**TEST PLAN (REPORT)**

Submitted To:

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Course Name: **Software Validation and Testing**

Course Code: **SE301**

**Revision History**

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| --- | --- | --- | --- |
| Date | Version | Description | Author |
| 31.12.2023 | 1.0 | Initial Version | **YOUCEF TCHANTCHANE** |
| 01.01.2024 | 1.1 | Completion of the overview and specifying test approaches and methodologies | **YOUCEF TCHANTCHANE** |
| 02.01.2024 | 1.2 | Test Plan completed | **YOUCEF TCHANTCHANE** |
| 03.01.2024 | 1.3 | Reporting test results | **MOHAMMED EL HACHEMI MESLI** |
| 04.01.2024 | 2.0 | Completion and approval of the test report | **MOHAMMED EL HACHEMI MESLI** |

**Approvals**

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| Document Approval | |
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***1. Test Plan***

## 1.1 Overview

### Purpose

The primary objective of this comprehensive test plan is to evaluate the functionality, security, and user experience of our web application. The testing will focus on ensuring the seamless operation of critical features, including but not limited to authentication (login and sign-up processes), student list management, student addition and editing functionalities, and profile editing. The purpose is to identify and rectify potential issues, validate the accuracy of data handling, and guarantee a user-friendly interface. Through a combination of manual and automated testing, we hope to deliver a reliable and robust web application that meets the highest standards of quality, and also ensuring a positive and secure user experience.

### Scope

The test will cover the following aspects of the web application (features to be tested):

* Login
* Sign-up
* Adding student
* Editing Students
* Profile Editing
* Log out

The test will not cover the following aspects of the web application (features **not** to be tested):

* Contact
* ⁠Forget Password
* ⁠ ⁠Report Problem
* ⁠ ⁠Change Image
* ⁠ Manual Guide

## 1.2 Testing Methodology

The testing will follow a combination of manual and automated testing methodologies. Manual test for usability, security, and some functional elements. Automated test for performance and most of the functional elements.

## 1.3 Test Types

***Functional:***

**White Box Testing:** Static Analysis, Dynamic and Unit Testing.

**Black Box Testing:** Boundary, State Transition, Error Guessing and Compatibility Testing.

***Non-Functional:***

**Performance:** Load Testing.

**Usability:** Task scenarios, Navigation Testing and Surveys.

**Security:** Pen Testing, Code review, fuzzing and Networks security.

## 1.4 Approach

* **Authentication Testing:**
* Verify login with valid credentials.
* Validate error messages for invalid login attempts.
* Test the sign-up process and account creation.
* **Student List Management:**
* Verify the display of the student list.
* Test the addition of a new student to the list.
* Validate the ability to edit existing student details.
* **Adding/Editing Students:**
* Confirm the proper functioning of the student addition form.
* Validate the ability to edit existing student details.
* **Profile Editing:**
* Verify the ability to access and edit user profiles.
* Confirm that changes in the profile are reflected accurately.

## 1.5 Risk and backup(mitigation)

| Risk | Backup |
| --- | --- |
| Limited Experience in Web Development and testing processes | Come up with training sessions and also encourage knowledge sharing |
| Team Members Struggling with Time Management | Schedule timelines for testing activities and regularly check progress |
| Unplanned Absences Impacting Project Schedule | Team member should be ready to split tasks left by the absent member |

## 1.6 Scheduling

|  |  |  |  |
| --- | --- | --- | --- |
| Task | Assigned member | Start date | End date |
| Generating test cases | Test manager | 25/12/23 | 28/12/23 |
| Execute test processes | Test engineers | 29/12/23 | 30/12/23 |
| Write test report | Test engineers &manager | 31/12/23 | 04/01/24 |

## 1.7 Test environment

**Hardware:** Standard laptops will be used

**Software:** Windows as OS, chrome as web browser, Selenium and Junit as an automated testing tool for functional testing, while manual testing will be performed for performance (JMeter), Usability, Security and IntelliJ as an IDE.

**Network Configuration:** No specific network requirements; testing will be conducted on a local Wi-Fi network.

**Test Data:** Sample datasets will be provided for testing login, student management, and profile editing features.

## 1.8 Roles & Responsibilities

| Role | Responsibilities |
| --- | --- |
| Test manager | Coordinate efforts between the testing and development teams; Oversee the entire testing process, ensuring alignment with project goals. |
| Developer | Collaborate with testers to understand and reproduce reported issues; Address reported defects efficiently. |
| Test engineer | Execute test cases; Identify and document defects for the development team with providing detailed information |

## 1.9 Test Criteria

There are 123 test cases in **CTS**, in order to proceed to the next phase 90% must pass, so a minimum of 111 test cases is needed.

***2. Test Report:***

## Test Conducted:

We performed functional testing and non-functional (usability, performance, security) for these features:

* Login
* Sign-up
* Adding student
* Editing Students
* Profile Editing
* Log out

## Test execution report:

In our test execution we tested the functionality of 6 features with 123 test cases, 118 passed which is satisfies our test criteria:

| **Feature**  **(Functionality)** | **Test cases** | **Passed** | **Failed** | **Not tested** | **Execution%** | **Pass%** | **Fail%** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Login** | 8 | 8 | 0 | 0 | 100% | 100% | 0% |
| **Sign-up** | 23 | 21 | 2 | 0 | 100% | 91,3% | 8,7% |
| **Adding student** | 27 | 26 | 1 | 0 | 100% | 96,2% | 3,8% |
| **Editing Students** | 32 | 31 | 1 | 0 | 100% | 96,8% | 3,2% |
| **Profile Editing** | 32 | 31 | 1 | 0 | 100% | 96,8% | 3,2% |
| **Log out** | 1 | 1 | 0 | 0 | 100% | 100% | 0% |

Une image contenant texte, capture d’écran, diagramme, Police

Description générée automatiquement

## Test Deliverables

The test deliverables for our project **CTS** include a detailed Test Cases Document, which outlines test cases (with test data) for functional test (authentication, student list management, and profile editing) and also non-functional tests(usability, performance, and security) with comprehensive details. Additionally, a Defects Report Document summarizes issues found during testing, providing defect severity, steps to reproduce, and relevant details for efficient resolution. Finally, a test plan (includes all the planning and methodologies intended to use in the test processes) along with the test report which summarizes the finding of the execution. Together, these deliverables ensure transparency and assist stakeholders in evaluating the application's functionality and readiness for deployment.

## Conclusion

To summarize, we had 123 total test cases and all of them were performed with %91,1 test passed. We came across with 11 defects, one of them has a major effect while the rest have average effect on our project, all the defects were resolved except one. In the next phase we’re planning to add more features which means increasing test cases along with using new test methodologies in order to increase the percentage of testing.

In conclusion the testing phase has provided valuable insights into the functionality, usability, and stability of the web application. While the majority of test cases have passed successfully, some defects have been identified and documented for resolution. The team recommends addressing these issues promptly to ensure the application's readiness for the next development phase. We appreciate the collaborative efforts of the testing and development teams and look forward to the continued success of the project.