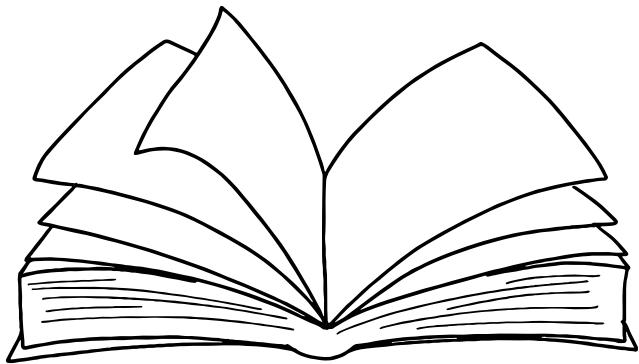


Final project

Testing blackwells.co.uk



Triin Trautmann
October 2023

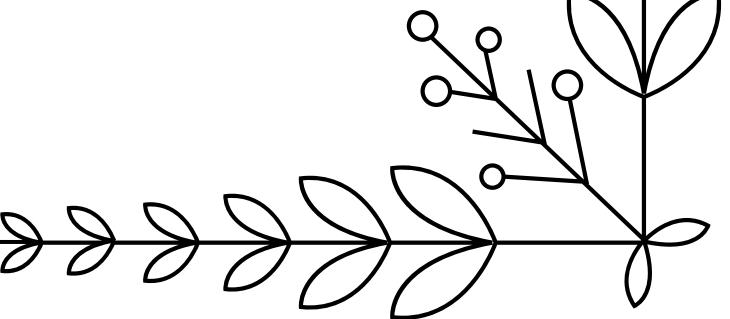


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Purpose of the project

The purpose of this project is to showcase my knowledge and skills as a software tester that I gained during the training by testing the blackwells.com website.

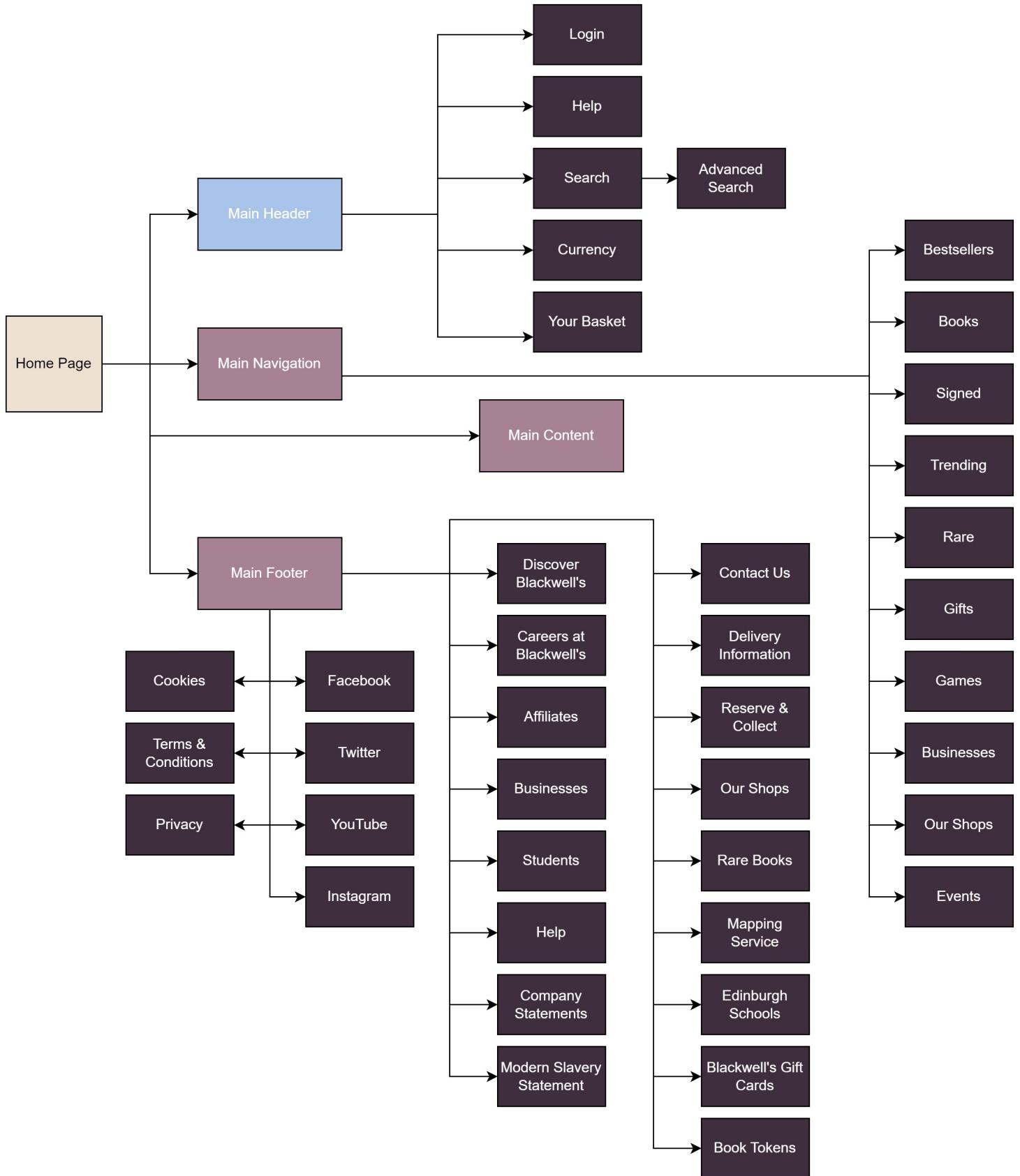
Blackwell UK, also known as Blackwell's and Blackwell Group, is a British academic book retailer and library supply service owned by Waterstones.

