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Study of data driven testing using selenium web driver

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Abstract
Programming advancement life cycle contains diverse stages, among which programming testing is a progressing procedure on the exceed expectations records. Numerous challenges are being faced by software testing. Manual testing is always labour intensive as well as quite time consuming. On the contrary it is very easy technique. Automation testing gives answer to all such question created during manual testing. This examination paper physically concentrates on computerization testing utilizing "selenium web driver" it helps in creating information driven structure that records for isolating information to code for reusability reason. Here we theoretical the information that can be made into utilization in exceed expectations record and program is composed in order to get to information from the exceed expectations documents.

Keywords: Automation Testing, Selenium Web Driver, Framework, Data- Driven Framework

1. Introduction
The testing of Software is a key phase of the SDLC i.e. Software Development Life Cycle, this process accounts for 30- 40% of total project [1]. "Persistent people start working when other accept their failure" was written in a novel by the American novelist, a famous historian EDWARD EGGLESTON. If we talk about software testing persistence is very important and plays a very remarkable role. This only accounts for identifying the error and not to fix them. Due to the increased level of complexity in web application, software testing process has also become quit complex. A famous Professor, belonging to university of California told that testing is an unavoidable step in respect of developing a genuine software system. This can be done manually or using automation techniques [2]. As we know manual accounts for intensive and complex set of actions, therefore most of the time automation is preferred. Selenium is an open source testing instrument which is issued to mechanize the experiments and to upgrade their execution. There are various challenges faced during testing with applications like multiple language support etc. but selenium test drives overcomes all the challenges [12]. Its working is done in two ways i.e. it first find the component end then perform activity on them. It locating action is done by using id, name. xpath, css, linktest.

2. What is software testing?
Software testing provides a platform for testing web applications and determines the quality of the products and provides them to the stake holders [5]. It determines, investigates, and give results that makes them able to take necessary decisions for the implementation of various web based applications from business point of view or whatever it may concern [15]. Testing accounts for execution of the entire program and finding the bugs and makes it clear whatever the appreciation techniques to be used. Software testing holds for the execution of system component finds various point of interest [7]. These are given below:-

1. All kinds of I/P are correctly responded.
2. Acceptable time consumed during performance.
3. Efficient and sufficiently usable.
4. Stakeholders results expected are being achieved.
5. Less time consuming and automated tested.
6. Easy to work with.

Software testing can provide its various objective and information about the quality of software and its failure check to the users [8].

3. Phases of Testing
In Software Test Life Cycle there can be some specific steps which have to be executed [9]. In this process planned & systematic way is carried out by each activity [10]. Different goals are performed by each phase in STLC. The phases of STLC are given below [11]

1. Requirement Phase
2. Planning Phase
3. Analysing Phase
4. Designing Phase
5. Implementing Phase
6. Executing Phase
7. Conclusion Phase
8. Closure Phase

i. Requirement Phase
In this phase, the requirements can be study & analyzation. In requirement phase testers identify whether the testing can be can be done or not. In this stage, highlight is not testable, then alleviation methodology can be arranged.

ii. Planning Phase
In the testing process, the first step is planning the test. The activities and resources can be identified in the planning phase that can assist to meet testing objectives [4].

iii. Analysing Phase
In analysis phase, the test conditions can be identified by the

required documents, product risks and other test basics. There are various test factors which can be help to identify the test conditions [13]

1. Levels and Depth of Testing.
2. Multifaceted nature of the item.
3. Item and Project Risks.
4. SDLC included.
5. Test Management.
6. Ability and Knowledge of the group.
7. Accessibility of the partners.

iv. Designing Phase

In this phase, we can define the "HOW" to test [14]. There can be various tasks which can be involved in this phase [14]

1. Specifying of the test condition. Separate the test conditions into different sub conditions to build overage.
2. Recognize and get the test information.
3. Recognize and set up the test condition.
4. Make the necessity traceability measurements.
5. Make the test scope measurements.

