ISM 4432 and 6145 – SOFTWARE TESTING

SPRING SEMESTER 2022

# TESTING ASSIGNMENT 4 – Due: April 16, 2022

*Automated Software Testing*

## 1. Selenium IDE Assignment

Instructions:

1. Pick some part of the <http://demo.guru99.com/test/newtours/> web site as your SUT (System under test) (e.g., Sign-on page, Register page, home page, flight booking)
2. Create at least 4 separate test-case files that comprise at least 6 commands.
3. Create a test suite which calls each of your test-case files.
4. Prepare the final set of deliverables for submission into Canvas.

Deliverables: Test plan, Test scripts with a brief description of what each script does. Attach Screen shots if appropriate. Also, if there are any preconditions (files created configurations etc.) please mention those.

Note: Your tests do not have to all pass for you to get the best grade possible! In fact, a test should fail if the SUT has a bug in the test's area.

Your tests can be "all capture" or "all hand-coded" or some mixture of the two. It is the *quality* of code that matters, not how you produced it. That said, it may prove difficult to produce a quality set of tests using "all capture."

Grading criteria:

* Well-documented code, i.e., comments! Explain both what you are testing and what the code does.
* *Robust* test cases, i.e., those that can survive minor text changes by the page's owners.
* *Completeness* of test cases, i.e., cases which cover everything that needs to be verified or asserted for a feature.

1. Automation guidelines

2.1 Read through the *Selenium’s Hands-on Tutorials:* available in *Canvas.*

2.2 Write down the tests you would like to perform on the SUT as simple one-line sentences. You may use any functional testing paradigm to develop your test cases. Remember to be devious in your selection of test cases. (You may later use them to create your test scripts and even add more detail. It is advisable to keep your scripts well documented and maintainable.)

2.3 Use different methods to identify web elements as given in tutorial (Eg. DOM, CSS, Xpath)

1. Deliverables

3.1 You are expected to deliver at least 4 test cases for your SUT. Report each test case using Functional Test Case Reporting Forms attached to this assignment.

3.2 Submit test scripts for the above test cases. You can submit the HTML files. Include comments in your scripts to make it easier to understand and separate one test case from the other.

3.3 Complete Defect Reporting Forms if running a test case results in a failure. Report the defect using the report form attached.

1. Assignment timeline

The following timeline is recommended so that you may complete your assignment comfortably and efficiently.

* 1. Reading phase:

Go through the Selenium documentation; begin thinking about possible test cases for a given system.

* 1. Working phase:

Learn the basic operations of Selenium IDE, create test scripts for the selected system, and complete the assignment.

* 1. Submit the assignment end of the day on April 16, 2022. Please submit your deliverables as a single compressed folder to Canvas.

The course Teaching Assistant – Amulya Alwala ([aalwala@usf.edu](mailto:aalwala@usf.edu) ) – is available to answer your queries regarding this assignment.

Test Plan-Automation

Application or System Under Test: Mercury tours web application

Objective: To perform automation functional testing on the Mercury tours web application, which includes, identifying different features and functionalities within the features, coming up with good test cases using functional testing techniques, user scenarios using scenario-based testing. Automating these test cases using Selenium IDE. Running the automation test scripts to find defects/bugs. Planning for timelines, Identifying, and producing required deliverables.

Scope:

* Accessing the Application
* Features/ Modules in the application: As mentioned below
* Navigation within the application

|  |  |  |
| --- | --- | --- |
| Module/Feature | Roles | Description |
| Home page | User with valid credentials/ new unregistered user | * A user with valid credentials should be able to sign in to find a flight * A new user should be able to navigate to registration page * A new user should be able to find the flights * Any user should be able to access all the links and other navigations in the homepage |
| Sign on | User with valid/invalid credentials | * Registered user with valid credentials should be able to login * Existing user should be able to login * User with invalid credentials should not login * User with no credentials should not login |
| Registration | New/existing registered user | * New user with valid details should be registered * New user with incorrect details should not be able to register * Existing user should be able to register with a different username and password but same details |
| Flight Finder | New/existing registered user | * Registered user should be able to find flights * New/unregistered user should be able to find flights * User should be able to find business class flights * User should be able to find economy class flights * User should be able to find round trip flights * User should be able to find one-way flights |
| Sign off | Newly registered/existing user | User logged in should be able to sign off from the application successfully |

Out of Scope:

* Booking an actual flight
* Booking a cruise
* External interfaces

Test Methodology

* Agile
* Waterfall etc.,

Types of Testing to be performed:

* Functional Testing--- more description
* Feature/ Scenario Based Testing

Suspension/ Exit Criteria:

* If 40% of the test cases/ test scripts fail due to valid reasons, application is not ready for release.

