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UNIT: SOFTWARE COMPUTING PROJECT

ST JOSEPH'S MISSION HOSPITAL- MIGORI PATIENT'S RECORD MANAGEMENT SYSTEM TEST PLAN DOCUMENT

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1.0. Introduction

1.1 Purpose

The purpose of this document is give a detailed test plan for St. Joseph's Mission Hospital Patient's Record Management System. This document describes all the testing strategies that will be used to indicate that the system has met all the requirements by the hospital prior to its release.

1.2. Objectives

The objectives of the test plan is to ensure that:

✓ The system meets all the requirements specified by the hospital.

✓ Support the intended hospital's functions and achieves all the required software standards.

✓ The system satisfies the entrance criteria required for user-acceptance testing

1.3. Statement Scope

The software product is a Patient's Record Management System. The system will be used to:

✓ Register patients.

✓ Allocate patients to Nurses and Doctors

✓ Record patient's diagnosis

✓ Record Patient's Progress

✓ Allocate patient's to beds and wards

These functions will be performed with a high degree of accuracy. The modules of St. Joseph Patient's Record management system are user-friendly and easy to access.

The intentions of the system is to store and manage patient's records. This will help doctors to easily correctly diagnose patients and prevent the loss of patient's records due to the use of physical cards.

1.4. Major Constraints

✓ Lack of enough staff who have in-depth knowledge in system operation.

✓ Lack of enough computers to test the system

2.0 Test Plan

2.1 Software to be tested.

The system to be tested is St. Joseph's Patient Record Management system. This system uses Vb.Net for the user interface and MySQL for the Database.

2.2 Testing Strategy

St. Joseph's Mission Hospital's Patient Record Management System Testing will test all the functionalities stated in the system scope.

The system testing activities will include testing of the internal and external interfaces, workflows, validations, testing both new functionalities and modified functionalities.

2.2.1 Unit Testing

Small parts of the system will be tested starting with registering new patients, then allocation of patients to doctors and nurses, recording diagnosis, allocating patient's to beds and wards, recording patient's progress and finally clearing the patients from the hospital.

2.2.2 Integration Testing

The system processes will be combined and tested as group. Recording patient's diagnosis, allocating patient's to beds and wards and registering new patients will be run together to see how the system performs.

2.2.3 Validation testing

The system will be tested to check whether it meets the hospital's requirement. We will check whether the correct information is fed into the system, whether the outputs of various operations in the system are correctly done and whether the whole process of patient's record management is done as required.

2.2.4 High Order testing

Further tests will be conducted to test whether the system meets all the requirements. The system will be run on different operating systems to check whether it operates efficiently. The system will be operated by different users to check whether they will be able to use the system easily.

2.3 Testing resources and staffing

In order to test the system effectively, 20 computers will be required.

These computers should be running on a windows 10 operating system.

The computers should be running on a minimum of an 8 gb RAM, 500 GB Hard disk drive and a minimum of 2.5 GHz speed.

20 staffs comprising of doctors, nurses, front-end desk staff and administrators will be used in testing the system.

2.4 Test Work Products

The test work products of St Joseph's Patients Management System will involve automated tests, test plans, test cases, test strategy document, risk document, defect reports and test results

2.5 Test Record Keeping

The test records will be computerized.

Various reports of the system tests will be generated from the system. The observations will be written down and recommendations stated incase there is need to make any changes in the systems.

The records will be kept on excel sheets and word documents.

2.6. Test Metrics

These metrics will be used to measure and monitor the test activities.

The test metrics include:

- ✓ No. Of bugs per test = total number of defects/total number of tests
- ✓ Test design efficiency = Number of tests designed/total time
- ✓ Number of tests within a particular time period = Number of tests run/ Total time
- ✓ Test review efficiency = Number of tests reviewed / Total time

2.7. Testing Tools and Environment

The system will be run on HP computers. These computers will contain an installed Windows 10 Operating System.

2.8 Test Schedule

Task Name	Duration	Start	Finish
Unit testing	2 days	20/11/2022	22/11/2022
Integration Testing	3 days	23/11/2022	26/11/2022
Validation Testing	1 days	27/11/2022	28/11/2022
High Order Testing	2 days	28/11/2022	30/11/2022

3.0 Test Procedure

3.1 Software to be tested

The software to be tested is St Joseph's Mission Hospital Patient's Record Management System.

3.2 Testing Procedures

St. Joseph's Mission Hospital's Patient Record Management System Testing will test all the functionalities stated in the system scope.

The system testing activities will include testing of the internal and external interfaces, workflows, validations, testing both new functionalities and modified functionalities.

3.2.1Unit test Cases

Component parts of the system will be tested.

3.2.1.2 Stubs for Recording and Managing Patient's Records

- ✓ Register patients.

- ✓ Allocate patients to Nurses and Doctors

- ✓ Record patient's diagnosis

- ✓ Record Patient's Progress

- ✓ Allocate patient's to beds and wards

Test Procedure of Recording and Managing Patient's Records

- ✓ The staff inputs the required details in each of the stub

- ✓ The stubs are isolated to test them more rigorously

- ✓ The data input is checked to verify whether it meets the requirements

- ✓ The output information is checked to see whether its correct

- ✓ The workflow and testing results are recorded.

Purpose of Testing the patient's record management process

To check whether the system parts achieve the hospital's requirements independently

Expected Results

The Records of the patient's should be generated in a report I.e ID Number, Name, Bed Number,

Ward, Doctor Assigned, Nurse Assigned, Diagnosis, Recommended Treatment, Progress

3.2.2 Integration Testing

The system processes are combined and tested as groups

Testing Procedures

- ✓ The staff inputs the required details in all of the system's parts

- ✓ The system parts are combined and tested together

- ✓ The data input is checked to verify whether it meets the requirements

- ✓ The output information is checked to see whether its correct

- ✓ The system parts are checked whether they can properly run together

- ✓ The workflow and testing results are recorded.

Purpose

To check whether the system parts can run together to meet the hospital's requirements.

The system should perform the required duties and produce the correct output.

Expected Results

The system parts are expected to run together to generate the patient's reports and keep the patient's information.

I.e ID Number, Name, Bed Number, Ward, Doctor Assigned, Nurse Assigned, Diagnosis, Recommended Treatment, Progress

3.2.3 Validation Testing

Testing Procedure

- ✓ The staff feeds various information into the system
- ✓ The system is checked to see whether it accepts only the information as per the requirements of the hospital and not all information.
- ✓ The output information is checked to see whether its correct.
- ✓ The workflow and testing results are recorded.

Expected results

The system is expected to accept the information as specified by the hospital.

The system is expected to reject the data that does not meet the hospital requirements and provide error messages on why it does not accept the data.

3.3 Test Resource and Staffing

The required machines are tested to see whether they perform as required.

Different system components are tested to see whether they can run succefully on the computers.

The hospital's staff are tested to check whether the can easily use the system

The workflows and various errors encountered are recorded.

3.4. Test Work Products.

The test work products of St Joseph's Patients Management System will involve automated tests, test plans, test cases, test strategy document, risk document, defect reports and test results

3.5 Test Record Keeping and test logs

Test results will be generated as reports from the system. The test processes and workflows will be recorded on excel sheets and word documents.

Other test information can be noted down on a sheet of paper.