TEST PLAN
FOR
GRIEVANCE REDRESSAL SYSTEM

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ChangeLog:

Version	Change Date	By	Description
1.	20-10-2023	S	Fixed the cor bugs.
2.	23-10-2023		Added complaint verification

1. Introduction

Test Strategies:

The "Grievances Redressal System" project's test approach is made to be both successful and efficient. It is centered on thorough functional testing to guarantee that every platform feature functions as intended. Furthermore, usability testing will evaluate the user experience, with a focus on usability. Performance testing will look at load management and system response times. To protect user data, security testing will identify and address vulnerabilities. Testing for compatibility makes sure that different devices and browsers work together seamlessly. Tests for regression will protect current functionality, and tests for user acceptability will confirm that the platform is appropriate for the people who will be using it. This multifaceted strategy guarantees a solid, intuitive, and efficient foundation.

Test Procedure:

This project's test process consists of multiple condensed stages. Test planning is a crucial step, during which goals and parameters are established. Creating comprehensive test cases and scripts is the next step in test design. Testing, reporting bugs, and monitoring development are all part of execution. Timely resolution and retesting are guaranteed by the fourth phase, which is defect management. Testing for security and performance happens simultaneously. The next step is user acceptance testing, when actual users can offer input. Lastly, test closure entails determining whether testing goals were reached, making sure that serious flaws are fixed, and calling the testing session to a close. This effective procedure ensures that the functionality and quality of the platform are thoroughly evaluated and validated.

Testing Workflow:

This project's testing procedure is organized and effective. It starts with planning the test, stating its goals and parameters. Developing comprehensive test cases and scripts is part of test design. These tests are executed, with progress being monitored and errors being reported. To guarantee robustness, performance and security tests are carried out simultaneously. Real users are asked for their opinions during user acceptance testing. Efficient problem solving and retesting are guaranteed via defect management. Test closure, which signals the end of the testing phase, evaluates if goals have been accomplished and whether significant flaws have been fixed. This optimized process ensures a thorough assessment of the platform's quality and usefulness.

Methodologies:

We use a variety of testing approaches in this project, each designed to address different facets of the system:

The Waterfall Methodology is employed to ensure a well-defined roadmap and thorough test case development during structured phases such as planning and design.

Agile Methodology: Agile is used for collaborative and iterative testing, adjusting to rapidly changing feedback cycles and project requirements.

Scrum Methodology: We incorporate Scrum to support sprint planning and daily stand-ups for smooth team communication and targeted testing activities.

DevOps Methodology: Continuous integration and testing are implemented using DevOps principles, guaranteeing quick feedback and frequent deployments.

User-Centered Design: This methodology prioritizes usability and user approval while keeping users at the center of the testing process.

Through the integration of these methodologies, we guarantee a comprehensive and flexible testing strategy that tackles both technical and user-focused facets of the Affordable Agriculture Equipment Sharing Platform project.

1.1 Scope:

1.1.1 In Scope

The scope of the testing guarantees a comprehensive assessment of the platform's security, performance, and functionality.

1. Functional Testing: Ensuring that user registration, equipment listing, booking, payment processing, and user communication all operate as intended on the Affordable Agriculture Equipment Sharing Platform.

2. Usability testing: Assessing how user-friendly the platform is and making sure that a broad variety of users can easily navigate and use it.

3. Performance testing: Evaluating load management and system response times to ensure smooth platform operation even with high user traffic.

4. Security testing: Finding and fixing security flaws to preserve user information and fend off possible attacks.

5. Compatibility testing: Verifying that the platform functions flawlessly across a range of hardware, operating systems, and browsers.

1.1.2 Out Of Scope:

Testing outside of the scope establishes the limits of the investigation.

1. Hardware Testing: This project does not include the physical testing of servers or other hardware components.

2. Network Infrastructure Testing: Comprehensive testing of the infrastructure is outside the purview of the testing.

3. Third-Party Service Testing: Although the project includes the integration of third-party services, comprehensive testing of those services is outside the project's purview.

4. Testing for Legal Compliance: The testing phase is not responsible for ensuring legal compliance with all local and international regulations.

