Test Plan For Accounts Payable System

Version 1.0

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Table of Contents

1. Test Plan Identifier

Test Plan-v1.0

Revision History

Date	Version Num	Contributor	Description
04/28/2005	1.0	Ramya Sivaraman	Initial Test plan

2. References

The following document will be referred which will serve as a basis for testing the system:

- Software Requirement Document – Revision 17

3. Introduction

The new Accounts Payable System (APS) shall be an interactive online check printing system that will support both U.S and foreign payees. The system shall provide daily and weekly reports and interface with General Ledger application, which runs on the VAX.

The new APS system will be web based and available only to the company's intranet users, and support user authentication and permissions based on job role.

The availability and performance requirements are as follows:

- Availability of [M:99.5%, D:99.9%, B:100%] of the work day
- Able to print [M:8,700, D:10,000, B:15,000] checks per day
- Support [M:100, D:150, B:200] simultaneous users.

where ((M - Morning 7AM to 12 noon), (D -Day 12 noon to 6 PM), (B - Batch 6PM to 11PM)).

The preceding test plan is based on the software requirement document - revision 17 . The test plan will be designed in order to test all the requirements mentioned within the software requirement document, section 'Stakeholder Requirements'.

4. Objective

The objective of this test plan is :

- Define the strategy for performing System Testing
- Communicate to all responsible parties the tasks that they are to perform and the schedule they have to follow in performing the tasks.
- Define test tools and environment needed to conduct the system test.
- Highlight the risks involved.
- Identify defects so that they are corrected.
- Provide overall direction for testing activities.
- Conduct testing to determine if all the requirements mentioned in the requirement specifications are satisfied.

5. Scope

5.1 Functions to be tested

- **Usability**
  (i) Web based
  (ii) Available only on company's intranet

- **Security**
  (i) Login with username/ password
  (ii) One job function per user
  (iii) Privileges and access provided based on job function(role) as mentioned in the requirement document (section 2.3)

- **System Availability**
  (i) Availability of [M:99.5%, D:99.9%, B:100%] during work day.
  ((M - Morning 7AM to 12 noon), (D -Day 12 noon to 6 PM), (B - Batch 6PM to 11PM))
  (ii) Availability, Monday through Friday
  (iii) Start and end of system calendar week to be the same as mentioned in requirement document (section 3.5)

- **Data Entry**
  (i) Enter payment information, view and edit payment information as per the job

function roles as specified in the requirement spec (section 2.3 & section 4).
(ii) Check payee data entry screen and for functionalities as per the requirement document(section 5.1)
(iii) Enter and check Greeting Message as per the requirement document(section 5.2)

- **Check Printing**
  (i)Checks with face value equal to or less than $1000 have one signature line.
  (ii)Checks with face value more than $1000 have two signature lines.
  (iii)Country specific information, Greeting Message details, '$' sign details as provided in the requirement document(section 6).

- **Reports**
  (i) Daily Report
  (ii) Weekly Report
  (iii) Check Review
  All reports are validated and checked if all the specifications specified on the requirement document (section 7) are met.

- **Technical Requirements**
  (i) System Performance
  (ii) Hardware Requirements
  (iii) Software Requirements
  (iv) Interface Requirements
  To check if all the requirements are met as per requirement document(section 8).

- Data Element Definition
  To check if company standards are met for editing as per the requirement document (section 10).

5.2 Functions not to be tested

None

6. Schedule

Actual Testing will be conducted from May 27th 2005 to June 30th 2005

Date	Pre-Requisites (Prior May 27th 2005)	Main Testing Activities(May 27th 2005 to June 20th 2005)	Post Test Cycle June 20th to June 30th 2005
April 28th 2005 - May 5th 2005	Prepare Test Plan		
May 6th 2005 - May 7th 2005	Review Test Plan		
May 8th 2005 - May 13th 2005	Draft test scripts		
May 14th 2005 - May 20th 2005	Generate test data and set up QA environment		
May 21st 2005 - May 26th 2005	Move Code to QA Environment and Ensure stability		
May 27th 2005 - June 20th 2005		Test Cases are executed and problem reporting is done simultaneously Test results are drafted with number of test cases executed showing pass/fail results The risks are identified to go live	
June 20th 2005 - June 30th 2005			Final Test Summary Review and Decide go/no go

Note : June 20th to June 25th 2005 is the Buffer period

7. Approach

The following tests will be performed to check the functionalities listed in the Section 5.1 of this document. These tests also use tools listed in section 12 of this document. Any limitations in the system will also be detected.

