

Design Document Version 0.0

Description of Project

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Version History

REVISION CHART			
Version	Author(s)	Description of Version	Date Completed
0.1			
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Document Approval

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1 Introduction

Give a brief introduction of the system or application.

1.1 Purpose of this document

Describe the purpose of the document and the intended audience.

1.2 Scope

Describe the scope of the requirements specification (and what is outside of scope).

1.3 References

Identify sources of information used to develop this document.

1.4 Outstanding Issues

List the issues or problems that are known to be outstanding with this revision.

2 Design Overview

Give a brief introduction to the system or application.

2.1 Purpose of this document

Describe the purpose of the document, and the intended audience. Describe the scope of this requirements definition effort and outline the requirements elicitation team, such as users, customers, system engineers and software developers.

You can also detail any constraints that were placed upon the requirements elicitation process, such as schedules, costs, or the software engineering environment used to develop requirements.

2.2 Application Overview

Provide a brief overview of the product as it was defined after the requirements elicitation process.

2.3 Current Process

Describe the current process that is in place (if one exists).

2.4 Proposed Process

Describe the proposed process.

2.5 Business Context

Provide an overview of the business organization and project stakeholders sponsoring the development of this product. This overview should include the business's mission statement and the company's objectives and goals.

2.6 Background Information

Outline any background information that is relevant to this document.

2.7 Related Documents

List any documents that are related to the specification i.e. technical specifications and administration guides. Include the version number if appropriate.

3 Assumptions / Risks / Issues / Dependencies

This section lists the assumptions, issues and risks involved in the project.

3.1 Assumptions

This section lists the main assumptions regarding the functional specification.

Ref	Assumption	Impact
1		
2		
3		
4		
5		
6		
7		
8		

Table 1 - Assumptions

3.2 Issues / Risks / Dependencies

This section lists issues and risks regarding the functional specification.

Ref	Issue / Risk /Dependencies	Recommended Action
1		
2		
3		
4		
5		
6		
7		
8		

Table 2 – Issues and Risks

4 Scope of Work

Describe here the requirements that were requested by the customer.

4.1 Performance Requirements

Describe the performance requirements.

4.2 Security and Control Requirements

Describe security and control requirements.

4.3 Hardware Interfaces

Describe interfaces to hardware devices.

4.4 Communications Interfaces

Describe the network interfaces.

4.5 Software Interfaces

Describe any remaining software interfaces not included above.

4.6 Design Constraints

Specify any constraints for the design team using this document.

- Standards Compliance
- Hardware Limitations
- And others as appropriate

5 General Description

5.1 Product Functions

Describe the general functionality of the product, which is discussed in detail below.

5.2 Similar System Information

Describe the relationship of this product with any other products. State if the product is intended to be stand-alone or used as a component of a larger product. If the latter, outline here the relationship of this product to the larger product.

5.3 User Characteristics

Describe the features of the user community, including their expected expertise with software systems and the application domain.

5.4 User Problem Statement

Describe the essential problem(s) currently confronted by the user community.

5.5 User Objectives

Describe the set of objectives and requirements for the system from the user's perspective. It may include a "wish list" of desirable characteristics, along with more feasible solutions that are in line with the business objectives.

5.6 General Constraints

List the general constraints placed upon the design team, such as speed requirements, industry protocols, hardware platforms etc.

6 System Design

Give an overview of the system that is to be developed as per the customer's requirements. Then extend it into a general design of the system and for a large system, broke it into modules, which can be sub-divided as required.

6.1 System Architecture

This section covers the general architectural decisions that have been made.

6.2 Modules and Interaction

For a large system, describe the modules that will make up the system and how they interact with each other.

7 Detailed Design

7.1 [Module 1]

7.1.1 Data Model

This section outlines the data model used, including a description of the different objects, their methods and their properties.

7.1.2 User Interfaces and Functionality

This section outlines the data model used, including a description of the different objects, their methods and their properties.

7.2 [Module 1]

7.2.1 Data Model

This section outlines the data model used, including a description of the different objects, their methods and their properties.

7.2.2 User Interfaces and Functionality

This section outlines the data model used, including a description of the different objects, their methods and their properties.

8 Non-Functional Requirements

This section describes how non-functional requirements, such as performance, security, licenses and language support are managed.

9 Testing and Quality Assurance

9.1 Test Plan Objectives

This Test Plan for the new system supports the following objectives:

- Define the activities required to prepare for and conduct System, Beta and User Acceptance testing.
- Communicate to all responsible parties the System Test strategy.
- Define deliverables and responsible parties.
- Communicate to all responsible parties the various Dependencies and Risks

9.2 Test Strategy

The test strategy consists of a series of different tests that will fully exercise the system. The primary purpose of these tests is to uncover the systems limitations and measure its full capabilities. A list of the various planned tests and a brief explanation follows below.

9.3 System Test

The system test will focus on the behavior of the system. User scenarios will be executed against the system as well as screen mapping and error message testing. Overall, the system tests will test the integrated system and verify that it meets the requirements defined in the requirements document.

9.4 Performance Test

Performance test will be conducted to ensure that the system's response times meet the user expectations and does not exceed the specified performance criteria. During these tests, response times will be measured under heavy stress and/or volume.

9.5 Security Test

Security tests will determine how secure the new system is. The tests will verify that unauthorized user access to confidential data is prevented.

9.6 Automated Test

A suite of automated tests will be developed to test the basic functionality of the system and perform regression testing on areas of the systems that previously had critical/major defects. The tool will also assist us by executing user scenarios thereby emulating several users.

