NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

Test Plan for QMePls

By Team Titans

Date: 1st October 2021

Seow Jing Hng Aloysius
Jacob Law Zhen
Jolene Tan
Soh Qian Yi
Samuel Lee Si En
Zeta Chua Hui Shi

Team Titans
School of Computer Science and Engineering

Revision History

Name	Date	Changes	Version
Aloysius Seow	01/10/2021	Added initial template and headers	1.0
Aloysius Seow	05/10/2021	Added content for Approach, Item Pass/Fail Criteria, Suspension Criteria and Resumption Requirements, Testing Tasks, Environmental Needs, Responsibilities, Schedule, Risks and Contingencies,	1.1
Aloysius Seow	10/10/2021	Added content for Test Item & Features to be Tested	1.2
Aloysius Seow Soh Qian Yi	15/10/2021	Edited content from sections: Test Plan Identifier, Test Item & Features to be tested Updated format of documentation	1.3
Aloysius Seow Jolene Tan Jacob Law	21/10/2021	Sign-off for approval	1.4

Table of Contents

1. Test Plan Identifier

QMePls_TP_v1.0 (Aloysius Seow, 98475067)

2. Introduction

This documentation dictates the testing methods and strategies for the functional requirements for the application system for ‘QMePls’. The document includes details of the testing environment, testing deliverables, test items, features to be tested and more, while also providing details for the scheduling of the test as well as other non-technical aspects of the test plan.

3. Test Items

The following items are items intended to test within the scope of this test plan:

Test Item	**Description**
TI1	Register for Account
TI2	Login
TI3	Browse “Profile Page” Interface (Health Report Cards)
TI4	Browse “Symptom Selector” Interface
TI5	Browse “Clinic Maps” Interface
TI6	Browse “Clinic” side Interface
TI7	Queue Management System
TI8	Notification System

4. Features To Be Tested

The following features of these test items will be tested:

Features	Severity
Login	High
Viewing Health Report Cards (Ongoing/History)	High
Selecting of symptoms	Medium
Selecting of clinics	High
Booking of clinic	High
Adding of Walk-in patient by clinic staff	Medium
Clicking of ‘Next Patient’	High
Clicking of ‘Skip Patient’	Medium
Receiving ‘Next in queue’ notification	Medium

5. Features Not To Be Tested

The following features of these test items will not be tested as these are items that are implemented yet, categorised under future improvements:

- Search Clinic function
- Alternative login methods

6. Approach

The following features will describe more on the process of testing that we have adopted.

6.1 Unit Testing

Refers to the testing of individual components in terms of small units of the system. Each unit is isolated and tested independently to identify the correctness of every component. This is to look out of unexpected errors that may not be caught by the system as a whole. The test shall be conducted once each unit/component has been finalised.

6.2 Build Verification Testing (BVT)

Refers to the testing of each individual build to ensure that any changes to the source code/repository does not break the system. This is done by building a Jenkins project that runs a build test every 1 hour and will notify the team members in the event of a failed build test.

6.3 System/Acceptance Testing

To be performed after Unit Testing. This will test the integrity of the system as a whole without any knowledge of the implementation of code. This testing will be done by going through all possible user scenarios in hope to ‘break’ the system to identify any errors.
Acceptance Testing also involves letting the user provide feedback on the overall usability of the application.

7. Item Pass/Fail Criteria

7.1 Unit-Level Test

- All main requirements are functional
- 100% of test cases are completed
- No components are defective
- Errors found are traced and fixed

7.2 Build Verification Test (BVT)

- No fail build error log

7.3 Acceptance/System Level Test

- All possible user scenarios are covered
- No errors for any functionalities in the system
- User able to use the application without difficulty

Non-fulfilment of any of the requirements for each test will be deemed as a failure criterion.

