



Master Test Plan

Guru99 Banking Website (GBW)

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Approvals

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1 Introduction

This is the Master Test Plan for the initial/base release version of the Guru99 Banking Website. As the system is deemed trivial, this plan will cover all the necessary plans for every testing level of this website. The primary focus of this plan is to ensure that the initial release will contain the basic banking transactions, reports and modules and be proven acceptable by the stakeholders that approved the inclusion of said features.

Test Levels will include Component/Unit, System/Integration and User Acceptance. Details of each level will be discussed at the Approach Section of this document.

The estimated time line for the project is 5 Days. This will need to make sure that processes must be firmly established, documents reviewed/standardized, test environments sanity tested, testing tools provided and personnel properly trained.

2 References

Document Ref. No.	Document Type	Document Name
SRS-180816-01	SRS	SRS-180816-01_Guru99 Banking Website (1.0)
N/A	Jira Story Tickets	Guru99 Banking Website (GBW)

3 Test Items

The system to be tested is the Guru99 Banking Website System specified at SRS-180816-01. The following is the list, by version and release, of the items to be tested:

3.1 Guru99 Banking Website, Version 1.0

Website will be tested based on the User Roles available: (1) Manager & (2) Customer. For the **Manager** Role, the following are the modules for testing:

- Login
- Manager Registration
- Balance Inquiry
- Fund Transfer
- Change Password
- Mini Statement
- Customized Statement
- New Customer
- Update Customer
- Delete Customer
- New Account
- Update Account
- Delete Account
- Deposit
- Withdraw

For the **Customer** Role, the following are the modules for testing:

- Login
- Balance Inquiry
- Fund Transfer
- Change Password
- Mini Statement
- Customized Statement

4 Software Risk Issues

Probable Software Risks may include the following:

4.1 Project Risks

Risk	Description
Banking Domain Knowledge of Staff	Developers and Testers will need to be oriented on Banking Domain Knowledge since most of the staff doesn't have experiences on this. SME's or personnel that may conduct this orientation may need to be informed of this need or some readable materials may be researched and disseminated to the staff for this to be resolved.

4.2 Product Risks

Risk	Description
Bulk Simultaneous Website Users	Website is intended to be released to the public but it was clearly specified that Performance Testing will not be prioritized and performed. This may lead to possible performance complaints from end-users.
Erroneous Computations on Transactional Modules	Data Accuracy especially on report-type modules will need to be one of the main focuses of testing since these data are critical for customers especially on a Banking Domain.
Customer and Account Deletion / Orphaned Transactions	Users are capable to delete Customers and their respective Bank Accounts on the website which means transaction records performed for the account such as Deposit, Withdrawal, Fund Transfer, etc. will be orphaned. Tracking the Customers and Accounts that performed these transactions may be difficult.
Module Access Control	The system has two (2) User Roles: Manager & Customer. Modules that can be accessed by the Customer Role are suitable for the users that will be assigned the role: Guru99 Bank Customers. This is not the case for the Manager Role. The role will be assigned to all Bank Division users which enable users to access modules that they shouldn't have access to. This will then need to be controlled by a manual process up until such time that a new phase of the project provides a resolution to this issue.

5 Scope

5.1 Features to be Tested

#	Feature	Risk
1	User Login	High
2	Manager and Customer User Maintenance (Add, Edit & Delete)	High
3	Bank Accounts Maintenance (Add, Edit & Delete)	High

#	Feature	Risk
4	Transactions <ul style="list-style-type: none"> • Balance Inquiry • Deposit • Withdraw • Fund Transfer 	High
5	Reports <ul style="list-style-type: none"> • Mini Statement • Customized Statement 	High
6	Web Browser Compatibility (Google Chrome only)	High

5.2 Features not to be Tested

#	Feature	Risk
1	Web Browser Compatibility (Mozilla Firefox, Microsoft Edge, Opera, etc.)	High
2	Non-functional Characteristics (Stress, Endurance, etc.)	High

6 Approach

6.1 Testing Levels

The testing of the Guru99 Banking Website project will consist of Component/Unit, System/Integration and User Acceptance Testing levels.

