

# Measuring Effectiveness of software Quality by Comparing Manual Testing and Selenium

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## Abstract

The software testing is used for ensuring the quality of the software in this paper presenting the verifying quality of third party web page or to improving the quality of the web applications. The processing way of testing is to select the web application, and then presenting an application will be testing both manual and automation. The testing tool will be applied by the automation process through the tool selenium.<sup>[1]</sup> The automation process would have the special feature of framework. The framework had been created using the inbuilt tools like Cucumber, QTP/UTF, Test-complete, Selenium IDE, through automated script. Then again it had been verified manual testing having the same feature of the automation by using of scripting languages. The scripting languages are selected by user requirements. Because of the selenium was accepting many scripting languages like Python, VB, VB.Net, PHP, Perl, Java, Ruby, C# so on. In this paper presenting the main motive is to compare both manual and automation testing for improving the quality of web-application.

**Keyword:** Web-application, Selenium, Keurig, Webdrive, software.

## 1. Introduction

The WebPages will be tested by both roles manual and automation. Automation testing is a process of evaluated. In early stage of software development to finding the errors or detect the bug by using the automation testing. In the same aspect of manual testing the developer will made the scripting after the bug will be founded.

In automation testing the test cases will be the User-Interface of the WebPages and validating each and every element of web application.<sup>[2]</sup> The main motive of the automation testing is to save the Time

and Cost. You can easily set the automation framework. The framework having the special feature of inbuilt tools and the inbuilt tool means it having the set of rules and regulation or else protocol. To set framework having there is a need to have a multidisciplinary aspect.

The manual testing is very time consuming process. It takes more effort don't having reusable facility so it is possible of uncovered error. If may having the scripting knowledge means also possible of perfect error discovered feature. The all feature is possible may be good scripting. But only disadvantage is couldn't reuse the script every time will be created and tested.

The any type of testing is having one aspect find the all possible errors and it takes the report, with the help of report gives the solution of the error. The error will be rectified the web-application will be the error free application. To achieve the final motive is to attain the high quality software.

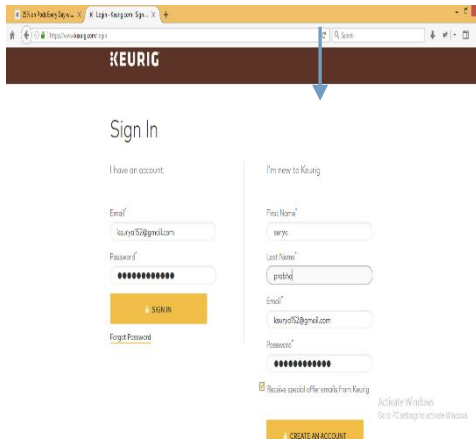
## 2. Motive

- Open selenium environment with help of eclipse
- Test both cases (Manual and Automation)
- Test third party website (Keurig web-application)
- Report generation (Related error)
- Given solution to the error
- Making high quality software

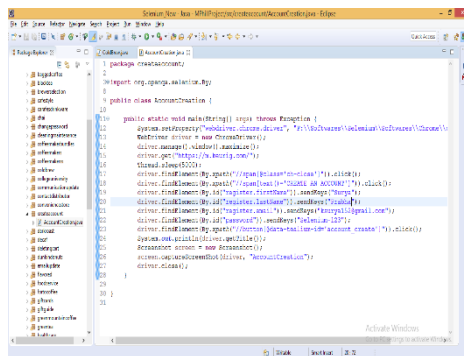
## 3. Selenium

- Selenium is a one of the top most tools in the software testing world. It is very comfortable to the developer because tool easy to adapted the framework setting.
- The selenium is running by with the help of



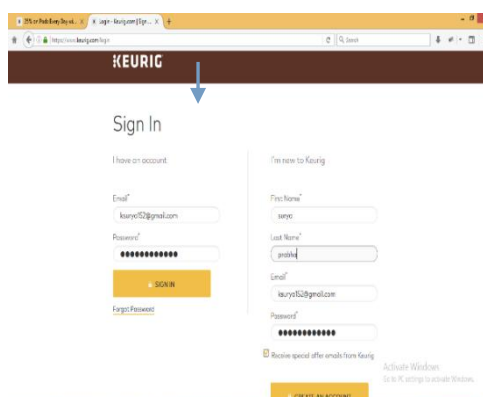


- The screen short detailed about Account Creation
- Set property path inside webdriver browser is chrome
- Eg: "F:\Software\Selenium\Softwares\Chrome\Chrome Driver"
- Driver was able to manage set window as maximize
- Get website "Keurig" with previous step to be followed.

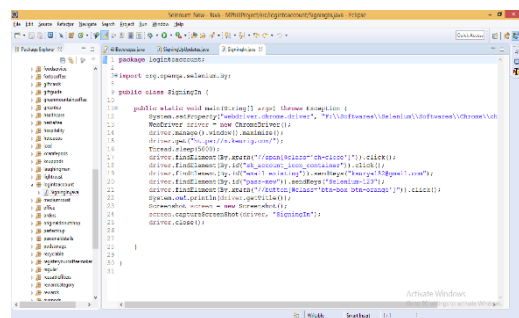


## 5.4. Existing user Account

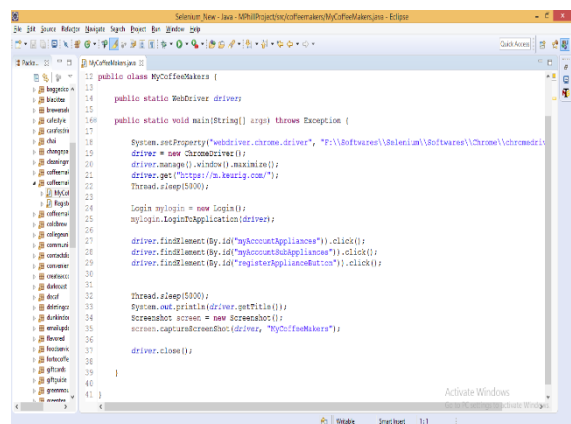
- The user was already create an account means called as Existing user.
- They are followed to given used or already used mail-id and password.
- For signing process.



