

Gamified physical examination test plan

Introduction

Gamified physical examination application is a SMART on FHIR app that allows students to solve certain medical exams while having gaming experiences. The gamified physical examination application is built on the Spring boot framework and deployed on HDAP.

Objective

This document describes the plan for testing the gamified physical examination application. This Test Plan document supports the following objectives:

- Identify existing project information and the software that should be tested.
- List the recommended test requirements (high level).
- Recommend and describe the testing strategies to be employed.
- Identify the required resources and provide an estimate of the test efforts.
- List the deliverable elements of the test activities.

Scope

This Test Plan describes the integration and system tests that will be conducted on the gamified physical examination application.

The interfaces between the following subsystems will be tested:

1. Access gamified physical examination application. The case symptom should be loaded.
2. Select the exams, measurement and units.
3. Scoring the selected exams.

Testing Strategy

Due to heavily frontend development and the time constraint, we will rely on mostly manual testing to make sure everything works as expected. We need to verify the following items to make sure the application works as expected.

1. Make sure the application load and students can access the application.
2. Make sure the students can click the human figure and exam popup would appear.
3. Students can select the exam, enter the measurement and unit.
4. The selected exam, measurement and unit matches with the student's selection.
5. Students can remove the exam in case they make a mistake.

6. Students can update the selected exam before submission.
7. The timer will run to see how long students take to solve the case.
8. When students click the done button, the popup would disappear.
9. When students click the done button, they will see their scores.
10. Need to check if students get a reasonable score. If they selected a required exam, they should receive points. If not, they should get points deduction.

Unit Testing

Because this is a front-end heavy project. We have a limited unit test that covers backend logic.

System and Integration Testing

Because we did not receive the required information until the last minute, we do not have any system or integration test for the application. Instead, we have a HDAP pipeline that should cover most of the system testing.

User Acceptance Testing

We have three meetings with Dr Mark, Dr. Barry and his team. Everyone is good with our approach. And due to the time constraint, we don't have a complete plan for UAT.