This project contains among other things:

- Diagram of website
- Checklist of the Main Header
- Writing manual test cases for Main Header
- Writing an automated negative test case for Login function using Selenium WebDriver and IntelliJ IDEA
- All the bugs founded during testing process
- Improvements

All the materials (test cases, automated test case code etc.) including final project pdf are uploaded also to Github (<https://github.com/t-triin/testing-project>).

Sections of testing



Checklist of Main Header

Section	Type	ID	Checkpoint	Yes/ No
Main Header	Login	1	Check if the login button takes to the login page	
		2	Check if attempt to log in using wrong password gives an error	
		3	Check if attempt to log in without entering password gives an error	
		4	Check if log in using valid credential works	
		5	Check if forgotten password button takes to the page where you can reset your password	
		6	Check if create account button takes to the registration page	
	Help	7	Check if the help button takes to the help center page	
	Search	8	Check if search bar is visible	
		9	Check if search is working for the search word “Harry Potter” when pressing enter button	
		10	Check if search is working for the search word “Harry Potter” when clicking search icon	
		11	Check if the advanced search button takes to the advanced search page	
		12	Check if the results for search word Harry Potter are relevant and accurate	
	Search Results	13	Check if filtering according to price works	
		14	Check if filtering according to format works	

Section	Type	ID	Checklist	Yes/ No
Main Header	Search Results	15	Check if sorting according to title works	
		16	Check if sorting according to date works	
		17	Check if sorting according to price works	
	Currency	18	Check if changing the currency from pounds to euros works	
	Your Basket	19	Check if it's possible to add a product to the cart	
		20	Check if hovering on the basket shows the content of the shopping basket	
		21	Check if clicking on shopping basket takes to the basket page	
		22	Check if it's possible to remove product from the basket	
		23	Check if the total sum is correct when two or more items are added to the basket	
		24	Check if it's possible to change the quantity of product in the basket	
		25	Check if empty basket button removes all the content from basket	
		26	Check if continue shopping button takes to some product category page	
		27	Check if changing the currency from euros to dollars works and the cart total is converted	
		28	Check if basket retains its content when user logs out and then in again	