- Here presenting automation tool selenium so it will be act automatically proceed for entering Signing.<sup>[6]</sup>
- The capturing screen-shot was detailed explain about previous step to be followed(mail-id & password).
- Finally rapid step followed by automation tool selenium.

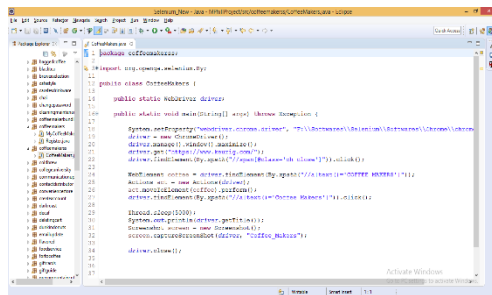


- In this scripting was find or verifying Mail-id.
- Finding mail-id because of the automation tool selenium was tested it is valued or invaluable.
- Finally control will be closed.



## 5.5. Using Mouse-hover

- The mouse-hover means of every mouse event
- Events are Click, Drag, Double-click, Pointed, and scrolled so on.
- They had given highly important to the event Click.



Test Case ID	Test Case Description	Test Case Description	Expected Result	Actual Result	Pass/Fail	Comments
KSU_TC_001	Verify whether user is able to login through the existing building window.	To check whether the user is able to login through the existing building window.	1. Launch the application using the following URL: <a href="https://www.keurig.com/">https://www.keurig.com/</a>	Application should be launched.	As Expected	Pass
			2. Click on the "Sign In" button on the popup window that is displayed.	The popup window should be displayed.	As Expected	Pass
			3. Click on the "Sign In" link that is displayed in the right corner of the application.	The "Sign In" screen should be displayed.	As Expected	Pass
			4. Enter valid details in the login form.	The details should be filled with valid data.	As Expected	Pass
			5. Click on the "Sign In" button displayed at the bottom.	User should be signed into the application and the name of the user should be displayed in the right corner of the application.	As Expected	Pass
			6. Click on the "Sign In" link that is displayed in the right corner of the application.	User should be signed out of the application and the user should not be able to use his/her name in the application.	As Expected	Pass

## 6. Process of Manual testing

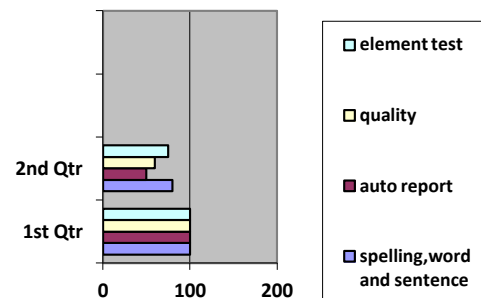
### 6.1. Home page

- It is the Microsoft excel sheet - it presenting test case of manual report. Manual testing report was similarly followed by automation process. But it causing many defects because the test case report is processing few kind of testing but it processed many step to be followed.<sup>[7]</sup>
- The simple process of verifying homepage of keurig website.
- Launching the application URL <https://www.keurig.com/>
- After validation process it will be presenting the expected result.

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- The process of next step was the manual tool - close the pop up display.
- Then click on the sign in link.it also a simple process one of the defect is every time the tester will check the URL after that you will entered the process.

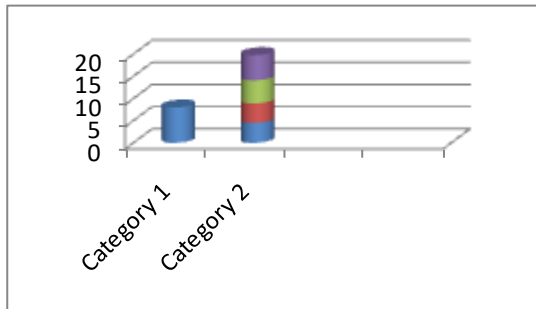
## 7. Analysis



- 1) The bar chart referred first quarter is automation testing report. Spell, word and sentence completion test is improved high quality.<sup>[8]</sup>
- 2) Second quarter is manual testing report. All the report is not enough in manual testing.<sup>[9]</sup>

## 8. Result

The analysis of study is conducted in dual way. The process of automation conducting many tasks, but manual generation presented only validating homepage.<sup>[10]</sup> It is very tedious process because man power need to check every time. The automation tool grow step to forward reduce man power, rapid test, auto generation results, recall scripting, language support, multi-browser support so on. So one of the best way to select the automation tool like selenium. It having easy to compactable and reliable tool specially designed for webapplications. But manual testing is one of the accuracy testing take long time is not a matter. If you want accuracy means did you chosen manual tool in early stage. It is given best result for tester. So tester can select apt tool because both tool having its own advantage and disadvantage.



Category 1 – Manual testing

Category 2 – Automation testing

## 9. Conclusion

Comparing with manual and automation tool and the automation tool is one of the best choice because of the tool inbuilt having many aspect. automatically report generation, each and every element will be tested carefully. In case of any minor and major defects will be checked. so very easily to enhancing quality of web-page. In manual testing the process will be operated by user only, so time will be exceed. the tester having knowledge of scripting, tool will accept scripting. so possible for occurring error. So the tester was carefully select the tool. the analysis report is suggested automation tool. The automation report was increased quality of web app. The report wouldn't under estimate manual error if the tester is well specialist in scripting means manual testing also making high quality web-application.

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