9.7 Stress and Volume Test

Stress and volume testing will subject the system to high input conditions and a high volume of data during the peak times.

9.8 Recovery Test

Recovery tests force the system to fail in a various ways and verify the recovery is properly performed. It is vitally important that all data is recovered after a system failure and that data was corrupted.

9.9 Documentation Test

Documentation tests are conducted to check the accuracy of the user documentation. These tests will ensure that no features are missing, and the contents can be easily understood.

9.10 Beta Test

User Groups beta test the new system and will report any defects they find. This will subject the system to tests that could not be performed in our test environment.

9.11 User Acceptance Test

Once the system is ready for implementation, the user groups perform User Acceptance Testing (UAT). The purpose of these tests is to confirm that the system is developed according to the specified user requirements and is ready for operational use.

9.12 Environment Requirements

9.12.1 Data Entry workstations

Describe the workstation/PC requirements, for example:

- 20 IBM compatible PCs
- 286 processor

- 4MB RAM
- 100 MB Hard Drive
- DOS 3.3 or higher
- Attached to Banyan Vines network
- A Network attached printer
- 20 user ids and passwords

9.12.2 MainFrame

Describe the workstation/PC requirements, for example:

- Attached to the Banyan Vines network
- Access to a test database

9.13 Test Schedule

Describe the test schedule, for example:

- System Test
- Beta Test
- User Acceptance Test

9.14 Control Procedures

9.14.1 Reviews

The project team will perform reviews for each Phase, (e.g. Requirements Review, Design Review, Code Review, Test Plan Review, Test Case Review and Final Test Summary Review).

9.14.2 Bug Review meetings

Hold regular weekly meeting to discuss reported defects. The development department will provide status/updates on all defects reported and the test department will provide addition defect information if needed. All member of the project team will participate.

9.14.3 Change Request

Once testing begins, changes to the system are discouraged. If functional changes are required, these proposed changes will be discussed with the Change Control Board (CCB). The CCB will determine the impact of the change and if/when it should be implemented.

9.14.4 Defect Reporting

When defects are found, the testers will complete a defect report on the defect tracking system. The defect tracking systems is accessible by testers, developers & all members of the project team. When a defect has been fixed or more information is needed, the developer changes the status of the defect to indicate the current state. Once a defect is verified as FIXED by the testers, the testers will close the defect report.

9.15 Functions To Be Tested

The following is a sample list of functions to be tested:

- Security features
- Error messages
- Report Printing
- Screen mappings

A Requirements Validation Matrix will “map” the test cases back to the requirements.

9.16 Resources and Responsibilities

The Test Lead and Project Manager determine when system test will start and end. The Test lead is responsible for coordinating schedules, equipment, & tools for the testers as well as writing/updating the Test Plan, Weekly Test Status reports and Final Test Summary report. The testers are responsible for writing the test cases and executing the tests. With the help of the Test Lead, the Payroll Department Manager and Payroll clerks will be responsible for the Beta and User Acceptance tests.

9.17 Resources

List the sample team, for example:

- Project Manager
- Test Lead
- Testers

9.18 Responsibilities

Describe the sample team responsibilities:

Role	Responsibility

10 Deliverables

10.1 Deliverables Schedule

Tabulate the deliverables, identify who is responsible and the completion date:

Deliverable	Responsibility	Completion Date

10.2 Suspension / Exit Criteria

If any defects are found which seriously impact the test progress, the QA manager may choose to Suspend testing. Criteria that will justify test suspension are:

- Hardware/software is not available at the times indicated in the project schedule.
- Source code contains one or more critical defects, which seriously prevents or limits testing progress.
- Assigned test resources are not available when needed by the test team.

10.3 Resumption Criteria

If testing is suspended, resumption will only occur when the problem(s) that caused the suspension has been resolved. When a critical defect is the cause of the suspension, the “FIX” must be verified by the test department before testing is resumed.

10.4 Dependencies

10.4.1 Personnel Dependencies

Identify who the test team requires to develop, perform and validate tests.

10.4.2 Software Dependencies

Ensure that the source code is unit tested and provided within the scheduled time outlined in the Project Schedule.

10.4.3 Hardware Dependencies

Ensure that the hardware, i.e. mainframe, PCs and LAN are available during normal working hours. Any downtime will affect the test schedule.

10.5 Test Data

Test data is required for the testers for use during testing.

10.6 Risks

Identify the potential risks that the project may encounter, for example: .

10.6.1 Schedule

Ensure that the schedule for each phase is managed as a slip in the schedule in one of the other phases could result in a subsequent slip in the test phase.

10.6.2 Technical

Since this is a new system, in the event of a failure the old system can be used. We will run our test in parallel with the production system so that there is no downtime of the current system.

10.6.3 Management

Management support is required so when the project falls behind, the test schedule is not squeezed to make up for the delay. Management can reduce the risk of delays by supporting the test team throughout the testing phase and assigning people to this project with the required skills set.

10.6.4 Personnel

Due to the aggressive schedule, it is very important to have experienced testers on this project. Unexpected turnovers can impact the schedule. If attrition does happen, all efforts must be made to replace the experienced individual

10.6.5 Requirements

The test plan and test schedule are based on the current Requirements Document. Any changes to the requirements could affect the test schedule and will need to be approved by the CCB.

10.7 Documentation

The following documentation will be available at the end of the test phase:

- Test Plan
- Test Cases
- Test Case review
- Requirements Validation Matrix
- Defect reports
- Final Test Summary Report

10.8 Approvals

The following approvals are required to sign-off the project:

Name	Signature	Date
1.		
2.		
3.		
4.		
5.		

11 References

List all referenced documents