CS 1632 - DELIVERABLE 4: Automated Web Testing

Lucas Brennan - lbrennan26 (github)

Michael Okonski - mh08 (github)

Github Repo - https://github.com/mho8/CS1632_Deliverable_4

Summary

During this Deliverable, we started with exploratory testing on the web page. This was advantageous to us because we were able to identify the defects before we even wrote the automated scripts. This allowed us to write tests for the defects and then tested for the requirements. Exploratory testing, albeit informal, provided us with a general outline for formal automatic scripts on Katalon. We were able to avoid a lot of problems due to this template we created. One problem we encountered however, involved the command assertTextPresent vs. assertText. After we were able to understand that assertTextPresent checks the whole web page for any instance of the text you use, and assertText uses a specific target, we moved forward swiftly.

Following my unit tests, the pages and problems that could use further testing involve the Hello page and the Factorial pages. The hello page had two defects as well as the Factorial page had 2 defects. With more time spent, there could be more defects that could be found on these pages. They are both important and involve user input. More guard code could be implemented to maybe lessen these defects found via more testing.

In our testing we had six tests that failed. The first test that failed was for requirement 1. In the welcome message the homepage displays the correct message but a period has been added on the webpage. Next, Requirement 4 states that the fibonacci page shall accept integers from 1-100 but it only accepts 1-30 based on our testing. Requirement 5 states that the fibonacci and factorial pages should display 1 when an invalid value is entered but on both pages an invalid value results in an internal service error. One test of an invalid value failed for each page. The next two tests that failed were due to trailing values in the Hello URL. If you put a # value in the URL, everything after it will be ignored in the displayed message. Lastly, by placing a % value in the URL the user causes an application error which caused our test to fail.

Test Suites 📁 +

CS1632_D4

- 🔴 Welcome_friend_test
- 🟢 taught_by_bill_test
- 🟢 home_all_links_test
- 🟢 factorial_all_links_test
- 🟢 fibonacci_all_links_test
- 🟢 hello_all_links_test
- 🟢 cathedral_all_links_test
- 🟢 factorial_one_value
- 🟢 factorial_50_value

Passed: 22   **Failed: 6**

Traceability Matrix

REQ 1: welcome_friend_test, taught_by_bill_test

REQ 2:   home_all_links_test, factorial_all_links_test, fibonacci_all_links_test, hello_all_links_test, cathedral_all_links_test

REQ 3:   factorial_one_value, factorial_50_value, factorial_100_value

REQ 4:   fibonacci_one_val, fibonacci_5_val, fibonacci_31_val

REQ 5:   factorial_negative_val_test, factorial_taco_test, fibonacci_negative_val_test, fibonacci_taco_test

REQ 6:   hello_laboon_test

REQ 7:   hello_trailing_jazzy_test, hello_trailing_#_val_test, hello_trailing_%_test

REQ 8:   picture_one_present_test, picture_two_present_test, picture_three_present_test, number_one_present_test, number_two_present_test, number_three_present_test, number_4_not_present_test

Defects

Summary: The welcome page does not display the correct message.

Description: Upon clicking the main page the user sees the message but it has a period as shown in the requirements.

Reproduction Steps:
1. In the URL enter this: https://cs1632ex.herokuapp.com/
2. A message will be shown in the center of the page.

Expected Behavior: The message on the main page shall be: Welcome, friend, to a land of pure calculation

Observed Behavior: The user sees the same message: Welcome, friend, to a land of pure calculation but with a period at the end.

Summary: Fibonacci of the value 31 does not display correctly.

Description: When the user wants to calculate the fibonacci of 31 they receive the wrong calculation.

Reproduction Steps:
1. In a web browser enter this: https://cs1632ex.herokuapp.com/
2. Click the Fibonacci link at the top of the page
3. Enter in 31 in the text dialogue box
4. Click the submit button

Expected Behavior: The user shall see: Fibonacci of 31 is 2178309!

Observed Behavior: The user sees: Fibonacci of 31 is 1!

Summary: The factorial of an invalid value results in an internal service error.

Description: When the user attempts to calculate the factorial value of "taco" it crashes the website instead of displaying it's 1.

Reproduction Steps:
1. In a web browser enter this: https://cs1632ex.herokuapp.com/
2. Click the Factorial link at the top of the page
3. Enter in taco in the text dialogue box
4. Click the submit button

Expected Behavior: The user shall see: Factorial of taco is 1!

Observed Behavior: The user sees an internal service error.

Summary: The fibonacci of an invalid value results in an internal service error.

Description: When the user attempts to calculate the fibonacci value of "taco" it crashes the website instead of displaying it's 1.

Reproduction Steps:

5. In a web browser enter this: https://cs1632ex.herokuapp.com/
6. Click the Fibonacci link at the top of the page
7. Enter in taco in the text dialogue box
8. Click the submit button

Expected Behavior: The user shall see: Fibonacci of taco is 1!

Observed Behavior: The user sees an internal service error.

Summary: When entering in a trailing value for the Hello page that has a # in it everything after is ignored.

Description: If the user attempts to put any trailing value after a # value in the Hello Page URL everything after it will be ignored in the display message.

Reproduction Steps:

1. In a web browser enter this URL: https://cs1632ex.herokuapp.com/hello/Jazzy#Man

Expected Behavior: The user shall see the following: Hello CS1632, from Jazzy#Man!

Observed Behavior: The user sees: Hello CS1632, from Jazzy!

Summary: The hello page trailing value "%" causes an application error.

Description: If the user attempts to enter in a percent symbol in the URL of the Hello page it causes an application error.

Reproduction Steps:

1. In a web browser enter this URL: https://cs1632ex.herokuapp.com/hello/Jazzy%

Expected Behavior: The user shall see Hello CS1632, from Jazzy%!

Observed Behavior: The user sees an application error.