v. Implementing Phase

In the implementation phase, there is a creation of detailed test cases [13]. In this phase, we can identify the priority of the test cases. We can review to check the test cases before finalizing the test cases.

vi. Executing Phase

In this stage, the execution step happens. Before execution, we can beyond any doubt that your entrance foundation is met [4]. In the case of any discrepancy execute the test cases, log defects.

vii. Conclusion Phase

In this phase, we can concentrate on the exit criteria and report. You can send a daily report of a weekly report to depend on your project and stakeholders choice [11]. The report content can be changed and depend upon you can send your report by which person.

viii. Closure Phase

There can be tasks for closure activities that can be given below:-

i. Check for the culmination of the test. Regardless of whether all the experiments are performed or moderated intentionally [4]. Check there are no seriousness 1 surrenders opened.

ii. Do lessons learnt meeting and make lessons learnt file. (Fuse what went well, where the degree of updates are and what can be pushed ahead)

4. Proposed Work

Here in this paper we will come to refer about different outline parts and additionally information driven edge work utilizing selenium web testing. Test NG unit frame work is used here along with selenium. It basically helps in generating the reports. When we test an application, it involves multiple testing with different data impact. Here, then the data must not be collapsed with test script for repetitive use. Data is always saved in some external files with formats xml, excel, csv etc. An external data source first allow the test script to be connected, this provide no need. Software testing starts as soon as executable software is present. The overall approach to the development of software mostly determines open and how testing is conducted. For example in a phased process, all the testing are being performed and implemented in a testable programs. For evolving codes-all we must be permit the way for that information source which diminishes the expending time and manual exertion. We can utilize TestNG unit testing system. We can utilize TestNG with ANT. Its advantage can be it can be to create HTML reports. Those report couldn't be created in WebDriver. In Java Automated Test Scripts can be composed. We can get to the information from the exceed expectations records. Apache POI can be utilized to get to the information from the exceed expectations records. Apache POI gives unadulterated libraries. With the help of POI we can read and write files in Microsoft Office formats.

There are several stub components in Apache POI. HSSF and XSSF can only be used in Apache POI. HSSF can read and write the data from Microsoft Excel formats file. XSSF can read and write the data from Office Open XML format files.

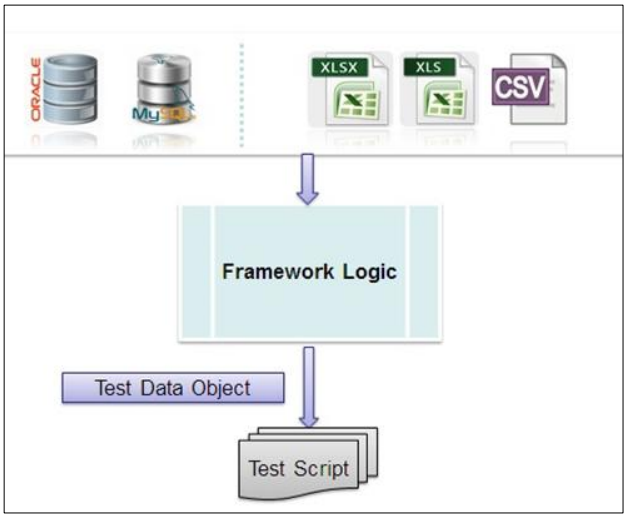

Fig 1: Data Driven Framework Architecture [6]

5. Conclusion

Automate test cases is just not the mean of automation, it hold much more. During testing a huge number of challenges are being faced by the testing tool. As now a days web application are ending up noticeably more and more complicated, thus tester must be able to cope up with all those complications. Selenium web driver is one such burning example of testing software that over comes all those challenges and provide a good frame work. Here we utilize excel document to get to the information. We utilize test NG unit testing outline work to create the report. It's the best arrangement while we are having the informational index which is less tedious and more productive.

Moreover work will use a data driven framework that produces specific domains. These specific domains key wards are their in knowledge repository that help in better execution of operation with huge time saving.

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