Manual test cases

For every item in checklist a manual test case was created using TestRail. After that those test cases were executed. Few examples:

C4 Check if log in using valid credential works

Login

Type Functional	Priority Critical	Estimate None	References None
Automation Type None			

Preconditions

- Navigate to the <https://blackwells.co.uk/>
- User should have a valid user account

Steps

1. Click on the login button on the top of the page
2. Verify that you are on the login page
3. Enter a valid e-mail address
4. Enter a correct password
5. Click on log in button

Expected Result

After entering correct and valid login credentials, successful login function should be executed and user should be taken to account dashboard page.

C7 Check if the help button takes to the help center page

Help

Type Functional	Priority Medium	Estimate None
Automation Type None		

Preconditions

- Navigate to the <https://blackwells.co.uk/>

Steps

1. Click on Help button on the top of the page

Expected Result

After clicking on Help button, user should be navigated to Help Center page

C9 Check if search is working for the search word "Harry Potter" when pressing enter button

Search

Type Functional	Priority High	Estimate None	References None
Automation Type None			

Preconditions

- Navigate to the <https://blackwells.co.uk/>

Steps

1. Type "Harry Potter" on the search bar
2. Press enter button

Expected Result

After the user types in search word "Harry Potter" and presses enter, search function should be executed and a page with relevant results should be presented

C13 Check if filtering according to price works

Search › Search Results

Type Functional	Priority High	Estimate None	References None
Automation Type None			

Preconditions

- Navigate to the <https://blackwells.co.uk/>
- User should perform a search using some search word

Steps

1. On the left side, move the price slider so that price range would be 0-20 pounds
2. Click on refine button on the bottom of filters
3. Verify that items below 20 pounds are displayed

Expected Result

After user sets certain price range and clicks on refine button, only items according to this price range should be displayed

C18 Check if changing the currency from pounds to euros works



Currency

Type Functional	Priority High	Estimate None	References None
Automation Type None			

Preconditions

- Navigate to the <https://blackwells.co.uk/>

Steps

1. Scroll down until Bestsellers section
2. Verify that prices are displayed in pounds
3. Scroll up
4. On the right upperside hover over Currency
5. In the dropdown menu click Euro
6. Scroll down until Bestsellers section
7. Verify that prices are now shown in euros

Expected Result

After selecting Euro as the currency and scrolling down to the Bestsellers section, the prices should be displayed in euros. The currency change should be accurately reflected throughout the website ensuring that product prices are now shown in euros instead of pounds.

C23 Check if the total sum is correct when two or more items are added to the basket

Your Basket

Type	Priority	Estimate	References
Functional	High	None	None
Automation Type	None		

Preconditions

Navigate to the <https://blackwells.co.uk/>

Steps

1. Browse the website and add at least two items to the shopping basket
2. Click on the shopping basket to view its content
3. Note down the prices of the individual items
4. Calculate the total sum by adding up the prices of the items in the basket
5. Verify that the calculated sum matches the total displayed in the shopping basket

Expected Result

The total sum displayed in the shopping basket should match the calculated total obtained by adding the prices of individual items in the basket

C25 Check if empty basket button removes all the content from basket

Your Basket

Type	Priority	Estimate	References
Functional	Medium	None	None
Automation Type	None		

Preconditions

- Navigate to the <https://blackwells.co.uk/>
- At least two different items are added on the basket

Steps

1. Click on the shopping basket
2. Click on the empty basket button
3. Verify that all the content is removed from the basket and message "You have no items in your basket..." is displayed

