UTM
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SOFTWARE QUALITY ASSURANCE

TEST PLAN

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INTRODUCTION

This test plan describes the testing approach which is the User Acceptance Testing (UAT) and overall framework that will drive the testing of the Natural Disaster - Flood Relief Centre Management System. The document introduces:

- **Test Strategy:** rules the test will be based on, including the givens of the project (e.g.: start / end dates, objectives, assumptions); description of the process to set up a valid test (e.g.: entry / exit criteria, creation of test cases, specific tasks to perform, scheduling, data strategy).

- **Execution Strategy:** describes how the test will be performed and process to identify and report defects, and to fix and implement fixes.

- **Test Management:** process to handle the logistics of the test and all the events that come up during execution (e.g.: communications, escalation procedures, risk and mitigation, team roster).

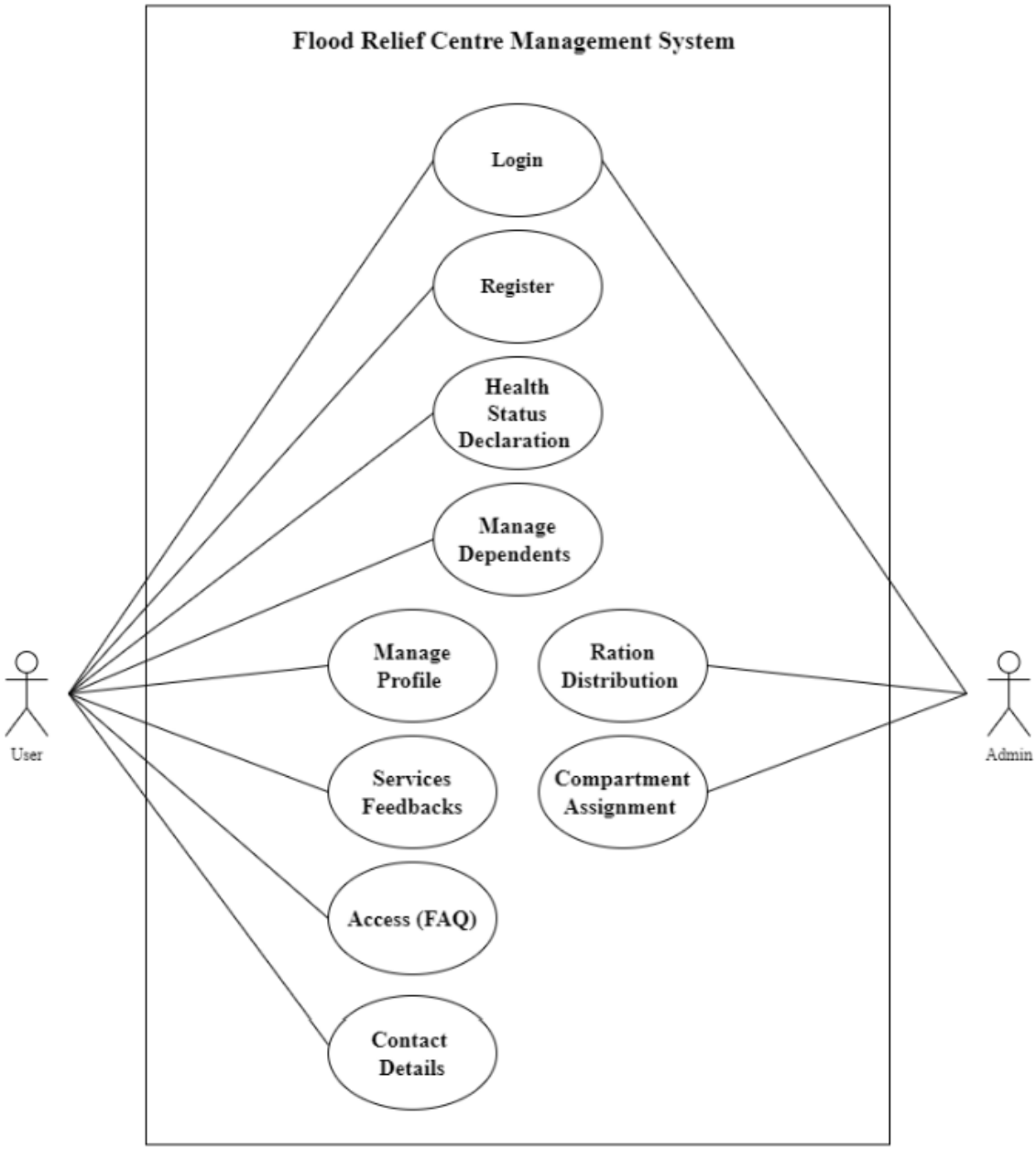
Project Overview

The Flood Relief Management system provides functional attributes, acting as a medium for victims to manage their needs and requirements while taking shelter at a relief centre. Victim family leaders are required to register an account to declare their necessities online to ensure crucial services can be delivered orderly and as soon as possible.

The functionality of this module spans through the entire system, making information available anywhere, anytime. Victims update their health declaration status by answering some questions online. Victims can manage their dependents as well as update their profile.

