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**SOFTWARE TEST PLAN FOR**

**HOSPITAL REFERRAL MANAGEMENT SYSTEM**

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**VERSION 1**

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# 1.INTRODUCTION

The introduction section of the Software Test Plan (STP) provides an overview of the project and the product test strategy, a list of testing deliverables, the plan for development and evolution of the STP, reference material, and agency definitions and acronyms used in the STP.

The Software Test Plan (STP) is designed to prescribe the scope, approach, resources, and schedule of all testing activities. The plan must identify the items to be tested, the features to be tested, the types of testing to be performed, the personnel responsible for testing, the resources and schedule required to complete testing, and the risks associated with the plan.

1.1 Objectives

This test plan is aimed to be a guideline through the test process of the features of the hospital referral management system. It is aimed at accomplishing the following objectives

Ascertain the resources required for the testing of the system.

Provide the schedule and the test strategy for testing the system at hand.

Highlight the number of modules and the tests expected to be carried out and at what level of test.

Confirm that the modules/features of the HRMS are working as expected and illustrated in the design document.

1.2 Major constraints

The test team will have to encounter some constraints which may lead us to have some assumptions. There will be a limitation on time. The test team will be assigned many students to test their applications. They therefore will have limited time to perform testing and exhaust the features for every student.

The testing team will be required to have laptops or smartphones connected to the internet, to be able to test the HRMS application.

1.3 Scope

Testing will be performed at several points in the life cycle as the product is constructed. Testing is a very 'dependent' activity. As a result, test planning is a continuing activity performed throughout the system development life cycle. Test plans must be developed for each level of product testing.

The scope of this document will encompass all the features and the modules of the HRMS. These will be used to ascertain the functional requirements of the system as indicated in the previous documents.

The modules will include:

1. Authentication module
2. Referrals module
3. Record management module
4. Facility management

## 1.4 Reference Material

Guru99. (2019, 1 23). How to create a test plan (with example). Retrieved from Guru99: https://www.guru99.com/what-everybody-ought-to-know-about-test-planing.html

studio, K. (2019, April 23). Sample software testing template with examples. Retrieved from Software Testing Help: https://www.softwaretestinghelp.com/test-plan-template/

# 2.TESTING PLAN

## 2.1 Software to be tested

This involves all the interfaces and their interaction. This refers to the interfaces that will undergo testing.

### 2.1.1 Interfaces

1. Login window
2. Registration page
3. Patient portal
4. Doctors dashboard
5. Hospital management dashboard
6. Referral page

## 2.2 Testing Strategy

This section describes the format used during HRMS testing. The test plan ensures that HRMS is verified and validated to meet the system requirements. The following procedures are used ensure the system requirements for HRMS are met:

1. Functionality Testing.
2. Usability Testing.
3. Interface Testing.
4. Acceptance Testing
5. Performance Testing.
6. Security Testing.

### 2.2.1 Functionality testing

Functionality testing is the process designed to verify that a piece of code or software components operate correctly. HRMS uses manual testing to ascertain the functionality. This involves HRMS being tested in the user perspective situation. This means that most of the testing is at black box testing that is interface level testing to ensure that the testers confirm the interfaces function as intended. White box testing is testing to check for bugs and errors. This is done during the development of HRMS since when a code has an error the application refuses to run on the web browser and the errors are documented in the Beego Logs module. The following major categories of testing are implemented on HRMS:

#### 2.2.1.1 Unit testing

This is testing done by the developer who writes the code. The developer checks if particular units of code function properly. This implies to individual modules that make up the system. For HRMS, this method coverage is used to ensure that particular method functions are as expected.

#### 2.2.1.2 Sanity testing

This is testing done to ensure that major and critical functionalities of HRMS function correctly. For example, doctors can refer the patients to the hospitals having the service required by the patient.

#### 2.2.1.3 Smoke testing

This is also known build testing to ensure that each build of HRMS is stable. For example, the beta version of HRMS which did not entail referral identity functionalities functions properly then the alpha version of HRMS which entails the functionalities not present in the beta version function. A record of the build version is using the Version Control System (VCS).

#### 2.2.1.4 Regression testing

This is testing to ensure that an additional line of code, fixing of errors or any enhancements in HRMS do not interfere with the existing functionality of HRMS. This testing ensures that HRMS is stable.

#### 2.2.1.5 Integration testing

This is testing to ensure that different modules of a system which can work independently can work coherently together. In this case HRMS contains the four major modules that is authentication module, referrals module, record management module and facility management. Integration ensures that these four modules work together on the same browser without any interference.

### 2.2.2 Usability testing

This is testing done by the consumer of the system to ensure that the system suits the consumer needs. HRMS testing is dependent on doctors, hospital management representative and patients testing the application.

### 2.2.3 Interface testing

This refers to testing done to ensure that the application operates efficiently and effectively outside the application boundary with all interface systems. HRMS system comprises of several interfaces which will be tested to ascertain the requirements of this test and boost the user experience which can in turn make it easier for navigation through the modules.

### 2.2.4 Acceptance Testing

This is the testing conducted to determine whether or not a system satisfies the acceptance criteria and to enable the customer to determine whether or not to accept the system. Acceptance testing ensures that customer requirements' objectives are met and that all components are correctly included in a customer package.

#### 2.2.4.1 Alpha Testing

This is the testing done on a system before it is deployed, that is, done while system is still in development stage, to ascertain that the system fulfills an MVP (minimum viable product) of the expected performance.

#### 2.2.4.2 Beta Testing

This is the testing, done by the customer, using a pre-release version of the product to verify and validate that the system meets business functional requirements. The purpose of beta testing is to detect application faults, failures, and defects. This will be done on HRMS system before being deployed in the cloud.

### 2.2.5 Performance testing

This refers to the testing done to ensure that that the application performs to customer expectations (response time, availability, portability, and scalability). In this case, the testing will be done intensively and well to ensure that it accomplishes the required response time, availability, portability and the required scalability incase the users increase.

### 2.2.6 Security testing

This is the testing done to ensure that the application systems control and auditability features of the application are functional. This is done to ascertain the conformation of the HRMS system to the constraints that are associated with it. For example, the authentication of the users logging into the system should be ascertained and session control in accessing the various web pages.