Assignment 2: Evaluation of test tools for Automation

Problem statement: Please explain your approach in evaluating a test tool for test automation, which could be suitable for the demands of simplesurance.

1. How do you define the necessary requirements?
2. How do you proceed in evaluating the tools?
3. What experience do you have using different test tools?
4. What experience do you have implementing test tools?

Approach:

Test automation tool selection is one of the most important steps before starting automation in any organization. It is important because the tool will greatly affect your whole automation effort. If the tool is good and gives you required features, the automation becomes easier and effective.

There are many criteria to consider while selecting the automation tool. Some of them I have discussed in one of my previous articles. Here I have listed down the most important aspects to consider while selecting the test automation tool.

1. When Does Test Automation Make Sense?

- When there are many repetitive tests
- When there are frequent regression testing iterations
- When you need to simulate a large number of users who are using the application resources
- When AUT is having comparatively stable UI
- When you have a large set of BVT cases
- When you can't rely solely on manual test execution for critical functionality

2) Requirements matching?:

a) There are many tools available in the market today but rarely do they meet all the requirements of given product or a given organization. Evaluating different tools for different requirements involves lot of effort, money and time. Huge delay is involved in selecting and implanting test tools.

b) Test tools may not provide backward or forward compatibility with the product-under-test (PUT).

c) Test tools may not go through the same amount of evaluation for new requirements. For example some tools had Y2K-problem.

d) A number of test tools cannot distinguish between a product failure and a test failure. This increases analysis time and manual testing. The test tools may not provide the required amount of trouble-shooting/debug/error messages to help in analysis. For example, in case of GUI testing, the test tools may determine the results based on messages and screen coordinates at run-time. Hence, if the screen elements of the product are changed, it requires the test suite to be changed. The test tool must have some intelligence to proactively find out the changes that happened in the product and accordingly analyze the results.

3) Training Skills:

Test tools require plenty of training, but very few vendors provide the training to the required level. Organization-level training is needed to deploy the test tools, as the users of the test suite are not only the test team but also the development team and other areas like SCM (Software Configuration Management). Test tools expect the users to learn new language/scripts and may not use standard languages/scripts. This increases skill requirements for automation and increases the need for a learning curve inside the organization.

Finally how do I proceed with Tool Selection Process?

Following are the seven steps which I will carry out to select and deploy a test tool in an organization.

Step - 1: Identify your test suite requirements among the generic requirements discussed. Add other requirements, if any.

Step - 2: Make sure experiences discussed in previous sections are taken care of.

Step - 3: Collect the experiences of other organizations, which used similar test tools.

Step - 4: Keep a checklist of questions to be asked to the vendors on cost / effort / support.

Step - 5: Identify list of tools that meet the above requirements and give priority for the tool, which is available with the source code.

Step - 6: Evaluate and shortlist one / set of tools and train all test developers on the tool.

Step - 7: Deploy the tool across test teams after training all potential users of the tool.

Since simplesurance is into insuritech, the requirements would be of having huge backend services and models. The above mentioned criteria’s are well suited for the company.

What experience do you have using and implementing different test tools?

I have experience of using Selenium, Protractor, Appium, RestAssured and Calabash for mobile, Web and RestFul APIs. I have explored couple of languages over these tools e.g., Java,

Javascript, Ruby and groovy. But I mostly prefer to use more over Java and Javascript because of there huge community support and stability.

Created 4 frameworks from scratch for E-Commerce applications using Data driven approach over Page object model design pattern in Selenium and Appium. Deployed the same into CI/CD (Jenkins) pipeline and scheduled job runs over daily basis for app heath check and regression.