabled.

If the user used the extension on April 3rd, then when the user boot up the computer on April 4th, they should still see the record from yesterday.

* The user should be able to easily access the progress report page by clicking the LANguage app icon on the browser toolbar.

The design of the button that opens the progress report page should be intuitive. The user should not look everywhere to open the progress report page.

Translation Service

For MVP, the LANguage can translate single word from English to German. The single-word translation tool is intended to give the user a resource to practice vocabulary outside of the quiz mini-game. Specifically, it will translate a selected word. The translation will then be presented as a pop up.

Aspects of the translation service to be tested:

* Extension can interact smoothly with an external translation provider.

The extension will sent a request to the translation provider whenever the user highlights a word, right click on it, and select “Translate with LANguage”. Depend on what is being highlighted, if spaces or any characters that does not form an actual word, the extension should either ignore the user’s action or display “no definition”. Only actual English words will be accepted. The translation provider then return the translated word back to the extension.

* Extension can wrap around the translated word with help from a tooltip library and then display to the screen.

The tooltip library will be tested to see if it can wrap around any word sent back from the translation provider. A “no definition” sign will be display instead of the word that user want to translate if the word does not exist.

**Features not to be tested**

Language Expansion

For MVP, the extension will focus on English to German translation. However, in future update, more language option will be included. For now, translation other than English to German will not be available and will not be tested. If new option are available, the test team will test it using the same procedure when they test translation from English to German.

Pronunciation Service

The aspect of audio of the word being selected will be included in future release of the LANguage app extension. When audio is included, test team will conduct test to see if the audio can be initiate across different computer and that the audio is with the correct selected word.

Expanded Quiz Types

For MVP, the current quiz type is matching the word to its synonym. In future release, the extension will include more quiz types.

* Spelling quiz (select the word from the list that is spelled correctly)

Testing team will test to make sure that all the wrong answer are spelled incorrectly and the system recognize the correctly spelled word.

* Fill-in-the-blank (choose the word that completes the given sentence)

Testing team will test to make sure that only one answer can fit to complete the sentence and the rest are unsuitable from user’s point of view.

* Time trial (the user has 5 seconds to choose the right answer)

Testing team will test to make sure that the quiz is over after five seconds of not getting the correct answer, the time will be renewed after the user choose the right answer, and the quiz will have a number of questions as opposed to unlimited.

Enhanced Progress Reporting

For MVP, the current function of progress reporting page is to record how many times the user had answer a quiz correctly on any word, the accuracy of choosing the right answers, and the time it took the users to take the quizzes. In the future release, progress reporting will have more functionality.

* Average time spent on quizzes for specific word

A timer will be implemented to record the total time it takes for the user to get the right answer. If the user choose to test on the same word again, the test team should test to make sure that the new time will be updated on the progress report page.

* Graphs of vocabulary proficiency over time

A graph generated based on the results of how the user answer all the quizzes in one type over time. The Test team will test to make sure that the graph can be updated with new information every time the user take a quiz.

Social Features

User can link LANguage app extension with their existing social account from Facebook and Twitter through a website. This will be included in the future release. The test team will test to make sure that each individual account is only associated with one computer.

Mobility/Off-Line Factor

The extension can save multiple quiz questions on the local storage so that user can play those quiz offline. The test team will test to make sure that quiz can indeed be initiated by user when not connect to the internet. This app extension will also be made available on Android or iOs platform for phone users in the future release.

**Test strategy**

Our main strategy will be using manual testing. The testing team will recruit subjects to act as end user of the LANguage app browser extension and thoroughly test all the main features that the the extension offers. The testing team will then ask the users questions to gain insight into any major bugs as well as improvement for this product. The testers on the team will test the product themselves as well. The testers will look to see how they could break the extension in anyway to find the bugs.

**Exit Criteria**

The exit criteria serve as the requirements that the LANguage app has been satisfactorily completed and ready to ship to the end users. The extension is complete based on each main feature priority status. The quiz mini-game has the highest priority whereas Progress Report and Single Translation have medium priority.

Criteria

* Basic matching words to its synonym quiz mini-game has the highest priority and must be completed to avoid high severity defects.
* Ensure all feature documentation has been completed and is up-to-date.
* Minimum defects for the two main features(Mini-game and Progress Record).

**Test Schedule**

|  |  |  |
| --- | --- | --- |
| Date | Test Description | Status |
| 5/28/15-6/05/15 | Recruit Subjects | Finished |
| 5/28/15-6/05/15 | Conducting Usability Testing | Finished |
| 6/06/15-6/10/15 | Record result to the Usability Test Plan | Finished |
| 6/10/15 | Report results to the Team | In-Progress |

**SFDPO**

The SFDPO (Structure, Function, Data, Platform, Operations) methodology will be use to outline all the aspects that needs to be tested. LANguage’s two primary services will be thoroughly tested to ensure that each component communicates optimally with one another. We will also test the connectivity with the external dictionary and how well LANguage performs as a Chrome browser extension. Given the simplicity in LANguage’s design, these aspects will be thoroughly sufficient to ensure a high quality product for our customers. Features that will not be tested are the software services not in MVP including: pronunciation, expanded languages, expanded quiz types, expanded progress reports, and social features. These features may be added in later releases of LANguage and will be tested then. The features we will be testing will be tested manually by quality assurance and tracked via an online document that the rest of our team can access. The main function that we need to test is to make sure that the browser extension, external dictionary, and browser local storage are linked together correctly. If we cannot get these components to link correctly by a certain date, our product will not have enough time to become completed.