The objective of this project is:

- To define the tools to be used throughout the testing process.
- To communicate to the responsible parties the items to be tested, set expectations around schedule, and define environmental needs.
- To define how the tests will be conducted.
- To test the functionality and quality of the system.



Use Case for Flood Relief Management System

TEST ITEMS (FUNCTIONS)

The following is a list, by version and release, of the items to be tested.

- **Admin Module – Version 1**
  - Login interface
  - Ration Distribution interface
  - Compartment Assignment interface

- **User Module – Version 1**
  - Registration interface
  - Login interface
  - Health Declaration interface
  - Manage Dependents interface
  - Manage Profile interface
  - Reporting interface
  - Access (FAQ)
  - Contact Details interface

SOFTWARE RISK ISSUES

There are a few parts of the project that are not within the control of this project and the team but have a direct impact on the process and must be checked well.

- **Schedule Risk** - The delivery date for the project gets slipped when the risks and tasks are not scheduled properly. These risks may affect the project and can lead to project failure. Schedule risks happen due to the following reasons which are the project might be expanded unexpectedly or tracking for the resources is not done properly. The resources include systems, staff, and capabilities of the employee.

- **Technical risks** - Technical risks occur due to lack of performance and implementation of functionalities. The project requirements might be changing continuously, and the integration of modules may become difficult.

- **Programmatic Risks** - These risks are beyond the operational aspect. The events that lead to such defects are:
  - Lack of funds.
  - Product strategy has changed.
  - Change of government rules.

FEATURES TO BE TESTED

Features being tested	Level of risk	Priority
• Register to the system as a user • Register to the system as an admin • Log in to the system as a user • Log in to the system as an admin	Critical – This defect will cause the other functions not being able to work	Critical
• Add Ration • Update ration • Approve/Reject Ration • View Ration • Assign Compartment • Add new compartment number	Critical – This defect will cause the other functions not being able to work	High
• Update Health Form • Create Dependent • Edit dependent • Delete Dependent • Edit Profile • Create Report • Send Report	Medium – The system remains operational although it causes certain unwanted behaviour	Medium

FEATURES NOT TO BE TESTED

Features not being tested	Level of risk	Priority
Access (FAQ)	Low – This feature only lists out some important questions regarding the flood	Low
Contact Details	Low – This feature only displays the contact information and enquiry list	Low

APPROACH (STRATEGY)

Acceptance Testing will be performed by the actual end users with the assistance of the test manager and team leader.

Programs will enter Acceptance test after all critical and major defects have been corrected. A program may have one major defect if it does not impede testing of the program (1.E. there is a work around for the error). Prior to final completion of acceptance testing all open critical and major defects MUST be corrected and verified by the Customer test representative.

Configuration Management/Change Control

Movement of programs from the development portion of the 'RED' system to the test portion of the 'RED' system will be controlled through the existing Configuration Management application process, 'EXTRACT. This will ensure that programs under development and those in full test will have the same version controls and tracking of changes. The same extract process will be used to migrate the programs from the Development/Test 'RED' system to the production 'BLUE' system once all testing has been completed according to published plans and guidelines.

All Unit and initial system testing will be performed on the Development of Flood Relief Management 'RED' system. Once the system has reached a reasonable level of stability, no critical or major defects outstanding, initial pilot testing will be done on the production of Flood Relief Management 'BLUE' system. All testing done on the 'BLUE' system will be done in a parallel mode will all controls set to prevent actual updating of the production files.

This will allow some early testing of the numbers received through the old process and the higher level of detail received through the new process. This will also help identify potential problems with the comparison of the two sets of numbers.

All changes, enhancements and other modification requests to the system will be handled through the published change control procedures. Any modifications to the standard procedures are identified in the project plan change control section.

Test Tools

HP Application Lifecycle Management is the tool used for Test Management. All testing artifacts such as Test cases and test results are updated in the HP Application Lifecycle Management (ALM) tool.

- Project specific folder structure will be created in HP ALM to manage the status of this DFRT project.
- Each resource in the Testing team will be provided with Read/Write access to add/modify Test cases in HP ALM.
- During the Test Design phase, all test cases are written directly into HP ALM. Any change to the test case will be directly updated in the HP ALM.
- Each Tester will directly access their respective assigned test cases and update the status of each executed step in HP ALM directly.
- Any defect encountered will be raised in HP ALM linking to the Test case/test step.
- During Defect fix testing, defects are re-assigned back to the tester to verify the defect fix. The tester verifies the defect fix and updates the status directly in HP ALM.
- Various reports can be generated from HP ALM to provide status of Test execution. For example, Status report of Test cases executed, Passed, Failed, No. of open defects, Severity wise defects etc.

Measures and Metrics

The following information will be collected by the team during the Unit testing process. This information will be provided to the test team at program turnover as well as be provided to the project team on a biweekly basis.

- 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 totalled together.

The following information will be collected by the test team during all testing phases. 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 totalled 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.

