Test Plan For Noctua sky Website

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noctua sky (stellarium) Website - Server Automation Testing

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1. Introduction

NoctuaSky is a comprehensive platform designed for astronomy enthusiasts and professionals alike. With its powerful features and user-friendly interface, NoctuaSky aims to revolutionize the way astronomers explore the night sky and conduct observations.

The key functionalities of the Website include:

1.1. Observation Management

Users can organize and manage their observations, including details such as location, date, time, and weather conditions. This feature allows astronomers to keep track of their observations and refer back to them for analysis or sharing.

1.2. Target Catalog

NoctuaSky provides a comprehensive catalog of celestial objects, including stars, planets, galaxies, nebulae, and more. Each entry in the catalog contains detailed information about the object, such as its coordinates, magnitude, distance, and cultural names.

1.3. Observing Setup

Users can customize their observing setup by specifying their instruments, equipment, and observing preferences. This feature allows astronomers to tailor their observing experience to suit their needs and optimize their observations.

2. Objectives

This test plan outlines the testing approach for the testing of **noctua sky (stellarium)** Website. It covers the following key areas:

1. Test Strategy: Defines the rules the test will be based on, including project timelines, objectives, and assumptions.

2. Execution Strategy: Describes how the tests will be performed, the process for identifying and reporting defects, and implementing fixes.
3. Test Management: Outlines the process for handling the logistics of the test, including communication, escalation procedures, risk mitigation, and team roster.

3.   Test Tree

Functional tests

1. User Registration and Profile Setup

   1.1. Verify registration process:

   - 1.1.1 Register with valid user information
   - 1.1.2 Register with invalid user information

   1.2. Verify profile details update:

   - 1.2.2 Update user information (e.g., name ,password)

2. Location Management

   2.1. Verify location operations:

   - 2.1.1 Add new location
   - 2.1.2 Update location details
   - 2.1.3 Delete location
   - 2.1.4 Get user locations
   - 2.1.5 Get location by ID
   - 2.1.6 Get all locations

3. Observation Management

3.1. Verify observation operations:

1. 3.1.1 Add new observation
2. 3.1.2 Update observation details
3. 3.1.3 Delete observation
4. 3.1.4 Get user observations
5. 3.1.5 Get observation by ID
6. 3.1.6 Get all observations

Non-Functional tests

4. Performance Testing

4.1. Test system response under varying user loads:

- 4.1.1 Test with multiple concurrent users performing location and observation operations

4.2. Test system response under stress:

- 4.2.1 Test with high volumes of location additions, updates, and deletions
- 4.2.2 Test with heavy transaction loads during peak hours

5. Compatibility Testing

5.1. Test website compatibility across browsers:

5.1.1 Test on Google Chrome

5.1.2 Test on Mozilla Firefox

4. Entry and Exit Criteria

4.1. Entry Criteria
- passing the sanity tests
- The requirement document should be available.

- Complete understanding of the application flow is required.
- The Test Plan Document should be ready.
- Test case/scripts are available
- Test environment is ready

4.2. Exit Criteria
- No critical test fail
- No high test fail
- No more than 3 medium test fail
- No more than 5 Low test fail
- The software meets all functional and non-functional requirements
- Approval from all relevant Product Manager has been obtained
- All defects and issues identified during testing have been resolved
- Documentation is complete and up-to-date

5. Test Strategy

5.1. Test Approach
The test strategy for the **noctua sky** website will focus on a comprehensive **server automation testing** process, emphasizing both functional and non-functional aspects to ensure a seamless and user-friendly interface.

5.2. In Scope

Exploratory Testing: The first phase of testing, focusing on key functionalities such as signup.
End-to-End Testing: A user journey simulation from login to checkout will be conducted, including the add observation and confirmation stages.

5.3. Out of Scope

Performance Testing: Tests simulating extreme user loads and database overload conditions will not be conducted at this stage.
Localization and Globalization: Testing for support of multiple languages is not included in the current scope.

Recovery Testing: Session persistence and cart item retention after page reloads will be checked, but broader recovery testing will be deferred.

5.4. **Test Execution**

Test execution will be methodically documented, with automaiton test cases detailing the procedures, expected results, and observed outcomes to ensure thorough coverage.

