**QA-Session 3 & 4 Assignment**

**1. Which software development technique is good for the systems that have third party API calls, cron jobs, data exports/imports, etc.,**

A. Automated Web Service / API Tests: - An Application Programming Interface (API) makes it possible for software to talk to other software applications. Just like any other software, APIs need to be tested. In this type of testing, GUI is usually not involved. What we test here is usually the functionality, compliance and security issues. In web applications, we can test the Request and Response of our application that whether they are secure and encrypted or not. The most popular tool for API testing is SOAPUI which has both free and paid versions.

**2. Where does Test Automation fit in the Software Life Cycle? Explain with diagram.**

A. Test Automation fit in between development and testing phase of the Software Life cycle.

**3. Can we skip the manual testing and why?**

A. No. The difference between Manual Testing and Automation Testing -Manual testing means testing a product/app/website or anything that needs to be tested using some X tools. While automated testing is doing that same thing using (X-Y) + Z. Here all X, Y, Z are set of tools.

So X may be testlink, SoapUI, WebBrowser, SQLDeveloper, PhpMyAdmin

Y may be testlink, PhpMyAdmin,

Z may be Selenium, QTP, Python etc....

Now a days people learn Java + Selenium and become automation testers but they have sometimes less or no exposure for manual testing. So of these automation testers are nothing but Human bots which create test cases for whatever is thrown at them. So if you take a Manual tester out of an Automation tester, then you may get the job done, but will it ever add value? Mostly not.

So Manual testing as important as Automation Testing. The reason we do automation testing is we want to be more efficient and be able to do more. But what we can do as a Manual tester, we cannot always express that in an automated test case.

Consider, a login screen showing an extra textbox for username, but the functionality works fine otherwise. Such things would easily be missed if you have a 100% automated test case, because automated testing looks more at what is expected and less at what is not expected.

**4. Give the names of selector?**

A. After launching the developer tool in web browser, in the Elements tab.

XPath uses path expressions to select nodes or node-sets in an XML document.

Create an Xpath in Developer Tool:

Step #1: For creating XPath in Developer tool, open the console tab.

Step #2: Type the created Xpath and enclose it in $x(“//input[@id=’Email’]”)

Step #3: Press the enter key to see all the matching HTML elements with the specified Xpath. In our case, there is only one matching HTML element. Hover on that HTML element and the corresponding web element would be highlighted on the web page.

**5. What is the modular framework?**

A. In the modular testing framework, testers create test scripts on module wise by breaking down the complete application under test into smaller, independent tests. In simple words, testers divide the application into multiple modules and create test scripts individually. These individual test scripts can be combined to make larger test scripts by using a master script to achieve required scenarios. This master script is used to invoke the individual modules to run end to end test scenarios. In this framework, testers write function libraries to use it whenever required. This is AKA modularity framework or module-based framework.

**6. Explain the Open source tool.**

A. Open source tools is a phrase used to mean a program -- or tool -- that performs a very specific task, in which the source code is openly published for use and/or modification from its original design, free of charge. Open source tools are typically created as a collaborative effort in which programmers improve upon the code and share the changes within the community, and is usually available at no charge under a license defined by the Open Source Initiative.

**7. What is Hybrid framework?**

A. Hybrid Test automation framework is the combination of two or more frameworks- (Linear Scripting Framework, Modular Testing Framework, Data Driven Testing Framework, Keyword Driven Testing Framework, Hybrid Testing Framework, Behavior Driven Development Framework). It attempts to leverage the strengths and benefits of other frameworks for the particular test environment it manages. Most of the teams are building this hybrid driven framework in the current market.

**8. Write a name of record and replay tool.**

A. Selenium IDE

**9. What is the difference between BDD and Cucumber?**

A. Behavior-driven development (BDD): BDD emerged from and extends TDD. Instead of writing unit tests from specification why not make the specification a test itself. The main idea is that business analysts, project managers, users or anyone without technical, but with sufficient business, knowledge can define tests.

Cucumber: Cucumber is not a testing tool it is a BDD tool for collaboration between all members of the team. So if you are using Cucumber just for automated testing you can do better. Test wise Cucumber is a framework that understands Gherkin and runs the automated tests. It sounds like a fairy tale, you get your documentation described in Gherkin and tests just run. Actually, it is not that simple, each step from documentation should have underlying test code that manipulates the application and should have test conditions.

**10. Can we replace the Regression testing from Test automation and how?**

A. Regression testing, manual and automated, is very important for large software applications, as it is often difficult to know whether changing part of an issue has created a new issue for a different part of the application. Automation of regression tests becomes important because it is physically not possible to rapidly and reliably repeat all of the test cases and analyze their results. This is where TestFort team is very helpful and provides you with maximum return on your automated testing investment.

**11. How many ‘A’s test script has? Explain them.**

A. Test Script is basically about three ‘A’s:

1. ARRANGEMENT or Object Identification: We identify objects (buttons, dropdowns etc.) either by their ids, names or by their Window Titles etc.

In case of web application, we identify by user ID, or By XPath or By CSS or By Class Name etc. If nothing works, we then identify objects by using mouse coordinates (But it is not a reliable method of object identification)

2. ACTION on the Identified Object: When the objects are identified, we perform some kind of actions on it either by mouse or by keyboard. For example, either we click, or we double-click, or we mouse hover over it or sometimes we drag-drop. Sometimes we write on text boxes. So any kind of action we perform on these objects are covered in this second step.

3. ASSERTION: The assertion is basically checking the object with some expected result.