**Testing types for Web Application “Duolingo”**

**Stress testing**

The system saves the state of the test every time the user clicks the “Check” button, so it will not be lost if there are some connection problems. If the user leaves the site without finishing the test, it states should be saved too.

**Load testing**

The system should be stable with 15 000 online users.

**Smoke testing**

The user should be able to start a test for a needed topic. If more than 4 errors are made, the test should finish with a message that the test is failed. If the test is finished successfully the system should allow to skip the current topic and navigate to the next topic.

**Usability testing**

If the user quits the site during passing the test and then returns, the system should navigate him or her to the page which the user last visited. If the user is working on the task with multiple-choice, the whole variant with the answer should be clickable. If there is a task, where the user has to input some text, the input field should be focused, when the page loads.

**Performance testing**

Every request should response less than in 1 second. It should redirect to the forum less than in 3 seconds. When internet connection is low than request should response less than in 5 second.

**GUI testing**

All the buttons are rounded, have white text color and green, blue, white, red background color. The progress bar should appear on every page with tasks. The exit button, progress bar and hurts should always appear in one line and align center. There should be no broken links or images.

**Functional testing**

There is an ability to complete a topic by passing a short test if you do less than 4 errors.

When the user chooses this kind of testing, the system shows a message with the information about the number of allowed errors and a button with a text “Complete the test for level #NumberOfLevel”.

When the user clicks on that button the test opens and he/she can see a progress bar and the number of hurts on the top of the page. The progress bar shows the percentage of answered questions and the hurts represent the number of left chances to make an error. There is also a button cross near the progress bar and if the user clicks on it, the test will close.

Under the progress bar, the user can see a task. There are three kinds of tasks: multiple choice (with three variants and only one is correct), to translate from English to Ukrainian, translate from Ukrainian to English. When there is a task with a translation user should build a sentence from available words by dragging and dropping words to the needed place or typing needed text.

If the user completes the task, the button with the text “Check” becomes enabled. If the user clicks on the “Check” button, he or she can see whether the selected answer is correct or not. If it is correct, the user will see the message “Yes, it is correct” with green background color, the value in progress bar will increase and the system will produce a sound which also shows that the answer is correct. If the answer is not correct, the user will see the message with red background color and the text “The right answer is X”. The number of hurts decreases by one and the system will produce a special sound that confirms that the answer was incorrect.

No matter whether the answer was: correct or not, the user will see a continue button with the text “Continue”, which allows navigating to the next step and 2 links: “Report” and “Discuss”. If the user clicks the “Report” link, he or she will has an opportunity to report a problem, for example, that there was no sound or it was incorrect. If the user clicks on “Discuss” the system will redirect the user to the Duolingo forum, where all the users can discuss the tasks.

If all the tasks are completed and the user made less than 4 errors, he or she will see the message that the test is completed and that it is allowed to go to the next topic.