**MANUAL QA**

***Homework - Lesson 6***

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***Level 1:***

* ***Make a comparative table of functional, non-functional, and change-related types of testing.   
  The comparison should contain the following blocks:***
  + ***what is being checked;***
  + ***when applicable;***
  + ***restrictions;***
  + ***peculiarities.***

|  | **What is being checked** | **When applicable** | **Restrictions** | **Peculiarities** |
| --- | --- | --- | --- | --- |
| **Functional Testing** | Is focused on testing the functional requirements of the software application. | When we have to check a specific action or function of the code. | Can't cover all scenarios. And when non-functional requirements are critical to the success of the system. | Focus only on system functionalities. |
| **Non-Functional Testing** | It checks attributes, such as performance, reliability, scalability, usability, and security. | When we want to ensure performance, security, usability and compatibility of the system. | Cost and difficulty on measuring criteria. | It is often subjective. |
| **Change-related types of testing** | It checks new features and bug fixes | When changes or new requirements are introduced in the system. | Can demand many resources and can be time consuming. | Focus on system changes. |

* ***Explain the difference between regression and retesting (5 sentences).***

Regression testing is used to verify that existing functionalities of the system still work as expected after changes have been made to it. Retesting is done to check whether the issues that were previously found and fixed have been resolved. Regression testing is the process of retesting the entire application after making changes to it. This ensures that the existing functionalities have not been affected by the changes made. Retesting, on the other hand, is the process of retesting a specific set of test cases that have failed in the previous testing cycle.

***Level 2:***

***1. Complete the task of the previous level.***

***2. Do you think it is possible to perform only functional testing for a product without checking non-functional requirements?***

* + - ***If yes - in what cases?***
    - ***If not, why not?***

***Support your answer.***

I think that it is not possible to perform only functional testing for a product without checking non-functional requirements. This is because when you perform a functional testing, you ensure that the system meets its main functionalities, while when you do a non-functional testing, you test how the system performs. Ignoring non-functional requirements may lead to issues such as poor performance or lack of usability, even if the software application meets its main functional requirements.

***3. How do you see the need for smoke testing? Is it always appropriate?***

It depends, smoke testing is appropriate when we have short periods of time for testing, and we have to ensure that critical functionalities are working correctly. It also gives us limited feedback, so other tests must be run depending on the complexity of the software.

***Level 3:***

* ***Complete the tasks of the previous two levels.***
* ***You are the founder of a startup planning to launch a mobile application for sharing cat photos on iOS and Android devices.  
    
  Users can upload photos of cats but they cannot upload photos of other animals/people/objects. Users can add friends and leave likes and comments.   
    
  Write 5 functional test cases that would test the application.***

1. *Uploading a valid cat photo:* Upload a photo of a cat and confirm that the app allows the photo to be uploaded.
2. *Uploading an invalid photo:* Upload a photo of an object or other living being and confirm that the app displays an appropriate error message.
3. *Add a friend:* Add a friend to the friend list and confirm that the friend has been successfully added and that both can check their profiles.
4. *Leaving a comment:* Leave a comment on the correct module of a friend's photo and confirm that the comment has been successfully posted. The comment should be visible for all friends.
5. *Like a photo:* Leave a like on a friend's photo and confirm that the like has been successfully posted. The like should be visible for all friends.

* ***Write what non-functional requirements you would like to apply to your startup's product.***

***Describe the tests that would check them (3-5 examples).***

1. *Performance:* The application should perform well under high load and respond quickly to user requests. For this requirement I would run a stress testing. This test would simulate a large number of users accessing the application at the same time to see if the application can handle the load without performance issues.
2. *Security:* The application should be secure and protect user data and privacy. For this requirement I would run a security testing to check vulnerabilities.
3. *Compatibility:* The application should work correctly across different devices. For this requirement I would run a compatibility test to ensure that the application works well on different devices, such as smartphones and tablets.