

Acceptance Testing Of Webapplication Using Jmeter

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ABSTRACT

Software Testing is a process of finding errors while executing a program so that we get a zero defect software. It is aimed at evaluating the capability or usability of a program. Software testing is an important means of accessing quality of software. Though a lot of advancements have been done in formal methods and verification techniques, still we need software to be fully tested before it could be handled to the customer side. Thus there are a number of testing techniques and tools made to accomplish the task. Software testing is an important area of research and a lot of development has been made in this field. In this paper, testing techniques and tools have been described. Some typical latest researches have been summarized. Software testing is gaining more and more importance in the future.

KEYWORDS: *Software testing, types of Testing, functional testing.*

1. INTRODUCTION

Software testing has evolved since 1970's as an integral part of software development process. Through it, the final quality of the software can be improved by discovering errors and faults through interacting, checking behavior and evaluating the System Under Test (SUT) to check whether it operates as expected or not on a limited number of test cases with the aim of discovering errors that are found in the software and fixing them[1]. Ehmer Khan [2] shortly defines it as a set of activities

conducted with the intent of finding errors in software. Software testing also provides an objective, independent view of the software to allow the business to appreciate and understand the risks of software implementation. Test techniques Include, but are not limited to, the process of executing a program or application with the intent of finding software bugs. Software testing is a most often used technique for verifying and validating the quality of software. [3]

Software testing, depending on the testing method employed, can be implemented at any time in the development process. However, most of the test effort occurs after the requirements have been defined and the coding process has been completed. Software testing given by Dijkstra "A process of executing a program with the goal of finding errors". [4]

2. TYPES OF TESTING

- Functional testing
- System testing
- Gray box testing

FUNCTIONAL TESTING

In Black Box Testing we just focus on inputs and output of the software system without bothering about internal knowledge of the software program. [5] In a black-box manual test execution environment, testers are not required to have

specific knowledge of the application code structure [6].



- A black box is any device whose internal details and workings are not understood by or accessible to its user. It is testing of software based on specifications and output requirements and without any knowledge of the coding or internal structure in the program. The main aim is to test how well the system conforms to the specified requirements for the system. Black box testing have little or no knowledge to the internal logical structure of the system. Thus, it only examines the fundamental aspect of the system. It makes sure that all inputs are properly accepted and outputs are correctly produced (Software Engineering: A Practitioner’s Approach, 6/e; Chapter 14: Software Testing Techniques, R.S. Pressman & Associates, Inc., 2005). Different types of Black box testing techniques are as follows:

- Equivalent Partitioning
- Boundary value Analysis
- Cause-Effect Graphing Techniques
- Comparison Testing
- Fuzz Testing
- Model-based testing[7]

Types of Black Box Testing

There are many types of Black Box Testing but following are the prominent ones -

- **Functional testing** - This black box testing type is related to functional requirements of a system; it is done by software testers.
- **Non-functional testing** - This type of black box testing is not related to testing of a specific functionality, but non-functional requirements such as performance, scalability, usability.
- **Regression testing** - Regression testing is done after code fixes, upgrades or any other system maintenance to check the new code has not affected the existing code.

Advantages: – Tester can be non-technical.

- Used to verify contradictions in actual system and the specifications system.
- Test cases can be designed as soon as the functional specifications are complete

Disadvantage :- The test inputs needs to be from large sample space.

- It is difficult to identify all possible inputs in limited testing time. So writing test cases is slow and difficult
- Chances of having unidentified paths during this testing.[8]

3. INTRODUCTION TO JMETER

JMeter is software that can perform load test, performance-oriented business (functional) test, regression test, etc., on different protocols or technologies.

JMeter is a Java desktop application with a graphical interface that uses the Swing graphical API. It can therefore run on any environment / workstation that accepts a Java virtual machine, for example – Windows, Linux, Mac, etc. [9]

Features Supported by JMeter

- **Open source application:** JMeter is a free open source application which facilitates users or developers to use source code for other development or modification purpose.
- **User – friendly GUI:** JMeter comes with natural GUI. It is very simple and easy to use and users get familiar very soon with it.
- **Support various testing approach:** JMeter supports various testing approach such as load testing, distributed testing and functional testing etc
- **Totally multi-threading framework:** It's a full multi-threading frame work permit simultaneous sampling by many threads and simultaneous sampling of different function by distinct thread group.
- **Easily understandable test result:** it visualizes the test result in a format such as chart,table,tree and log file are very simple.[10]

4. CONCLUSION

In mention above there are various type of testing. In this paper my focus is on black box testing.

There are many tools available to do the same however I will be using jmeter for being an open source technology.

I will be testing PTU website.

5. REFERENCE

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