Test Strategy Document
LSET Online Banking Mobile App

Version 1.0

Author: LSET Software Testers Team

Table Of Contents

1. Test Goals/Objectives
    1.1. What are our specific goals?
    1.2. What are the key functionalities or features that should be tested?
    1.3. Are there any specific performance or usability targets to be achieved?
2. Sprint Timelines
    2.1. What is the length of each sprint?
    2.2. When does each sprint start and end?
    2.3. Will there be a deadline to meet during the sprint?
    2.4. How the testing activities will be scheduled to coincide with the sprint timelines?
3. Lifecycle of Tasks/Tickets
    3.1. What is the method used for capturing and tracking tasks or tickets?
    3.2. Who will be responsible for assigning, updating, and closing tasks or tickets?
    3.3. Which tool or system will be used for tasks or tickets?
4. Test Approach
    4.1. Will it be manual testing, automation testing or combined?
    4.2. Which methodology will be used? Agile or Waterfall? Or combined?
5. Testing types
    5.1. What types of testing will be performed? (e.g. functional, security, compatibility, etc.)
    5.2. Are there going to be any criteria or standards for each test?
    5.3. How the priority will be taken into consideration and scheduled?
    5.4. Would any tests require dependencies?
6. Roles and Responsibilities
    6.1. Are there any different roles in the testing process? If so, what are those?
    6.2. What are the responsibilities of the roles?
7. Testing Tools
    7.1. Which testing tools are going to be used and where?
    7.2. How will the testing tools be integrated into overall testing process?
    7.3. Will training and support be needed for using the tool during testing
8. Hardware-Software Configuration
    8.1. Which operating system? And versions need to be supported?
    8.2. Which browsers or devices need to be tested on?
9. Reporting
    9.1. How frequently the reports will be distributed?
    9.2. Who is going to receive the reports?

1. Test Goals/Objectives

1.1 Our goals

Our specific goals should focus on ensuring the mobile banking app functions as intended, is secure, and provides a positive user experience. Here are some key goals:

- Functionality: Verify all in-scope features work correctly, including account management, transactions (deposits, withdrawals, transfers), account closure, notifications, and password reset.
- Security: Ensure the app protects user data and financial information. Test for secure login, data encryption, and protection against unauthorized access.
- Usability: Evaluate how easy and intuitive the app is to use. Test for clear navigation, efficient workflows, and user-friendly interface.
- Performance: Measure app responsiveness under various conditions (different devices, network speeds). Ensure transactions process quickly and the app is stable.

1.2 Key functionalities or features that should be tested

Based on the Software Requirements Specification (SRS), these are the key functionalities to test:

Account Management:

- Account creation process (new user signup)
- Login functionality (including biometrics if implemented)
- Viewing account information (balances, transaction history)

Transactions:

- Making deposits (including mobile check deposit if applicable)
- Making withdrawals
- Transferring funds between accounts

Additional Features:

- Account closure process (if allowed by the bank)
- Enabling and testing transaction notifications
- Password reset functionality

1.3 Performance or usability targets

- User should be able to launch an app under X seconds
- Transaction processing time should be under X seconds
- User should be able to complete key tasks (eg. Transfer funds) within X number of steps

2. Sprint Timelines

2.1 Length of each sprint

- Between 1-2 weeks

2.2 Start and end of each sprint

- Each sprint starts on Tuesday/Thursday and ends on Tuesday/Thursday (highly depends on how they're going)

2.3 Deadline to meet during the sprint

- There will be a deadline to meet during the sprint, usually it's going to be one or two weeks from the starting day.
- For example: If sprint was started on Tuesday/Thursday it's going to end a week or two later, again on Tuesday/Thursday

2.4 How the testing activities will be scheduled to coincide with the sprint timelines?

- In Agile development, testing is often integrated throughout the development lifecycle. Testers may be assigned user stories specific to testing functionalities developed during the sprint.

3. Lifecycle of Tasks/Tickets

3.1 Method used for capturing and tracking tasks or tickets

- Backlog: Agile teams typically use a prioritised list of user stories called a backlog. These user stories detail functionalities or features the app should have.

3.2 Who will be responsible for assigning, updating, and closing tasks or tickets?

- Method: Backlog will still be the core system for capturing and tracking tasks. Jira allows creating user stories within the backlog, which can be further broken down into smaller, more manageable tasks.
- Assigning/Updating/Closing: The process remains similar. The Product Owner prioritises the backlog in Jira. During sprint planning, the Team Lead assigns user stories or tasks from the Jira backlog to developers and testers. Developers and testers update the status of their assigned tasks within Jira as they work

3.3 Which tool or system will be used for tasks or tickets?

- Our team is going to work on Agile Scrum in Jira

4. Test Approach

We will be following a comprehensive testing process that includes test planning, test design, test execution, and test reporting.

The testing team will create a test plan outlining the scope, objectives, and timeline for banking functionalities. After planning, the testing team will prepare test cases and test scenarios based on

the banking requirements and user stories. Test data will be identified, and test environments will be set up. Follow by test execution will be in progress. So, the testing team must decide which testing technique will be used (manual, automation, or both). Preparing and sharing test reports must take place at the end. The number of defects and the overall quality of the banking application must be reported.

5. Testing Types

5.1 What types of testing will be performed?

For LSET Online Banking Application, several types of testing should be considered to ensure the reliability, security, and performance of the application. These test types may include:

- Functional Testing: This encompasses testing the core functionality of the online banking system, such as user authentication, fund transfers, bill payments, account management, and transaction history.

