

# **SOFTWARE TEST DESCRIPTION**



## **WorldCat Website**

### **Team Members**

Project Manager: Yair Amon

Test Team Lead: Tzahi Anedghr

Test Engineers: Wael Otman

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# **1. INTRODUCTION**

## **1.1. PUPOSE**

This Software Test Description (STD) document serves as a comprehensive guide outlining the test cases designed to verify the functionality of the WorldCat website. The purpose of this document is to provide detailed information on each test case, including the objectives, inputs, steps, expected results, and execution procedures.

The STD document will focus on testing these key functionalities of the WorldCat website to ensure that they meet the specified requirements and provide a seamless user experience.

## **1.2. Scope**

The WorldCat website is a global online catalog that enables users to search for books, journals, and other materials held in libraries worldwide. Key functionalities of the WorldCat site include:

- **Search Functionality:** Users can search for materials by title, author, subject, or keyword, accessing a vast database of library content.
- **Material Viewing:** Detailed information about each item, including bibliographic data, availability, and location, can be viewed by users.
- **Interlibrary Loan Requests:** Users have the option to request items through interlibrary loan if they are not available in their local library.
- **Account Management:** Registered users can create accounts, manage preferences, and track their borrowing history.
- **Accessibility Features:** The website is designed to be accessible to users with disabilities, offering features such as screen reader compatibility and alternative text for images.

# **2. OVERVIEW**

## **2.1. Background**

WorldCat is the world's largest network of library content and services, providing access to millions of bibliographic records representing a vast array of materials held in libraries worldwide. It is operated by OCLC (Online Computer Library Center), a nonprofit cooperative organization dedicated to providing access to knowledge through collaboration and shared resources among libraries.

## 2.2.Goals

The primary goals of testing the WorldCat website are to ensure its functionality, reliability, usability, accessibility, and security. Specifically, the testing activities aim to achieve the following objectives:

- Ensuring the website's functionalities work as expected without errors.
- Guaranteeing the website's compatibility across different browsers.
- Improving the overall user experience, focusing on ease of use, accessibility, and satisfaction.

## 2.3.glossary

- Interlibrary Loan: A service that allows users to borrow materials from other libraries.
- Item Details: Information about a specific book, journal, or other library material, including title, author, publication date, and description.
- Availability: Indicates whether an item is currently in stock or available for loan.
- Metadata: Descriptive information about a resource, including details such as title, author, publisher, date, and subject. Metadata provides context and facilitates discovery, management, and use of library materials.
- Search Filters: Options for refining search results based on criteria such as format, language, and publication date.
- Circulation: Borrowing and returning books from the library, and keeping track of who has what and when it's due back.
- OPAC (Online Public Access Catalog): A website where you can search for books in a library from your computer or phone.
- STP (Software Test Plan):  
Definition: Document outlining testing goals, methods, resources, and schedule.  
Explanation: Guides testing process, detailing what, how, and by whom testing will be conducted.
- STD (Software Test Description):  
Definition: Detailed document specifying individual test cases.  
Explanation: Describes test scenarios, inputs, expected outcomes, and execution steps.
- STR (Software Test Report):  
Definition: Summary document detailing testing results.  
Explanation: Provides insights into testing outcomes, including defects and overall software quality.

- **Bugs:**

Definition: Software errors causing unexpected behavior.

Explanation: Range from minor to critical issues, affecting functionality or security.

- **Test Case:**

Definition: Set of steps to verify software functionality.

Explanation: Guides systematic testing of software features

### **3. TEST STRATEGY**

#### **3.1. Test Tree**

##### **A) Functional tests:**

##### **1) User Authentication**

- a. Login with valid username and password.
  - Verify successful login.
- b. Login with valid username and invalid password.
  - Verify error message for invalid password.
- c. Login with non-existing username.
  - Verify error message for non-existing username.
- d. New Customer Registration:
  - Navigate to registration page.
  - Fill out registration form with valid information.
  - Submit registration form.
  - Verify successful registration and login.

##### **2) Search Functionality**

- a. Search for Materials:
  - Enter search keyword(s) in search bar.
    1. Verify search results.

- Refine search results by filters (e.g., format, publication date).
  1. Verify filtered search results.
- Test Advanced Search Options (e.g., Boolean operators, field-specific searches).

### **3) Viewing Item Details**

- a. Click on a search result to view item details.
  - Verify item details page loads correctly.
  - Check for all relevant information (title, author, publication details).
  - Navigate back to search results or other parts of the website.

