**Test Plan for Guru99 Bank Website**

**Course: AUTOMATED TESTING TOOLS**

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**1. Introduction**

This test plan outlines the comprehensive testing strategy for the Guru99 Bank website. It covers various functionalities including Manager operations, Customer actions, Account handling, Transactions, and Security measures.

***1.1 Scope***

The scope of this test plan encompasses testing the Guru99 Bank website's critical functionalities. These include Manager, Customer, Account, and *Transaction-related actions.*

***1.1.1 In Scope***

Manager functionalities: New Customer, Edit Customer, Delete Customer, New Account, Edit Account, Delete Account, Change Password.

Customer functionalities: Deposit, Withdrawal, Fund Transfer, Balance Enquiry, Mini Statement, Customized Statement.

Security measures: Log out.

***1.1.2 Out of Scope***

Third-party integrations beyond Guru99 Bank's direct functionality.

Non-functional testing such as performance, load, and stress testing.

***1.2 Quality Objectives***

Ensure accurate and secure execution of all operations.

Verify correct data handling and storage.

Confirm compliance with usability and accessibility standards.

***1.3 Roles and Responsibilities***

Project Manager: Overall project management, oversight, and coordination.

Test Lead: Test planning, strategy development, and test case creation.

Testers: Execution of test cases, defect reporting, and regression testing.

Developers: Bug fixing and validation of defect resolutions.

Business Analyst: Requirement validation and alignment with testing efforts.

Security Specialist: Oversight of security-related testing.

**2. Test Methodology**

***2.1 Overview***

A combined approach of manual and automated testing will be used to ensure thorough testing of the Guru99 Bank website.

***2.2 Test Levels***

Unit Testing: Components are tested individually.

Integration Testing: Testing interactions between different modules.

System Testing: End-to-end testing of the entire system.

User Acceptance Testing (UAT): Validation by stakeholders.

***2.3 Bug Triage***

Defect triage will be performed to prioritize and assign severity to defects.

***2.4 Suspension Criteria and Resumption Requirements***

Testing may be suspended if critical defects affecting core functionalities are found. Testing will resume after defect resolution and validation.

***2.5 Test Completeness***

Testing will be considered complete when all test cases are executed, defects are resolved, and acceptance criteria are met.

**3. Test Deliverables**

Test Plan

Test Cases and Scenarios

Defect Reports

Test Execution Reports

**4. Resource & Environment Needs**

***4.1 Testing Tools***

Selenium for automated testing.

Bug tracking tool for defect management.

***4.2 Test Environment***

Browsers: Chrome, Firefox, Edge

Operating Systems: Windows, macOS

Test Data: Sample customer data, account data, transaction data

**5. Test Strategy**

***5.1 Automation Strategy***

Automated testing will focus on regression testing, especially for Manager and Customer actions.

***5.2 Manual Testing Strategy***

Manual testing will cover exploratory testing, usability testing, and security testing.

**6. Test Scenarios**

***6.1 Manager Functionality Testing***

***6.1.1 New Customer***

Verify Manager can create a new customer with valid details.

Verify error messages are displayed for missing or incorrect information.

***6.1.2 Edit Customer***

Verify Manager can edit customer details.

Verify changes are reflected accurately in the system.

***6.1.3 Delete Customer***

Verify Manager can delete customer accounts.

Verify associated accounts are handled correctly.

***6.1.4 New Account***

Verify Manager can open a new account for a customer.

Verify account details are correctly stored.

***6.1.5 Edit Account***

Verify Manager can modify account details.

Verify changes are reflected accurately.

***6.1.6 Delete Account***

Verify Manager can close customer accounts.

Verify associated transactions are handled correctly.

***6.2 Customer Functionality Testing***

***6.2.1 Deposit***

Verify customers can deposit funds into their accounts.

**Verify account balance is updated correctly.**

***6.2.2 Withdrawal***

Verify customers can withdraw funds from their accounts.

Verify account balance is updated correctly.

***6.2.3 Fund Transfer***

Verify customers can transfer funds between their accounts.

Verify correct debiting and crediting of accounts.

***6.2.4 Change Password***

Verify customers can change their login passwords.

Verify new password is effective immediately.

***6.2.5 Balance Enquiry***

Verify customers can check their account balances.

Verify displayed balance matches actual balance.

***6.2.6 Mini Statement***

Verify customers can view a mini statement of recent transactions.

Verify statement accuracy.

***6.2.7 Customised Statement***

Verify customers can generate customized account statements.

Verify selected date range and transaction types are accurately reflected.

***6.3 Security Functionality Testing***

***6.3.1 Log Out***

Verify users are logged out after a period of inactivity.

Verify users cannot access restricted areas without logging in again.

**7. Test Execution Schedule**

The test execution schedule outlines the phases, milestones, and dependencies for the testing process. It includes the following stages:

* **Phase 1: Unit Testing**
  + Duration: [Start Date] to [End Date]
  + Milestone: Completion of unit tests for all individual components.
  + Dependencies: Completion of component development.
* **Phase 2: Integration Testing**
  + Duration: [Start Date] to [End Date]
  + Milestone: Successful integration of components and modules.
  + Dependencies: Completion of unit testing.
* **Phase 3: System Testing**
  + Duration: [Start Date] to [End Date]
  + Milestone: End-to-end testing of the entire system.
  + Dependencies: Completion of integration testing.
* **Phase 4: User Acceptance Testing (UAT)**
  + Duration: [Start Date] to [End Date]
  + Milestone: Validation by stakeholders, readiness for production.
  + Dependencies: Completion of system testing, approval of test results.

**8. Defect Management**

The defect management process involves identifying, reporting, prioritizing, and resolving defects found during testing:

* Defect Reporting: Testers will use the bug tracking tool to report defects, providing detailed information about the issue, steps to reproduce, and screenshots if necessary.
* Defect Prioritization: Defects will be prioritized based on their impact and severity to the application's functionality.
* Defect Resolution: Developers will fix the reported defects and submit them for verification.
* Defect Validation: Testers will verify the defect fixes and update the status accordingly.
* Closure: Defects will be closed once verified fixes are confirmed.

**9. Test Reporting**

Test reporting involves communicating the progress, results, and findings of the testing process:

* Test Execution Reports: These reports detail the test cases executed, their status (pass/fail), and any defects encountered.
* Defect Reports: Reports listing defects, their status, severity, and steps to reproduce.
* Summary Reports: An overall summary of the testing process, including the number of test cases executed, pass rate, fail rate, and open defects.

**10. Risk Management**

Identified risks, their potential impact, and mitigation strategies are outlined:

* Risk: Potential security vulnerabilities due to sensitive customer data.
  + Impact: Breach of customer information.
  + Mitigation: Regular security testing, encryption of sensitive data.
* Risk: Inadequate test data for specific scenarios.
  + Impact: Incomplete testing, missed defects.
  + Mitigation: Prepare comprehensive and varied test data sets.

**11. Change Control**

The change control process manages changes during testing to avoid disruptions:

* Change Request: Any changes in requirements or functionality.
* Impact Analysis: Assessing the impact of the change on the testing scope, schedule, and resources.
* Approval: Change approved only after assessing potential risks and benefits.
* Implementation: Implementation of the approved change with proper testing.

**12. UAT and Sign-off**

User Acceptance Testing (UAT) involves the following steps:

* Approach: Stakeholders will validate the application's readiness for production.
* Entry Criteria: Successful completion of system testing and approval of test results.
* Exit Criteria: Stakeholders' approval and confirmation of the application's readiness for production.