Optimistic Investigation on Open Source Testing Tools for Testing Applications

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Abstract - Software testing plays a crucial role in determining the quality of a product. Matured organization focuses on testing process to ensure that the quality check is done at every stage in the testing phase. Open source testing tools helps an organization to perform testing in a professional way and certain task can be carried out only by the testing tools and not by humans. Load/Stress, performance testing could be done by the support of open source testing tools. In this paper, open source testing tools have been identified which will be of immense help to the testers to conduct the testing process in a professional way.

Keywords: Software Engineering, Testing tool, Automation, Unit, load, Performance, Test Report.

1. Introduction

Testing is an important activity that has to be commenced parallel with the development phase. Test phase has got test plan, test design, test execution and report generation activities. Test log, test incident, test summary reports are the outcome of the testing process. Finally test matrix is prepared that will highlight the strength and weakness of the testing process that is concerned with that IT company. Most of the cases, testing team will get very less time to complete the testing tasks. Hence testing tools play an important role in completing the testing process on time.

Testers design testcases to test the application. They use black box testing techniques to test each and every component that is present in the menu. They have to ensure that all the components function properly and they produce the desired result as expected by the end user.

In manual testing, test cases are designed and run manually by the tester. Hence it consumes more time and sometimes if we do certain tasks repeatedly, we do mistakes unknowingly. Hence manual testing will not ensure that the application is bug free. Hence we go for automation. Test cases are designed and they can be reused from the Test case database.

Test scenarios, config files, test cases are given as input to the test framework and testing tool will execute the test cases. The results are produced and analysed and test reports are generated. Parallely, the test cases 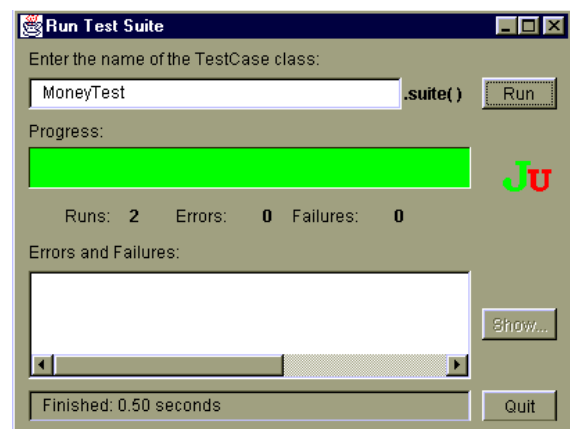which caused defects are written to the Defect Database for future avoidance. Finally test matrix is prepared which is immense help to the organization to evaluate their testing process.
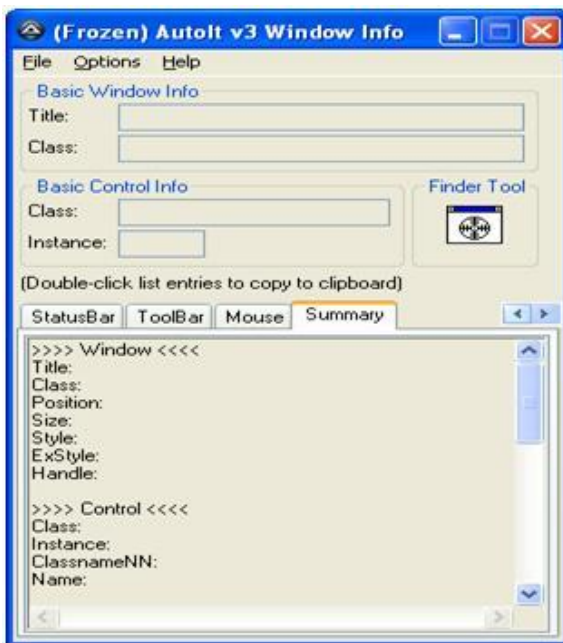
2. OPEN SOURCE TESTING TOOLS

Open source testing tools provides testers an opportunity to test it thoroughly and vigorously. They are simple, free and most of the cases at least trail version is available. Testers will again immense knowledge by using these tools. Installation can be done in a simple way and it can integrate with existing application development software also. It will very useful even from developer's perspective to complete the unit testing part in a professional way.