6.1.1 Unit Testing

- Testing should be performed by the Developer Team. The Development Team Leader may decide whether the testing will be done by the developer assigned for the component or by another developer so that independence may still be attained.
- Developer assigned for the testing may need to develop drivers / stubs or create data directly to database in order to carry out the testing.
- Bugs found during testing will be directly debugged and may not be created with issue tickets. Some information may need to be noted / recorded which will be discussed later at the specification of Measures and Metrics for this test level.

6.1.2 System/Integration Testing

- Testing should be done by the Testing Team. As the application is deemed to be a trivial one, a single dedicated tester can be assigned.
- No specific Test Execution Tools are needed since most test cases that will be created can be done manually. But moving forward, some of the test cases may need to be automated and be tagged as Regression Test Cases since it is planned to further improve the website with additional functionalities.
- Test Execution and details of it should be recorded on a Test Management Tool by which details will be discussed on specification of Testing Tools and Measures and Metrics for this test level.
- All failed Test Cases will need to have an Issue Ticket created for them at an Issue Tracking Tool by which details will be discussed on specification of Testing Tools and Measures and Metrics for this test level. The issue ticket must be assigned to a developer (preferably the developer handling the component). The developer should debug the issue and after debugging produce a patch for the bug fix. While developers

are the debugging the issue, the tester that found the bug need to create test cases for Confirmation Testing of the bug. Patch produced will be applied by tester to the Test Environment and perform Confirmation Testing.

6.1.3 User Acceptance Testing

- Testing should be done by the end-users with the assistance of the Tester assigned during System/Integration Testing.
- The Tester may need to perform an orientation or user training of the website to the end users first prior to performing acceptance testing. The Tester may also present the main use case scenarios as part of the acceptance testing during the user training.
- End users will decide based on the result of the acceptance testing whether the system can be installed to production or be improved again depending on issues encountered. Issues brought up by the end users will need to be created with tickets in an Issue Tracking Tool.

6.2 Configuration Management/Change Control

Configuration Management Software will be utilized for controlling versions of the system. A development and testing branch will be created so as to separate changes made by developers to branches being tested. During Software Development and Unit Testing, developers will build using the Development Branch. After end of Unit Testing, changes made will be applied to the Testing Branch and there an official patch will be created. Release Engineering Group will handle each build depending on which group requests the build.

6.3 Testing Tools

6.3.1 Issue Tracking Tool

The existing ATlassian JIRA software of the company will be used as the Issue Tracking Tool. A new project will be created for the Guru99 Banking Website with a Scrum Project Type. All documented requirements will be created as "STORY" Tickets. Bugs/Issues found during System/Integration/Acceptance Testing Levels will be created as "BUG" Tickets.

6.3.2 Test Management Tool

The existing TESTLINK software of the company will be used as the Test Management Tool and application will be linked to the Issue Tracking Tool. A new project will also be created for the Guru99 Banking Website. Requirements and Test Cases will be created here for traceability. Test Execution of Test Cases will be recorded in this application as well.

6.3.3 Configuration Management Tool

GITHUB will be used as the File Repository/Version Control Tool while Jenkins will be used as the Build Management Tool

6.4 Meetings

- Daily Scrum Meetings
- Sprint Retrospective

6.5 Measures and Metrics

The following information will be collected by the Development Team during the Unit testing process. This information will be provided to the test team at program turnover.

- Defects by module and severity
- Defect Origin (Requirement, Design, Code)
- Time spent on defect resolution by defect, for Critical & Major only. All Minor defects can be totaled together.

The following information will be collected by the test team during all testing levels. This information will be provided on a biweekly basis to the test manager and to the project team.

- Defects by module and severity
- Defect Origin (Requirement, Design, Code)
- Time spent on defect investigation by defect, for Critical & Major only. All Minor defects can be totaled together.
- Number of times a program submitted to test team as ready for test.
- Defects located at higher levels that should have been caught at lower levels of testing.

