

Testing Plan And Test Case Document
For Vaccination Scheduling And Alarming
Version 1.0

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1 Introduction

1.1 Purpose

This document describes the plan for testing the Vaccination And Alarming System This Test Plan document includes the Objectives, scope, schedule, risks and approach. This test Plan provides validating that each process performs correctly And that the requirements of the system have been satisfied and supports the following objectives :

- 1-list the List the recommended test requirements
- 2-identify the required resources ,and detail testing schedule.
- 3-provide the testing strategies .

1.2 Scope

This Test Plan applies to unit test, integration test and system test that will be conducted on the Vaccination And Alarming System . This Test Plan applies to test all requirements of the as defined in the Use-case specification, and software requirement specification document.

1.3 References

1.3.1 SRS document

1.3.2 Use case

2 Review Requirement And Design

2.1 Review requirement

//use case Diagram

2.2 Review System Architecture

//Architicture diagram

3 Features to be tested

We will perform testing on use case specification, functional requirement, and Non-functional requirement of all use cases and functions. They include :

1. Login and logout
2. Add user
3. Delete user
4. Search for user
5. Update user data
6. Add invoices
7. Admin Registration
8. Employee Registration
9. Edit profile
10. Reschedule Appointment
11. Reserve Appointment

4 Features not to be tested

1. Check attendance

5 Approach

5.1 Kind Of Test

The tests below base on the use case specifications, functional requirements, and non-functional requirements .
we also show the kinds of test which our team intend to perform .

5.1.1 Data and Database Integrity Testing

Data integrity corresponds to the quality of data in the databases and to the level by which users examine data quality, integrity and reliability. Data integrity testing verifies that the data in the database is accurate and functions as expected within a given application.

Characteristics of Data Integrity Testing :

1. Checking whether or NOT a blank value or default value can be retrieved from the database.
2. Validating each value if it is successfully saved to the database.
3. Ensuring the data compatibility against old hardware or old versions of operating systems.
4. Verifying the data in data tables can be modified and deleted .

5.1.2 System Testing

System testing of software is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements. They includes the following functions.

1. Login and logout
2. Add user
3. Add vaccine
4. Reserve Appointment
5. Search
6. Delete
7. Update
8. Register employee
9. Edit profile
10. Send feedback
11. Reschedule appointment

5.1.3 Performance Testing

Performance testing, a non-functional testing technique performed to determine the system parameters in terms of responsiveness and stability under various workload.

5.1.4 Load Testing

It is the simplest form of testing conducted to understand the behaviour of the system under a specific load.

5.1.5 Stress Testing

Stress testing is a form of testing that is used to determine the stability of a given system or entity. It involves testing beyond normal operational capacity, often to a breaking point, in order to observe the results. Ex. Verify system response during maximum student logins.

5.1.6 Volume Testing

Volume testing is a Non-functional testing that is performed as part of performance testing where the software is subjected to a huge volume of data. And when our team doing this testing we check that : Verify if there is any data loss. Check the system's response time. Verify if the data is stored incorrectly.

5.2 Test Strategy

Test Strategy is also known as test approach defines how testing would be carried out. The previous section on Test Requirements described what kinds of test will be tested. This part describes how they will be performed.

5.2.1 Checklist Of Unit Test

Verify the input data length and format specified in each form.

1. String format
2. Integer number format
3. Email address format
4. Date format
5. Special character
5. Empty field

6. Null

5.2.2 Unit Testing

Unit testing, a testing technique using which individual modules are tested to determine if there are any issues by the developer himself. It is concerned with functional correctness .

The main aim is to isolate each unit of the system to identify, analyze and fix the defects .

5.2.3 Smoke Test

Because the number of use cases and the number of test cases are really large, we cannot demo all of them. Therefore we will define a smoke test for demonstration .

1. Login and Logout use case
2. Reserve an appointment use case
3. Send notifications use case

5.2.4 Test Automation

Test automation is the use of software to control the execution of tests , control and test reporting functions.

Ex: E-mail Notifications.

5.2.5 Data and Database Integrity Testing

The database data and database processing should be tested as separate systems. These systems should be tested without the applications.

Test Objective :

Make sure that database access methods function properly without data corruption.

Technique :

Invoke each (database access method and process) providing each with valid and invalid data . Inspect the database to ensure the data has been entered as intended ,or review the returned data to ensure that the correct data was retrieved .