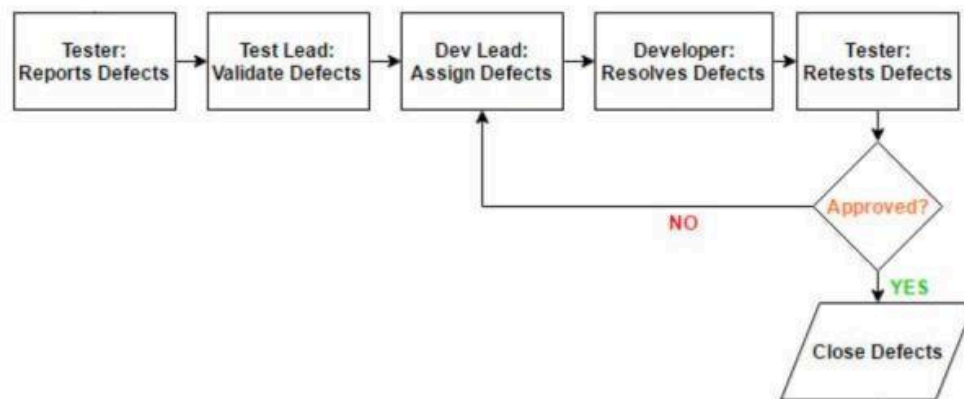# 6.   Test Methodology

6.1. Validation and Defect Management

Defects found during the Testing will be categorized according to the bug-reporting tool "Jira" and the categories are:

Severity	Description
Critical	Bugs has the potential to crash the system
High	Bug significantly impacts program functionality
Medium	Bug prevents testing in specific areas of the product.
Low	Bug has minimal impact on product use .

Priority	Description
Critical	Bug needs immediate attention due to its severe impact.
High	Bug should be addressed promptly to restore functionality
Medium	Bug requires attention but can be managed within schedule .

Low	Bug can be deferred as it has minimal impact on workflow .

6.2. Defect tracking & ReportingDefect tracking & Reporting

6.3. Status of the Bug/Fault

- New: Just created bug
- Open: Opened bug and still not solved
- Rejected: Dev Lead rejected it (it's not bug)
- Fixed: SOLVED bug
- Closed: After bug is fixed, need close this bug
- Re-Open: Bug was been fixed and closed but appear again

6.4. Test Management Process

	Tool	Comments
Test Management	Test Tail	Test Cases Design
Bug Tracking	Jira	Report bugs

6.5. Assumptions for Test Execution

- The test environment will remain stable and available throughout the test execution phase.
- Sufficient and representative test data will be available for executing test cases.
- Test resources, including testing tools and equipment, will be accessible and ready for use during test execution.
- Test preparation activities, such as test case design, documentation, and environment setup, will be completed before the test execution phase begins.
- Effective communication channels will be established and maintained throughout the test execution phase.

6.6. Risk

#	Risk	Impact	Trigger	Mitigation plan
1	Inadequate or unclear requirements.	High	can lead to incomplete test coverage.	Collaborate closely with Product managers to ensure comprehensive and clear requirements. Conduct regular reviews and validations.

2	Insufficient testing resources (human, hardware, or software).	Medium	may lead to incomplete testing.	Plan resource needs in advance, prioritize testing tasks, and consider automation to optimize resource usage.
3	Testing in an environment that does not replicate the production environment.	High	lead to false positives or negatives.	ensure the test environment mirrors the production environment as closely as possible.
4	Poor communication among team members and Product Manager	medium	leading to ineffective testing.	Establish clear communication channels, conduct regular meetings, and document all communications to ensure everyone is on the same page.
5	Inadequate or unrealistic test data	medium	result in incomplete testing scenarios.	Develop a comprehensive test data strategy

7.   Test Environments

- Operating System: Windows 11 OS Build 22631.3085
- Browser 1: Google Chrome Version 121.0.6167.140
    - All Extension are disabled
    - Cookies are allowed
- Browser 2: Firefox Version V 122.0
    - All Extension are disabled
    - Cookies are allowed

8. Time Table

Task	Start Date	End Date	Comments
STP Document	7.3.2024	8.3.2024	
STD Document	8.3.2024	8.3.2024	
Automation tests run	8.03.2024	10.03.2024	
STR Document	-	-	