2.1 Junit

It is an important testing tool used widely by Java developers to perform white box testing. Test scripts have to be written separately and it will look like a java programme. Test engineers shows lot of interest in writing test scripts to prove their programming passion. Junit allows you to test java application without using main method. It will show successful and unsuccessful test cases during the test run. The screen shot is show in fig1 [2]
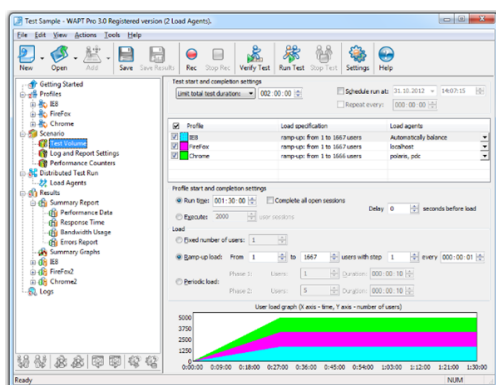
2.2 AutoIT

It is an open source testing tool that could be used for Graphical user interface testing. It has record and playback facility with which we could capture the user movement over the application. We could diagnose the bugs during the playback option. It is very simple and easy to use and it is of immense help even for testing stand alone applications. The screenshot is shown in figure 2

2.3 WAPT

Web application load, stress and performance testing tool which could be used to test every aspects of your application. Even it can be used in cloud computing environment also. It is easy to install and test the application at a faster rate. Application performance can be monitored and tested using WAPT testing tool. The screenshot is shown in figure 3.

2.4 BADBOY

It is a open source testing tool that can used to test web applications. It has record and play back option. In addition to that, it also has load testing support and detailed reports in the form of graph can be produced using this tool. The screenshot for badboy testing tool is shown in figure 4.
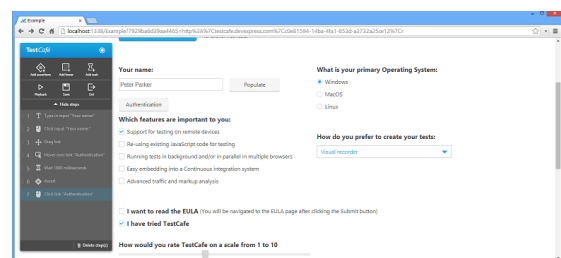
2.5 *LOAD COMPLETE*

It is desktop testing tool for load, stress, scalability testing of websites and web applications. It does not required advanced programming skill. It can be used to simulate virtual users. It can generate reports even for client server environment with which we could figure out the bugs and eliminate it. The screen shot is shown in figure 5.
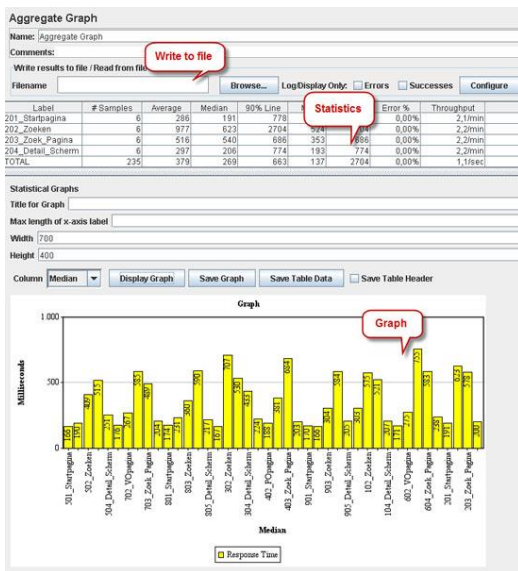

2.6 TEST CAFÉ

It is open source testing tool that we could use for entire test process. It takes very less time to execute the test cases and is portable to many operating systems like windows, MAC or Linux machines. It can also be used to test web pages also. The screen shot is shown in figure 6.

2.7   JMETER

It is a open source testing tool and it can be used to test java applications in a better way. Also it can be used to test static and dynamic resources. Performance can also be measured by using this tool. It is fully portable and produces test results automatically. The screenshot is shown in figure 7.

3. Discussion

THE TESTING TOOLS PLAY A PIVOTAL ROLE IN MEASURING THE QUALITY OF THE SOFTWARE THAT IS PRODUCED BY THE DEVELOPMENT TEAM. THEY HELP THE TESTERS TO FIX THE BUG AND FURTHER COMMUNICATED TO THE DEVELOPER TO RESOLVE IT. CERTAIN TASKS LIKE LOAD, STRESS AND PERFORMANCE TESTING CAN BE DONE ONLY BY TESTING TOOLS AND NOT BY HUMANS. TESTING TOOLS ASSISTS TEST ENGINEERS TO COMPLETE THE TESTING ACTIVITY ON TIME AND TIMELY DELIVERY OF SOFTWARE TO THE CUSTOMER FOR USAGE.

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