Completion Criteria :

All database access methods and processes function as designed and without any data corruption.

Special Considerations :

Testing may require a DBMS development environment or drivers to enter or modify data directly in the databases.

5.2.6 System Testing

Testing of the application should focus on any target requirements that can be traced directly to use cases. The goals of these tests are to verify proper data acceptance, processing, and retrieval. This type of testing is based upon black box technique, which is, verifying the application by interacting with the application via the GUI and analyzing the output (result).

Test Objective :

Improves design and allows better refactoring of code. Ensure proper application data entry, processing, and retrieval.

Technique

Execute each use case, or function, using valid and invalid data, to verify the following: The expected results occur when valid data is used.

The appropriate warning messages are displayed when invalid data is used.

Completion Criteria :

All planned tests have been executed.

Special Considerations :

Access to the Server and the existing System is required.

5.2.7 Performance Testing

Performance testing measures response times, transaction rates, and other time sensitive requirements. The goal of Performance testing is to verify and validate the performance requirements have been achieved. Performance testing is usually executed several times.

Test Objective :

Validate System Response time for designated transactions or business functions under the following two conditions:

- Normal anticipated volume

- Anticipated worse case volume

Technique :

Modify data files (to increase the number of transactions) or modify scripts to increase the number of iterations each transaction occurs .

Completion Criteria :

Single user: Successful completion of the test scripts without any failures and within the expected time allocation (per transaction). **multiple users:** Successful completion of the test scripts without any failures and within acceptable time allocation.

Special Considerations :

Use multiple physical clients, each running test scripts to place a load on the system. Performance testing should be performed on a dedicated machine or at a dedicated time .

5.2.8 Load Testing

The goal of load testing is to determine and ensure that the system functions properly beyond the expected maximum workload. Additionally, load testing evaluates the performance characteristics (response times, transaction rates).

Test Objective :

Verify System Response time for designated transactions under different workload conditions.

Technique :

Modify data files (to increase the number of transactions) or the tests to increase the number of times each transaction occurs.

Completion Criteria :

Multiple users: Successful completion of the tests without any failures and within acceptable time allocation.

Special Considerations :

Load testing should be performed on a dedicated machine or at a dedicated time. This permits full control and accurate measurement.

5.2.9 Stress Testing

Stress testing is intended to find errors due to low resources or competition for resources. Low memory or disk space may reveal defects in the software that aren't apparent under normal conditions. Other defects might result from competition for shared resource like database locks or network bandwidth.

Test Objective :

Verify that the system and software function properly and without error under the following stress conditions :

1. little or no memory available on the server (RAM)
2. Maximum number of clients connected
3. Worst-case transaction volume / mix

Technique :

- To test limited resources, tests should be run on single machine
- For remaining stress tests, multiple clients should be used,
- produce the worst-case transaction volume / mix.

Completion Criteria :

All planned tests are executed and specified system limits are reached without the software or software failing .

Special Considerations :

Stressing the network may require network tools to load the network with messages / packets.

5.2.10 Volume Testing

Volume Testing subjects the software to large amounts of data to determine if limits are reached that cause the software to fail. Volume testing also identifies the continuous maximum load or volume the system can handle for a given period.

Our team will use it in the generate report use case (financial report ,child report), our the software is processing a set of database records to generate a report, a Volume Test would use a large test database and check that the software behaved normally and produced the correct report.

Test Objective :

Verify that the system successfully functions under the following high volume scenarios:

- Maximum number of clients connected all performing the same, worst case (performance) function for an extended period.
- Maximum database size has been reached and multiple queries transactions

are executed simultaneously .

Technique :

- Multiple clients should be used, running the same tests to produce the worst case transaction volume for an extended period.
- Maximum database size is created and multiple clients used to run queries transactions simultaneously for extended periods.

Completion Criteria :

All planned tests have been executed and specified system limits are reached without the software or software failing.

Special Considerations :

period of time would be considered an acceptable time for high volume conditions .

6 Suspension criteria and resumption requirements

6.1 Suspension criteria

Our project will not stop when increasing the errors rate .

