

# Development of Defect Management Process Model for Software Quality Improvement

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## ABSTRACT

One of the compulsory services that should give to any application or item is trying. The testing procedure can be arranged into two kinds: manual, automation testing. Manual testing requires part of human connection and has numerous drawbacks which can be overwhelmed via automation testing. The significant disservice of automation apparatuses that are accessible in the market requires isolate software for following the bugs that are raised amid the lifecycle. In the paper, we have planned bug following software in the automation apparatus so it makes less demanding for the analyzer and designer both to monitor the bugs and to the zone to be centered based around need. The JIRA is a business permit item which is coordinated into the automation instrument which lessens the time, cost reserve funds is expanded, and effectiveness of the undertaking is likewise expanded. It gives every one of the highlights that are made accessible in JIRA. There are couple of extra highlights, for example, Link the defect with another Test Case and Traceability which shows the rundown of test cases that are connected with the chosen test case with causes the engineer to distinguish the major comparable blemish that are recognized in different test cases.

**Keywords :** Automation Testing, JIRA

## I. INTRODUCTION

As of late, the automation testing is the present business patterns. Automation testing is a type of software testing where a different software is been utilized to control the test execution and after the execution consummation, the outcomes are thought about between real results and anticipated results. Numerous customers may have an issue of why the application should be wrapped with robotized tests. The significance of robotized tests is portrayed as mechanized testicles should be done to guarantee the nature of the application which is the fundamental goal. The time utilization develops exponentially if there should be an occurrence of manual testing. As

the day passes the task begin developing, it at long last reaches to a phase where it isn't conceivable to ensure the dependability through manual testing.

Expect a situation where the analyzer needs to check an application physically. To login into an application the client needs to make a record. While login the data that should be given are the main name, last name, email, and secret word. With a specific end goal to confirm this shape the analyzer needs to enter all the data that is required in the content fields and at the keep going, taps on "Enlist". The enlistment procedure is finished however not the testing procedure.

Analyzers have tried just a single content for the enlistment. There is likewise required to check alternate contents. For instance: imagine a scenario where the clients have effectively enlisted. , consider the possibility that the client overlooks the watchword. , imagine a scenario in which the client gives none exist email address. As the analyzer continues checking every last content fields the span of time increments. This is the situation of just a single module of the task; envision the testing procedure for the entire undertaking. As the undertaking develops, the time required to perform manual testing increments. Automation testing gives numerous advantages when contrasted with manual tests. The favorable circumstances are as per the following:

- **Cheaper** It is smarter to pay at an extend once as opposed to making the installment various circumstances for a similar undertaking.
- **Faster** Toward the starting stage, the analyzer needs to put an extensive push to compose test contents. After this procedure, the automation of the experiments should be possible quicker when contrasted with manual testing. Another principle weakness of manual testing is the experiments sets aside parcel of opportunity to execute every now and again on the grounds that all the procedure should be done from the begin.
- **Reliable** The manual analyzers may neglect to execution some particular assignment which is the ordinary human inclination and there is likewise a circumstance where it is skipped purposefully.
- **Reduces human dangers and specialized dangers** As the workers of the association are not clung to remain in a similar place, the undertaking make takes quite a long while to get finished. At this circumstance there is a necessity of another worker who is equipped for proceeding with it. This actually named as undertaking hand-off. Without conveying the testing procedure, it is genuinely dreary and unsafe. The analyzer for the most part create a report

after the execution, these reports additionally causes the new software engineer to see more about the task.

- **It is capable and adaptable** Physically playing out the testing procedure is repetitive. For instance, the analyzer can't write one lakh contents to test the application; regardless of whether it is done he/she can't guarantee the quality.

The significant drawback of this automation instruments is that is requires isolate software application to monitor the issues that are started in the product improvement lifecycle. There are numerous products' that are authorized item which builds the general cost utilization amid the development and upkeep.

In this paper, the bug following software is coordinated into the automation device which helps the client in numerous ways. At whatever point the analyzer finds any blunders in the automation instrument, at the principal arrange he/she will see the contents. In the event that the contents are right, analyzer will think about it as a bug. This bug is brought up in the automation apparatus with the goal that it is less demanding to monitor the status of the bug.

## II. RELATED WORK

It depicts about the Selenium and JMeter. The paper speaks to the system of programmed software testing for web applications relying upon the two instruments. The structure demonstrates that the outcome expands the development productivity and the nature of the product items.

Selenium is open-source software and gives convenient testing. The experiments in Selenium can be composed with the assistance of numerous software dialects, for example, java, .NET, Php and so forth. Watir full name is "Web Application Testing in Ruby". Waitr is an intense open source instrument. The test contents can be composed just in Ruby

dialect, it doesn't give record and playback instrument.

### III. DEFECT

The defect is additionally called as bug/Incident/Fault/Issue/disappointment. The undertaking of bug discoverers is to discover the bugs, record it which helps for re-creation, report it to the particular individual, oversee and monitor the status of the bug.