### **4) Checking Availability**

- a. View availability status of an item.
  - Verify availability information is displayed.
  - Check if item is available for borrowing.
  - Test options for placing a hold or requesting item through interlibrary loan.

### **5) User Account Management**

- a. Access user account/profile section.
  - Log in with valid credentials.
    1. Verify user account information is displayed correctly.
  - Update profile information (e.g., name, email address).
    1. Verify changes are saved successfully.
  - View borrowing history or currently borrowed items.
    1. Verify information is accurate and up-to-date.

### **6) Navigation and Site Structure**

- a. Test main navigation menus and links.
  - Verify easy access to key features and functionalities.

- b. Check for consistency in design and layout across different pages.
- c. Ensure accessibility features are implemented (e.g., keyboard navigation, screen reader support).

## **7) Interlibrary Loan Requests**

- a. Access Interlibrary Loan (ILL) functionality.
  - Check if users can request items not available in their local library's collection.
    - 1. Verify the process for submitting an interlibrary loan request.
  - Test options for specifying loan duration and pickup location.
    - 1. Verify that users receive confirmation of the interlibrary loan request.
  - Check if users can track the status of their interlibrary loan requests.
    - 1. Verify that users receive notifications or updates regarding the status of their requests.\

## **8) Error Handling and Messaging**

- a. Intentionally trigger various types of errors or unexpected scenarios.
  - Verify clear and user-friendly error messages.
- b. Test error handling for timeouts, network errors, or invalid user inputs.
  - Ensure error messages provide actionable information or guidance.

## **B) Non-Functional tests**

### **1) Performance Testing**

#### **a. Load Testing:**

- Simulate concurrent user traffic to assess website performance under load.
  1. Verify response times and server resource utilization under varying load conditions.

#### **b. Stress Testing:**

- Exceed the website's capacity to determine its breaking point and identify performance bottlenecks.
  1. Verify if the website gracefully handles high loads without crashing or slowing down excessively.

#### **c. Endurance Testing:**

- Evaluate website performance over an extended period to ensure stability and reliability.
  1. Verify if the website maintains consistent performance over time without degradation.

### **2) Usability Testing**

#### **a. User Interface:**

- Evaluate website layout, design, and navigation for intuitiveness and user-friendliness.
  1. Verify that users can easily find and access key features and functionalities.

- Accessibility:

1. Test website accessibility for users with disabilities (e.g., screen readers, keyboard navigation).

- a. Verify compliance with accessibility standards (e.g., WCAG guidelines)

- Error Handling:

1. Evaluate error messages and prompts for clarity and helpfulness.

- a. Verify that error messages provide actionable information to users.



### **3) Localization and Globalization Testing**

#### **a. Localization Testing:**

- Test website functionality with different language settings.
  1. Verify that all user-facing text and content are correctly translated and displayed in the selected language.
- Test date and time formats, currency symbols, and other locale-specific settings.
  1. Verify that these elements are adapted to the selected language and region.

#### **b. Globalization Testing:**

- Test website functionality with different regional settings.
  1. Verify that the website can handle date and time formats, currency conversions, and other regional preferences.
- Test support for non-Latin characters and scripts.
  1. Verify that the website displays and handles text correctly in languages with different writing systems.

### **4) Compatibility Testing**

#### **a. Browser Compatibility:**

- Test website functionality across different web browsers (e.g., Chrome, Firefox, Safari, Edge).
  1. Verify consistent behavior and rendering across supported browsers.

#### **b. Device Compatibility:**

- Test website responsiveness and functionality on various devices (e.g., desktops, laptops, tablets, smartphones).
  1. Verify that the website adapts seamlessly to different screen sizes and resolutions.

### **5) Recovery Testing**

#### **a. Data Backup and Restoration:**

- Test backup and restoration procedures to ensure data integrity and availability in case of data loss or corruption.

1. Verify that backups are performed regularly and securely stored.
- Test the process for restoring data from backups to ensure timely recovery in case of data loss.
- b. Disaster Recovery:
  - Test disaster recovery procedures to ensure business continuity in case of catastrophic events.
    1. Verify that redundant systems and failover mechanisms are in place to minimize downtime.
  - Test the website's ability to recover gracefully from system failures or data loss without data corruption or service interruption.