7 Environmental Needs

7.1 Tools

- Local Host
- Browser
- Net Beans IDE 8.0.2

7.2 Software

Documentation tool : Text Studio

IDE : Net Beans IDE 8.0.2

Web Server : Local host xampp

DBMS : Mysql-phpmyadmin

Browser : Google Chrome

Operating System Windows 10

7.3 Hardware

6 laptops

8 Schedule

Phase 1

Start Date : 19 April 2016

End Date : 29 April 2016

Phase 2

Start Date : 30 April 2016

End Date : 10 May 2016

9 Acceptance Criteria

Vaccination and Alarming Website can run smoothly. Provide a product with functions as requirements, help customer how to use the product easily. And satisfy the following conditions:

- Successful completion and correctness of all tasks as documented in the test schedule.
- Quantity of medium- and low-level defects must be at an acceptable level as determined by the software testing project team lead.
- Usability for the user.
- Installation documentation and scripts are complete and tested.
- Development code reviews are complete and all issues addressed.

10 Test Case

10.1 Test Cases of Log in and Log out Use Case

10.1.1 User logs in successfully with valid username and password

Name : Login done successfully with valid username and password .

Requirement : user logged in correctly after entering correct username and password .

Preconditions :User at the login page .

Steps

- 1) Provide valid username in the username textbox.
- 2) Provide Valid password in the password textbox.
- 3)click on login button.

Expected results

- 1 - user access to the System
- 2 - The user redirected to his/her home page .

10.1.2 login failed when entering invalid username and valid password

Name: login failed when entering invalid username and valid password.

Requirement : The user isnt logged in when entering invalid username and valid password.

Preconditions :

User at the login page.

Steps :

- 1) Provide invalid username in the username textbox.
- 2) Provide Valid password in the password textbox.
- 3)click on login button.

Expected results :

- 1 - User cant Access the System.
- 2 - The user still in the login page .

10.1.3 login failed when entering valid username and invalid password

Name : login failed when entering valid username and invalid password.

Requirement : The user isnt logged in when entering valid username and invalid password.

Preconditions : User at the login page .

Steps : 1) Provide valid username in the username textbox .

- 2) Provide invalid password in the password textbox .
- 3)click on login button .

Expected results :

- 1 - user cant Access the System .
- 2 - The user still in the login page .

10.1.4 login failed when leaving username empty

Name login failed when leaving username empty .

Requirement : The user isnt logged in when leaving textbox of username empty .

Preconditions : User at the login page .

Steps :

- 1)leaving the textbox of username empty .
- 2) provide password in the password textbox or let password textbox empty .
- 3)click on login button .

Expected results :

- 1 - user cant Access the System .
- 2 - The user still in the login page with warning message in the missing field .

10.1.5 login failed when entering valid username and empty password

Name : login failed when entering valid username and empty password .

Requirement : The user isnt logged in when leaving textbox of password empty .

Preconditions : User at the login page .

Steps :

- 1)provide valid username in the username textbox .
- 2) leaving password textbox empty.
- 3)click on login button.

Expected results : 1 - user cant Access the System.

- 2 - The user still in the login page with warning message in the missing field .

10.2 Test Cases of Admin add user Use Case

10.2.1 Adding done successfully when entering valid users data

Name : Adding done successfully when entering valid users data .

Requirement : All fields are filled with valid data .

Preconditions : The webpage that allows Admin to input information of a user is displayed .

Steps :

- 1)provide valid name of the user in the name textbox .
- 2) provide valid username of the user in the username textbox .
- 3) provide valid password in the password textbox .
- 4) provide valid E-mail of the user in the E-mail textbox .
- 5)choosing valid Age of the user In the age compobox .
- 6)choosing valid user type number in the user type compobox .
- 7)click submit button .

Expected results :

- 1- The user is added to the system .
- 2-The Admin redirected to the same page-add user- with announcing message that new user has been added .

10.2.2 Fail to add a user when one or some or all fields are Empty

Name : fail to add a user when one or some or all fields are Empty .

Requirement : Not All fields are filled with data.

Preconditions : The webpage that allows Admin to input information of a user is displayed .

Steps :

- 1)leaving users Name Empty in the Name textbox or/and.
- 2) leaving users username Empty in the username textbox or/and.
- 3)leaving users password Empty in Password textbox or/and.
- 4)leaving users E-mail Empty in the E-mail textbox or/and .
- 5)leaving users Age Empty in the age compobox or/and.
- 6)leaving users user type Empty in the user type compobox or/and.
- 7)click submit button.

Expected results :

- 1- The user isnt added to the system.
- 2-The Admin redirected to the same page-add user- with warning message that

new user hasnt been added ,you must enter all the informations user.

10.2.3 Fail to add a user when entering special character/s to one or some or all fields

Name : fail to add a user when entering special character/s to one or some or all fields .

