


Test Plan

DOOR ACCESS SYSTEM VIA FINGERPRINT WITH GSM
(RESMART)

Independence Verification and Validation

Version : 1.0.0


Date : 04/12/2016

Project Title : RESMART Independent Verification and Validation		 Alpha Test-Co
Date : 04/12/2016	Test Plan ID: ReSMART_TP_1_1.0.0	

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1.0 Introduction

1.1 Purpose

This test plan support the following objectives:

- To detail the activities required to prepare for and conduct the system test.
- To communicate to all responsible parties the tasks that they are to perform and the schedule to be followed in performing the tasks.
- To define the sources of the information used to prepare the plan.
- To define the test tools and environment needed to conduct the system test.

1.2 Scope

The scope of testing only covers black box-functional testing for features developed in RESMART, from F001 to F008. This test plan only covers system level test, excluding unit test, static test, integration test, acceptance test, regression test, confirmation test and as well as other type of test not mentioned in this Test Plan. It would focus on meeting the requirement of the system and making sure that the system is fit for purpose.


1.3 References

The following IEEE standards have been referenced in preparation of this document:

- IEEE 829-1998 Standard for Software and System Test Documentation
- IEEE 829-2008 Standard for Software and System Test Documentation

The following documents provide the test basic for this test design:

- ReSMART Software Requirements Specifications (ReSMART_SRS_1.0)
- ReSMART System Design Specification (ReSMART_SRS_1.0)

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2.0 Details of Test Plan

2.1 Test Items

The following documents will provide the basis for defining correct operation:

- ReSMART System Requirement Specifications 1.0 (SRS)
- ReSMART Software Design Specifications 1.0 (SDS)


The test items include all system features in RESMART, as described in Section 2.2 below.

2.2 Test Traceability Matrix

The following table contains the functions in RESMART and its traceability:

Function ID	Risk Level	Description	Source of Function
F001	High	To allow manager to login into RESMART.	SRS
F002	High	To allow manager to add the staff to RESMART.	SRS
F003	High	To allow manager to search name of staff in RESMART.	SRS
F004	High	To allow manager to amend any data of the staff RESMART.	SRS
F005	High	To allow manager to delete the staff detail from database and in PIC.	SRS
F006	High	To allow manager to delete all staff from database and PIC.	SRS
F007	High	To allow manager to view the door access report.	SRS
F008	High	To allow manager to change password to a new one.	SRS

Table 2.2 Test Traceability Matrix

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2.3 Features To Be Tested

The following table contains the failures to be tested based on RESMART Software Requirement Specifications (SRS) for this iteration. Listed together are the function ID and its corresponding functions and estimated risk level.


Function ID	Description	Risk Level
F001	To allow manager to login into RESMART.	High
F002	To allow manager to add the staff to RESMART.	High
F003	To allow manager to search name of staff in RESMART.	High
F004	To allow manager to amend any data of the staff RESMART.	High
F005	To allow manager to delete the staff detail from database and in PIC.	High
F006	To allow manager to delete all staff from database and PIC.	High
F007	To allow manager to view the door access report.	High
F008	To allow manager to change password to a new one.	High

Table 2.2 Features To Be Tested

2.4 Features Not To Be Tested

Aside from the features listed in Section 2.2, other aspects of the system are not covered in this test plan. This includes:

- i. Operation procedure
This test plan is for system level test, operation procedure is not covered here.
- ii. Network security
This test plan is designed for functional test, security is not covered here.

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2.5 Approach

The test on RESMART is a system level functional test that focuses only on the functional part of the system. Testing will be using risk-based strategy.

This test will also be a black-box test where test cases are derived using black box testing techniques such as:

- i. Equivalence partitioning
- ii. Boundary value analysis
- iii. Decision table testing
- iv. State transition testing
- v. Use case testing

Testing will be executed in 2 iteration. First iteration is testing functionality of Session Verification features and second iteration will be testing all other features(except for Session Verification feature) as defined in Feature To Be Tested section. Dedicated testing environment will be used as defined in section 3.2.

Any defect found will be fixed in next release version.

2.6 Item Pass/ Fail Criteria

The system must satisfy the following criteria in order to pass:

- i. All test cases must be passed.
- ii. 0% calculation error in any function involving monetary transaction
- iii. No deadlock during operation.

Other than that, all test items must fulfill its requirement s stated in SRS.

2.7 Suspension Criteria and Resumption Requirements


Suspension Criteria:

In case where a Java-enabled environment is not available, all test will be suspended.

Resumption Requirement:

Java-enabled environment is prepared.

2.8 Test Deliverables

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The following documents will be generated by the system test group and will be delivered during the system testing.

Test documentation:

- i. Test Plan
- ii. Test Transmittal Report
- iii. Test Design Specifications
- iv. Test Case Specifications
- v. Test Procedure Specifications
- vi. Test Logs
- vii. Test Incident Reports
- viii. Test Summary Report

2.9 Entry Criteria

The following items are needed before the testing can begin:

- i. Requirements documents for ReSMART 1.1
- ii. Software Under Test: ReSMART 1.1

2.10 Exit Criteria

The following items are needed before the testing can end:


- i. All Test Deliverables in Section 2.8 Test Deliverables have been delivered to client.
- ii. Test execution has been completed.
- iii. Open defect at the end of final iteration shall be:
 - Zero fatal defects,
 - Zero major defect
 - <= three minor defects

3.0 Test Management

3.1 Planned Tasked and Activities

The following tables shows the set of tasks necessary to prepare for and perform testing for ReSMART.

