Study of Different Software Testing Automation Tools

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Abstract
Programming is Set of code or projects. Programming building characterizes as the use of a methodical, taught, quantifiable way to deal with the advancement, task, and support of programming. Testing is correlation of anticipated yield and genuine yield. Programming testing is a procedure, to assess the usefulness of a product application with an expectation to discover whether the created programming met the predefined necessities or not and to recognize the deformities to guarantee that the item is without imperfection so as to deliver the quality item. Testing is extensively partition in to manual testing and Automation testing. In manual testing experiments are executed physically (by a human that is) with no help from apparatuses or contents. Be that as it may, with mechanized testing, test cases are executed with the help of apparatuses, contents, and programming. Manual Testing is most appropriate for Exploratory Testing, Usability Testing, Ad-hoc Testing. Mechanization Testing is most appropriate for Regression Testing, Performance testing, stack testing. Paper is on investigation of testing apparatuses Apache JMeter, selenium IDE, QTP/UFT Quick Test Professional, Bugzilla, Test finish, blast meter, stack Runner, test finish, WatiN.

Keywords: *Automation testing, Manual testing, Jmeter, Selenium IDE, QTP/UFT, Bugzilla, Blaze meter, Test complete,Load runner, Test data, Test cases*

INTRODUCTION
Testing is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements.

Some description about above Keywords:
Test case is a lot of conditions or factors under which an analyzer will decide if a framework under test fulfills necessities or works accurately. Models format pursues.

Test Suite ID	Test Case ID	Test Case Summary	Related Requirement	Prerequisites	Test Procedure	Test Data	Expected Result	Actual Result	Status	Remarks	Created By	Date of Creation	Executed by	Date of execution	Test environment

Test data is information which has been explicitly recognized for use in tests, ordinarily of a PC program. Some test information is utilized to affirm the normal outcome, i.e. at the point when test information is entered the normal outcome should come and some test information is utilized to check the product conduct to invalid info information.
Manual testing incorporates testing a product physically, i.e., without utilizing
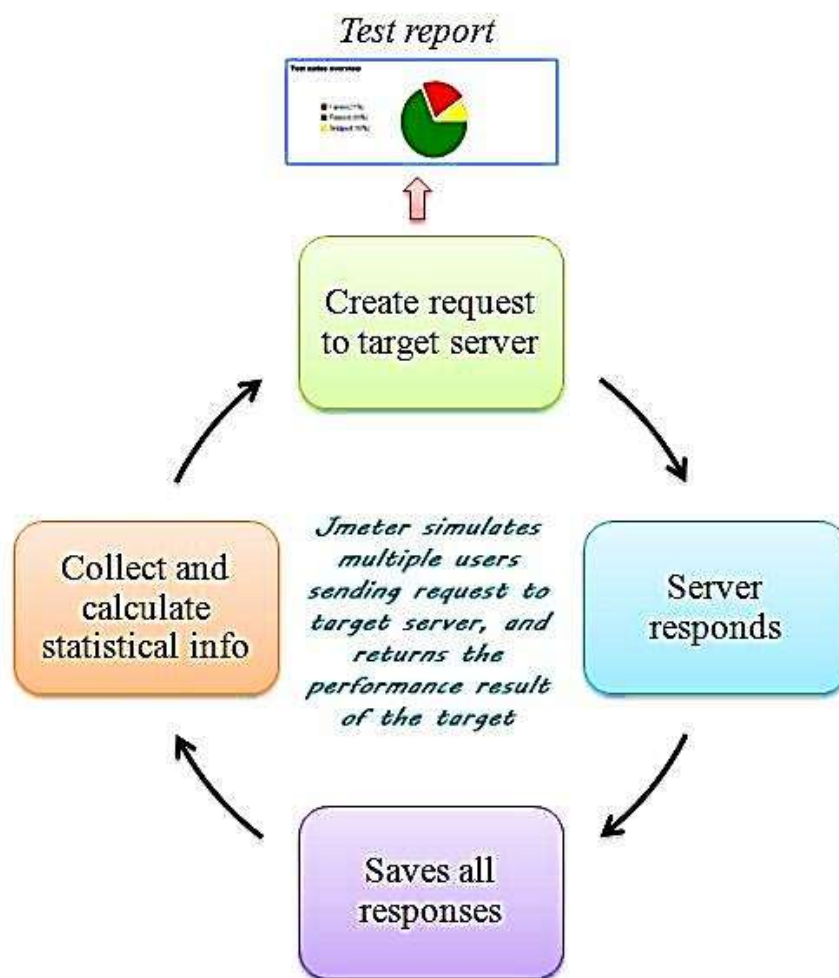
any computerized instrument or any content. In this sort, the analyzer assumes control over the job of an end-client and tests the product to distinguish any sudden conduct or bug. There are diverse stages for manual testing, for example, unit testing, incorporation testing, framework testing, and client acknowledgment testing.
Automation testing, when the analyzer composes contents and uses another

