

Software Testing Case Based Learning Exercise

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Objective: To facilitate the concepts of responsiveness testing (UI testing) and performance testing (in terms of speed or response time) through real world cases.

Topic covered in the class to undertake the study: Testing Principles, Testing Objectives, GUI Testing, Non-functional Testing (responsiveness, performance, load, and security)

Case Study:

Suppose you are a Test Manager of Google Chrome. Everyone can associate with Google Chrome. Google Chrome is used by millions of people on various device types of different screen size – smartphone, desktop/laptop, tablets. Chrome is ubiquitous; a full Google account integration gives you a variety of features that are not limited to a single device. Testing Responsiveness (means the browser adjusting to the screen) is very critical for a browser. Emulating different screen sizes is not easy. Although there are various tools available that checks the browser's response on different size viewports, but still manual testing is required to ensure all parameter are up to the mark. The browser should support various web languages efficiently. It should effectively support orientation of screens in tablets, mobile phone. Response time for each application is also an important parameter that needs to be tested. Time taken by various widgets like dialogue box, check box to respond back also need consideration. There are certain websites which include many APIs and libraries that may significantly slow down your browser.

Questions:

1. *Suppose the browser support various platforms. So, what is your planning strategy to test the responsiveness of the system?*
2. *Write all the possible test cases for responsiveness testing with reference to the browser effectiveness when emulating in different screen sizes.*
3. *How you will ensure that the browser effectiveness will not get affected by the APIs and libraries used by the website? What test strategy you apply to ensure the browser performance?*
4. *Write all test scenarios for performance testing.*
5. *Check standard configuration effect on responsiveness, and whether the browser supports various web languages efficiently.*

Additional Problems:

1. *Effect on browser's performance when multiple tabs are opened and we try to refresh the tabs.*
2. *How much memory and cache the browser is using on different platforms.*
3. *Graphics requirement on various platforms.*
4. *Effect on browser's performance due to background processes run by the software.*