1. Comparative table of types of testing

| Comparison blocks | Functional testing | Non-functional testing | Regression testing |
| --- | --- | --- | --- |
| that is being tested | Focused on testing the feasibility of functional requirements, which functions of the software are implemented, and how correctly they are implemented, as well as interaction with other systems. | Checking the non-functional aspects of the software application: performance, usability, reliability, etc. | Aimed at verifying changes, to confirm that the existing functionality in the application, which should be unchanged, works as it did before the interventions or the previously found defect has been fixed |
| when applicable | They can be presented at all levels of testing: Component/Unit testing, Integration testing, System testing, and Acceptance testing. | Is performed after the development of product functionality | After making the necessary changes, such as fixing a bug/defect, the software should be retested to confirm that the problem has indeed been resolved. |
| limitations | Functional testing looks at pre-specified behavior and is based on an analysis of the functionality specifications of a component or the system as a whole. | Checking the readiness of the system by non-functional parameters only | Only superficially tests important modules of the application or verification of changes, fixes defects, has a smaller scope of functionality verification |
| specifics | Functional types of testing consider the external behavior of the system | Non-functional testing must be measurable | Checking the application after changes have been made |

1. Difference between regression and retesting

Retesting is testing that is done repeatedly to make sure that no new bugs have appeared in the software.Regression testing (regression, regression, regression) is testing after changes have been made to the software. For example, if you find a defect in a program and send it back for improvement and then check again if the defect has been corrected, this testing is retesting. And if you check after that to make sure that the defect doesn't affect the existing functionality - this is regression testing.

If we want to put a quality product on the market we must do both functional and non-functional testing because they are interrelated. Functional testing checks the "functionality" of the software or application being tested. This ensures that each function of the product works in accordance with the specification of the requirement. In turn, non-functional testing checks non-functional aspects such as usability, reliability, performance of the software or application. It focuses on all aspects that are not addressed in functional testing. When a product performs as expected by the consumer and is effective under all circumstances, it is considered a reliable product. And meeting customer expectations is the main factor of a developed product.

1. Smoke testing

Smoke testing is a set of tests that covers the basic functions of a component or system to determine if they are working properly, prior to scheduled testing. Only the surface testing is performed.

With Smoke tests, we verify the functionality and stability of the build. That is, if an application crashes every five minutes and causes the system to hang, there is no point in performing basic testing. Prompt detection of errors at the initial stage will significantly reduce the time and labor costs to fix themThrough smoke testing, the testing team can detect defects in application functionality that may have appeared in the new code.Smoke testing is the last step before the software build enters the system stage. Smoke tests should be performed on every build included in testing. Smoke tests can minimize the testing effort and can improve the quality of the application and should therefore be performed.

1. Functional test cases to test and validate the kitty photo sharing application

| ID:01  Name:New user registration  Description:Checking a new user's registration in a previously downloaded cell phone app. Checking for iOS devices.  Priority:Blocked  Prerequisite: You must already have the app downloaded to your phone. Checking for iOS devices.  Steps:  1. Open the application under test in mobile phone  2. In the window that appears, click on the "New user registration" button".  3. In the registration form open, enter all the specified fields.  4. Click the register button.  Expected result: New user is successfully registered and logged in  Actual result: New user is successfully registered and logged in |
| --- |
| ID:02.  Name:Checking uploading a photo with a kitty to the mobile app  Description: Checking the possibility of uploading a photo with an image to this application  Priority:High  Prerequisite: You must already have the app downloaded to your phone. Checking for iOS devices.  Steps:  1.Open the application under test on a mobile phone.  2.In the application that opens, enter the previously registered data to log in to this application.  3.In the opened window press the "Upload photo" button  4.Choose a folder from which to download the photo we need  5.In the selected folder select a photo with a katty to upload and click "Select"  6.The selected photo appears on the application's download page. Press the "Download" button  Expected result: Opens a page with all the products with this name  Actual result: Opens a page with all the products with this name |
| ID:03.  Name:Uploading a photo that does not show a photo of a kitty.  Description: To check how the app will behave if a photo is uploaded that does not have a picture of a kitty on it  Priority:High  Prerequisite:Initially, you need to do all the steps in test case 02.You must already have the app downloaded to your phone. Checking for iOS devices.  Steps:  1. 1-4 from test case 02.  2. In the selected folder select a photo that does not show a photo of a kitty to upload and click "Select"  Expected result: An error window appears saying that there is no kitty in this photo  Actual result: An error window appears saying that there is no kitty in this photo |
| ID:04.  Name:Adding a new friend in the app  Description:Checking to add a new friend in the app who also has this app installed.  Priority:High  Steps:  1. Open the application under test on a mobile phone.  2. In the application that opens, enter the previously registered data to log in to this application.  3. In the application that opens, click on the "friends" icon  4. In the opened window in the search field enter the name and surname of the friend you want to add  4. Click the "Add" button  Expected result: The new friend should be added and displayed in the list of friends  Actual result: The new friend should be added and displayed in the list of friends |
| ID:05.  Name:Ability to leave a comment under the photo.  Description:Ability to leave a comment under the photo you like  Priority:Medium  Prerequisite:You must already have the app downloaded to your phone. Checking for iOS devices  Steps:  1. Open the application under test on a mobile phone.  2. In the application that opens, enter the previously registered data to log in to this application.  3. In the opened application open the newsfeed function, where the new uploaded photos of friends are displayed  4. Choose a photo under which we want to leave a comment  5. A comment field is displayed at the bottom of the photo. leave a comment under the photo  6. Click the "Publish" button  Expected result: The comment that was left should be displayed under the photo  Actual result: The comment that was left should be displayed under the photo |

1. Non-functional testing

1. Uploading a photo to the application for further uploading should not take more than 3 seconds.

2. The user's personal data must be protected from hacking, hacker attacks and viruses.

3. The maximum size of an uploaded photo must be 30 MB.

4. Image formats to upload: png, jpg, gif.

5. The button to upload a photo in the application should be red.

6. Mobile application for sharing photos of cats should work on iOS and Android devices.

7. User-friendly interface

8. application must work 24/7

9. The application will be able to recover from a system failure

Security check: if an incorrect password or login is entered three times, the application blocks login, it can be restored only after confirming that the actual login was made by this registered user. This can be the entry of a code that came to the phone or email entered during registration.

If the phone crashes unexpectedly, when you reboot the phone and sign in to the application, the application must be restored to the settings that were made before the system failure

When downloading a picture or opening an application should take no more than 3 seconds, you can check by timing the download

User friendliness, check how the buttons are arranged, whether the font is readable, ease of loading and using the application, the quality of transmitted photos

Installation on different devices, check the installation of the application for iOS and Android.

The functions did not change when the app was updated.