Expected Result

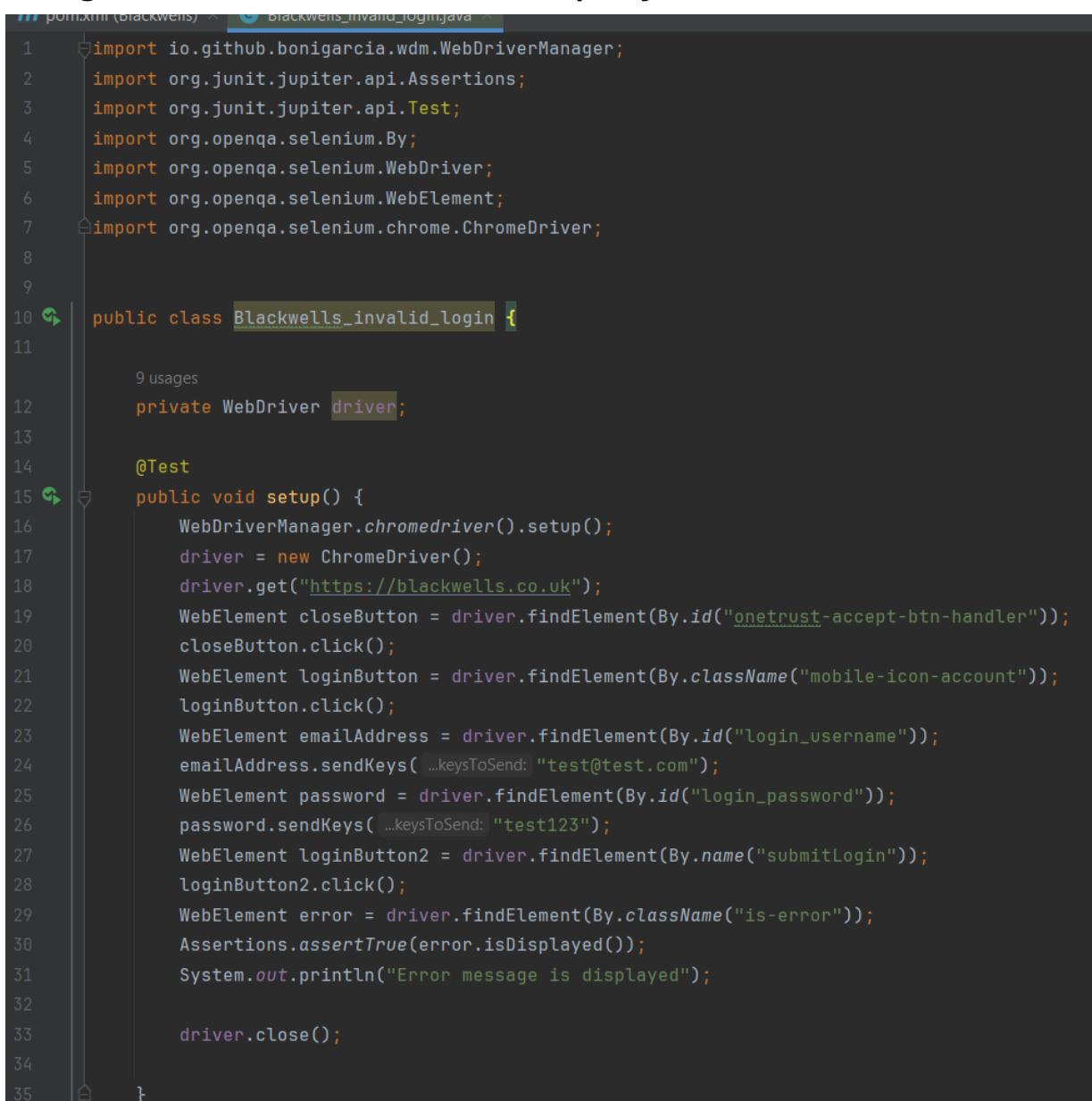
After user clicks on the empty basket button, all the items should be removed from the shopping basket and message about empty cart should be present



Automated test case

One automated test case was made using IntelliJ IDEA and Selenium WebDriver. Test scenario is about invalid login attempt, where user inserts invalid e-mail address and incorrect password. Automation has to ensure that error message is displayed after this kind of attempt.