ITEM PASS/FAIL CRITERIA

Entry Criteria

- The entry criteria refer to the desirable conditions to start test execution; only the migration of the code and fixes need to be assessed at the end of each cycle.
- The exit criteria are the desirable conditions that need to be met in order proceed with the implementation.
- Entry and exit criteria are flexible benchmarks. If they are not met, the test team will assess the risk, identify mitigation actions, and provide a recommendation. All this is input to the project manager for a final "go-no go" decision.
- Entry criteria to start the execution phase of the test: the activities listed in the Test Planning section of the schedule are 100% completed.
- Entry criteria to start each cycle: the activities listed in the Test Execution section of the schedule are 100% completed at each cycle

All the main functionality of the systems should function as expected and be stated in the test cases. There must be no critical defects found and an end user must be able to complete the assigned test cases successfully and initiate a refund without any errors. 90% of all test cases should pass and there should be no failed events that are significant to the end-ability users to operate the system.

Exit Criteria	Test Manager	Team Leader
100% Test Scripts executed		✓
95% pass rate of Test Scripts		✓
No open Critical and High severity defects		✓
95% of medium severity defects have been closed		✓
All remaining defects are either cancelled or documented as Change Requests for a future release		✓
All expected and actual results are captured and documented with the test script		✓
All test metrics collected based on reports from HP ALM		✓
All defects logged in HP ALM		✓
Test Closure Memo completed and signed off		✓
Test environment clean-up completed and a new back up of the environment	✓	

Defects found during the Testing will be categorized according to the bug-reporting tool "Mercury HP ALM" and the categories are:

Severity	Impact
(Critical)	♣ This bug is critical enough to crash the system, cause file corruption, or cause potential data loss ♣ It causes an abnormal return to the operating system (crash or a system failure message appears). ♣ It causes the application to hang and requires re-booting the system.
(High)	♣ It causes a lack of vital program functionality with workaround.
(Medium)	♣ This bug will degrade the quality of the System. However, there is an intelligent workaround for achieving the desired functionality – for example through another screen. ♣ This bug prevents other areas of the product from being tested. However other areas can be independently tested.
(Low)	♣ There is an insufficient or unclear error message, which has minimum impact on product use.
(Cosmetic)	♣ There is an insufficient or unclear error message that has no impact on product use.

TEST DELIVERABLES

Deliverables	Assigned To	Completion Date
Acceptance Test Plan	Testing Team	Week 5
Defect/Incident report and summaries	Testing Team	Week 9
Test logs and Turnover Reports	Testing Team	Week 10
Test Reports	Testing Team	Week 11

REMAINING TEST TASKS

TASK	ASSIGNED TO	STATUS
Create System Test Plan	Testing Team, Project Manager	
Create Integration Test Plan	Testing Team	
Define Unit Testing Rules	Testing Team, Project Manager	
Define Turnover Procedure for each level	Testing Team, Developers	
Verify Prototypes of Screens	Testing Team, Project Manager, Developers, Stakeholders	
Verify Prototypes of Reports	Testing Team, Project Manager, Developers	

ENVIRONMENTAL NEEDS

Flood Relief Management System VERSION 3.0 – MODULE's servers will be hosted at X company's site. Flood Relief Management System VERSION 3.0 – MODULE will be hosted on two servers: One to host the actual website and Java code, and the other host the (jsp_projec) database.

Software	
Operating System	Any Operating System
Web Browser	Google Chrome/ Edge/ Mozilla
Hardware (Computer/ Laptop)	
Storage	512MB RAM and above for better user experience
Others	Internet Connection (Data/Wi-Fi)
Mobile (Android or iOS)	
Storage	1GB RAM and above for better user experience
Others	Internet Connection (Data/Wi-Fi)

RESPONSIBILITIES

Tasks	Full Team	Test Team	Client	PM	TM	QAM
Compile Test Cases		X			X	
Acceptance Test Documentation and Execution	X	X	X	X	X	X
System and Integration Test	X	X			X	X
Documentation and Execution	X	X	X	X	X	X
System and Integration Test Document Verification		X			X	
Unit Test Documentation and Execution	X	X		X	X	X
System Design Reviews	X	X	X	X	X	
Defect/Incident reports and summaries				X	X	
Test logs and Turnover Reports		X				
Test Reports	X		X	X	X	X

PM - Project Manager

TM - Test Manager

QAM - Quality Assurance Manager

SCHEDULE

	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13
Acceptance Test Plan													
System Test Plan													
Integration Test Plan													
Unit Test Plan													
Defect reports													
Test logs													
Test reports													

APPROVALS

No	Responsibility	Signature
1	**Prepared by:** MD Yusuf Bin Forkan Ruhul Quddus Tamim Shafi Ahmed Syafiq Ibnu Ramadhan	*yusuf* *tamim* *shafi* *syafiq*
2	**Verified by:** Ruhul Quddus Tamim (Project Manager)	*tamim*
3	**Approved by:** Dr RADZIAH BINTI MOHAMAD	
4	**Stakeholder:** Malaysian Red Crescent Society (MRCS)	