GLOBAL FOREST WATCH

STD Document

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Introduction

Document Overview:

This document serves as the software test description for the GFW software development project. It provides a comprehensive overview of the tests outlined in the software test plan. These tests are important to the success of the project as they include both functional and non-functional aspects, ensuring the platform's stability and reliability.

The test types covered in this description include:

Functional Tests: These encompass various aspects such as integration, unit testing, sanity checks, and user interface (UI) testing to validate the functionality of the GFW platform.

Non-Functional Tests: These tests focus on critical aspects beyond functionality, including performance evaluation, security measures, and globalization testing. They are essential for guaranteeing that GFW meets the highest standards of performance, security, and accessibility across diverse user demographics and regions.

Abbreviations:

- **STP: Software Test Plan**
- **STD: Software Test Description**
- **STR: Software Test Report**
- **API: Application Programming Interface**
- **GUI: Graphical User Interface**
- **DBMS: Database Management System**
- **OS: Operating System**
- **IDE: Integrated Development Environment**
- **CI/CD: Continuous Integration/Continuous Deployment**
- **QA: Quality Assurance**
- **VCS: Version Control System**
- **UI: User Interface**
- **UX: User Experience**
- **SRS: Software Requirements Specification**
- **SRD: Software Requirements Document**
- **API: Application Programming Interface**
- **HTTP: Hypertext Transfer Protocol**
- **HTTPS: Hypertext Transfer Protocol Secure**
- **IP: Internet Protocol**
- **TCP: Transmission Control Protocol**
- **UDP: User Datagram Protocol**

Glossary:

- **Test Case:** A specific set of conditions and actions designed to verify the functionality, behavior, or performance of a software application.
- **Traceability:** The ability to track and link project artifacts, such as requirements, design elements, and test cases, throughout the software development lifecycle to ensure alignment and completeness.
- **Integration Testing:** Testing approach that verifies the interactions between different software modules or components to ensure they function together correctly.
- **Unit Testing:** Testing methodology where individual units or components of a software application are tested in isolation to validate their functionality.
- **Sanity Testing:** Subset of regression testing focused on quickly determining whether recent changes to the software have not adversely affected its existing functionalities.
- **Performance Testing:** Testing technique used to assess the speed, responsiveness, scalability, and stability of a software application under various workload conditions.
- **Security Testing:** Testing process that evaluates the software's ability to protect data, maintain functionality, and resist unauthorized access.
- **Globalization Testing:** Testing approach aimed at ensuring that a software application can function properly across different languages, cultures, and regions.
- **Functional Requirements:** Specifications detailing the desired behavior and functionalities of a software application.
- **Non-Functional Requirements**: Specifications concerning aspects such as performance, security, usability, and reliability, which are not directly related to the application's functionality but are crucial for its overall success.
- **User Acceptance Testing** (UAT): Testing performed by end-users or stakeholders to validate whether the software meets their requirements and expectations before deployment.

- **Cross-Browser Testing:** Testing process that evaluates the compatibility of a web application across different web browsers to ensure consistent user experience.
- **Regression Testing:** Testing methodology focused on verifying that recent code changes have not adversely affected the existing functionalities of the software.
- **API Testing:** Testing approach that assesses the functionality, reliability, performance, and security of application programming interfaces.
- **Load Testing:** Testing methodology focused on evaluating the behavior of a software application under anticipated and peak workload conditions.
- **Usability Testing**: Testing process that assesses how easy and intuitive it is for users to interact with a software application to accomplish their tasks effectively.

Test Preparations for GFW:

The sub-sections to be tested:

This test preparation plan is designed to cover various aspects of testing on GFW:

- Hardware Preparation.
- Software Preparation.
- Localization Settings.
- Safety, security and privacy precautions.

Hardware Preparation:

We ensure a mix of Windows and macOS devices for comprehensive OS testing and Included iOS and Android devices to cover mobile operating systems.

Device Selection

- **Laptop Devices:**

  -Windows laptop: a Windows laptop for testing purposes

  -MacBook Air (M1, macOS Big Sur): a MacBook Air with M1 chip running macOS Big Sur for testing.

- **Mobile Devices:**

  -iPhone 12 (iOS 15): iPhone 12 running iOS 15 for mobile testing.

  -Samsung Galaxy S21 (Android 11): Samsung Galaxy S21 running Android 11 for Android testing.

- **Network Conditions**
  - Test on various network speeds (3G, 4G, Wi-Fi).
  - Evaluate performance under low bandwidth conditions.