Maven project with code is uploaded to the Github along with all the other final project materials.



The screenshot shows the IntelliJ IDEA interface with the code editor open. The file is named 'Blackwells_invalid_login.java'. The code implements a test class for an invalid login attempt. It uses the WebDriverManager to setup a ChromeDriver, navigates to the Blackwells website, handles a cookie consent banner, and attempts to log in with an invalid email ('test@test.com') and password ('test123'). It then asserts that an error message is displayed on the page.

```
1 import io.github.bonigarcia.wdm.WebDriverManager;
2 import org.junit.jupiter.api.Assertions;
3 import org.junit.jupiter.api.Test;
4 import org.openqa.selenium.By;
5 import org.openqa.selenium.WebDriver;
6 import org.openqa.selenium.WebElement;
7 import org.openqa.selenium.chrome.ChromeDriver;
8
9
10 public class Blackwells_invalid_login {
11
12     private WebDriver driver;
13
14     @Test
15     public void setup() {
16         WebDriverManager.chromedriver().setup();
17         driver = new ChromeDriver();
18         driver.get("https://blackwells.co.uk");
19         WebElement closeButton = driver.findElement(By.id("onetrust-accept-btn-handler"));
20         closeButton.click();
21         WebElement loginButton = driver.findElement(By.className("mobile-icon-account"));
22         loginButton.click();
23         WebElement emailAddress = driver.findElement(By.id("login_username"));
24         emailAddress.sendKeys(...keysToSend: "test@test.com");
25         WebElement password = driver.findElement(By.id("login_password"));
26         password.sendKeys(...keysToSend: "test123");
27         WebElement loginButton2 = driver.findElement(By.name("submitLogin"));
28         loginButton2.click();
29         WebElement error = driver.findElement(By.className("is-error"));
30         Assertions.assertTrue(error.isDisplayed());
31         System.out.println("Error message is displayed");
32
33         driver.close();
34     }
35 }
```

Bugs

Altogether 6 bugs were found during this testing exercise on blackwells.co.uk webpage. 5 of them were found during execution of checklist test cases. One other was spotted during exploratory testing. All the bugs were reported using Jira.

When user filters search results by price 0-20 pounds, items with price more than 20 are included

Attach Add a child issue Link issue ...

Priority: High

Description: Environment: Google Chrome Version 117.0.5938.134 (Official Build) (64-bit)

OS: Windows 11 Pro

Steps to reproduce:

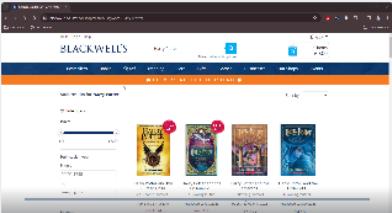
1. Navigate to the [Blackwell's, books for life and for learning Blackwell's](#)
2. Perform a search (search word "Harry Potter")
3. On the left side, move the price slider so that price range would be 0-20 pounds
4. Click on refine button on the bottom of filters

Expected result:

After user sets certain price range and clicks on refine button, only items according to this price range should be displayed.

Actual result:

After user sets certain price range (0-20 pounds) and clicks on refine button, item with price higher than 20 pounds are also displayed



To Do Actions

Pinned fields
Click on the next to a field label to start pinning.

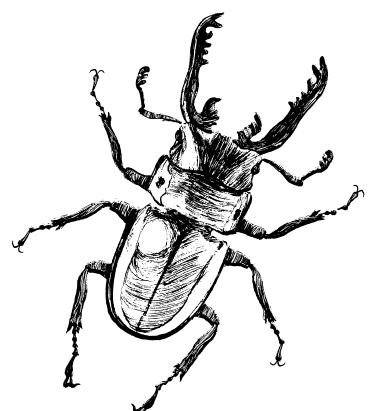
Details

Assignee: Unassigned Assign to me

Labels: None

Reporter: Triin Trautmann

Created 2 hours ago Updated 1 minute ago Configure



When user filters search results by audio format, item with hardback format is included

[Attach](#) [Add a child issue](#) [Link issue](#) ...