8. Suspension Criteria And Resumption Requirements

8.1 Suspension Criteria

When a feature categorized under ‘High’ severity in the ‘Features to be tested’ has an error during testing, those errors have to be fixed before any continuation of testing. This is because the functionalities of the system revolve around those features, and if not fixed may create ghost errors for future tests. System testing will be suspended under the following conditions:

- User fail to create an account
- User fail to login
- Patient User fail to select clinic
- Patient User fail to book clinic
- Clinic Staff User fail to select ‘Next Patient’

8.2 Resumption Criteria

Regression testing will have to be done to ensure that the error for the failed test has been fixed. Only when any of the features mentioned above has been fixed will the team continue on with the rest of the testing.

9. Test Deliverables

The following test documents will be delivered:

- Test plan document
- Test cases
- Test design specifications
- Tools and their outputs
- Error logs and execution logs
- Problem reports and corrective actions

10. Remaining Test Tasks

In QMePls, the search clinic function has not been implemented into our application system as of the project deadline due to the scope of our project.
The Testing required for this functionality would be relatively simple to integrate and test as we only have to map the Patient User's input clinic to the correct clinic information and marker on the Clinic Map.

In addition to that, the testing of alternative login methods using Email/Facebook/Phone number will have to be tested when this project is handed over or in the next phase of the project.

11. Environmental Needs

Special requirements for this test plan include:

- The server/database has to be up and running throughout the entirety of the testing process
- Wifi coverage is required throughout the entirety of the project
- Testing shall be conducted in the presence of the Quality Assurance Engineer to facilitate the process.

12. Staffing And Training Needs

The Quality Assurance Engineer will ensure that the members of the team involved in the testing process are familiar and have full knowledge of the system as well as the testing tools that will be used.

13. Responsibilities

This table will denote the list of responsibilities and each member responsible for that task.

Responsibilities	Description	Person responsible
Risk Identification	Identify any potential risks that might occur	Aloysius Seow
Identifying Features to be tested	Identify features by its impact in the system and coming up with test cases for each feature	Jolene Tan
Testing	The actual implementation of the testing	Aloysius Seow Soh Qian Yi
Test Verification	Verify that testing is conducted correctly	Aloysius
Training staff	Recommend staff to undergo training regimes	Jolene Tan

14. Schedule

Task	Start Date	End Date
Create Test Plan	01/10/2021	05/10/2021
Create Test cases for Unit Test	01/10/2021	04/10/2021
Create Test cases for Acceptance/System Test	01/10/2021	04/10/2021
Define Steps and criteria for tests	04/10/2021	05/10/2021
Create logs for Test results	04/10/2021	04/10/2021
Unit Test	05/10/2021	12/10/2021
Acceptance/System Test	13/10/2021	16/10/2021
Integration Test	17/10/2021	20/10/2021
Review of Testing by Quality Assurance Manager	20/10/2021	21/10/2021
Sign-off by Project Manager, Lead Programmer & Quality Assurance Manager	21/10/2021	21/10/2021

15. Risks And Contingencies

There may be potential risks during or before the testing phase of the project. Our team has identified potential risks that may occur as well as providing a contingency plan for each of the risks being identified. These risks are documented in the Risk Management Plan document.

The following is the list of testing risks:

- Time required to develop the project is underestimated
- Absence of personnel holding critical roles
- Mid-project changes in objectives/management
- Lack of awareness of project objectives

Risks	**Contingency Plan**
Time required to develop the project is underestimated	Bring in more team members for testing
Absence of personnel holding critical roles	Quality Assurance Manager (QAM) to update and brief every team member on the testing phase for the project in the event the (QAM) or Quality Assurance Engineer cannot be present
Mid-project changes in objectives/management	Test cases and features to be reviewed immediately after each change
Lack of awareness of project objectives	Project Manager & QAM to ensure every team member is aware of the project requirements

16. Approvals

The test plan have to be endorsed by the team's Project Manager as well the as the team Quality Assurance Manager, not forgetting the Lead Developer to verify the requirements stated in the Test Plan as well as verify the tests that have been conducted are approved.

Key Personnel	**Name**	**Signature**
Project Manager	Jolene Tan	
Lead Developer	Jacob Law	
Quality Assurance Manager	Aloysius	

17. References

The following are the documents that support this test plan and can be referenced:

- Project Plan
- System Requirements Specifications
- Quality Plan
- Test cases and Requirements Test Coverage Report