7.1 Volume/Stress Test

Volume test involves subjecting the system to a heavy volume of data or users. Performance under these conditions is gauged.

The following specifications need to be checked:

7.1.1) The System shall print [M:8700,D:10,000,B:15,000] checks per day.
where M: 7 to 12 am, D: 12 to 6 pm and B is 6 to 11 pm

Methodology:

Use automated tools to print the following number of checks at different times of the day.
M: 1, 3, 42, 133, 2023, 8700
D: 2,5,54,345,5000,9600,10000
B: 8, 78,55,678,8900,15000.

7.1.2) The system shall support [M:100 D:150 B:200] simultaneous users.
where M: 7 to 12 am, D: 12 to 6 pm and B is 6 to 11 pm

Methodology:

Use automated test tools to simulate multiple users at different times of the day.
M: 1, 5, 17, 52, 100
D: 3,6,28,55,104,125
B: 7,8,23,74,128,150

7.1.3) The availability of the system is checked according to the requirement specification.
[M: 99.5%, D: 99.9%, B: 100%].

Methodology:

Test availability by running the system for the following number of simulated work days:
1,4, 7,10

7.2 Functional Test

The functional test ensures that all the functions specified in the requirement document are present and working in the system. The functions to be tested are listed in Section 5.1 of this document.

Methodology:

Check reports to make sure test cases for all the functions specified in section 5.1 are created and executed.

7.3 Environment Test

Environment tests are performed to ensure that the system works on the targeted hardware and software platforms.

The following specifications need to be checked:

- The system must run on company's AS400 platform
- To check if the system is compatible with company's browser standards
- To check if system is web based and available only to company's intranet.
- To check if AP system interfaces with General Ledger Application which runs on VAX.

Methodology :

A test lab having the systems with the required specifications is used to test if the systems work in targeted hardware and software platforms.

7.4 Security Test

Security test ensures that the system is not accessed by someone who is not authorized.

The following specifications need to be checked:

- Test that access is available only on on company intranet
- Test that access is provided to users with proper user name/password
- Test that each user can only have one job function
- Test that each job function has proper access & privileges based on the job function

Methodology :

- Attempt to access the system from unauthorized account by giving username and password other than company's intranet users.
- Attempt to obtain passwords of users by breaking the code.
- Attempts to access the system from outside of the physical location of the system.
- Check systems lock outs are functioning correctly.

- Attempts to access privileges that do not belong to the job function or role.

7.5 Recovery Test

Recovery test will force the system to fail in different ways and then gauge if recovery is properly performed.

The following specifications need to be checked:

- The system must able to recover data from the History File incase of a power failure or any hardware problem.
- The records on the system are not corrupted in the event of a power failure.

Methodology:

- Use failure simulator to emulate a power loss while the system is in use.
  and check if system runs in less than 5 minutes.
- Make hardware to fail manually to check the recovery of the system.
- Also emulate network down time and connection errors using simulator while the system is in use

7.6 Beta Test

Beta testing is performed when the entire system is ready. This will involve giving the system to the APS and GL department employees to be used for quick feedback on the system as well as to report any defects**.**

7.7 User Acceptance Testing

The purpose of this test is to confirm that the system is developed according to the specified user requirements and is ready for operational use. Participants are Test team, AP department, GL department, Controller, IT Finance Tech Lead.

8. Dependencies

8.1 Software Dependencies

- The source code and supporting documents must be unit tested by the software developers - each functional unit of code is unit tested for basic i/o and error handling checks and provided to the testing team within the scheduled time outlined in the Project Schedule i.e by **May 20th 2005.**

8.2 Personnel Dependencies

- The test team will require 3 clerks from the Accounts Payable department to perform Beta Tests from **June 10th 2005 to June 15th 2005.**

9. Environmental Needs

The following tools will be needed for conducting the system tests:

9.1 Hardware

- AS400 platform
- 10 IBM PCs
- 10 printers
- 70,000 blank checks

9.2 Software

- Compatible with Company's Browser.
- All the tools specified in the tools section of this test plan are required.(section 12)

9.3 Interface

- General Ledger application is set up well ahead so that AP system shall interface with it.