7 Item Pass/Fail Criteria

7.1 Unit Testing

- 100% Statement/Decision Coverage
- All Test Cases executed
- 90% Passing Rate with only minor defects per Module (No major defect (Significant or Severe))

7.2 System/Integration Testing

- 100% Requirements Coverage
- All Test Cases executed
- 90% Passing Rate with only minor defects (No major defect (Significant or Severe))

7.3 Acceptance Testing

- All Test Cases executed
- Acceptance Certification

8 Suspension Criteria and Resumption Requirements

- Failed Sanity Testing
- Major Defects that will block the Testing Flow such as defects on Manager and Customer User Registration.
- Other Major Defects on other modules that will not constitute a blockage of the Testing Flow will only cause to suspend testing on that specific module. Testing efforts will then be diverted on other testable modules while defects found are being debugged.

9 Test Deliverables

9.1 Unit Testing

- Technical Specification
- Test Cases
- Unit Testing Report
- Defect Density/Clustering Report

9.2 System/Integration Testing

- Test Cases
- System/Integration Testing Report
- System Manual
- Release Notes

9.3 Acceptance Testing

- Acceptance Certificate

10 Remaining Test Tasks

#	Task	Assigned To
1	Test Case and Procedures Creation (Unit Testing)	Development Team
2	Test Case Approval (Unit Testing)	Development Team Lead
3	Unit Test Execution	Development Team
4	Test Case and Procedures Creation (System/Integration Testing)	Testing Team
5	Test Case Approval (System/Integration Testing)	Testing Team
6	System/Integration Test Creation	Testing Team
7	Acceptance Testing	Testing Team, Client

11 Environmental Needs

- Access to servers that can be used as a Web Server and/or Database Server that will host the Banking Website. Development and Testing Teams should have separate servers for use in testing of the website.
- Both Development and Testing Teams will utilize their local computer terminal for accessing the website for testing.

12 Staffing and Training Needs

There should be at least one (1) dedicated tester for the System/Integration Testing. The same tester will need to be assigned to orient or train the Client for use of the Banking System prior to Acceptance Testing. The tester can be a part time

Orientation or Training for Banking Domain Knowledge should be provided for Development and Testing Teams. A walkthrough of the SRS will need to be performed for the Development and Testing Team personnel assigned for the project as well.

13 Responsibilities

#	Task	PM	RM	Dev Lead	Dev Team	Test Lead	Test Team	Client
1	Master Test Plan Walkthrough/Approval	o		o	o	o	o	
2	Technical Specification Creation/Approval	o		o	o			
3	Unit Test Case Creation/Approval	o			o			
4	Unit Test Execution				o			
5	Unit Test Report Creation/Approval	o		o	o			
6	Defect Density Report Creation/Approval	o		o	o	o	o	
7	System/Integration Test Case Creation/Approval	o				o	o	
8	System/Integration Test Execution						o	
9	System/Integration Test Report Creation/Approval	o				o	o	
10	System Manual Creation/Approval					o	o	o
11	Release Notes	o	o	o	o	o	o	
12	Acceptance Test Execution	o				o	o	o
13	Acceptance Certification	o				o	o	o

14 Schedule

See Project Time Line.

15 Planning Risks and Contingencies

- Since there is only one (1) dedicated tester, the said staff will need to be present most of the project's duration. But in the case of the assigned staff resigning, the Test Lead will need to assign another tester immediately while the resigning staff will have the responsibility to turn over project details to the new assigned tester. In case of unforeseen circumstances such as sickness, the Test Lead will assign also another tester and would perform orientation of the project details. The Test Lead then have the responsibility to be informed of the project's details so in case such scenarios happen, project will resume with minor changes with the time line or effort in keeping the project back on track.
- In case of potentially not meeting target release date due to a severe number of defects, unforeseen delays, etc., stakeholders may need to decide whether to release the system on a later date or to reduce the number of test cases to be executed based on their priority.