Analysis the Metrics on Web Analytics and Performance Testing Tools using Agile Methodology

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Abstract— Today IT industry, basically it shows the level of the software Performance which measure different categories. In this paper presenting about the metrics and performance level tool frameworks, each phase of the product measure the metrics in and assume level of the software development. Using agile methodology checks the feasibility development of the software solution. Agile methodology is the methodology; it checks the each phase in the software product development, which ensures the improve factor quality of the software product. Here, I represent the two framework tools and mainly focus about behavior performance and differentiate the level of performance metrics of the software product.

Key words: Agile methodology, metrics, performance testing, frameworks tools Apache Jmeter and Open web Analytics

I. INTRODUCTION

Agile methodology is the methodology it check the phase of the software product, each phase of the software product measures the overall performance of the software product. Each phase of the software product check thoroughly and ensure the quality of the software product. Agile software development methodology is an process for developing software (like other software development methodologies – Waterfall model, V-Model, Iterative model etc.) However, Agile methodology differs significantly from other methodologies. In English, In terms Agile means 'ability to move quickly and easily' and responding swiftly to change – this is a key aspect of Agile software development as well

A. Advantages of Agile Methodology:

- In Agile methodology the delivery of software is unremitting.
- The customers are satisfied because after every Sprint working feature of the software is delivered to them.
- Customers have to look of the working feature which fulfilled their expectations.
- If the customer has any feedback or any change in the feature then it can be accommodated in the current release of the product.

B. Disadvantages of the Agile Methodology:

- In Agile methodology the documentation is less.
- Sometimes in Agile methodology the requirement is not very clear hence it's difficult to predict the expected result.
- In few of the projects at the starting of the software development life cycle it's difficult to estimate the actual effort required.

II. TYPES OF PERFORMANCE TESTING

1) Performance testing. It determines or validates the speed, scalability, and/or stability characteristics of the system or application under test [11].
2) Load testing. Performance testing is focused on determining or validating performance characteristics of the system or application under test when subjected to workloads and load volumes anticipated during production operations.
3) Stress testing. This subcategory of performance testing is focused on determining or validating performance.

A. Overview of Frameworks Tools Apache JMETER:

Apache Jmeter runs under the platform of java Application. Here representing the framework to check the performance level and metrics of the software product JMeter [1]is a free Stress Testing tool operate as desktop and command line application , it is a pure java application , designed to load test functional behavior and measure performance .It was originally designed to test Web Applications but has since expanded to other test functions to become main server load test tool, Jmeter Can load and performance test many different server types , such as (Web - HTTP, HTTPS, SOAP, Database via JDBC, LDAP, JMS, Mail - POP3

Apache JMeter is a 100% pure Java desktop application designed to load test client/server software It may be used to test performance both on static and dynamic resources such as static files, Java Servlets, CGI scripts, Java objects, and more. JMeter can be used to simulate a heavy load on a server, network or object to test its strength or to analyze overall performance under different load types

B. The Simplest Test Plan Normally Includes The Following Elements:

1) Thread Group:

These elements are used to specify number of running threads and a ramp-up period.

Each thread simulates a user and the ramp-up period specifies the time to create all the threads.

For example with 5 threads and 10 seconds of ramp-up time, it will take 2 seconds between each thread creation. The loop count defines the running time for a thread. The scheduler also allows you to set the start and end of the run time.

2) Samplers:

These elements are configurable requests to the server HTTP, FTP, or LDAP requests. It focuses on the Web service requests only.

3) Listeners:

These elements are used to post process request data. For example, you can save data to a file

The parameters at the bottom of the chart have the following meaning:

[2] Throughput is the number of requests per minute the server has processed.

Average is the total time running divided by number of requests sent to the server.

Median is the number that represents the time, where half of server response time is lower than this number and half is higher.

Deviation shows how much the server response time varies, a measure of degree of dispersion, or, in other words, how spread the data are.

Latest sample is just the last request completed

C. Open Web Analytics:

Open web analytics framework [10] written by php, extensible, embeddable, customizable. Provides web analytics toolkit for popular web applications and frameworks.

Reports which is used in open webanalytics:

- Dashboard Spy
- Visitor
- Visitor Loyalty
- Geo-location
- Domains
- Browsers
- Session
- Click-stream
- Traffic Sources
- Inbound Link Text
- Keywords
- Referring Sites
- Search Engines
- Content
- Entry / Exit Pages
- Click plot / heat-map
- Feeds

III. Analysis of Tools

Both tools show various throughput output. Let us begin Apache Jmeter represents the number of users are allocates thread groups which specify the running threads to make to show the performance level. Since apache Jmeter works under java application and also Open web analytics works under the php application (whether it is online / offline). Agile methodology checks the agile working days (1-7 to 15- 21) performance level of metrics like throughput, response time and visits (threads) may increase or decrease. Then frameworks of web analytics works online process Fig:1 but performance testing tool apache jmeter works under java application without networks. Fig: 2.

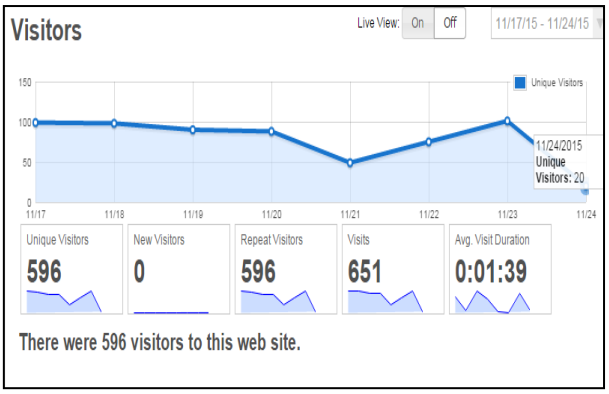

Fig. 1

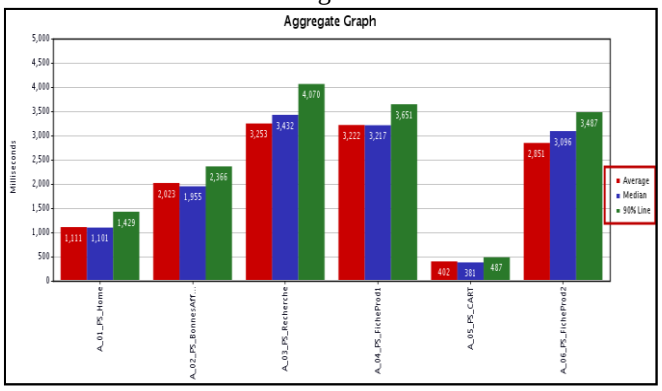

Fig. 2

Agile working	No Of Users	Apache Jmeter Throughput, *responses/minute*	Open web analytics Throughput, *responses/visits*
1-7	50	731	20
8-14	100	1375	97
15-21	25	3479	103

Table 1: Metrics Measures

IV. Conclusion

Automation testing tools are important source in Software industry. Each phase in agile development checks the behavior of web analytics and performance testing. It builds overall performance level of the software product. So I discovered many tools which are supported to the software development.

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