Test Deliverables:

* Test plan
* Test cases
* Automation Test scripts
* Screenshots of logs of executed test scripts
* Defect reports

Test Environment/Tools:

* Chrome/ Firefox browser
* Selenium IDE plug in installed
* MAC OS

Automation-Test Cases

Test Case Report

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| --- | --- | --- | --- |
| GENERAL INFORMATION | | | |
| Test Stage: | Unit Functionality Integration System Interface  Performance Regression Acceptance Pilot  Functionality and unit test code | | |
| Test Date: | April 10 2022 | System Date, if applicable: | - |
| Tester: | Amulya | Test Case Number: | TC001 |
| Test Case Description: | Sign on/ Login with valid credentials | | |
| Results: | Pass | Incident Number, if applicable: |  |
| INTRODUCTION | | | |
| Requirement(s) to be tested: | Sign on feature of the demo new tours web application | | |
| Roles and Responsibilities: | To test if a user with valid credentials can log in to the application. | | |
| Set Up Procedures: | Check if the application is accessible manually | | |
| Stop Procedures: | N/A | | |
| ENVIRONMENTAL NEEDS | | | |
| Hardware: | MAC OS with chrome browser installed | | |
| Software: | Chrome Browser, Selenium IDE plug in | | |
| Procedural Requirements: | Selenium IDE successfully launched | | |
| TEST | | | |
| Test Items and Features: | Verifying if the user can login with valid credentials | | |
| Input Specifications: | Username: aa  Password: password | | |
| Procedural Steps: | Launch the application <http://demo.guru99.com/test/newtours/>  Click on register button  Give valid user name and password  Click on the submit button  Verify if the user logged in succesfully | | |
| Expected Results of Case: | User should login successfully | | |
| ACTUAL RESULTS | | | |
| Output Specifications: | User logged in successfully, provide screenshot of the test script log | | |

Test Case Report

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| --- | --- | --- | --- |
| GENERAL INFORMATION | | | |
| Test Stage: | Unit Functionality Integration System Interface  Performance Regression Acceptance Pilot  Functionality and unit test code | | |
| Test Date: | April 10 2022 | System Date, if applicable: | - |
| Tester: | Amulya | Test Case Number: | TC002 |
| Test Case Description: | Sign on/ Login with invalid credentials | | |
| Results: | Pass | Incident Number, if applicable: |  |
| INTRODUCTION | | | |
| Requirement(s) to be tested: | Sign on feature of the demo new tours web application | | |
| Roles and Responsibilities: | To test if a user with invalid credentials can log in to the application. | | |
| Set Up Procedures: | Check if the application is accessible manually | | |
| Stop Procedures: | N/A | | |
| ENVIRONMENTAL NEEDS | | | |
| Hardware: | MAC OS with chrome browser installed | | |
| Software: | Chrome Browser, Selenium IDE plug in | | |
| Procedural Requirements: | Selenium IDE successfully launched | | |
| TEST | | | |
| Test Items and Features: | Verifying if the user can login with invalid credentials | | |
| Input Specifications: | Username: aa-> valid user name  Password: x ->invalid password  Username: aaa-> invalid user name  Password: password ->valid password | | |
| Procedural Steps: | Launch the application <http://demo.guru99.com/test/newtours/>  Click on register button  Give valid username and in valid password  Click on the submit button  Verify if the user is not allowed to login  Verifying if a username or password incorrect message is displayed  Launch the application <http://demo.guru99.com/test/newtours/>  Click on register button  Give in valid username and valid password  Click on the submit button  Verify if the user is not allowed to login  Verifying if a username or password incorrect message is displayed | | |
| Expected Results of Case: | User should not be allowed to login, username or password incorrect message is displayed | | |
| ACTUAL RESULTS | | | |
| Output Specifications: | User not logged in, username or password incorrect message is displayed | | |