9.4 Communication

- Interconnection to GL system

10. Resources and Responsibilities

10.1 Staffing Needs

- Project Manager
- Accounts Payable Supervisor
- General Ledger Accountant
- Development Lead
- Test Lead
- 10 Testers
- 3 Accounts Payable Clerks
- IT Finance Tech Lead

10.2 Roles & Responsibilities

Role	Responsibilities
Project Manager	• Monitor the schedule of the project and ensure its success. • In charge of the project hence will make the final calls on all issues. • Review and Sign off of test plan. • Member of CCB.
Accounts Payable Supervisor & General Ledger Accountant	• Coordinate the interaction with the AP /GL department. • Assign the necessary resources from the AP/GL department for performing beta testing. • Review and Sign off of test plan. • Members of CCB. • Participate in Acceptance Testing
Development Lead	• Coordinate the interaction with the development team. • Ensure the unit tests are done and results are provided to test team. • Conduct Staff trainings. • Review and Sign off of test cases. • Member of CCB.
Test Lead	• Monitor the tests performed.

	● Coordinate schedules, equipment, tools needed for testing. ● Coordinate the interaction with the test team. ● Update the Test Plan as well as create status reports. ● Conduct Testers trainings. ● Ensure the delivery of the test documents at the end of the test phase. ● Member of CCB
Testers	● Write the test cases for the tests. ● Perform the various tests that have been identified in the Test Plan.
AP Clerks	● Perform Beta Testing ● Perform Acceptance Testing
IT Finance Tech Lead	● Participate in Acceptance Testing

11. Tools

- JIRA bug reporter tool for submitting problem report.
- Subversion (SVN) for source code management.
- Test scripts will be drafted on a word document and executed manually towards the application.
- Selenium, automated test tool to conduct regression testing.
- Java, Perl/shell scripting to develop automation tool.

12. Risks

12.1 Schedule Risks

(i) Risk : When the project tasks and schedule are not well measured, then it may push testing beyond the forecasted completion time and the delivery of the whole project will be delayed.

Mitigation : A safety margin is added to ensure that the tasks can be completed on time. If additional time is needed for a task, the the buffer time is consumed.

(ii) Risk : Delay in completing the APS software development, causing the start of testing to be

delayed.

Mitigation : Buffer time can be utilized, in worst cases Testing manager will assign extra resources to assist testing activities so that testing is completed on time.

12.2 Operational Risks

(i) Risk: No proper subject training .

Mitigation : Online and printed training methods are utilized.

(ii) Risk: No communication in team

Mitigation : Regular meetings are conducted to improve communication and the agenda and outcome of each meeting is shared across various teams involved in this activity.

12.3 Functionality Risks

(i) Risk: Risk of failure of functionality and performance of new system.

(ii) Mitigation : In the event of failure of new system, the new system is run in parallel with the old system to ensure consistency.

13. Entrance Criteria

- Complete software system developed and available by development team
- Unit and integration testing completed by development team with list of functions with list of functions tested and not tested

For the above two criterias :

- ❏ Proper sign offs from development team regarding completion of code and unit testing must be provided.
- ❏ Code review meetings conducted by development team and approved by reviewers. Official sign offs of code review document & and meeting minutes must be provided.

- A software testing environment closely resembling the production environment must be available.
- Test data must be available.

14. Exit Criteria

- Execution of all test cases and completion of all system testing by testing team.
- Execution of beta testing by GL and AP department.
- No open P1 or P2 bugs
- If any medium priority P3 or low priority P4 errors are outstanding - the implementation risk must be signed off as acceptable by Business Analyst.
- Test summary report complete and signed off testing manager.
- System successfully deployed to the environment.
- All the planned requirements must be met and planned deliverables are ready.

15. Problem Reporting

- As test cases are being executed, problem reporting is done simultaneously.
- When a problem is discovered, the tester will complete and submit a problem report to the Test Lead who will decide if the problem should be forwarded to the developers. Test Lead also eliminates duplicate problem report before forwarding.
- The Project Manager will officially close all reports when retesting is completed satisfactorily.
- At the end of the testing phase a summary report will be prepared and routed to appropriate individuals. This report contains the number of problems discovered, magnitude of the problems, and explanation of any existing problems

.The defect severity and priority levels are defined as follows:

P1 – Critical (Functions missing)

P2 – High (Function not performing as required)

P3 – Medium (Errors that don’t bring operation to a halt)

P4 – Low (Spelling errors)

Software Problem Report Template

This section provides a sample template for reporting software problems that are discovered during the course of performing the test cases detailed in this document.