In the event that data migration becomes necessary for the project, thorough data migration testing is not included in this scope.

1.2 Quality Objectives:

To make sure that our project satisfies predetermined standards and user expectations, quality objectives are crucial. The following is a thorough explanation of the quality goals for your project:

High functionality should be attained by the platform, encompassing features like user registration, equipment listing, booking, payment processing, and user communication. Our goal is to guarantee that every feature functions as intended, reduce errors, and provide farmers and equipment owners with a dependable and easy-to-use experience.

Usability: It's important to be user-friendly. Our goal is to offer a user-friendly and intuitive platform. Our goal is to improve user satisfaction by making sure that users with different technical backgrounds can access and use the platform without any problems.

Performance: Even with high loads, the platform must function flawlessly. Our goals are to reduce latency, provide fast response times, and ensure that the system can manage a sizable number of concurrent users without experiencing any hiccups or slowdowns.

Security: Maintaining user data and privacy requires a high level of security. Our goal is to find and fix security flaws so that the platform is protected from possible attacks and user confidence and data integrity are maintained.

Our goal is to ensure compatibility with a wide range of devices and browsers. Our goal is to verify that the platform functions flawlessly across various configurations, improving accessibility for a larger user population.

1.3 Roles and Responsibilities:

A thorough explanation of each team member's role and responsibilities:
- Developers: Vishal Yadav (Front End), Yuvraj Narayan Mishra (Back End)
- Quality Analyst: Shruti Gautam

2. Test Methodology:

2.1 Summary

The Agile model's adaptability, frequent feedback loops, and iterative approach make it highly relevant to our project, the "Affordable Agriculture Equipment Sharing Platform".
The Agile model pertains to your project in the following ways:

Adaptability to Changing Needs: Demands and seasonal variations affect agriculture. Because of the flexibility provided by the Agile model, the project team can adapt as new market conditions and requirements arise, keeping the platform current.

Agile places a high value on regular user participation and feedback. This guarantees that the platform meets the unique requirements of farmers and equipment owners in the context of agriculture. Frequent user feedback sessions facilitate the creation of a solution that is both more user-friendly and efficient.

- **Iterative and incremental development** are encouraged by agile methodology. This strategy is in line with the requirement to give users value right away. It makes it possible to deliver functional components in brief cycles, guaranteeing that stakeholders will be able to witness progress sooner.

- **Rapid issue resolution** is made possible by agile's focus on frequent testing and ongoing feedback, which enables early issue identification and resolution. This strategy reduces the possibility of expensive delays or disturbances in agriculture, where prompt responses are essential.

- **Openness and Cooperation:** Agile promotes openness and cooperation between cross-functional groups, building confidence and guaranteeing congruence with project objectives. This is particularly crucial when working on a project with several different agriculture industry stakeholders.

- **Continuous Improvement:** The Agile model facilitates the platform's continuous improvement through user feedback and the evolution of industry standards. It guarantees that the platform will always be flexible and sensitive to new developments in agriculture.

To sum up, the Agile model is a good fit for the "Grievances Redressal System Platform" project because of its flexibility, user-centric focus, incremental development, and responsiveness to changing needs. It is in line with the environmental industry's dynamic nature, guaranteeing that the platform lives up to user expectations and changes to take advantage of new opportunities and challenges.

2.2 Test Levels:

Unit Testing:
Described as the process of testing discrete application modules or components separately. It focuses on making sure every code unit functions as intended.
Relevance: Unit testing in your project may involve examining particular modules or functions in charge of listing equipment, processing payments, or registering users.

Integration testing:
Overview: Integration testing confirms how various modules or components communicate with one another. It makes sure that these parts function as a unified system.

Relevance: To ensure that user registration, complaint listing and complaint registration processing all function smoothly within the platform, integration testing is essential for your project.

System Testing:
Overview: System testing assesses the entire system holistically. It runs all of the application's tests to make sure it satisfies the requirements, both functional and non-functional.
Relevance: End-to-end testing of the complete platform, including user journeys from registration to , complaint listing , complaint registeration, and communication, would be included in system testing for your project to confirm the platform's overall functionality.

