Testing Reports

Revision History:

Date	Author	Description
2020/10/15	Chenkai MA	Created and wrote the document
2020/10/23	Huixiang LIU	Added testing cases and some testing results

Contents

1. Introduction

1.1. Intended Audience and Purpose

This document provides the testing method and results, corresponding to the requirement from the customer. It consists of 3 parts, the testing cases, the test plan, and the testing results.

1.2 How to use the document

You may refer to the content section for the structure of the document, in which Sec. Testing Cases collect the unit and module test information from each team; Sec. Testing Plan shows the steps and expected results of the integration test; Sec. Results describes the real world data out of the test, and the correspondence to the requirements.

2. Testing Cases

In this section, my team propose our testing cases on unit and module testing.

2.1. Algorithm for Edge Detection

We will process the pictures which were given to us and try to detect their edges.

Test Case No.	Description	Input	Desired output
0001	Input a photo that doesn't meet the format and size requirements	A low quality photo	The algorithm returns an error message that the input doesn't meet the requirements.
0002	Input a correct X-ray photo	A correct X-ray photo	The algorithm returns a photo which has a curve fitting the bones on it.
0003	Test the accuracy of Edge Detection	A correct X-ray photo	The curve returned by the algorithm which fitting the bones should be very close to the curve formed by the bones.
0004	Test the running speed of the algorithm	50 correct X-ray photos	Running time of the algorithm.

2.2. Algorithm for the Degree of the Cobb

We will process the pictures which were given to us and try to calculate their degrees of the Cobb.

Test Case No.	Description	Input	Desired output
0005	Input a photo that doesn't meet the format and size requirements	A low quality photo	The algorithm returns an error message that the input doesn't meet the requirements.
0006	Input a correct X-ray photo	A correct X-ray photo	The algorithm returns a photo which has a Cobb angel drawn on it and outputs its degree..
0007	Test the accuracy of calculating the degree of the Cobb	A correct X-ray photo	The degree of the Cobb returned by the algorithm should be very close to the degree calculated by the doctor.
0008	Test the running speed of the algorithm	50 correct X-ray photos	Running time of the algorithm.

3. Testing Plan

Here comes the complete testing plan for integration, referring to the workflows in the system design document.

3.1. Upload Pictures

The pictures which will be processed will be uploaded by the Server Team.

3.2. Process Pictures

The pictures will be processed, and the Cobb Degree will be obtained.

3.3. Give Advice

The advice will be given according to the Cobb Degree.

4. Testing Results

The results of the integration are listed here and you may find the correspondence to the requirements in the requirement analysist document.

Test Case No.	Module	Result	Corresponding Requirement
0001	Algorithm for Edge Detection	Pass	Detecting the edges of the bones.

0002	Algorithm for Edge Detection	Pass	Detecting the edges of the bones.
0003	Algorithm for Edge Detection	Need to improve the fit of the curve	Detecting the edges of the bones.
0004	Algorithm for Edge Detection	Need to be tested	Detecting the edges of the bones.
0005	Algorithm for the Degree of the Cobb	Pass	Calculating the Cobb degree
0006	Algorithm for the Degree of the Cobb	Pass	Calculating the Cobb degree
0007	Algorithm for the Degree of the Cobb	Need to improve the accuracy	Calculating the Cobb degree
0008	Algorithm for the Degree of the Cobb	Need to be tested	Calculating the Cobb degree