**Record Management System (RMS)**

Sprint Test Plan

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## Test Plan Identifier

Sprint 2 Test Plan for Record Management System **STP2\_v1.0**

## References

Documents that support this test plan includes:

* Mockups (Invision App)
* Requirement document.

## Introduction

### Purpose

The purpose of this document is to describe the plan for validating all the requirements of ABC School planned in the Sprint 2. It is used to define the tools to be used throughout the testing process. Document can be used to communicate to the responsible stakeholders about the items to be tested, set expectations and define environmental needs. It describes the scope and priorities as well as how the tests will be conducted.

### Project Overview

Record Management System (RMS) is a web application, which is being developed for ABC School intended to manage student records by an Administrator. Student records can be student name, Student ID, ACT and SAT scores as well as student’s profile picture. This application allows the administrator to view student records, sort the list view according to ACT or SAT score in ascending or descending order, and able to view particular student details. So that administrator can track all the students record and report to the designated department accordingly when it is required.

## Test Items

The following features-wise items are to be tested:

1. Login
2. Student list
3. Student details
4. Searching the record
5. Sorting the record
6. Export to CSV format

## In Scope

Different types of testing will be performed for each module. Types of testing involved for this project include:

### Functional Testing

Functional Testing will be carried out where the functionalities are verified and validated according to the various requirements.

### UI Testing

• RMS application is tested against the high fidelity mockups from Invision App.

• Design verification

### API Testing

Testing technique will be carried out to ensure that API endpoints are returning the data as expected.

### Regression Testing

Regression Testing will be performed to assure that changes in any module don’t have ripple effect on related modules which will be delivered or enhanced.

### Sanity Testing

• Before any major release

• Major functionalities are in tact

## Features To Be Tested

It includes the Record Management System’s functional testing and their priorities:

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Features** | **Priority** |
| 1 | Logging into the RMS system with valid credentials as an Administrator | High |
| 2 | View lists of all students | High |
| 3 | Search students record | Medium |
| 4 | Sort the records based on scores | Medium |
| 5 | Reset the search input | Medium |
| 6 | View individual student record | High |
| 7 | Export student details in csv format | High |

## Out of Scope

### Pagination Testing

Breaking down a display list of records into pages as in the case of students list view is pagination. It is not included in this sprint. So it may be tested in the next sprint.

### Performance Testing

This application is not complex, so performance testing will not be considered for now.

### Concurrency Testing

This sprint will fulfill the requirements of Administrator only, so concurrency testing is not considered for now. It may be tested in the next sprint.

## Test Strategy

The test manager will create test runs for each tester. The tester will execute the test cases as per the TestCase\_STP2 and mark the case as PASS or FAIL or SKIP.

Tester must deliver test case run results. And test manager should review the test run reports in TestCase\_STP2 and report back to the team accordingly.

### Functional Testing

Tests will be conducted against the requirements/specifications as per the documented test cases stored in TestCase\_STP2. Tests are carried out following the test cases as per TestCase\_STP2, so that functionalities are verified based on the Use Cases and against the Acceptance Criteria. *Cypress* will be used to carry out the front-end tests.

For example, *Login* functionality will be validated with empty input.

Positive Testing and Negative Testing can be covered with *Decision Table Testing*.

### Decision Table Testing

Testing technique used to test system behavior for different input combinations. Likewise, it will be used to validate *Login* functionality of the application using various input combinations.

If username and password both are valid, then user will be navigated to the dashboard.

### UI Testing

It is used to test the user interface of the application. It involves checking buttons, icons and images in the application. Following checklist can ensure UI testing:

1. Check that input fields work properly and user can provide input
2. Check UI elements for size, position, width, length, alignment and color etc.
3. Check that images are properly aligned and visible in different browsers
4. Button should work when clicked
5. Students record should be displayed in tabular format

### API Testing

Testing is used to test the business layer of the application. It is performed to ensure that requested data are fetched, and proper front-end and back-end communication. It is performed using *Postman* application. If the response status is 200 then it is successfully carried out.

### Regression Testing

Regression Testing can be carried out using the following techniques:

1. Retest All

All the tests should be re-executed.

1. Regression Test Selection

Reusable test cases can be used in succeeding regression cycles.

1. Prioritization of Test Cases

Test cases will be selected and prioritized depending on critical functionalities.

### Sanity Testing

The focus of the team during sanity testing process is to validate the functionality of the application and not detailed testing. It is performed after each software build, such as *Login*, *Students List View*, *Detail View*, *Export to CSV* etc.

For example, *Login* functionality will be tested with valid username and password to verify that it works.

## Tools

### Cross-Browser/Platform Testing

RMS application is designed for desktop or laptop device only. Cross-Browser testing is performed to test the application works as expected on different operating systems and browsers. This application will be tested on the following operating systems and browsers:

|  |  |
| --- | --- |
| Operating System | 1. Windows 8 2. macOS 10.9 |
| Browsers | 1. Chrome 50.0.2661 2. Firefox 50.0 3. Safari 9 |

### Cypress

* A testing framework for JavaScript web application
* Focused on end-to-end testing
* Mocking user actions
* Easy to debug and find the changes

### Postman

* Open-source application for testing APIs
* Supports continuous integration
* Easy to debug tests
* Provides automation testing for repetitive tasks

### Jira

* Used for bug tracking, issue tracking, and project management
* Organize documentation tasks
* Source of information, such as release deadlines, time spent, bug fixes etc.

### Excel

* An application to store test cases, test data, test results etc.

## Assumptions

1. Prepared sets of test data will be sufficient to validate RMS functionalities.
2. Test data will cover most of the test scenario.
3. Requirements will not be changed.

## Risks

The following risks have been identified and the appropriate mitigation plans and their impact on the project. And also the probability of the risk is identified.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Risk** | **Impact** | **Probability** | **Mitigation Plan** |
| 1 | Test data prepared might be insufficient | High | Medium | 1. Verify the test data is sufficient against the requirement and validate with client 2. Need to review or create meaningful test data in each iteration |
| 2 | Test data may not cover all the test scenarios | High | Medium | 1. Verify the test data covers most of the test scenarios against the requirement 2. Need to review or update the test data if it fails to cover the test scenarios |
| 3 | Late requirements change | High | Low | 1. Ask more and more questions about client’s problems while gathering requirements, so that chances of requirement change will be reduced 2. Verify new requirements are well understood by stakeholders; if it is adaptable in the running sprint, then modify the test plan accordingly, otherwise it can be added into the next sprint 3. Need to upgrade the test plan as well as test data accordingly |
| 4 | Unavailability of resources for testing on time | High | Low | 1. Communicate with the stakeholders |

## Test Deliverables

1. Test Plan document
2. Test Results
3. Test Cases
4. Test Data
5. Sanity Checklist
6. Test Matrix
7. Bug Report

## Test Environment

Testing environment is a setup of minimum hardware and software that will be used to test the application by executing the test cases. Following softwares are required to test RMS application:

|  |  |
| --- | --- |
| **Environment** | **Software** |
| Operating Systems | 1. Windows 8 and above 2. macOS 10.9 and above |
| Browsers | 1. Chrome 50.0.2661 and above 2. Firefox 50.0 and above 3. Safari 9 and above |
| Database | 1. MySQL |

## Bug Report

Bur report is used to keep track of all the bugs that occur during the execution of the test cases and will be kept in the sprint according to the priority of the task. Bug tickets will be created for the issues reported. Bug tracking tool JIRA will be used for this project.

The priority of the issues is marked according to the requirements and their priorities. Once the issue is fixed and checked the functionality against the Acceptance Criteria, that will be marked as ‘done’ once verified by QA.