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| GENERAL INFORMATION | | | |
| Test Stage: | Unit Functionality Integration System Interface  Performance Regression Acceptance Pilot  Functionality and unit test code | | |
| Test Date: | April 10 2022 | System Date, if applicable: | - |
| Tester: | Amulya | Test Case Number: | TC002b |
| Test Case Description: | Sign on/ Login with invalid credentials | | |
| Results: | Failed | Incident Number, if applicable: | DF001 |
| INTRODUCTION | | | |
| Requirement(s) to be tested: | Sign on feature of the demo new tours web application | | |
| Roles and Responsibilities: | To test if a user with invalid credentials can log in to the application. | | |
| Set Up Procedures: | Check if the application is accessible manually | | |
| Stop Procedures: | N/A | | |
| ENVIRONMENTAL NEEDS | | | |
| Hardware: | MAC OS with chrome browser installed | | |
| Software: | Chrome Browser, Selenium IDE plug in | | |
| Procedural Requirements: | Selenium IDE successfully launched | | |
| TEST | | | |
| Test Items and Features: | Verifying if the user can login with invalid credentials->blank password | | |
| Input Specifications: | Username: aa-> valid username  Password: ->invalid blank or empty password | | |
| Procedural Steps: | Launch the application <http://demo.guru99.com/test/newtours/>  Click on register button  Give valid username and a blank or empty value in the password  Click on the submit button  Verify if the user is not allowed to login  Verifying if a username or password incorrect message is displayed | | |
| Expected Results of Case: | User should not be allowed to login, username or password incorrect message is displayed | | |
| ACTUAL RESULTS | | | |
| Output Specifications: | User logged in, username or password incorrect message is not displayed, test failed | | |

Test Case Report

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| GENERAL INFORMATION | | | |
| Test Stage: | Unit Functionality Integration System Interface  Performance Regression Acceptance Pilot  Functionality and unit test code | | |
| Test Date: | April 10 2022 | System Date, if applicable: | - |
| Tester: | Amulya | Test Case Number: | TC003 |
| Test Case Description: | New user registration | | |
| Results: | Pass | Incident Number, if applicable: |  |
| INTRODUCTION | | | |
| Requirement(s) to be tested: | Testing the registration feature of the demo new tours web application | | |
| Roles and Responsibilities: | To test if a new user can register for the application | | |
| Set Up Procedures: | Check if the application is accessible manually | | |
| Stop Procedures: | N/A | | |
| ENVIRONMENTAL NEEDS | | | |
| Hardware: | MAC OS with chrome browser installed | | |
| Software: | Chrome Browser, Selenium IDE plug in | | |
| Procedural Requirements: | Selenium IDE successfully launched | | |
| TEST | | | |
| Test Items and Features: | Verifying if new user registration is successful | | |
| Input Specifications: | Valid input values for all registration fields like, first name, last name, email, address phone. | | |
| Procedural Steps: | Launch the application <http://demo.guru99.com/test/newtours/>  Click on register button  Give valid username and password  Click on the submit button  Verify if the user logged in successfully  Click on registration link  Fill in all the details in the fields, first name, last name, email, address phone, username, password etc.  Click on submit  Check if the registration is successful  Click on the sign in link on the successful registration page/message  Sign in using the username and password created in registration  Click on submit  Check if login is successful | | |
| Expected Results of Case: | New user should be able to fill in all details and register successfully-User should login successfully with newly created credentials | | |

