

Quality Assurance Plan

**Project Name:**

SafeSpace

Date:

10.11.2024

Prepared by:

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1. Introduction

This section provides an overview of the QA processes and activities for the software project. It ensures that the final product meets the defined requirements and is free from critical issues before release.

2. Objectives

The primary objectives of the QA process are:

- To verify that the software meets the functional and non-functional requirements.
- To ensure the codebase is clean, readable, and maintainable.
- To identify and fix defects early in the development cycle.

3. QA Tasks and Activities

Below are key QA tasks and activities:

3.1 Functional Testing

Functional testing ensures that the system behaves according to the specified requirements.

Task	Description	Responsibility	Due Date	Status
Test Case Creation	Create test cases that validate each feature of the application.	QA Lead / Developer	15.11.2024	Pending

Task	Description	Responsibility	Due Date	Status
Unit Testing	Write unit tests for individual modules to ensure correctness.	Developer	15.11.2024	Pending
Integration Testing	Verify that different modules or components work together as expected.	QA Team / Developer	18.11.2024	Pending
System Testing	Test the entire system to ensure all components function as intended.	QA Team	18.11.2024	Pending
Regression Testing	Test to ensure that recent changes haven't introduced new issues.	QA Team	18.11.2024	Pending

3.2 Non-Functional Testing

Non-functional testing ensures that the application performs well under various conditions.

Task	Description	Responsibility	Due Date	Status
Performance Testing	Evaluate the speed, responsiveness, and stability of the application under load.	QA Team	20.11.2024	Pending
Load Testing	Simulate multiple users accessing the system simultaneously to test its behavior under stress.	QA Team	20.11.2024	Pending
Security Testing	Identify and mitigate potential vulnerabilities in the software.	Security Specialist	20.11.2024	Pending
Compatibility Testing	Test the software on different browsers, devices, and operating systems to ensure compatibility.	QA Team	20.11.2024	Pending
Usability Testing	Evaluate the ease of use and overall user experience of the application.	UX/UI Specialist	20.11.2024	Pending

3.3 Static Code Review

Static code review involves analyzing the code without executing it to ensure quality and adherence to coding standards.

Task	Description	Responsibility	Due Date	Status
Code Quality Check	Review code to ensure adherence to coding standards, clarity, and proper documentation.	Senior Developer / Peer Reviewers	23.11.2024	Pending
Code Duplication Check	Identify and eliminate duplicated code to improve maintainability.	Developer	23.11.2024	Pending
Code Refactoring	Refactor sections of code to improve readability and efficiency without changing functionality.	Developer	23.11.2024	Pending

3.4 Clean Coding Practices

Ensure that the code is maintainable, scalable, and readable by following best practices.

Task	Description	Responsibility	Due Date	Status
Code Consistency	Ensure that naming conventions, indentation, and formatting are consistent across the codebase.	Developer	23.11.2024	Pending
Commenting Code	Ensure that all functions, classes, and complex sections of code are well-documented.	Developer	23.11.2024	Pending
Code Reviews and Feedback	Conduct regular code reviews with peers to ensure coding best practices are followed.	Developer / Peer	23.11.2024	Pending

4. QA Tools

List the tools and frameworks that will be used during the testing and code review phases.

- **Functional Testing Tools:** Selenium, JUnit
- **Performance Testing Tools:** Apache JMeter, LoadRunner

- **Static Code Analysis Tools:** SonarQube, Checkstyle, ESLint, prettier
- **Version Control:** GitHub

5. Deliverables

The following deliverables are expected as part of the QA process:

- Test cases for functional and non-functional testing.
- Test execution results and defect reports.
- Static code review feedback and documentation.
- Final report summarizing the QA activities and results.

6. Timeline

Milestone	Date	Responsibility	Status
Test Plan Finalized	13.11.2024	QA Lead	Pending
Test Execution	16.11.2024	QA Team	Pending
Static Code Review Complete	18.11.2024	Developer / Senior Developer	Pending
QA Report Finalized	22.11.2024	QA Lead	Pending

7. Approval

This section is for approvals and sign offs.

Name	Role	Signature	Date
Miro Hintikka	QA Lead		10.11.2024
Sara Pappila	Project Manager		10.11.2024

8. Conclusion

This Quality Assurance Plan will guide the team in ensuring the software meets all the requirements and is of high quality before its final release. Adhering to the plan will ensure that defects are minimized, performance is optimized, and the codebase is maintainable.