#### Structure:

* Ensure the browser extension, external dictionary, and the browser local storage are linked together correctly.
* For the game, verify that the extension parses a web page correctly.
* For the game, verify that user progress is stored correctly in local browser storage.
* For the game, verify that progress report can be load on to the browser extension.
* For the game, verify that words can be highlighted by the browser extension.

#### Function:

* Make sure extension choose meaningful and appropriate words for the mini-game.
* Make sure all user interfaces function correctly.

#### Data:

* Verify LANguage handles user selection during quiz mini-game correctly.
* Verify LANguage stores user progress correctly in local browser storage.

#### Platform:

* Make sure LANguage runs correctly on the Chrome browser.
* Make sure that LANguage uses the external dictionary correctly.

#### Operations:

* Test mini-game feature.
* See if user progress is being stored correctly.

**Test Cases**

Test Case ID: 1

Title: Extension highlights five English words.

Priority: High

Pre-conditions: Users are currently on a web page with English text.

Postconditions: Users can see five highlighted English words by the extension.

Purpose: To verify if the extension will highlight five English words on the web page.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | The extension uses HTML parser to extract text content from the web page | The extension has successfully extracted the text |
| Step 2 | The extension passes words from the text to the translation provider until it has five translation | The extension receives five translation |
| Step 3 | The five words being passed to the translation provider are highlighted on the web page | The users can see five highlighted English words |

Test Case ID: 2

Title: Extension does not highlight symbols, space, or non-existing English words.

Priority: High

Pre-conditions: Users is currently on a web page with symbols, spaces, and English words.

Post-conditions: Nothing other than actual English words should be highlighted.

Purpose: To verify if the extension will not highlight symbols, space, and non-existing English words.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | The extension uses HTML parser to extract text content from the web page | The extension has successfully extracted the text |
| Step 2 | The extension does not pass symbols, spaces, or non-existing words to the translation provider | The extension receives five normal translation |
| Step 3 | The five words begin passed to the translation provider are highlighted on the web page and not symbols, space, or non-existing English words | There is no symbols, space, or non-existing English words highlighted |

Test Case ID: 3

Title: Users click an English word highlighted by the extension to initiate the quiz.

Priority: High

Pre-conditions: There are English word highlighted by the extension on the web page.

Post-conditions: A pop-up shows that the quiz is initiated.

Purpose: To verify if the extension will initialize the quiz when users click on an highlighted English word.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on one of the highlighted English words | A pop-up appear that shows content of the quiz |

Test Case ID: 4

Title: Extension does not initialize the quiz when users click an English word not highlighted by the extension.

Priority: High

Pre-conditions: There are English word not highlighted by the extension on the web page.

Post-conditions: Nothing happens.

Purpose: To verify if the extension will initialize the quiz or not when users click on an non-highlighted English word.

Created by: 5/24/2015

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| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on a non-highlighted English words | Nothing happens |

Test Case ID: 5

Title: There are five choices in the quiz for users to choose from (Eng-Ger).

Priority: High

Pre-conditions: The quiz has been initiated.

Post-conditions: There are five choices presented to the users in the quiz.

Purpose: To verify if the extension prepares exactly five choices for the users to choose from.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on one of the highlighted word to initiate the quiz | The click action sends a message to the extension |
| Step 2 | The extension look for four other words from a list of words embedded in the extension | The extension present the translation of the real answer along with the four other words |

Test Case ID: 6

Title: Users choose the right answer during the quiz (Eng-Ger).

Priority: High

Pre-conditions: Users can see five choices presented in the quiz.

Post-conditions: The quiz shows a congratulation screen on the pop-up.

Purpose: To verify how extension will respond to users’ click on correct answer.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on one of the highlighted English words | Five choices appear in a pop-up as the quiz |
| Step 2 | Users click on the right answer | The quiz shows a congratulation screen on the pop-up |

Test Case ID: 7

Title: Users choose the wrong answer during the quiz (Eng-Ger).

Priority: High

Pre-conditions: Five choices are presented to the users.

Post-conditions: Quiz stay on multiple choice screen and shows the English meaning of the chosen answer.

Purpose: To verify how extension will respond to users’ click on incorrect answer.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on one of the highlighted English words | Five choices appear in a pop-up as the quiz |
| Step 2 | Users click on the wrong answer | The quiz stay on multiple choice screen for users to try again, and the meaning of the wrong answer is showed |

Test Case ID: 8

Title: Users can open and access the progress report page.