The name of the defect following framework is otherwise called bug following framework. Deformity following framework is a product application which is utilized as a part of each application to monitor the product bugs that are raised amid the product improvement cycle. It is exceptionally helpful for the engineers to center around their assignment.

The basic highlights of bug following frameworks are:

- User must have the capacity to make a defect with the one of a kind ID. The defect can be recognized by anybody with the assistance of bug ID.
- User must have the capacity to give the kind of the issue, need.
- User must have the capacity to general outline and depiction which replicates the situation.
- There must be a remark piece where the exemption instances of the situations can be indicated.
- The Due date must be determined before which the bug should be settled.
- It must be equipped for making the deformity report with diagrams and give an office of messaging.
- It must be fit for giving screen-shots.
- The work process must be given which portrays the advance.

There is numerous defect service devices accessible in advertise. The best devices are Bugzilla, JIRA, Lean Testing, and HP ALM. JIRA is a proprietary episode service apparatus. It gives issue following, recording, announcing and numerous mores offices.

The principle include is that it can be coordinated with development conditions. It is a medium to spry tasks. The trial rendition JIRA is accessible for 7 days, this is a popularized authorized item.

### IV. SYSTEM ARCHITECTURE

It utilizes open source innovations like Selenium, Java, JavaFx, Selendroid, Appium and so on to computerize web applications. The application under test (AUT) can be on any of the stages like Mozilla Firefox, Google Chrome, Safari, Internet Explorer stages. After automation, trial reports are introduced in HTML design. It is expected to be traded into exceed expectations configuration and email it to individual partners. The reports can likewise be sent to Defect service apparatuses like JIRA which serves to reports bug and track them amid the bug life cycle.

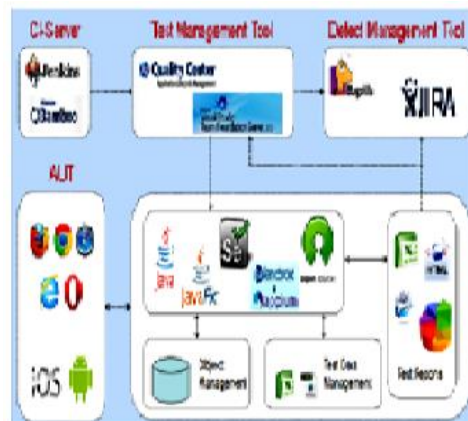


Figure 1. System Architecture

### V. DEFECT CREATION

JIRA's REST API is used by the developers who need to interact with JIRA in a procedural and programmatic manner. This could fulfill the development department who want to integrate their own software or other at lassian applications with JIRA.

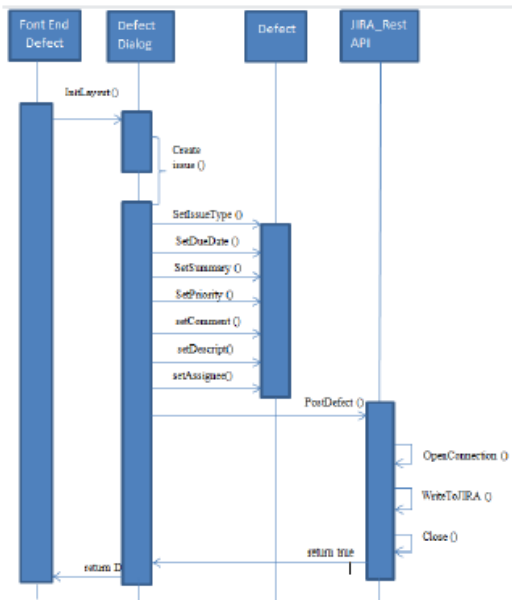


Figure 2. Defect module

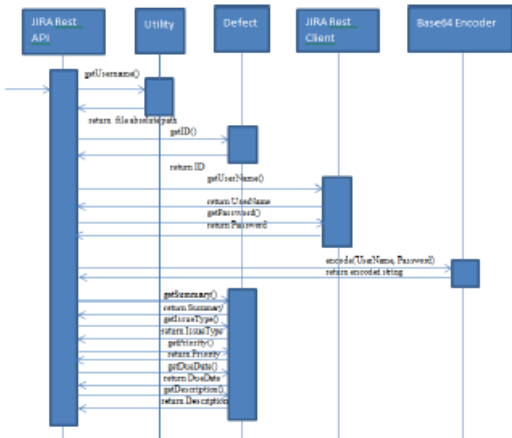


Figure 3. Defect JIRA module

## VI. CONCLUSION

In the current focused world, details can discover numerous find different software and apparatuses which is developing quickly. Planning and development of software and instruments ought to give easy to understand condition and give client alluring highlights in savvy way. The automation suite is created with different highlights one among them is deformity service framework. The associations make utilization of deformity service framework to track the defects which is found subsequent to running the tests, by and by which is performed utilizing separate software. It is useful, if the Automation suite contains deformity service framework. In this paper, there is clarification of the

mix of defect service framework with automation suite. Future work incorporates improvement and joining of undertaking service framework.

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