## **6) Reliability Testing**

- a. Fault Tolerance:
  - Test website behavior under unexpected failures
    1. Verify that the website gracefully handles failures and maintains essential functionality.
- b. Disaster Recovery:
  - Test backup and recovery procedures to ensure data integrity and availability in case of catastrophic events.
    1. Verify the website's ability to recover from data loss or corruption.

## **7) Scalability Testing**

- a. Vertical Scaling:
  - Assess the website's ability to handle increased workload by adding more resources
    1. Verify if performance improves proportionally with resource scaling.
- b. Horizontal Scaling:
  - Evaluate the website's ability to handle increased traffic by adding more servers or instances.
    1. Verify if the website can distribute load evenly across multiple servers and maintain performance.

## 8) Security Testing

### a. Authentication and Authorization:

- Test login functionality with valid and invalid credentials.
  1. Verify that unauthorized access attempts are blocked.

### b. Data Protection:

- Ensure sensitive user information (e.g., passwords, personal data) is encrypted during transmission.
  1. Verify adherence to security standards

### c. Secure Sessions:

- Test session management to prevent session hijacking or fixation attacks.
  1. Verify that sessions expire after a reasonable period of inactivity.

## 4. Test Rail

### 4.1. Test Rail Tests Sections:

[← Return to Dashboard](#)  
**WorldCatProject**

OVERVIEWTO-DOMILESTONESTEST RUNS & RESULTSTEST CASESREPORTS

**Test Cases**

Sort: [Section](#) ▲ | Filter: [None](#)

**Test Cases** 0 [🔗](#)

☐

ID

Title

[Add Case](#) | [Add Subsection](#)

**LocalizationTests** 2 [🔗](#)

☐

ID

Title

☐

C2

Change Location and Search for Wrong Libraries [🔗](#)

☐

C4

Language Change to French [🔗](#)

[Add Case](#) | [Add Subsection](#)

**SignIn Tests** 2 [🔗](#)

☐

ID

Title

☐

C1

Login with Valid Credentials, Sign In with Wrong Password [🔗](#)

☐

C3

Sign In with Correct Email and Password [🔗](#)

[Add Case](#) | [Add Subsection](#)

**Usability Test** 1 [🔗](#)

☐

ID

Title

☐

C5

Navigation Between Pages [🔗](#)

[Add Case](#) | [Add Subsection](#)

**Search Tests** 2 [🔗](#)

☐

ID

Title

☐

C6

Search Library Due to Correct Location [🔗](#)

☐

C7

Search Item or Book by Author Brett Cooke [🔗](#)

[Add Case](#) | [Add Subsection](#)

**Filter Tests** 2 [🔗](#)

☐

ID

Title

☐

C8

Fill Filter Search and Reset [🔗](#)

☐

C9

Fill Filter Search and Check Book Year [🔗](#)

[Add Case](#) | [Add Subsection](#)

## 4.2. Tests Examples:

Change Location and Search for Wrong Libraries				
Localization Tests				
Type Other	Priority High	Status Design	Assigned To None	
Estimate None	References None	Automation Type None		
Preconditions				
Access to WorldCat website, location field available				
Steps				
1	Open the WorldCat homepage or navigate to the search page.	The WorldCat homepage or search page loads successfully.		
2	Locate the location field in the search form.	The location field is located and editable.		
3	Input the desired location (e.g., city or postal code)	Enter a new location in the location field.		
4	Choose the option to search for libraries based on the location.	Select the option to search for libraries.		
5	Click on the search button to start the search process.	Click on the search button to initiate the search.		
6	Verify that the search results show libraries located in the entered location.	The search results display libraries in the specified location.		
7	Try to input the name of a library in the location field.	Attempt to enter a library name in the location field.		
8	Click on the search button to start the search process.	Click on the search button to initiate the search.		
9	Confirm that the system displays an error indicating that the entered text is not a valid location.	Verify that an error message is displayed.		

Login with Valid Credentials, Sign In with Wrong Password				
SignIn Tests				
Type Functional	Priority Critical	Status Design	Assigned To None	
Estimate None	References None	Automation Type None		
Preconditions				
User account registered on the WorldCat site.				
Steps				
1	Open the WorldCat sign-in page.	The sign-in page loads successfully.		
2	Enter a wrong password in the password field.	An incorrect password is entered in the password field.		
3	Click on the "Sign In" button.	Clicking the "Sign In" button triggers authentication.		
4	Verify that the system displays an error message indicating that the password is incorrect.	An error message is displayed indicating incorrect password.		