product to test the item. This procedure includes mechanization of a manual procedure. Mechanization Testing is utilized to re-run the test situations that were performed physically, rapidly, and over and again. Aside from relapse testing, mechanization testing is additionally used to test the application from load, execution, and emphasize perspective. It builds the test inclusion, enhances precision, and spares time and cash in contrast with manual testing.

TheApache JMeter is unadulterated Java open source programming, which was first created by Stefano Mazzocchi of the Apache Software Foundation, intended to stack test utilitarian conduct and measure execution. You can utilize JMeter to investigate and gauge the execution of web application or an assortment of administrations. Execution Testing implies testing a web application against substantial load, different and simultaneous client traffic. JMeter initially is utilized for testing Web Application or FTP application. These days, it is utilized for a practical test, database server test [1].

Figure 1:Test Report

Selenium IDE is a coordinated advancement condition for Selenium contents. It is actualized as a Chrome and Firefox augmentation, and enables you to record, alter, and troubleshoot tests. Selenium IDE isn't just a chronicle device: it is a total IDE. You can utilize its account ability, or you may alter your contents by

hand. With auto complete bolster and the capacity to move directions around rapidly, Selenium IDE [3] is the perfect condition for making Selenium tests regardless of what style of tests you incline toward.

Figure 2:UFT Unified Functional Testing

HP UFT/QTPis a mechanized utilitarian Testing instrument that causes analyzers to execute computerized tests so as to distinguish any blunders, deformities or holes in opposition to the normal consequences of the application under test. It was planned by Mercury Interactive and later on procured by HP. Full type of QTP is Quick Test Professional and full type of UFT is Unified Functional Testing [5].

Blaze meter, It is utilized for consistent execution testing for Dev Ops. Burst Meter advertises a business, self-benefit stack testing stage as an administration, which is perfect with open-source Apache Jmeter, the execution testing structure from the Apache Software Foundation. Burst Meter was established in 2011, and was obtained by CA Technologies in 2016.

Bugzilla

Figure 3:Bugzilla

Is deformity/bug following instrument. Deformity following frameworks enables engineers and analyzers to follow all the remarkable imperfections. Bugzilla can be connected to other testing instruments like JIRA, QC or ALM and so on. Bugzilla is produced in Perl and keeps running on MYSQL server. Bugzilla [6] is an open-source issue/bug following framework that enables designers to monitor remarkable issues with their item.

Test Complete

Figure 4:Test Complete

Test Complete has an open and adaptable engineering that makes making, keeping

up, and executing mechanized tests crosswise over work area, web, and versatile applications simple, rapid, and savvy [9]. Browse an assortment of dialects, for example, Python, VBScript or JavaScript to compose your very own tests. Run information driven tests, relapse tests, or parallel tests to scale endeavors and enhance inclusion. Utilize powerful record-and-replay capacities to effortlessly make test contents without programming information. Test cross breed and local iOS and Android applications on various gadgets with full access to interior items and techniques.

EXISTING SYSTEM
Manual Testing
Manual Testing is a procedure of discovering the deformities or bugs in a product program. In this strategy the analyzer assumes an imperative job of end client and confirms that every one of the highlights of the application is working accurately. The analyzer physically executes test cases without utilizing any mechanization devices. The analyzer readies a test plan archive which depicts the itemized and deliberate way to deal with testing of programming applications. Experiments are wanted to cover relatively 100% of the product application. As manual testing includes finish test cases it is a tedious test.

Win Runner
Win Runner programming was a mechanized useful GUI testing apparatus that enabled a client to record and play back (UI) collaborations as test contents .HP Win Runner robotization device was possessed by Mercury Interactive. At the point when HP gained Mercury Interactive, they halted Win sprinter support and recommended to utilize the HP Functional Testing programming.

