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| Internship Project Title | Functional Testing using Selenium WebDriver |
| Name of the Company | TCS-ION |
| Name of the Industry Mentor | Debashis Roy |
| Name of the Institute | ICT Academy of Kerala |

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| Start Date | End Date | Total Effort (hrs.) | Project Environment | Tools used |
| 10/10/2022 | 8/11/2022 | 126 | Windows 10, Chrome | Selenium Eclipse |

# **Acknowledgements**

I am greatly indebted to TCS for providing the opportunity to take part in the internship and get a hands-on understanding on industry expectations when handling testing and also for the guidance and detailed instructions provided through the TCS iON portal which makes attending each step of the internship very clear.

I would like to express my special gratitude and thanks to my industry mentor for taking the time to review the reports daily and providing feedback and also to the RIO support team for their quick response and fixes to issues with testing website.

# **Objective**

The objective of the project is to perform automated function testing using Selenium Webdriver for the site **PHPTRAVELS.NET.** Design the function testing project using java-based Selenium Webdriver API. End-to-end functional testing will be conducted on all web elements as per the test requirements and appropriate test design and test case templates will be prepared along with defect log.

# **Approach**

Testing will be conducted on the site for the 4 modules like "Customer Front-End", "Agent Front-End", "Admin Back-End", and "Supplier Back-End". Java-based code for automation testing will be developed which will test all components like an actual user. The automated test cases will be controlled by Test Design, Test Scenario and Test Cases. Defects identified at different stages of testing will be logged with steps to retrace error for developer correction.

# **Scope of Testing**

## **In scope**

Functional testing will be conducted to confirm if the application satisfies the requirements and functionalities meet the expected standards

## **Out of scope**

Database Testing will not be conducted as current logins only provide access to the UI

Payment gateway that requires actual user login and payment credentials will not be tested

# **Test Objectives**

| **Ref** | **Function** | **Test Objective** | **Evaluation Criteria** | **Test Result** |
| --- | --- | --- | --- | --- |
| **Stage 1: Customer Front-End** | | | | |
| REQ1 | User Login | Test login functionality using valid and invalid credentials | Accessible with valid credentials and denied for invalid login with appropriate notifications | Pass |
| REQ2 | Test links | Check links My Bookings, Add Funds, My Profile and Logout | Links should be clickable and show successfully redirect page | Pass |
| REQ3 | Payment processing | Make automated payment | Check if the payment was successfully done to the portal | Pass |
| REQ4 | Check bookings | Checking bookings sections and display booking voucher | Booking link working and voucher is displayed | Pass |
| REQ5 | Update profile | Update profile information using data from test case | Information pulled correctly and updated in portal | Pass |
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| **Stage 2: Agent Front-End** | | | | |
| REQ1 | Agent Login | Test login functionality using valid and invalid credentials | Accessible with valid credentials and denied for invalid login with appropriate notifications | Pass |
| REQ2 | Test links | Check links My Bookings, Add Funds, My Profile and Logout | Links should be clickable and show successfully redirect page | Pass |
| REQ3 | Test links | Check links Home, Hotel, Flights, Tours, Visa, Blog, Offers | Links should be clickable and show successfully redirect page | Pass |
| REQ4 | Hotel Search | Search for hotel by city and test result | Results listed should match the search criteria | Pass |
| REQ5 | Change currency | Update currency from USD to INR | Currency set to INR | Pass |
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|  |  |  |  |  |
| **Stage 3: Admin Back-End** | | | | |
| REQ1 | Admin Login | Test login functionality using valid and invalid credentials | Accessible with valid credentials and denied for invalid login with appropriate notifications | Pass |
| REQ2 | Test links | Check link Bookings and display invoice | Successful navigation to Bookings page and invoice for paid booking opened successfully | Pass |
| REQ3 | Delete booking | Delete booking with status as Cancelled | Booking removed from list | Pass |
| REQ4 | Change status | Change booking status from Pending to Confirmed and verify count | Booking status changed to Confirmed and count of Confirmed booking increased by one | Pass |
| REQ5 | Test link | Check “Website” link and verify redirection | Link is clickable and successful redirection to page | Pass |
|  |  |  |  |  |
| **Stage 4: Supplier Back-End** | | | | |
| REQ1 | Supplier Login | Test login functionality using valid and invalid credentials | Accessible with valid credentials and denied for invalid login with appropriate notifications | Pass |
| REQ2 | Check dashboard | Check dashboard for text “Sales overview and summary” | Text displayed on dashboard | Pass |
| REQ3 | Check graph | Check dashboard for revenue breakdown graph | Revenue breakdown graph displayed on dashboard | Pass |
| REQ4 | Change status | Change booking status from Pending to Confirmed and verify count | Booking status changed to Confirmed and count of Confirmed booking increased by one | Pass |
| REQ5 | Test link | Check whether the modules Flight, Visa, Tours, Bookings are displayed and clickable | Elements displayed and clickable | Fail |
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# **Test Environment**

Testing will be conducted on Windows 10 on different Browsers,

* Chrome
* FireFox
* Edge
* Safari

## **System Resources**

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| --- | --- | --- |
| **No** | **Resources** | **Description** |
| 1 | Software | Eclipse IDE 2022-03 with Selenium, Maven, TestNG and GitHub  Browsers: Chrome, Edge, Firefox, Safari |
| 2 | Network | LAN network at 100 Mbps |
| 3 | Computer | Windows 10, RAM 8 GB, CPU i5, 2.9GHz |

# **Challenges**

* The main challenge is the access to the site which keeps varying with different issues like 404 errors, login issues and API errors.
* Due to login issues, the testing for all other elements and requirement on the inner pages are not possible at times.
* Website stays online only for a short duration with the uptime varying from a few second to a few minutes to even give the error notification which makes automation challenging.
* Test Cases are executable only one module at a time due to frequent website crashes so the rest of the test cases may get skipped or fail

# **Enhancements Suggested**

Overall performance of the website needs to be improved for better user experience

* Should be able to handle more users simultaneously
* Data handling capacity needs to be improved, as the website is currently showing very high loading time when lot of bookings are added to the system
* Website should always be available with close to no downtime

Issues mentioned on the Defect Tracking log needs to be resolved on priority. Screenshots are included in the defect log as some issues are random.

# **Test Deliverables**

* Test Documents (Test Design, Test Scenario, Test Cases)
* Selenium WebDriver API on Java based Automation script
* Test Report
* Project Report
* Defect Tracking Log

All the above deliverables and video recording of the Automation test scripts executing and performing browser-based testing uploaded to GitHub and available in the below URL,

<https://github.com/vysakhul/PHPTravels.git>