## 5. Treacability

Parent Requirement	Child Requirement	Test Script	Test Case Objective	Test Case	Explanation
User Authentication					
Existing User Login					
	Login with valid username and password.	Verify successful login.	To ensure existing users can log in successfully.	Test successful login with valid credentials.	Verify that the user can log in using a valid username and password.
	Login with valid username and invalid password.	Verify error message for invalid password.	To check the system displays an error message for invalid passwords.	Test login with valid username and invalid password.	Verify that the system shows an error message when the user enters an invalid password for an existing username.
	Login with non-existing username.	Verify error message for non-existing username.	To verify the system displays an error message for non-existing usernames.	Test login with non-existing username.	Ensure that the system shows an error message when the user tries to log in with a non-existing username.
New Customer Registration					
	Navigate to registration page.	Fill out registration form with valid information.	To ensure new users can register successfully.	Test registration form submission.	Verify that new users can navigate to the registration page and submit valid information to complete the registration process.
		Submit registration form.	To verify successful registration.	Test successful registration.	Ensure that the system successfully registers new users when they submit the registration form with valid information.

Search Functionality					
	Search for Materials.	Verify search results.	To verify that the search function returns relevant results based on the search query.	Test search functionality with valid keywords.	Ensure that the system displays relevant search results when users search for materials using valid keywords.
		Refine search results by filters.	To test if users can refine their search results using filters.	Test search functionality with filters.	Verify that users can refine search results by applying filters such as format or publication date.
		Test Advanced Search Options.	To verify the functionality of advanced search options such as Boolean operators and field-specific searches.	Test advanced search options.	Ensure that users can use advanced search options like Boolean operators and field-specific searches to refine their searches.

Viewing Item Details					
	Click on a search result to view item details.	Verify item details page loads correctly.	To ensure that users can view detailed information about search results.	Test item details page loading.	Verify that users can view detailed information about search results when they click on them.
		Check for all relevant information.	To ensure all relevant information such as title, author, and publication details are displayed correctly.	Test display of relevant information.	Ensure that all relevant information about search results, such as title, author, and publication details, is displayed correctly.
		Navigate back to search results or other parts of the website.	To verify users can navigate back to search results or other parts of the website easily.	Test navigation from item details page.	Verify that users can easily navigate back to search results or other parts of the website from the item details page.



Checking Availability					
	View availability status of an item.	Verify availability information is displayed.	To ensure users can see the availability status of items.	Test display of availability information.	Ensure that users can view the availability status of items on the website.
		Check if item is available for borrowing.	To verify that users can determine if an item is available for borrowing.	Test availability for borrowing.	Verify that users can check if an item is available for borrowing.
		Test options for placing a hold or requesting item through interlibrary loan.	To test if users can place a hold or request an item through interlibrary loan if it's not available.	Test hold or interlibrary loan options.	Ensure that users can place a hold or request an item through interlibrary loan if it's not available for borrowing.
Navigation and Site Structure					
	Test main navigation menus and links.	Verify easy access to key features and functionalities.	To ensure users can easily access key features and functionalities through main navigation menus and links.	Test accessibility of main navigation menus and links.	Verify that users can easily access key features and functionalities through main navigation menus and links.
		Check for consistency in design and layout across different pages.	To ensure consistency in design and layout across different pages of the website.	Test consistency in design and layout.	Ensure consistency in design and layout across different pages of the website.
		Ensure accessibility features are implemented.	To verify that accessibility features such as keyboard navigation and screen reader support are implemented.	Test implementation of accessibility features.	Ensure that accessibility features such as keyboard navigation and screen reader support are implemented on the website.

User Account Management					
	Access user account/profile section.	Log in with valid credentials.	To ensure users can access their account/profile section and log in successfully.	Test access to user account/profile section.	Verify that users can access their account/profile section and log in successfully using valid credentials.
		Verify user account information is displayed correctly.	To verify that the user's account information is displayed correctly after logging in.	Test display of user account information.	Ensure that the user's account information is displayed correctly after logging in.
		Update profile information.	To test if users can update their profile information successfully.	Test updating profile information.	Verify that users can update their profile information successfully.
		Verify changes are saved successfully.	To ensure that changes made to the user's profile information are saved successfully.	Test saving profile information changes.	Ensure that changes made to the user's profile information are saved successfully.
		View borrowing history or currently borrowed items.	To verify users can view their borrowing history or currently borrowed items.	Test display of borrowing history.	Ensure that users can view their borrowing history or currently borrowed items on the website.