Test Case Report

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| GENERAL INFORMATION | | | |
| Test Stage: | Unit Functionality Integration System Interface  Performance Regression Acceptance Pilot  Functionality and unit test code | | |
| Test Date: | April 10 2022 | System Date, if applicable: | - |
| Tester: | Amulya | Test Case Number: | TC004 |
| Test Case Description: | Finding a one way business class flight | | |
| Results: | Pass | Incident Number, if applicable: |  |
| INTRODUCTION | | | |
| Requirement(s) to be tested: | Testing the Flight booking/ find flight of the demo new tours web application | | |
| Roles and Responsibilities: | To test a user can find/book business class one-way flights | | |
| Set Up Procedures: | Check if the application is accessible manually | | |
| Stop Procedures: | N/A | | |
| ENVIRONMENTAL NEEDS | | | |
| Hardware: | MAC OS with chrome browser installed | | |
| Software: | Chrome Browser, Selenium IDE plug in | | |
| Procedural Requirements: | Selenium IDE successfully launched | | |
| TEST | | | |
| Test Items and Features: | Verifying if user can search for business class one-way flights | | |
| Input Specifications: | Select one way trip, business class as inputs, also select other relevant inputs like travel date, number of passengers, airlines etc., | | |
| Procedural Steps: | Launch the application <http://demo.guru99.com/test/newtours/>  Click on Flights link on home page  Fill in all the details in the fields, one way trip, business class as inputs, also select other relevant inputs like travel date, number of passengers, airlines etc.,  Click on submit  Check if the user is navigated to the next page, where information on availability of flights is displayed  Verify if the there are no flights available  Click on back to home button  Check if user navigates back to home page-verify | | |
| Expected Results of Case: | User should be able to fill in all details and find one way business class flights successfully, and go back to home page if no flights are available | | |

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| GENERAL INFORMATION | | | |
| Test Stage: | Unit Functionality Integration System Interface  Performance Regression Acceptance Pilot  Functionality and unit test code | | |
| Test Date: | April 10 2022 | System Date, if applicable: | - |
| Tester: | Amulya | Test Case Number: | TC005 |
| Finding a one way business class flight | Finding a round trip economy class flight | | |
| Results: | Pass | Incident Number, if applicable: |  |
| INTRODUCTION | | | |
| Requirement(s) to be tested: | Testing the Flight booking/ find flight of the demo new tours web application | | |
| Roles and Responsibilities: | To test a user can find/book economy class round trip flights | | |
| Set Up Procedures: | Check if the application is accessible manually | | |
| Stop Procedures: | N/A | | |
| ENVIRONMENTAL NEEDS | | | |
| Hardware: | MAC OS with chrome browser installed | | |
| Software: | Chrome Browser, Selenium IDE plug in | | |
| Procedural Requirements: | Selenium IDE successfully launched | | |
| TEST | | | |
| Test Items and Features: | Verifying if user can search for business class one-way flights | | |
| Input Specifications: | Select round trip, economy class as inputs, also select other relevant inputs like travel date, number of passengers, airlines etc., | | |
| Procedural Steps: | Launch the application <http://demo.guru99.com/test/newtours/>  Click on Flights link on home page  Fill in all the details in the fields, round trip, economy class as inputs, also select other relevant inputs like travel date, number of passengers=4, airlines etc.,  Click on submit  Check if the user is navigated to the next page, where information on availability of flights is displayed  Verify if the there are no flights available  Click on back to home button  Check if user navigates back to home page-verify | | |
| Expected Results of Case: | User should be able to fill in all details and find round trip economy class flights for 4 passengers successfully or go back to home page if no flights are available | | |

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| GENERAL INFORMATION | | | |
| Test Stage: | Unit Functionality Integration System Interface  Performance Regression Acceptance Pilot  Functionality and unit test code | | |
| Test Date: | April 10 2022 | System Date, if applicable: | - |
| Tester: | Amulya | Test Case Number: | TC006 |
| Test Case Description: | Finding a hotel | | |
| Results: | Fail | Incident Number, if applicable: |  |
| INTRODUCTION | | | |
| Requirement(s) to be tested: | Testing the hotel booking/ finding component of the demo new tours web application | | |
| Roles and Responsibilities: | To test a user can find/book a hotel | | |
| Set Up Procedures: | Check if the application is accessible manually | | |
| Stop Procedures: | N/A | | |
| ENVIRONMENTAL NEEDS | | | |
| Hardware: | MAC OS with chrome browser installed | | |
| Software: | Chrome Browser, Selenium IDE plug in | | |
| Procedural Requirements: | Selenium IDE successfully launched | | |
| TEST | | | |
| Test Items and Features: | Verifying if user can search for hotels | | |
| Input Specifications: | None | | |
| Procedural Steps: | Launch the application <http://demo.guru99.com/test/newtours/>  Click on Hotels link on home page  Verify site under construction message is displayed  Click on back to home button  Check if user navigates back to home page-verify | | |
| Expected Results of Case: | User should be able to book or find a hotel, but the page or link is broken/unexpected | | |

