CPS3230 Assignment: Part 2 – Web Testing and MBT

Deadline: Monday 6th January 2020 at noon

Instructions

1. This assignment will be marked out of 35 and accounts for 35% of the study unit mark. It is estimated that it will take between 20 and 25 hours to complete this assignment.
2. This is the second part of a three-part assignment.
3. The work is to be done on an individual basis, not in groups.
4. The assignment is to be submitted via VLE by noon of Monday 6th January 2020.
5. Some students will be interviewed about their assignment.
6. Your final submission should consist of a ZIP file containing (1) a PDF file documenting your efforts and decisions; and (2) any code you developed as part of the assignment.
7. In your documentation, be sure to include a link to the git repository containing your code.
8. Commit code to your repository regularly (with helpful commit messages) so that the examiner can understand how your work evolved throughout the task.
9. Your final submission should include work related to all three parts of the assignment.

Overview

You are to select an online store (e.g. Amazon, Agenda Bookshop, ScanMalta, etc) which provides the following functionality.

1. Logging in
2. Product search
3. Adding products to a shopping cart
4. Removing products from a shopping cart
5. Checking out
6. Logging out

Review the document object model of the website to ensure that it is conducive to automated testing based on our discussions during lectures.

Requirements

You are required to carry out TWO tasks as outlined below.

Task 1 – Develop Automated Tests using Cucumber+Webdriver (15 marks)

Implement the following acceptance criteria using Cucumber and Selenium/Webdriver technologies:

Scenario 1: Valid Login
Given I am a user on the website
When I log in using valid credentials
Then I should be logged in

Scenario 2: Invalid Login
Given I am a user on the website
When I log in using invalid credentials
Then I should not be logged in

Scenario 3: Product Search
Given I am a logged in user on the website
When I search for a product
And I select the first product in the list
Then I should see the product details

Scenario 4: Add product to cart
Given I am a logged in user on the website
And my shopping cart is empty
When I view the details of a product
And I choose to buy the product
Then my shopping cart should contain 1 item

Scenario 5: Add multiple products to cart
Given I am a logged in user on the website
And my shopping cart is empty
When I add <**num-products**> products to my shopping cart
Then my shopping cart should contain <**num-products**> items

Values for **num-products:** 3,5,10

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Scenario 6: Removing a product from cart
Given I am a logged in user on the website
And my shopping cart has 2 products
When I remove the first product in my cart
Then my shopping cart should contain 1 item
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Whilst the intention of each test scenario you be kept intact, you are free to modify the wording of the scenarios themselves when converting them to Cucumber feature files, should you need to.

Task 2 – Model Based Testing (20 marks)

1. Design a model that represents typical user behavior (as perceived by you) on the website. The actions to be included are (1) log in; (2) log out; (3) search for product; (4) add product to cart; (5) remove product from cart; (6) checkout. You can assume that once the user visits the checkout page, his/her interaction with the website stops.
2. Document your model in diagrammatic form whilst being sure to explain any decisions you made during the model's design.
3. Implement the model using ModelJUnit and Webdriver.