Security testing is the process of evaluating a platform's security controls in order to find weaknesses and possible threats. This covers vulnerability assessments, code reviews, and penetration testing.
Relevance: Security testing is essential for safeguarding user information, particularly on platforms where user communications and financial transactions take place. It assists in locating and fixing security flaws to protect private data.

3. Test Deliverables:

Test Case – 1 : User Registration

Test Case ID	Test Case Description	Test Steps	Expected Result	Pass/Fail
TC-1	Test user registration process	Go to the registration page.	User can access the registration page.	Pass
		Enter a valid username and password.	Username and password fields are accepted.	Pass
		Click the “Register” button.	Confirmation pop-up appears.	Pass
		Confirm the registration.	The user successfully registered.	Pass
TC-2	Test User registration with invalid credentials	Go to the registration page	User can access the registration page.	Pass
		Enter an invalid username and password.	Username and password fields are accepted.	Pass

		Click the “Register” button.	Confirmation pop-up appears.	Pass
		Cancel the registration.	The registration process is canceled.	Pass

Test Case – 2 : User Login

Test Case ID	Test Case Description	Test Steps	Expected Result	Pass/Fail
TC-3	Test user login process	Go to the login page.	User can access the login page.	Pass
		Enter a valid username and password.	Username and password fields are accepted.	Pass
		Click the “Login” button.	Logged in successfully.	Pass
TC-4		Go to the login page.	User can access the login page.	Pass
		Enter an invalid username and password.	Username and password fields are accepted.	Pass
		Click the “Login” button.	Error message displayed.	Pass

Test Case – 3 : User Complaint Registration

Test Case ID	Test Case Description	Test Steps	Expected Result	Pass/Fail
TC-5	Complaint registration by User	Log in as a user	Successful Login.	Pass
		Navigate to the complaint registration page.	Access to the registration page.	Pass
		Enter the problem statement.	Information accepted.	Pass
		Click the “Registe” button.	Confirmation pop-up appears.	Pass
		Confirm the complaint registration.	The complaint is successfully registered on the website.	Pass
TC-6	Test complaint registration with invalid credentials	Log in as a user.	Successful Login.	Pass

		Navigate to the product registration page.	Access to the registration page.	Pass
		Enter the complaint.	Information accepted.	Pass
		Click the “Register complaint” button	Confirmation pop-up of metadata appears.	Pass
		Confirm the complaint registration.	Error message.	Pass

Test Case – 4 : Complaint Verification :

Test Case ID	Test Case Description	Test Steps	Expected Result	Pass/Fail
TC-7	Test complaint verification by users	Go to the complaint verification page.	Access to the verification page.	Pass
		Upload the valid photo.	Complaint accepted.	Pass
		Click the “verify” button.	The Complaint authenticity verified.	Pass
TC-8	Test complaint Verification with an invalid product ID	Go to the Complaint verification page.	Access to the verification page.	Pass
		Upload the invalid photo.	Complaint accepted.	Pass
		Click the “verify” button.	Error message.	Pass

3.2 Requirement Traceability Matrix:

Requirement ID	Requirement Description	Test Case ID(s)
REQ-1	User Registration	TC-1, TC-2
REQ-2	User Login	TC-3, TC-4
REQ-3	Complaint Registration	TC-5, TC-6
REQ-4	Complaint Verification	TC-7, TC-8

4. Resource & Environment Needs

4.1 Testing Tools:

Required Testing Tools to test the project are as follows:

• Automation Tool: Selenium

4.2 Test Environment:

- Operating System: Windows 10 (64-bit)
- Web Browsers: Google Chrome
- Application servers : Node.js
- Database servers : MySQL
- Testing Framework: Selenium (for automated testing)
- Version Control System: Git (latest version)
- Documentation: Microsoft Office Suite (for test plan and documentation)

5. Terms/Acronyms:

Terms or Acronyms used in the project are :

TERM/ACRONYM	DEFINITION
API	Application Program Interface
AUT	Application Under Test
UAT	User Acceptance Testing