LOAD RUNNER

Figure 5:*Load Runner*

It is utilized to test applications, estimating framework conduct and execution under load. Load Runner is a Performance Testing apparatus which was spearheaded by Mercury in 1999. Load Runner was later procured by HPE in 2006. In 2016, Load sprinter was obtained by Micro Focus. Load Runner underpins RIA (Rich Internet Applications), Web 2.0 (HTTP/HTML, Ajax, Flex and Silverlight and so forth.), Mobile, SAP, Oracle, MS SQL Server, Citrix, RTE, Mail or more all, Windows Socket. Web 2.0 is old.Currently web 4.0 is accessible .so Load Runner is extremely old apparatus.

Disadvantages of Load Runner
Connection is an approach to substitute qualities in powerful information to empower fruitful playback. Programming/Scripting dialect is utilized to speak to the caught convention information and control the information for play-back.

Experiments tried one by one for precision in programming .it is tedious to look after records.

PROPOSED SYSTEM

Figure 6:Automation Testing

Fast: Runs tests altogether quicker than human clients.

Repeatable: Analyzers can test how the site or programming responds after rehashed execution of a similar task.

Reusable: Tests can be re-utilized on various renditions of the product.

Reliable: Tests perform exactly a similar activity each time they are run along these lines disposing of human mistake.

Comprehensive: Analyzers can manufacture test suites of tests that cover each component in programming application.

Programmable: Analyzers can program complex tests that bring shrouded data.

Table 1:Comparison

Jmeter	Selenium	HP UFT/QTP	Blaze meter	Bugzilla	Test complete
Apache Jmeter™	It is licensed under Apache License 2.0.	It was designed by Mercury Interactive and later on acquired by HP.	In May 2013, Blaze Meter was named one of the top testing tools by Dr. Dobbs 'Jolt Awards: The Best Testing Tools. The company was acquired by CA Technologies in September 2016	Bugzilla is an open-source tool used for issues and bugs tracking system.	Test Complete has an open and flexible architecture that makes creating, maintaining, and executing automated tests across desktop, web, and mobile applications easy, speedy, and cost effective

Jmeter is an Open Source testing software.	Selenium is an open-source tool that is used for test automation.	HP QTP is an automated functional Testing tool that helps testers to execute automated tests in order to identify any errors, defects or gaps in contrary to the expected results of the application under test.	Load, Performance Testing ,API Testing	It is widely used as a bug-reporting tool for all types of testing functions.	Use robust record-and-replay capabilities to easily create test scripts without programming knowledge.
Samplers, Controllers, Processors, Config Elements and Listeners	Selenium Integrated Development Environment (IDE) is a Firefox plugin that lets testers to record their actions as they follow the workflow that they need to test.	Both technical, as well as a non-technical tester, can use Micro Focus QTP	Run massively scalable, open source-based tests against all of your apps, from web and mobile apps to micro services and APIs.	Allows developers to keep track of outstanding problems with their product. It is written in Perl and uses MYSQL database.	Keyword Testing, Scripted Testing, Test Record and Playback,Integration to Bug Tracking Software,Data Driven Testing,Test Visualizer
It is pure Java application for load and performance testing.	Store Variables, Echo, Alert, Popup handling in Selenium IDE	UFT is one of the most widely used automation testing tools in the market today with over 60% market share. Due to this reason, skilled UFT professionals are always in demand. HP UFT = HP QuickTest Professional + HP Service Test	Blaze Meter has just released the brand new version of its free Chrome extension. In addition to creating Apache Jmeter™-based scenarios, version 4 of the Blaze Meter Chrome Extension also creates Selenium scenarios to simulate your business case	It is a server software which is designed to help in managing the software development process.	developed by Smart Bear Software, offers support to a wide range of technologies such as .Net, Delphi, C++Builder, Java, Visual Basic, HTML5, Flash, Flex, Silverlight Desktop, The Web and Mobile systems. Automated UI testing tools for **Artificial Intelligence.**
https://www.guru99.com/hands-on-with-jmeter-gui.html https://jmeter.apache.org/	https://www.tutorialspoint.com/selenium/selenium_overview.htm	https://www.softwaretestinghelp.com/hp-uft/hp-uft-unified-functional-testing-tool-features/	https://guide.blazemeter.com	https://www.bugzilla.org/	https://smartbear.com/product/testcomplete/overview/

CONCLUSION

Understudies will consider, comprehend and use Automation testing apparatuses for testing assortment of programming. Less Human Resources: You needn't bother with many individuals. You would require

a test computerization fashioner to make your substance to motorize your tests, as opposed to numerous people doing depleting manual tests over and over. Less time required.

FUTURE SCOPE

Wekatools for data ware house concept. Jira for agile methodology. Automation Testing tools for Internet of things, machine learning and artificial intelligence.

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