**TEST PLAN**

**Bank Management System**

**Version: 1.30**

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| --- | --- |
| Project Code |  |
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**Change Log**

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Name of Person | Date | Description of change |
| v1.00 | Omer Ayaz Khan | 19/11/2024 | [Created Document, And Completed Chapters 1 and 2] |
| v1.20 | Syed Yousif Ali Shah | 24/11/2024 | [Completed Chapters 3-5] |
| v1.30 | Huzaifa Kashif | 30/11/2024 | [Modified Chapters 2-4] |

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# Introduction

The Bank Management System is specifically designed to automate various banking operations, including account creation, transaction processing, and account management.

The purpose of this document is to outline the test strategy, workflow, and the methodology(ies) implemented for testing the Bank Management System. The primary objective of testing is to guarantee that the system meets all of the specified functional requirements, identify any existing bugs, resolve them, and deliver a quality product.

## Scope

### **In Scope**

The following features and requirements of the Bank Management System (BMS) will be tested:

* **User Authentication:** Login an existing user account, change account PIN, and create (signup) a new user account.
* **Transaction Handling:** Deposit and withdraw amount, view account balance and transaction history.
* **User Interface:** Validate Graphical User Interface (GUI) elements, and their usability.

### **Out of Scope**

The following features and requirements of the BMS will not be tested.

* System security and performance
* Hardware Interfaces
* Third-party Application Programming Interfaces (APIs) integration.
* Future enhancements not currently part of the system.

## Quality Objective

* Ensure that the system meets all of the specified functional requirements, such as login/signup user account, deposition and withdrawal of amount from the account, view transaction history and available account balance.
* Deliver a bug-free application.

## Roles and Responsibilities

|  |  |
| --- | --- |
| **Role** | **Responsibilities** |
| Database Administrators | Manage (create, update, delete, view) user accounts via a database management system (MySQL Workbench) |
| Quality Assurance Analyst | Prepare and execute test suites, test cases and test log reports. |
| Test Manager | Define test strategy, manage test schedule, and ensure resource availability. |
| Developers | Resolve bugs and provide technical support during the testing process. |

# Test Methodology

## Overview

The Agile Methodology is selected for testing, as it aligns with the iterative development model. This guarantees adaptability to changes due to frequent deliveries, and quick feedback.

## Test Levels

* **Unit Testing:** Performed by the developers to ensure that individual functionality componentsfunction as expected.
* **Integration Testing:** To validate interactions between and among individual (unit) components (such as amount deposition, and balance enquiry) to ensure that individual components work as expected when integrated together.
* **System Testing:** Conducted on a complete, integrated system to evaluate the system’s compliance with its specified requirements.
* **User Acceptance Testing:** Final validation done by the stakeholder to confirm readiness for deployment and end-use.

## Bug Triage

* Conduct weekly discussions and meetings to review test reports for bugs and their resolution.
* Prioritize bugs for resolution, based on their functionality, and timelines.

## Suspension Criteria and Resumption Requirements

**Suspension Criteria:**

Testing process will be suspended if:

* More than 10% of test cases fail.
* Critical hardware and/or software failure(s) occur(s).
* Test environment is unavailable, and/or unstable.

**Resumption Criteria:**

Testing process will be resumed when:

* The failed test cases are resolved if the percentage of failed test cases are of high priority, and/or more than 10%.
* Critical hardware and/or software failure(s) is/are resolved.
* The test environment is restored, and stable.

## Test Completeness

Testing process will be considered complete after:

* All of the planned test cases are executed.
* Test case pass rate is 90%. This includes the resolution of all high-priority bugs.

### **2.6 Project task and estimation and schedule**

|  |  |  |
| --- | --- | --- |
| **Task** | **Members** | **Estimate effort** |
| **Test schedule and test strategy** | Huzaifa Kashif, Yousif Ali, Omer Ayaz Khan | 20th Nov till 24th Nov |
| **Test suite and test cases** | Huzaifa Kashif, Yousif Ali, Omer Ayaz Khan | 25th Nov till 28th Nov |
| **Test Log Report** | Huzaifa Kashif, Yousif Ali, Omer Ayaz Khan | 28th Nov till 30th Nov |
| **Total** |  | 10 days (20th Nov till 30th Nov) |

# Test Deliverables

* Test Plan
* Test Suite which includes Test Cases
* Test Log Report

# Resource & Environment Needs

## Testing Tools

* Google Docs

## Test Environment

**Hardware Requirements (Minimum):**

* 4GB RAM
* Intel Core i-3 Processor

**Software Requirements:**

* Windows 7 (Minimum), MacOS (MacOS version equivalent to Windows 7), Linux (Linux version equivalent to Windows 7)
* IntelliJ Idea
* Java Development Kit (JDK)
* MySQL Workbench

# Terms/Acronyms

| **TERM/ACRONYM** | **DEFINITION** |
| --- | --- |
| API | Application Program Interface |
| AUT | Application Under Test |
| BMS | Bank Management System |
| RAM | Random Access Memory |
| GUI | Graphical User Interface |