Requirement : All fields are filled with data.

Preconditions : The webpage that allows Admin to input information of a user is displayed .

Steps :

- 1)provide users Name containing special character/s in the name textbox or/and.
- 2) provide users username containing special character/s in the username textbox or/and.
- 3)provide users password containing special character/s in the password textbox or/and.
- 4)provide users E-mail of the user containing special character/s in the E-mail textbox or/and .
- 5)provide users Age containing special character/s In the age compobox or/and.
- 6)provide users user type number containing special character/s in the user type compobox or/and.
- 7)click submit button.

Expected results :

- 1-the user isnt added to the system .
- 2-The Admin is redirected to the same page-add user- with warning message that new user hasnt been added ,Some Fields containing special character/s .

10.2.4 Fail to add a user when entering the same user name , E-mail and user type of an already existing user

Name : fail to add a user when entering the same user name , E-mail and user type of an already existing user .

Requirement : All fields are filled with data.

Preconditions : The webpage that allows Admin to input information of a user is displayed.

Steps :

- 1)provide valid name of the user in the name textbox .

- 2) provide username of an already existing user for another one in the username textbox .
- 3) provide valid password in the password textbox .
- 4) provide an E-mail of an already existing user for another one in the E-mail textbox .
- 5)choosing valid Age of the user In the age compobox.
- 6)choosing user type number in the user type compobox.
- 7)click submit button.

Expected results :

- 1- The user isnt added to the system .
- 2-The Admin is redirected to the same page-add user- with announcing message that new user has not been added .

10.3 Test Cases of search Use Case

10.3.1 Search for user by providing user id

Name : search for user by providing user id .

Requirement : Admin wants to find information of a specific user with users id to update , search or delete .

Preconditions : The webpage that allows Admin to input user id is displayed.

Steps :

- 1)provide valid users ID of an already existing user in the search number field .
- 2) click search button to display his/her information.

Expected results :

- 1-The Admin is redirected to the search user page .

10.3.2 Fail to search for user by providing invalid user id

Name : fail to search for user by providing invalid user id .

Requirement : Admin wants to find information of a specific user with users id doesnt exists in the system ,then the system must notify the user about that.

Preconditions : The webpage that allows Admin to input user id is displayed.

Steps :

- 1)provide invalid users in the search number field.
- 2) click search button to display his/her information .

Expected results :

1-The Admin is redirected to the same search page with warning message .

10.3.3 Fail to search for user by providing special character/s in user id

Name : fail to search for user by providing special character/s in user id .

Requirement : Admin wants to find information of a specific user with users id .

Preconditions : The webpage that allows Admin to input user id is displayed .

Steps :

- 1)provide user ID containing special character/s in the search number field .
- 2) click search button to display his/her information .

Expected results :

1-The Admin is redirected to the same search page with warning message .

10.3.4 Fail to search for user by leaving user id Empty

Name : fail to search for user by leaving user id Empty .

Requirement : Admin wants to find information of a specific user with users id .

Preconditions : The webpage that allows Admin to input user id is displayed.

Steps :

- 1)provide an Empty user ID in the search number field.
- 2) click search button to display his/her information .

Expected results :

1-The Admin is redirected to the same search page with warning message .

10.4 Test Cases of update user data Use Case

10.4.1 updating done successfully when entering valid users data

Name : updating done successfully when entering valid users data .

Requirement : All fields are filled with valid data.

Preconditions : The webpage that allows Admin to update information of a user is displayed.

Steps :

- 1)provide valid name of the user in the name textbox or/and .
- 2) provide valid password in the password textbox or/and.
- 3) provide valid E-mail of the user in the E-mail textbox or/and .
- 4)choosing valid Age of the user In the age compobox or/and.
- 5)choosing valid user type number in the user type compobox or/and .
- 6)click submit button .

Expected results :

- 1- The user is updated to the system .
- 2-The Admin redirected to the same page -update user- with announcing message that updated .

10.4.2 Fail to update a user when one or some or all fields are Empty

Name : fail to update a user when one or some or all fields are Empty .

Requirement : Not All fields are filled with data.

Preconditions : The webpage that allows Admin to update information of a user is displayed .

Steps :

- 1)leaving users Name Empty in the Name textbox or/and.
- 2)leaving users password Empty in Password textbox or/and.
- 3)leaving users E-mail Empty in the E-mail textbox or/and.
- 4)leaving users Age Empty in the age compobox or/and.
- 5)leaving users user type Empty in the user type compobox or/and.
- 6)click submit button.

