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<Prison Management System>

Test Plan Document

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# Introduction

Software testing is an investigation conducted to provide stakeholders with information about the quality of the product or service under test. Testing evaluates a software product to ensure that it satisfies its planned purpose. A test that is modified to and consistent with development methodologies provides an observable and structured approach for verifying requirements and quantifiable performance.

## Purpose

The purpose of our test plan is to uncover and report as many bugs as possible to increase our system reliability and to ensure the right product is developed.

# Features to be tested/not to tested

## Features to be tested

### Functional requirements to be tested

* **Teacher Registration:** the level of risk for this feature is high because if all the fields of the registration form are not valid, registration will not be done.
* **Login:** the level of risk for this feature is high because once a user logged in to the system, if that user is not an authorized, the data will get accessed by unauthorized person.
* **Register Student:** level of risk of this feature is medium because the teacher can add unnecessary data.
* **Database Connection**: has high level risk because the entire system relies on the database functionality.

### Nonfunctional requirements to be tested

* **Performance:** this feature has a medium risk because the desired search results should be available at a required time.
* **Security:** the level of risk of this feature is high because if unregistered teacher access the data of the system data will get modified by unauthorized user.

# Pass/Fail criteria

The pass criteria at: - Unit Level

* If all test cases are completed
* A specified percentage of cases are completed with minor defects.

Integration level

* All test cases completed
* A specified percentage of cases are completed with minor defects.
* Integrated units communicate and interact smoothly and properly.

In general, the test will fail when the above-mentioned pass criteria have not reached an acceptable level.

# Approach/Strategy

The system will be tested using Unit testing which involves breaking programs into pieces, and subjecting each piece to a series of tests.

Performing unit tests is designed to be simple, generally the tests are written in the form of functions that will determine whether a returned value equals the value expected when a function (or the value you will expect when you eventually write it) is written. We used this approach because it becomes easier to detect bugs early on.

The software is developed in an organized way so as to make it easier for testing. The data fields of software features are managed carefully, thoroughly and attentively during the entire project and product life cycle. Since Configuration management determines clearly about the items that make up the software or system. These items include add record, registration, login and attach receipt and database connection.

# Test cases with specifications

### Test case specification for Student Registration

*Table 1 Test case specification for student Registration*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name =** Register Student | | | | |
| **Purpose =** To add students to the system | | | | |
| **Test Data** = First Name (invalid first name, valid first name, empty)  Last Name (valid last name, invalid last name, empty)  Section (invalid section, empty)  Department (invalid department, valid department, empty)  Course (valid course, invalid course, empty)  Password (valid password, invalid password, empty) | | | | |
| **Input** | **Expected result** | **Data** | **Actual output** | **Pass/fail** |
| Empty First Name and all other fields are valid | “Please provide your first name” | Empty First Name and Any valid data for other fields | “Please provide your first name” | Fail |
| Invalid First Name and all other fields are valid | “First Name must be greater than 3 characters” | If First Name<3 characters  Any valid data for other fields | “First Name must be greater than 3 characters” | Fail |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Empty Last Name and Other fields are valid | “Last Name must be provided” | Empty Last Name and Any valid data for other fields | “Last Name must be provided” | Fail |
| Invalid Last Name and all other fields are valid | “Last Name must be greater than 3 characters”” | If Last Name<3 characters  Any valid data for other fields | “Last Name must be greater than 3 characters” | Fail |
| Invalid Section and all other fields are valid | “Section must be 1 digits” | Invalid Section and Any valid data for other fields | “Section must be 1 digits” | Fail |
| Empty Department and all other fields are valid | “Department must be provided” | Empty Department and Any valid data for other fields | “Department must be provided” | Fail |
| Invalid Department and all other fields are valid | “Department must be greater than 3 characters”” | If Department<3 characters  Any valid data for other fields | “Department must be greater than 3 characters” | Fail |
| Empty Course and Other fields are valid | “Course must be provided” | Empty Course and Any valid data for other fields | “Course must be provided” | Fail |
| All valid fields | “Student registered successfully” | Any valid data for all fields | “Student registered successfully” | Pass |

### Test case specification for Login

*Table 2 Test case specification for Login*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name =** Login | | | | |
| **Purpose =** To give account access to the teacher | | | | |
| **Test Data** = Email (invalid email, Valid email, empty)  Password (invalid password, valid password, empty) | | | | |
| **Input** | **Expected result** | **Data** | **Actual output** | **Pass/fail** |
| Empty Email and all other fields are valid | “Email or Password is invalid. please verify” | Empty Email and Any valid data for  other fields | “Email or Password is invalid. please verify” | Fail |
| Invalid Email and all other fields are valid | “Email or Password is invalid. please verify” | Invalid email and Any valid data for  Password | “Email or Password is invalid. please verify” | Fail |
| Empty Password And all other fields are valid | “Email or Password is invalid. please verify” | Empty Password And any valid data for other fields | “Email or Password is invalid. please verify” | Fail |
| Invalid Password And all other fields are valid | “Email or Password is invalid. please verify” | Invalid Password and  Any valid data for Email | “Email or Password is invalid. please verify” | Fail |
| All valid fields | “Logged in  successfully” | Any valid data for the  two fields | “Logged in  successfully” | Pass |

### Test case specification for Register Teachers

*Table 3 Test case specification for Register Teachers*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Name =** Register Teacher | | | | | | | | | | | |
| **Purpose =** To register teachers into the database | | | | | | | | | | | |
| **Test Data** = Email (invalid email number, valid email number, empty)  Password (invalid password, valid password, empty)  Course (invalid course, valid course, empty) | | | | | | | | | | | |
| **Input** | | | **Expected result** | | **Data** | | | **Actual output** | | | **Pass/fail** |
| **Empty Email and all other fields are**  **valid** | | **“Please provide an email”** | | | **Empty Email and Any valid data for other fields** | | **“Please provide an email”** | | | | **Fail** | | |
| **Invalid Email and all other fields are valid** | | **“Please provide a valid email”** | | | **If Email is of incorrect type**  **Any valid data for other fields** | | **“Please provide a valid email”** | | | | **Fail** | | |
| **Empty Password and all other fields are**  **valid** | | **“Please provide your password”** | | | **Empty Password and Any valid data for other fields** | | **“Please provide your password”** | | | | **Fail** | | |
| **Invalid Password and all other fields are valid** | | **“Your password must at least 5 characters”** | | | **If Password <3 characters and Any valid data for other fields** | | **“Your password must at least 5 characters”** | | | | **Fail** | | |
| **Empty Course and all other fields are**  **valid** | | **“Please provide a course”** | | | **Empty Course and Any valid data for other fields** | | **“Please provide a course”** | | | | **Fail** | | |
| **Invalid Course and all other fields are valid** | | **“Please provide a valid course”** | | | **If Course is of incorrect type**  **Any valid data for other fields** | | **“Please provide a valid course”** | | | | **Fail** | | |
| **All valid fields** | | | **“Teacher has been registered successfully”** | | **Any valid data for the two fields** | | | **“Teacher has been registered successfully”** | | **Pass** | | | |

# Reference

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