Software Testing and Maintenance

Endterm Project

GitHub Repository: https://github.com/FarukJoldic/Software-Testing-Project

TEST CASES:

Test ID	0001
Test Name	Carousel Functionality
Test Description	Verify that the carousel navigates correctly between images, loops back to the first image after the last image, and correctly navigates to the previous image.
Preconditions	The homepage is loaded. The carousel contains at least three images.
Steps to Reproduce	1. Load the homepage of the application. 2. Note the source of the currently displayed carousel image. 3. Click the "Next" button on the carousel. 4. Verify that the displayed image changes. 5. Click the "Previous" button. 6. Verify that the displayed image reverts to the initial image. 7. Continuously click "Next" until the carousel cycles back to the first image.
Expected Result	Clicking "Next" button changes the displayed image. Clicking "Previous" button returns the carousel to the last displayed image. The carousel loops back to the first image after reaching the last image.
Actual Result	Test passed. Carousel functions as expected.

Test ID	0002
Test Name	Cart Total Calculation
Test Description	Verify that the total price displayed in the cart matches the sum of the prices of the products added to the cart.
Preconditions	The homepage is loaded. Products are available for selection and purchase. The cart page is accessible.
Steps to Reproduce	1. Load the homepage. 2. Select multiple products (e.g., "Samsung galaxy s6," "Nokia lumia 1520"). 3. Add the selected products to the cart. 4. Navigate to the cart page. 5. Verify that all added products are listed in the cart. 6. Verify that the total price displayed matches the sum of individual product prices.
Expected Result	The total price displayed in the cart equals the sum of the prices of the listed products. All selected products are present in the cart.

Actual Result	Test passed. Total price calculation and product listing work as expected. The total price of the cart matches the sum of the prices of the listed products.

Test ID	0003
Test Name	Categories Functionality
Test Description	Verify that selecting a category displays products belonging to that category only (Phones, Laptops, Monitors).
Preconditions	The homepage is loaded. Categories (Phones, Laptops, Monitors) are available for selection. Products are categorized correctly.
Steps to Reproduce	1. Load the homepage. 2. Select the "Phones" category and verify the displayed products. 3. Select the "Laptops" category and verify the displayed products. 4. Select the "Monitors" category and verify the displayed products.
Expected Result	The products displayed belong exclusively to the selected category. No products from other categories are displayed.
Actual Result	Test passed. Products are displayed as per the selected category.

Test ID	0004
Test Name	Contact Form Submission
Test Description	Verify that the contact form can be submitted successfully with valid data.
Preconditions	The homepage is loaded. The contact form modal is accessible.
Steps to Reproduce	1. Navigate to the homepage. 2. Open the contact form modal. 3. Fill in valid data for all fields (e.g., email, name, and message). 4. Submit the form. 5. Verify that the modal is closed after submission.
Expected Result	The message is sent after the form is submitted and the modal is closed.
Actual Result	Test passed. Contact form submission works as expected and the modal is closed after submitting the form.

Test ID	0005
Test Name	Currency Consistency
Test Description	Verify that the currency format and symbol are consistent across the homepage, product details page, and cart.
Preconditions	The homepage is loaded. Products are available for selection and purchase. The cart page is accessible.
Steps to Reproduce	1. Verify the currency format and symbol for product prices on the homepage. 2. Select a product and navigate to its details page. Verify the price format and symbol. 3. Add the product to the cart and navigate to the cart page. Verify the product price format in the cart. 4. Verify the total cart price format.
Expected Result	Currency symbol ($) is consistent across all pages. Prices are numeric values in the expected format.
Actual Result	Test passed. Currency consistency is maintained. USD is used across the website.

Test ID	0006
Test Name	Footer Visibility and Content
Test Description	Verify that the footer is visible on the homepage and displays the expected content.
Preconditions	The homepage is loaded.
Steps to Reproduce	1. Navigate to the homepage. 2. Check if the footer is visible. 3. Verify the footer text for expected content (e.g., "About Us," "Get in Touch," address, and email).
Expected Result	The footer is visible on the homepage. The footer displays accurate and expected content.
Actual Result	Test passed. The footer is visible and displays the expected content.

Test ID	0007
Test Name	Logo Redirection
Test Description	Verify that clicking the logo redirects the user to the homepage.
Preconditions	Any page other than the homepage is loaded. The logo is clickable.
Steps to Reproduce	1. Navigate to a page other than the homepage. 2. Click on the logo. 3. Verify that the user is redirected to the homepage.
Expected Result	Clicking the logo redirects the user to the homepage.
Actual Result	Test passed. Clicking on the logo redirects user to the homepage.

Test ID	0008
Test Name	Pagination
Test Description	Verify that pagination works correctly when navigating between pages of products.
Preconditions	The homepage is loaded. Multiple pages of products are available.
Steps to Reproduce	1. Note the product titles on the first page. 2. Click the "Next" button. Verify that new products are displayed. 3. Click the "Previous" button. Verify that the original products are displayed again.
Expected Result	Clicking "Next" displays new products. Clicking "Previous" returns to the original products.
Actual Result	Test passed. Pagination functions correctly.

Test ID	0009
Test Name	Product Details
Test Description	Verify that the product details page displays accurate content for the selected product.
Preconditions	The homepage is loaded. Products are available for selection.
Steps to Reproduce	1. Select a product on the homepage. 2. Navigate to the product details page. 3. Verify the product name, price, description, and image.
Expected Result	The product details page displays accurate and complete information for the selected product.
Actual Result	Test passed. Product details are displayed correctly for the selected product.