Expected results :

- 1- The user isnt updated in the system .
- 2-The Admin redirected to the same page-update user- with warning message that user hasnt been updated ,you must enter all the information of user.

10.4.3 Fail to update a user when entering special character/s to one or some or all fields

Nmae : fail to update a user when entering special character/s to one or some or all fields .

Requirement : All fields are filled with data .

Preconditions : The webpage that allows Admin to update information of a user is displayed.

Steps :

- 1)provide users Name containing special character/s in the name textbox or/and .
- 2)provide users password containing special character/s in the password textbox or/and .
- 3)provide users E-mail of the user containing special character/s in the E-mail textbox or/and .
- 4)provide users Age containing special character/s In the age compobox or/and.
- 5)provide users user type number containing special character/s in the user type compobox or/and .
- 6)click submit button.

Expected results :

- 1-the user isnt updated in the system .
- 2-The Admin is redirected to the same page-update user- with warning message that user hasnt been updated ,Some Fields containing special character/s .

10.5 Test Cases of Delete user Use Case

10.5.1 Delete user

Name : Delete user .

Requirement : Admin wants to delete a user , then the system delete the specified user from the system .

Preconditions : The webpage that allows Admin to search for user id is displayed.

Steps :

- 1)provide valid users ID of an already existing user in the search number field .
- 2) click Delete button .

Expected results :

- 1-The Admin is redirected to the same search page with a announcing message that deleted successfully .

10.6 Test Cases of Register Use Case

10.6.1 Registration done successfully when entering valid users data

Name : Registration done successfully when entering valid users data.

Requirement : All fields are filled with valid data.

Preconditions : The webpage that allows user to register his/her information is displayed.

Steps :

- 1) provide valid name in the Name textbox .
- 2) provide valid username in the username textbox .
- 3) provide valid password in the password textbox .
- 4) provide valid E-mail of the user in the E-mail textbox .
- 5) choosing valid Age of the user In the age compobox .
- 7) click Register button .

Expected results :

- 1- The user added And access successfully to the system .
- 2- The user redirected directly to his/her Home page .

10.6.2 Fail to Register when one or some or all fields are Empty

Name : fail to Register when one or some or all fields are Empty .

Requirement : Not All fields are filled with data.

Preconditions : The webpage that allows user to input his/her information is displayed .

Steps :

- 1) leaving users Name Empty in the Name textbox or/and.
- 2) leaving users username Empty in the username textbox or/and.
- 3) leaving users password Empty in Password textbox or/and.
- 4) leaving users E-mail Empty in the E-mail textbox or/and.
- 5) leaving users Age Empty in the age compobox or/and.
- 6) click Register button.

Expected results

- 1- The user isnt added or Accessed to the system .
- 2- The user redirected to the same page-add user- with warning message that new user hasnt been added ,you must enter all the informations user.

10.6.3 Fail to Register when entering special character/s to one or some or all fields

Name : fail to Register when entering special character/s to one or some or all fields .

Requirement : All fields are filled with data.

Preconditions : The webpage that allows user to input his/her information is displayed.

Steps :

- 1)provide users Name containing special character/s in the name textbox or/and .
- 2) provide users username containing special character/s in the username textbox or/and.
- 3)provide users password containing special character/s in the password textbox or/and .
- 4)provide users E-mail of the user containing special character/s in the E-mail textbox or/and .
- 5)provide users Age containing special character/s In the age compobox or/and .
- 6)click Register button .

Expected results :

- 1-the user isnt added or Accessed to the system .
- 2-The user is redirected to his/her Home page with warning message that new user hasnt been added ,Some Fields containing special character/s .

10.7 Test Cases of Reserve Appointment Use Case

10.7.1 reservation of appointment done successfully

Name : reservation of appointment done successfully .

Requirement : All fields are filled with valid data.

Preconditions : The webpage that allows parent to reserve an appointment is displayed.

Steps :

- 1)choosing valid child in the Child Compobox .
- 2) choosing valid vaccine in the vaccine Compobox .
- 3) choosing date from the calendar .
- 4) Selecting valid E-mail of the user in the E-mail textbox .
- 5)click submit button .

Expected results :

- 1- The user added and access successfully to the system .
- 2-The user redirected directly to his/her Home page .