Priority: High

Description

Environment:

Google Chrome Version 117.0.5938.134 (Official Build) (64-bit)

OS: Windows 11 Pro

Steps to reproduce:

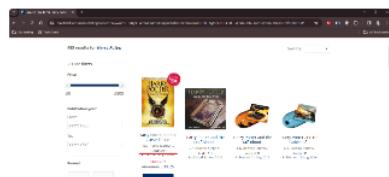
1. Navigate to the [Blackwell's, books for life and for learning Blackwell's](#)
2. Perform a search (search word "Harry Potter")
3. On the left side, click on audio format
4. Click on refine button on the bottom of filters

Expected result:

After user sets format to audio and clicks on refine button, only items in audio format should be displayed.

Actual result:

After user sets format to audio and clicks on refine button a hardback format item is also displayed



To Do Actions Pinned fields Details Configure

Pinned fields

Click on the next to a field label to start pinning.

Details

Assignee: Unassigned [Assign to me](#)

Labels: None

Reporter: Triin Trautmann

Created 21 seconds ago

Updated 21 seconds ago

When sorting by price (lowest to highest), items are not displayed in the correct order

[Attach](#) [Add a child issue](#) [Link issue](#) ...

Priority: High

Description

Environment:

Google Chrome Version 117.0.5938.134 (Official Build) (64-bit)

OS: Windows 11 Pro

Steps to reproduce:

1. Navigate to the <https://blackwells.co.uk/>
2. Perform a search using search word "Harry Potter"
3. On the upper right side of results click on the Sort by dropdown menu
4. Choose Price (low-high)

Expected result:

After choosing the sorting option "Price (low-high)" from the dropdown menu, the results should be displayed in order based on the price. Items should be sorted from lowest to highest price, ensuring that the sorting operation is accurate and the titles are presented in the expected order.

Actual result:

After choosing the sorting option "Price (low-high)", prices are somewhat ordered, lowest prices are mainly displayed first but they are not on the correct order.

To Do Actions Pinned fields Details Configure

Pinned fields

Click on the next to a field label to start pinning.

Details

Assignee: Unassigned [Assign to me](#)

Labels: None

Reporter: Triin Trautmann

Created 1 minute ago

Updated 1 minute ago

Activity

Show: All **Comments** History

Newest first ↴



Add a comment...

After clicking continue shopping button in shopping cart user is directed to page without any items displayed

Attach Add a child issue Link issue ...

Priority: Low

Description: **Environment:**
Google Chrome Version 117.0.5938.134 (Official Build) (64-bit)
OS: Windows 11 Pro

Steps to reproduce:

1. Navigate to the [Blackwell's, books for life and for learning Blackwell's](#)
2. On the upper right click on the shopping basket
3. Click on the continue shopping button on the bottom of the shopping cart

Expected result:
After clicking continue shopping button, user should be navigated to product category page (e.g. Bestsellers) within the website where it's possible to keep browsing for more items.

Actual result:
User is navigated to a web page where no items are displayed. User has to make extra click to land in some category page



To Do Actions

Pinned fields
Click on the next to a field label to start pinning.

Details

Assignee: Unassigned [Assign to me](#)
Labels: None
Reporter: Triin Trautmann

Created 3 seconds ago Updated 2 seconds ago [Configure](#)

Basket will not retain its content when a logged-in user logs out and logs back in

Attach Add a child issue Link issue ...