DEFECT REPORTING FORM

DEFECT ID: DF001

TITLE: User logged in with blank password COMPONENT: sign on feature of new tours application

REPORTED BY: Amulya SUBCOMPONENT: sign on feature

REPORTED ON: April 10, 2022 VERSION: - NA

PLATFORM: google chrome RESOLUTION PRIORITY: P1

OPERATING SYSTEM:MAC OS RESOLUTION SEVERITY: S1

RELATED TEST CASE IDS: TC002b CONSISTENCY: consistent

DEFECT SUMMARY:

User able to log in with invalid credentials-ie., blank password

STEPS TO REPRODUCE:

* Launch the application <http://demo.guru99.com/test/newtours/>
* Click on sign on button
* Give valid username and a blank or empty value in the password
* Click on the submit button
* Verify if the user is not allowed to login
* Verify if a username or password incorrect message is displayed.
* Notice that the user logged in

ATTACHMENTS:

1.

For evaluators use only

DEFECT STATUS: \_\_\_\_\_\_\_\_\_APPROVED \_\_\_\_\_\_\_\_\_ REJECTED

REASON: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DEFECT ID: DF002

TITLE: Find/book hotels page is broken/incomplete COMPONENT: Hotel’s page of new tours application

REPORTED BY: Amulya SUBCOMPONENT: Find Hotels feature

REPORTED ON: April 10, 2022 VERSION: - NA

PLATFORM: google chrome RESOLUTION PRIORITY: P2

OPERATING SYSTEM:MAC OS RESOLUTION SEVERITY: S2

RELATED TEST CASE IDS: TC006 CONSISTENCY: consistent

DEFECT SUMMARY:

Usee unable to find or book a hotel as the hotel’s page is incomplete or under construction but still accessible to the user

STEPS TO REPRODUCE:

* Launch the application <http://demo.guru99.com/test/newtours/>
* Login with valid username and password
* Click on the submit button
* Verify if the user is not allowed to login
* Click on hotels link
* Notice that the user cannot find or book a hotel as the page is broken or under construction
* Check for the under-maintenance message on screen, which makes this a P2, S2 defect since a message is displayed for the user, but it still impedes the user.

ATTACHMENTS:

1.

For evaluators use only

DEFECT STATUS: \_\_\_\_\_\_\_\_\_APPROVED \_\_\_\_\_\_\_\_\_ REJECTED

REASON: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DEFECT ID: DF003

TITLE: New user registered with a same details & credentials COMPONENT: registration feature of new tours application

REPORTED BY: Amulya SUBCOMPONENT: sign on feature

REPORTED ON: April 10, 2022 VERSION: - NA

PLATFORM: google chrome RESOLUTION PRIORITY: P1

OPERATING SYSTEM:MAC OS RESOLUTION SEVERITY: S1

RELATED TEST CASE IDS: TC003 CONSISTENCY: consistent

DEFECT SUMMARY:

A new user can be registered and can log in with the same username and password and other details, creating multiple redundant and duplicate users with exactly same details.

STEPS TO REPRODUCE:

* Launch the application <http://demo.guru99.com/test/newtours/>
* Click on register button
* Fill in all the details required in the registration form, along with a username and password
* Click on submit and check if a new user is created with these details
* Input the created and valid username and password in the sign on page
* Click on the submit button
* Notice that the user logged in
* Now register another user with the same detail’s multiple times, notice that the user is still created, and registration successful message is displayed
* In automation this can be found by running the same script multiple times without changing the input values and checking for successful registration message each time

ATTACHMENTS:

1.

For evaluators use only

DEFECT STATUS: \_\_\_\_\_\_\_\_\_APPROVED \_\_\_\_\_\_\_\_\_ REJECTED

REASON: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_