Priority: Medium

Pre-conditions: The LANguage extension is enabled and the Chrome browser is open.

Post-conditions: The progress report page is shown.

Purpose: To verify if the users can open the progress report page.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on the LANguage icon on the toolbar | The progress report page is shown |

Test Case ID: 9

Title: The extension records the number of times the user successfully completed the quiz to the progress report page.

Priority: Medium

Pre-conditions: Users finished the quiz successfully by choosing the right answer.

Post-conditions: Extension has the “new number of times the user successfully completed the quiz” result on its progress report page.

Purpose: To verify if the extension will record the result to the progress report page.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on the LANguage icon on the toolbar | The number of times the user successfully completed the quiz is shown on the progress report page |
| Step 2 | Users take another quiz and successfully completed it | The number of times the User succeeded is recorded |
| Step 3 | Users click on the LANguage icon on the toolbar again | The number of times has been incremented by one |

Test Case ID: 10

Title: The extension records no progress when the user has not completed any quiz yet.

Priority: Medium

Pre-conditions: Users are doing the quiz.

Post-conditions: The number of times the users successfully complete the quiz is zero.

Purpose: To verify if the extension will not record the result to the progress report page.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on one of the highlighted English words | Five choices appear in a pop-up as the quiz |
| Step 2 | Users quit the quiz by exiting the pop-up | No result has been recorded |
| Step 3 | Users click on the LANguage icon on the toolbar | The number of times the users succeeded is the same on the progress report page |

Test Case ID: 11

Title: The extension records the accuracy of user getting the right answer out of total tries.

Priority: Medium

Pre-conditions: Accuracy is 100% on the progress report page.

Post-conditions: The accuracy matches the exact number of correct answer that the user got divided by total tries. (If it took third time to get the right answer, then accuracy should be 33.33%)

Purpose: To verify if the extension will record the accuracy to the progress report page.

Created by: 6/10/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on one of the highlighted English words | Five choices appear in a pop-up as the quiz |
| Step 2 | Users choose answer until getting the right one | A congratulation screen is shown |
| Step 3 | Users quit the quiz and click on the LANguage icon on the toolbar | The accuracy should be 20% if guessed fives tries and got it right on the last try. 25% if guess four tries and got it right on the fourth try. |

Test Case ID: 12

Title: The extension records how much time it took the user to answer all the quiz.

Priority: Medium

Pre-conditions: Time counter on the progress record page is 0 hours, 0 minutes, and 0 seconds.

Post-conditions: The time counter is exactly the same as how much time it took the user to get the right answer.

Purpose: To verify if the extension will record the time to the progress report page.

Created by: 6/10/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users click on one of the highlighted English words | Five choices appear in a pop-up as the quiz |
| Step 2 | Users start counting in their head or aloud while taking the quiz | A correct answer is chosen, and a congratulation screen text is shown |
| Step 3 | Users click on the LANguage icon on the toolbar | The time on the progress report page is very close to the time the user count in their head |

Test Case ID: 13

Title: Users close the browser windows and open it again after completed the quiz however many times.

Priority: Medium

Pre-conditions: Users completed at least one quiz and the Chrome browser is currently open.

Post-conditions: The progress report page still shows the progress from before users last completed a quiz.

Purpose: To verify if the extension keeps all the record after the browser is closed.

Created by: 5/24/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | Users close the Chrome browser | The Chrome browser process ended |
| Step 2 | Users open the Chrome browser | The Chrome browser process start running again |
| Step 3 | Users click on the LANguage icon on the toolbar | The progress from last time still remains on the progress report page |

Test Case ID: 14

Title: A single English word can be translated using LANguage (Eng-Ger).

Priority: Medium

Pre-conditions: Users are currently on a web page with English text.

Postconditions: Extension translate the word and gives back the result.

Purpose: To verify how extension will respond to an attempt to translate a word.

Created by: 6/10/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | User uses the mouse to select an English word | Word is selected |
| Step 2 | User right-click on the selected word | Context Menu is shown |
| Step3 | User choose “Translate with LANguage” option on the context menu | A pop-up is shown with the German meaning of the English word |

Test Case ID: 15

Title: White space, symbols, or non-English word can’t be translated using LANguage (Eng-Ger).

Priority: Medium

Pre-conditions: Users are currently on a web page with symbols, space, and English words.

Postconditions: Extension did not translate the word and gives back no result.

Purpose: To verify how extension will respond to an attempt to translate space, symbols, or non-English word.

Created by: 6/10/2015

|  |  |  |
| --- | --- | --- |
|  | **Description** | **Expected result** |
| Step 1 | User uses the mouse to select symbols, space... | Symbols or space is selected |
| Step 3 | User right-click on the selected symbols or space.. | Context Menu is shown |
| Step 2 | User choose “Translate with LANguage” option on the context menu | Nothing happens |