Priority: High

Description: **Environment:**
Google Chrome Version 117.0.5938.134 (Official Build) (64-bit)
OS: Windows 11 Pro

Steps to reproduce:

1. Navigate to the [Blackwell's, books for life and for learning Blackwell's](#)
2. Click on login button on the upper side of the page
3. Enter valid e-mail address and correct password
4. Add at least one item to the shopping basket
5. Verify that item is in the basket
6. Click on logout button on the upper side of the page
7. Verify that user is logged out
8. Click on login button on the upper side of the page
9. Enter valid e-mail address and correct password
10. Click on the log in button
11. Click on the shopping basket button

Expected result:
After logging out and then logging back in, the user should find that the shopping basket retains its content. The same items that were in the basket before logging out should still be present after logging back in.

Actual result:
After logged in user adds two items to the cart and logs out and logs back in. Basket is empty and it does not retain its content.

To Do Actions

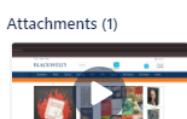
Pinned fields
Click on the next to a field label to start pinning.

Details

Assignee: Unassigned [Assign to me](#)
Labels: None
Reporter: Triin Trautmann

Created 3 minutes ago Updated 3 minutes ago [Configure](#)

Attachments (1)



...

Add epic / BWS-6

🔒 1 🔍 ⌂ ... X

Currency change directs user to advanced search page instead of search results

Attach Add a child issue Link issue ...

Priority High

Description

Environment:

Google Chrome Version 117.0.5938.134 (Official Build) (64-bit)

OS: Windows 11 Pro

Steps to reproduce:

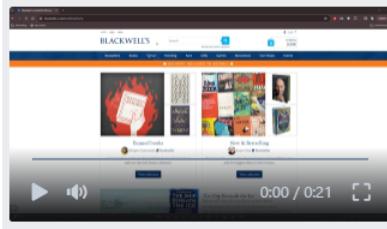
1. Navigate to the [Blackwell's, books for life and for learning Blackwell's](#)
2. Type "Harry Potter" on the search bar
3. Press enter
4. On the right upperside hover over Currency
5. In the dropdown menu choose a currency (for example USD)

Expected result:

After selecting currency, prices for previous search results should be displayed in that currency

Actual result:

After performing a search and selecting currency user is navigated to advanced search page



To Do Actions

Pinned fields Click on the next to a field label to start pinning.

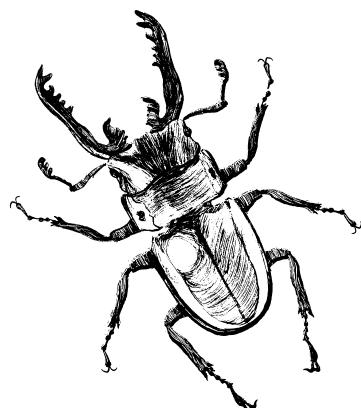
Details

Assignee Unassigned [Assign to me](#)

Labels None

Reporter Triin Trautmann

Created 4 minutes ago Updated 11 seconds ago [Configure](#)



Improvements

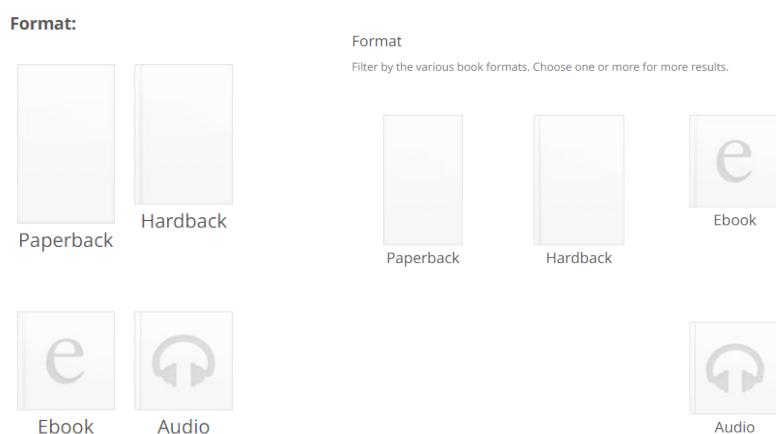
During this testing exercise certain areas for improvement were identified that aren't necessarily bugs but could enhance the user experience with further development.