The initial phase of device selection involves identifying a diverse set of devices for GFW testing, including laptops, and mobile devices. The selected devices represent a variety of configurations, covering different operating systems, screen sizes, and browser or app configurations. This comprehensive approach ensures thorough testing across various platforms and enhances the overall quality of the testing process.

Software Preparation:

- **Operating System Versions:**

  -Install and update different operating system versions (Windows, macOS, Android, iOS).

  -Validate GFW compatibility across various operating systems.

- **Browser Testing:**

  -Install and configure popular browsers (Chrome, Safari, Edge).

  -Verify GFW functionality and compatibility on each browser.

The Software Preparation phase focuses on ensuring GFW compatibility across diverse operating systems and browsers. This phase is crucial for guaranteeing a seamless user experience across various platforms.

Localization Settings:

- Adjust language and regional settings for testing localization features.
- Validate the application's response to different language and regional configurations.

The Localization Settings phase is dedicated to testing GFW adaptability to different languages and regional configurations. By adjusting language and regional settings, the testing team aims to validate the application's responsiveness to diverse linguistic and cultural requirements.

Safety, security, and privacy precautions:

- User Privacy Protection:

  -Ensure that test accounts don't contain personal or sensitive information.

  -Test and verify privacy settings for user accounts.

- Security Measures:

  -Confirm that testing procedures adhere to security protocols.

  -Use dummy data for security-sensitive tests.

The Safety, Security, and Privacy Precautions phase is designed to safeguard user data and uphold the integrity of the testing process. By implementing privacy protection measures and adhering to security protocols, this phase ensures responsible testing practices.

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Test Cases

Sign in tests 3

ID	Title
C1	Verify that a user can successfully login with valid details
C2	Verify unsuccessful login when entering wrong a password
C3	Verify that a user can successfully logout

Add Case | Add Subsection

Search tests 3

ID	Title
C4	Verify successful searching process and relevant results
C5	Verify successful searching a very long input
C6	Verify getting no results when searching invalid inputs

Add Case | Add Subsection

Profile tests 2

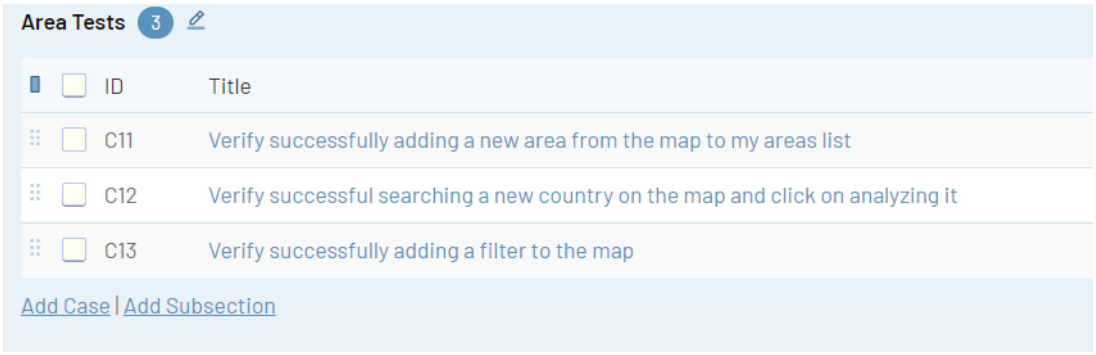
ID	Title
C7	Verify successful retrieving of profile information
C8	Verify successful changing user location

Add Case | Add Subsection

Localization and Globalization 2

ID	Title
C9	Verify successful searching under different language settings
C10	Verify successful login under different location settings

Add Case | Add Subsection



Test case example with steps:

Test Case	
test case name	Verify successfully adding a new area from the map to my areas list
test case goal	The goal of this test case is to ensure that a new area can be added successfully from the map to the user's areas list on the Global Forest Watch website.
data	GFW website URL Area name and code
advanced conditions	Logged into a GFW user account Stable internet connection
writer	mohammed hussien
date	26.03.2024
priority	Critical

number	step	expected result
1	Navigate to the Global Forest Watch website.	The GFW homepage loads successfully.
2	Log in to the GFW user account.	The user is logged in successfully.
3	Access the "Explore" section or map functionality on the GFW website.	The map interface is accessible.
4	Select an area on the map either by searching or by clicking on the map.	The selected area is highlighted or displayed on the map.
5	Fill out the area details with valid info	Area details are succsessfully filled and accepted
6	Add the selected area to the user's "My Areas" list.	The selected area is successfully added to the "My Areas" list associated with the user's account.
7	Navigate to my areas list in the user profile	Verify that the added area appears in the "My Areas" list.