SOFTWARE PROBLEM REPORT **Problem Report ID** _____

PROGRAM _____ RELEASE _____ VERSION _____

REPORT TYPE
- ☐ Coding Error ☐ Documentation
- ☐ Design Error ☐ Hardware
- ☐ Suggestion ☐ Query

SEVERITY
- ☐ Fatal
- ☐ Serious
- ☐ Minor

ATTACHMENTS: ☐ Yes ☐ No
If yes, list attachments
_____
_____

PROBLEM SUMMARY _____

CAN YOU REPRODUCE THE PROBLEM? (Y/N) ___

PROBLEM AND HOW TO REPRODUCE IT _____

SUGGESTED FIX (optional) _____

REPORTED BY _____ DATE __/__/__

Items Below Are For Use Only By the Development Team

FUNCTIONAL AREA _____ ASSIGNED TO _____

COMMENTS _____

STATUS:
☐ Open ☐ Closed

PRIORITY
☐ High ☐ Medium ☐ Low

RESOLUTION:
- ☐ Pending ☐ Deferred ☐ Withdrawn by reporter
- ☐ Fixed ☐ As designed ☐ Need more info
- ☐ Irreproducible ☐ Can't be fixed ☐ Disagree with suggestion

RESOLUTION VERSION NO: _____

RESOLVED BY _____ DATE __/__/__

RESOLUTION TESTED BY _____ DATE __/__/__

TREAT AS DEFERRED: ☐ Yes ☐ No

16. Approvals

Test Manager

_____ _____

Name (in Print) Signature Date

Development Manager

_____ _____

Name (in Print) Signature Date

AP Chief Supervisor

_____ _____

Name (in Print) Signature Date

AP Accountant

_____ _____

Name (in Print) Signature Date

General Ledger Accountant

_____ _____

Name (in Print) Signature Date

Controller

_____ _____

Name (in Print) Signature Date

IT Finance Tech. Lead

_____ _____

Name (in Print) Signature Date

Project Manager

_____ _____

Name (in Print) Signature Date

17. Test Case Example

TEST CASE

Test Case# : TC_030 **Date :** 06/01/2005
Tested by : Ramya Sivaraman **Environment :** AS400 Platform
Product : Accounts Payable System
Req# Version : 17
Product Function: Check Printing
Pass/Fail : Fail

Title :
Check number of signature lines in checks based on face value of check amount

Entrance Criteria :
"Check Amount" is entered in the 'Payment Information Data Entry Screen'

Description:
Checks with face value less than or equal to 1000$ must print one signature line and checks with face value greater than 1000$ must print two signature lines.

Test Procedure:
1. Enter the check amount as "2000".
2. Enter the check amount as "2441".
3. Enter the check amount as "750"
4 .Enter the check amount as "101"
5 .Enter the check amount as "237"
6. Enter the check amount as "2"
7. Enter the check amount as "7"
8. Enter the check amount as "5555"
9. Enter the check amount as "4314"
10.Enter the check amount as "400000000".
11.Enter the check amount as "238912".
12. Enter the check amount as "1000" (Boundary value testing)

Expected Results:

1. System prints check with two signature lines.
2. System prints check with two signature lines.
3. System prints check with one signature line.
4. System prints check with one signature line.
5. System prints check with one signature line.
6. System prints check with one signature line.
7. System prints check with one signature line.
8. System prints check with two signature lines.
9. System prints check with two signature lines.
10. System prints check with two signature lines.
11. System prints check with two signature lines.
12. System prints check with one signature line.

Actual Results :

1. System prints check with two signature lines.
2. System prints check with two signature lines.
3. System prints check with two signature lines.**(Failure)**
4. System prints check with two signature lines.**(Failure)**
5. System prints check with two signature lines.**(Failure)**
6. System prints check with two signature lines.**(Failure)**
7. System prints check with two signature lines.**(Failure)**
8. System prints check with two signature lines.
9. System prints check with two signature lines.
10. System prints check with two signature lines.
12. System prints check with two signature lines. **(Failure)**

Comments :

1. System always prints checks with two signature lines.

2. Check Printing does not vary according to the face value.