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| Internship Project Title | FUNCTIONAL TESTING USING SELENIUM WEBDRIVER |
| Name of the Company | TCSiON |
| Name of the Industry Mentor | Debashis Roy |
| Name of the Institute | ICT Academy Kerala |

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| --- | --- | --- | --- | --- |
| Start Date | End Date | Total Effort (hrs.) | Project Environment | Tools used |
| 31/03/2023 | 11/05/2023 | 125 |  | GitHub, MS Excel, MS Word, Selenium, TestNG, Java, Eclipse |

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Objective

The objective of this internship is to develop and implement an automated functional testing framework for the website [www.phptravels.net](http://www.phptravels.net). The goal is to ensure that the website functions as expected and to identify and report any defects or issues. Cover the functionalities of the website manually and get a complete overview of the testing website and get knowledge about tools and techniques to be used for completing the internship. And need to ensure, have completed the test scenario, test case, and test design documents as specified in the project guidelines and prepare automation test scripts for functional testing with respect to the test case document and test the portal and make sure the system works properly and as expected.

Introduction / Description of Internship

Develop and implement automated functional testing framework for the website [www.phptravels.net](http://www.phptravels.net) for the 4 This involves researching and selecting appropriate automation tools, designing, and writing test cases, and executing those test cases to ensure that the website functions as intended.

Develop automated functional testing project using Selenium WebDriver with the following objectives:

a) Perform automated functional testing on the site https://phptravels.com/demo/ available on public domain.

b) Design the functional testing project using java-based Selenium WebDriver API.

c) End-to-End functional testing needs to be performed on all web elements and appropriate test design and test case templates need to be populated with defect log.

Internship Activities

The main activities performed during the internship are.

* Made manual testing on the portal and got an idea about the functionalities described in the project summary.
* Get an overview of the test deliverables need to prepare before starting the actual testing and making the automation scripts. (Deliverables such test scenario document, test case document, and test design document).
* Added more knowledge on automation testing and selenium tools.
* Added more knowledge on java basics.
* Added more knowledge about more testing techniques and testing terminologies.
* Pointed out the test scenarios required to complete testing on the specified functional requirements and have prepared Test Scenario document.
* Pointed out whole test cases needed for test each test scenarios and completed Test Case Document.
* Prepared Test Design Document.
* Prepared automation test scripts using selenium API and TESTNG with eclipse IDE.
* Done automation tests on testing portal.
* Identified bugs and logged the bug details on defect log document.
* Prepared test running videos.
* Uploaded whole project documents on GITHUB.

Approach & Methodologies

**Approaches**

* Identified the requirements and functionalities of the application.
* Created a list of test scenarios based on the requirements.
* For each test scenario, created a test case by specifying the steps to be performed, expected results, and actual results.
* Defined the test data requirements.
* Defined the test environment and tools to be used for testing.

**Methodologies**

* Equivalence partitioning: It is used to divide the input values into different partitions or groups, where each partition contains similar characteristics.
* Boundary value analysis: It is used to test the behavior of the application at the boundary conditions.
* Decision table testing: It is used to test the application against different combinations of inputs and conditions.
* User-based scenarios: It is used to identify the scenarios based on the user perspective.
* Function-based scenarios: It is used to identify the scenarios based on the functionality of the application.
* Technical scenarios: It is used to identify the scenarios based on the technical requirements of the application.

Assumptions

The application has severe performance issues and shows severe delay in loading results and went for system upgradation often Ly. Hence automation testing is not possible on such occasions and assume the testing portal is down if more a greater amount of test cases failed on the automation testing.

Exceptions / Exclusions

Have identified 2 bugs during the test case creation process itself, and those test cases not included for further automation testing.

Charts, Table, Diagrams

**Test Cases Planned vs Executed**

|  |  |
| --- | --- |
| No of Test Cases Planned | 59 |
| No. of Test Cases Executed Manually | 59 |
| No. of Test Cases Executed on Automation | 57 |

**Test running reports & Success-Failure Ratio**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Module** | **Admin** | **Customer** | **Agent** | **Supplier** | **Total** |
| No.of Test Cases Planned | 12 | 12 | 21 | 14 | 59 |
| Executed Manually | 12 | 12 | 21 | 14 | 59 |
| Pass | 12 | 12 | 21 | 12 | 57 |
| Fail | 0 | 0 | 0 | 2 | 2 |
| Executed on Automation | 12 | 12 | 21 | 12 | 57 |
| Pass | 12 | 12 | 21 | 12 | 57 |
| Fail | 0 | 0 | 0 | 0 | 0 |

**Bugs Report**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bug Status | Critical | Major | Medium | Cosmetic | Total |
| Count | 0 | 0 | 2 | 0 | 2 |

Challenges & Opportunities

The website seems to be included with a lot of functionalities, and resulted in putting more effective time to learn the functionalities and make an idea about how we can make the scripts effectively and without compromising the quality of testing.

Also, the website is constantly being updated and becoming unavailable for testing when system upgradation happens, which requires finding more time to make ourselves available when the testing portal is live.

Risk Vs Reward

The main risk associated with this project is that the testing framework may not cover all the website's functionalities, which could result in some issues going undetected. However, the potential reward is significant, as a robust and effective testing framework can help ensure that the website functions properly and provide valuable feedback.

Reflections on the Internship

The internship has helped to acquire more knowledge regarding the testing techniques, Java basics, selenium tips, and real-world testing scenarios. Throughout the process used to learn new things which will play an impact role when I get a chance to work in a real project.

Recommendations

The website seems to be functioning well and performing almost as expected, however the functionalities cannot be used if the system went down or if potential performance lack occurred. Apart from the functional testing, the system needs a complete performance testing to make it more reliable and efficient.

Outcome / Conclusion

The functional testing has been completed successfully and identified 2 bugs. For the given functionalities no other issues has been identified, and it is ready to go live once the identified bugs has been fixed and performance has been improved.

Link to code and executable file

[Sabusebastian/TCSInternship at Main (github.com)](https://github.com/Sabusebastian/TCSInternship/tree/Main)