No.	Task	Activities	Target Date
1	Test Planning	i. Define test project scope and objectives	

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	and control	ii. Requirement view iii. Identified risks, staffing and scheduling iv. Documenting test plan v. Technical review vi. Submission and approval of test plan.	
2	Test Analysis and Design	i. Analyzed product ii. Develop test design specification iii. Prepare test case specification	
3	Test Environment	i. Setup ReSMART ii. Identify and acquired test data	
4	Test Implementation and Execution	i. Prepare test procedure specification ii. Perform smoke test iii. Perform functional test iv. Record test result v. Analyze test result	
5	Documenting Test Summary Report	i. Summarize test result	
6	Documenting Test Closure	i. Collecting test process data from completed activities to consolidate experience, testware, facts and numbers.	
7	Test Complete	ii. Delivery of product to client.	

3.2 Environment & Infrastructure

3.2.1 Hardware

The following tables shows the hardware requirements of ReSMART that will be used to install ReSMART.


Hardware Name	
Manufacturer	
Keyboard	

Table 3.2.1 ReSMART Hardware Requirements

3.2.2 Software

The following tables shows the software requirements of ReSMART that will be used to install ReSMART.

Application Name	
Version	
Type of file	
Size of Application	

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Size on Disk	
Operating System	

Table 3.2.2 ReSMART Software Requirements


3.2.3 Publications

The following documents are required to support system testing:

- ReSMART System Requirements Specifications 1.0 (SRS)
- ReSMART Software Design Specifications 1.0 (SDS)

3.3 Responsibility and Authority

Name	Roles	Responsibilities
Dr Abdul Rahman Ahmed Mohammed Al- Sewari	Test Manager	<ul style="list-style-type: none"> Negotiating the ongoing purpose and deliverables of the test effort. Ensuring the appropriate planning and management of the test resources. Assessing the progress and effectiveness of the test effort. Advocating the appropriate level of quality by the resolution of important defects. Advocating an appropriate level of testability focus in the software development process.
Normaliana Che Zahari	Test Lead	<ul style="list-style-type: none"> Deploying and managing the appropriate testing framework to meet the testing mandate. Implementing and evolving appropriate measurements and metrics. <ul style="list-style-type: none"> To be applied against the product under test. To be applied against the Testing Team. Planning, deploying, and managing the testing effort for any given engagement / release. Managing and growing Testing assets required for meeting the testing mandate: <ul style="list-style-type: none"> Team Members Testing Tools Testing Process Retaining skilled testing personnel.
Razanalina Erma	Test Analysis	<ul style="list-style-type: none"> Identifying the Target Test Items to be

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Razali Nabila Zainal		<p>evaluated by the test effort.</p> <ul style="list-style-type: none"> Defining the appropriate tests required and any associated Test Data. Gathering and managing the Test Data. Evaluating the outcome of each test cycle.
Tengku Nazihah Ungku Setea Afifah Zuhdi Binti Hashim	Tester	<ul style="list-style-type: none"> Test Requirements Analysis. Test Case Development / Updating. Test Data preparation. Test Execution and Results logging. Defects Analysis & Reporting. Re-tests for Fixes.

Table 3.3 Roles & Responsibilities

3.4 Schedules, Estimates and Costs


This section will describe the project schedule and task milestones. The schedule will include estimated time that required for each testing task. Cost is not included for this testing.

Task	Milestone	Days	Duration
Test Planning and control	Submission of Test Plan for sign-off.	1	28/11/2016
Test Analysis and Design	Submission of Test Design Specification, Test Case Specification, and Test Procedure Specification.	1	28/11/2016

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Test Environment	Setup of Test Environment	1	25/11/2016
Test Implementation and Execution	Execution of system test of ReSMART	1	01/12/2016
Documentary Test Summary Report	Submission of Test Summary Report	1	01/12/2016
Documenting Test Closure	Submission of Test Closure	1	02/12/2016
Test Complete	Delivery of product to client.	1	04/12/2016

Table 3.4 Estimated Testing Schedule

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4.0 General


4.1 Metrics

The following metrics will be collected and used to monitor the progress.

Metric List	Metric Description	Goals
Actual duration vs. plan (Variance)	Metric to monitor the project progress compared to the plan	Allow 100 % delay
Percentage of test cases run during test execution	Metric to monitor total number of test cases executed	100 %
Percentages of the cases passed against total of test cases executed	Metric to monitor total number of test cases executed with Passed criteria	All high-risk test cases passed
Percentages of baseline requirement covered against total test cases	Metric to monitor total number of baseline requirement coverage	100 %

4.2 Glossary

Term	Definition
SDS	Software Design Specification
SRS	Software Requirement Specification
ReSMART	Door Access Fingerprint with GSM
TP	Test Plan

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4.3 Incident Classification

Impact
<p>Mission Critical : Application will not function or system fails</p> <p>Major : Severe problems but possible to work around</p> <p>Minor: Does not impact the functionality or usability of the process is not according to requirements/design specifications.</p>
Priority
<p>Immediate : Must be fixed as soon as possible</p> <p>Delayed : System is unstable but incident must be fixed prior to next level of test or shipment.</p> <p>Deferred : Defect can be left in if necessary due to time or costs.</p>