Test ID	0010
Test Name	Remove Item from Cart
Test Description	Verify that removing a product from the cart works correctly and updates the total price.
Preconditions	The homepage is loaded. Products are available for selection and purchase. The cart page is accessible.
Steps to Reproduce	1. Select and add a product to the cart. 2. Navigate to the cart page. 3. Verify the product is in the cart. 4. Remove the product from the cart. 5. Verify the product is no longer in the cart and the total price is updated.
Expected Result	The product is successfully removed from the cart. The total price updates correctly (or is hidden if the cart is empty).
Actual Result	Test passed. Product removal and price update function correctly. If the cart is empty, the total price will be hidden.

Test ID	0011
Test Name	Add to Cart
Test Description	Verify that a product can be successfully added to the cart.
Preconditions	The homepage is loaded. The cart page is accessible. Products are available for selection.
Steps to Reproduce	1. Select a specific product (e.g., "Samsung galaxy s6") from the homepage. 2. Add the product to the cart. 3. Navigate to the cart page. 4. Verify that the selected product is present in the cart.
Expected Result	The selected product is successfully added to the cart and is visible in the cart page.
Actual Result	Test passed. Product is added to the cart correctly.

Test ID	0012
Test Name	Checkout Process
Test Description	Verify that the checkout process can be completed successfully.
Preconditions	The homepage is loaded. The cart page and checkout page are accessible. Products are available for selection and purchase.
Steps to Reproduce	1. Select and add a product (e.g., "Samsung galaxy s6") to the cart. 2. Navigate to the cart page and verify the product is present. 3. Proceed to the checkout page. 4. Fill out the purchase form with valid information (e.g., name, credit card details). 5. Complete the purchase and verify the confirmation message.
Expected Result	The purchase is completed successfully, and a confirmation message is displayed (e.g., "Thank you for your purchase!").
Actual Result	Test passed. Checkout process functions as expected. The confirmation message is displayed.

Test ID	0013
Test Name	Home Page Loading
Test Description	Verify that the homepage loads successfully and that featured products are accessible.
Preconditions	The web page is deployed and accessible.
Steps to Reproduce	1. Navigate to the homepage. 2. Verify that the homepage loads successfully. 3. Open the first featured product and verify its description is visible.
Expected Result	The homepage loads without errors, and the featured product descriptions are accessible.

Actual Result	Test passed. Homepage and featured products load as expected.

Test ID	0014
Test Name	Login Functionality
Test Description	Verify that a user can log in with valid credentials.
Preconditions	The login page is accessible. Valid username and password are available.
Steps to Reproduce	1. Navigate to the login page. 2. Enter valid credentials (e.g., username: "farukjoldic", password: "123"). 3. Submit the login form. 4. Verify a success message is displayed upon successful login.
Expected Result	The user is logged in successfully, and a success message is displayed.
Actual Result	Test passed. Login functionality works correctly. The user can login with a valid credentials.

Test ID	0015
Test Name	Sign-Up Functionality
Test Description	Verify that a user can sign up with a unique username and password.
Preconditions	The sign-up page is accessible. Unique username is available.
Steps to Reproduce	1. Navigate to the sign-up page. 2. Enter a unique username (e.g., testuser_<timestamp>) and a valid password. 3. Submit the sign-up form. 4. Verify a success message is displayed upon successful registration.
Expected Result	The user is registered successfully, and a success message or dialog is displayed.
Actual Result	Test passed. Sign-up functionality works correctly. The user can create an account with a unique username.

Page Object Model

In our software testing project, POM is used to organize the test code neatly. Here's how it works:

We have two main parts and those are:

Page Objects: There's likely a folder where each page of the application has its own class. For example, a login page might have a LoginPage class. This class contains methods like enterUsername(), enterPassword(), and submit() to handle the actions you'd perform on the login page.

Test Scripts: Instead of writing all the details of interacting with web elements directly in the test scripts, the tests use these page objects. So, a test for logging in would simply call the methods from the LoginPage class—making the test easy to read and understand.

We set this up because its:

Easier to Maintain: If the structure of a web page changes (e.g., a button ID is updated), you only need to update the locator in the page object class, not in every test that uses it.

Reusable Code: The methods in a page object can be reused across multiple tests, reducing duplicate code.

Readable Tests: Tests focus on what they are verifying, rather than how they are interacting with the page. This makes them much clearer.

The Challenges We Faced

We had a couple of challenges that we overcame, the first one was choosing the website to test, we tried quite a few websites that had hidden locators, so we decided to take a website we were somewhat familiar with (in testing context).

Than we struggled a bit with setting up the POM but we watched some tutorials, went to GeeksForGeeks, StackOverflow etc., until we set everything up.

After that the only challenges we faced were happening while we wrote tests, for example there was a test which was checking if the About Us video will play and it only was passing on FireFox no matter what we did it was working but on FireFox, we manually tested the feature in other browsers and it worked, so we decided to replace the whole test.

There were a couple of tests that were not working even though we found the correct locators and the code was correct, and sometimes they would pass, sometimes not, we figured out in the end that the web page was not loading in time, and we implemented in our code a function which waited for the page to load a bit longer and after that it worked perfectly.

Also in the beginning locators were a struggle to find but just by working on the project it became easier and easier.