- Security Testing: Given the sensitivity of financial data, robust security testing is crucial. This involves testing for vulnerabilities, authentication mechanisms, authorisation controls, encryption, and ensuring compliance with security standards and regulations such as PCI DSS.

- Compatibility Testing: Ensuring the online banking application functions seamlessly across different devices (desktops, laptops, tablets, smartphones) and web browsers is essential. It involves testing for device compatibility, responsive design, and cross-browser compatibility.

- Usability and User Experience (UX) Testing: This involves evaluating the ease of use, intuitiveness, and overall user experience of the application. It includes testing navigation, design consistency, user input validation, and error handling.

- Performance Testing: This type of testing includes load testing (to assess system behaviour under normal and peak load conditions), stress testing (to investigate system performance beyond normal operational capacity), and reliability testing (to ensure system stability over time).

- Regression Testing: As the application undergoes updates and new feature additions, regression testing is essential to ensure that existing features continue to function as expected without unexpected side effects.

- API Testing: Given the integration of various systems (payment gateways, transaction processing systems), API testing is crucial to ensure smooth communication and data exchange between these systems.

- Compliance Testing: This type involves testing the application against regulatory and compliance requirements specific to the financial industry, such as GDPR, banking industry standards, and data protection regulations.

Each of these testing types will be essential to ensure the overall quality, security, and reliability of the LSET Online Banking Application. This test strategy should encompass a plan for each of these testing types to ensure comprehensive coverage of the application's functionality and security.

5.2 Criteria and Standards for each test

Will define specific criteria and standards for each test type. For instance, security testing may adhere to industry standards such as OWASP (Open Web Application Security Project) guidelines. Similarly, functional testing should adhere to predefined user acceptance criteria. Clear benchmarks and standards should be established to evaluate test results accurately.

5.3 Priority and Scheduling

When testing banking operations, it's important to assign priority levels to different test categories based on their impact on critical functions and regulatory compliance. High-priority tests, such as security and core functional tests, should be scheduled early in the testing cycle. On the other hand, regression tests and non-functional tests can be scheduled based on their impact on critical functions. It's also important to consider dependencies while scheduling so that prerequisite tests are completed before dependent tests are initiated.

5.4 Test Dependencies,

Functional tests might depend on the successful completion of backend API tests. This information should be documented to ensure that tests are conducted in the correct sequence and with the necessary prerequisites met.

By incorporating these elements, this test strategy for the online banking application aims to establish a clear framework for evaluating test results based on predefined criteria, ensuring that high-priority tests are scheduled appropriately, and recognizing and managing test dependencies to execute testing activities logically and effectively.

6. Roles and Responsibilities

In the testing process roles and their respective responsibilities may include:

1. *Test Manager / Test Lead:*

Responsibilities:

- Overseeing the entire testing effort for the online banking application.
- Planning, monitoring, and controlling all testing activities.
- Defining the overall test strategy and test plan.
- Managing the testing team and resources.
- Reporting on testing progress and results to project stakeholders.

2. *Automation Engineers;*

Responsibilities:

- Developing and maintaining automated test scripts for regression and functional testing.
- Implementing and maintaining the test automation framework.
- Working closely with the test analysts to identify suitable test cases for automation.

3. *User Acceptance Testing (UAT) Coordinator:*

Responsibilities:

- Coordinating user acceptance testing activities with stakeholders and end users.
- Managing UAT test cases and ensuring that user acceptance tests align with business requirements and expectations.
- Communicating UAT results and feedback to the testing team and project stakeholders.

7. Testing Tools

7.1 Which testing tools are going to be used and where?

- The testing team, management and developers require the use of Jira and Confluence for test planning, scripting, defect management and reporting
- With its intuitive interface and rich feature set, Postman enables users to create, run, and analyse API tests, helping ensure the reliability and performance of banking app APIs.
- Selenium tool will be used to create and execute web application tests across different browsers and platforms
- JMeter tool will be used to test and measure the performance of web applications

7.2 How will the testing tools be integrated into the overall testing process?

- Online Banking Project team will manage the test environment with regards to execution and software control
- The development team will migrate the code to the test and UAT environment
- The Production Support team will migrate the code to the production environment

7.3 Will training and support be needed for using the tool during testing?

- The testing team need a short-term course of how to collaborate and create content with Confluence
- The testing team need to learn how to use JMeter for recording their actions to define the test cases

8. Hardware-Software Configuration

The testing team agree to use a cross-device testing that checks solutions in multiple formats and on various devices, to provide confidence in their quality and accessibility no matter how a user chooses to interact

8.1 Which operating systems and versions need to be supported?

- The cross-device testing of application will be executed on multiple versions of each operating system using emulation, virtual machines and actual hardware

  - Apple iOS
  - Android OS
  - Microsoft Windows Phone

8.2 Which browsers or devices need to be tested on?

- Testing LSET Online Banking Mobile App on different devices can help to improve its compatibility and user experience:

  - Samsung Galaxy M32 11.0
  - Google Pixel 7 Pro 13.0
  - Xiaomi Redmi Note 9 10.0
  - Huawei P30 9.0
  - iPhone 11 Pro 15
  - iPad Pro 11 2022 16

9. Reporting

9.1 How frequently the reports will be distributed?

- A QA status report should be written regularly on bi-weekly basis

9.2 Who is going to receive reports?

- The test report will be shared with:

  - Project Manager
  - Test Lead
  - BA
  - Senior Developer IT Production
  - Senior Members of other Teams