- In the search page, it shows at the beginning how many results were found, but at the bottom, there's only a 'Next' button. It would be helpful to see which page I am on and the total number of pages.
- In the sorting options, there is a 'Sort By' button that opens a dropdown menu. When choosing a sorting criterion from the menu, the function works, but the selected option in the dropdown menu does not remain visible.

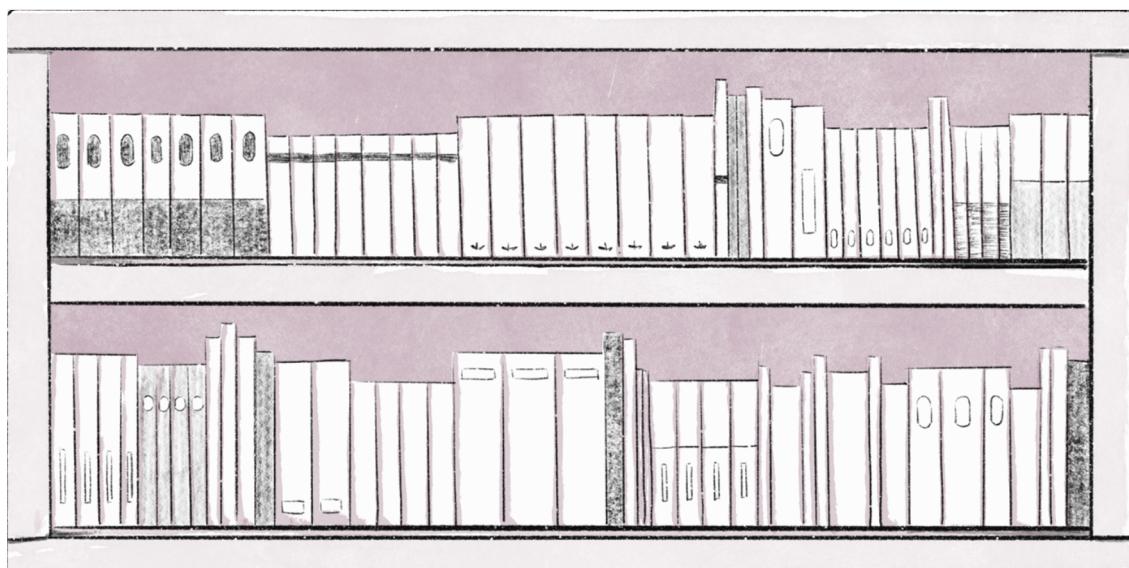
Sort by:



- At the search results, there is an option to filter results by format. The images representing different formats should be of the same size to maintain a more polished overall appearance. The same applies to the advanced search section.



- Changing the quantity in the shopping cart and calculating the corresponding total could occur automatically; currently, the 'Update' button needs to be pressed after each change in quantity.



Test design techniques

In this project testing focuses mainly on functional and usability part. I used experience based techniques like:

- Error guessing- I drew upon my experience with similar systems, understanding of user behavior, and intuition to guess where potential problems might occur
- Exploratory testing- I explored the web page freely, interacting with different features and functionalities. During this exploration, I intentionally performed actions that I believe could lead to issues, based on my intuition and experience
- Checklist-based testing- I made a checklist to specifically test main header (page 5), ensuring that all the essential elements were verified
- Negative testing- I used intentionally invalid or incorrect data as input to see how the page responds

Summary

For this final project I tested the Blackwell's website using mainly experience-based techniques. Using this approach I created a checklist of 28 checkpoints for main header and found 6 different bugs.

I also created one automated test case about invalid login function. Throughout this project I found that to be most challenging but it made me feel very proud of myself when it actually started to work. It also fueled my interest for automation part and I definitely want to explore this field further in the future.

Overall this final project was very useful to consolidate my skills and recognizing which parts I need to work more.