System Requirements Specification

(SyRS)

for

<ECNG 2005 CSL Project>

at The Department of Electrical and Computer Engineering,

The University of the West Indies

St Augustine Campus

Trinidad

Prepared by:

<Kashanna Joseph, Adesh Goordeen, Aliya Miller>

<March 26th 2024>

# Document Control

Title: System Requirements Specification

Version: 1.0

Date: 16/03/2024

Author(s): Kashanna Joseph, Adesh Goordeen, Aliya Miller

## Document Signoff

|  |  |  |  |
| --- | --- | --- | --- |
| Nature of Signoff | Person | Signature with Date | Role |
| Author  Reviewees |  |  | Project Manager, Requirements Analyst and Consultant  QA Officer |

*N.B. Signoff happens when moving from draft to a stable version. Reviewers can recommend returning to another draft or moving to a stable version. In the case of an StRS, this document is customer/user/stakeholder facing. Therefore it needs their signoff to move to a stable version.*

## Document Change Record

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Author | Change Details |
| 05/03/2024 | 0.1 | Adesh Goordeen | Updated “Section 1.1 System Purpose” |
| 05/03/2024 | 0.1 | Adesh Goordeen | Updated “Section 1.2 System Scope” |
| 05/03/2024 | 0.1 | Adesh Goordeen | Updated “Section 1.3.1 System Context” |
| 05/03/2024 | 0.1 | Adesh Goordeen | Updated “Section 1.3.2 System Functions” |
| 05/03/2024 | 0.1 | Adesh Goordeen | Updated “Section 1.3.3 User Characteristics” |
| 09/03/2024 | 0.1 | Kashanna Joseph | Updated the title page to reflect the project information and formatted the sections that were updated thus far |
| 15/03/2024 | 0.1 | Adesh Goordeen | Updated “Sections 3.3 Performance Requirements and 3.4 Interface Requirements |
| 16/03/2024 | 0.1 | Kashanna Joseph | Updated “Sections 3.1 Functional Requirements and 3.2 Usability Requirements” |
| 16/03/2024 | 0.1 | Aliya Miller | Updated “Section 3.5 System Operations” |
| 26/03/2024 | 1.0 | Adesh Goordeen | Updated “Section 1.3.2 System Functions and Document editing” |

# 1 Introduction

## 1.1 System Purpose

This document will outline a thorough account into all the necessary requirements for the student evaluation digitization software. By examining the system's requirements and features, the complete process of using the program will be defined. The application will facilitate forms selection/completion, storing the filled data and preview of said data.

## 1.2 System Scope

The intent of this application is to make frequently used forms more readily available to students and counsellors while also reducing the usage of paper. It also encourages users to get more comfortable with electronic forms. A database will also be used in the application so previous data can be accessed through a singular search within the database. The user will also have the option to print forms after being filled.

## 1.3 System Overview

### 1.3.1 System Context

The Ministry of Education in Trinidad and Tobago has implemented the use of these forms to better evaluate the mental wellbeing of students in secondary schools. These forms are the stress form, Depression form and self-esteem form. Currently, guidance councillors print these forms and give students to fill them out to which they then tally the score. This application can be used as an alternative for filling these forms and saving the data. This alternative to manually filling these forms also eliminates the waiting time for retrieving and storing student data.

### 1.3.2 System Functions

|  |  |
| --- | --- |
| Function update No. | Function |
| F.1 | The application must be able to show the forms in a familiar way for students to see |
| F.2 | The application must be easy to navigate. |
| F.3 | The application must store the user’s data in a database. |
| F.4 | The application must have a print option |
| F.5 | The application must provide an overall score for the test done by the student |
| F.6 | The application must provide an option to search within the database |

***Table 1: System Functions***

### 1.3.3 User Characteristics

The application uses a simplistic interface to allow students to readily access the forms needed. In the UI, users are prompted to enter their name, age, gender, school, and date in the general tab. This initial information is important for navigating throughout the database. The UI also has the option to go to the Stress, depression, and self-esteem forms as well as the database. The data can then be used by the administrator (The Guidance Counsellor) from within the preview and the database tabs.

# 2 System Requirements

## 2.1 Functional Requirements

For this system, the software must achieve the following objectives:

1. Must be a user-friendly environment so that the students as well as the guidance officer using it can easily navigate through the application.
2. There must be instructions before each test so that students will understand how to answer the tests
3. After the student takes their test, the application must produce a score based on the student’s answers.
4. The score as well as general information about the students must be stored in the application’s database.
5. The application must be able to allow for only one test to be taken at a time as the guidance counsellor will chose which tests the students have to take and she will only administer one test at a time
6. The application must be able to store test results after completing each form.
7. The application must include a print function so that the guidance counselor may print the student’s results to store in a physical file.
8. The application must also have a search function so that the guidance counselor can find students information easily.

## 2.2 Usability Requirements

The software application digitizes the mental health screening forms provided to us by Ms. Harripersad (the guidance officer at Princes Town West Secondary School). It is intended for use by Ms. Harripersad and her students who would be between the ages of 12 and 21. The application would provide instructions for each test before the user attempts the tests. It would also contain tools such as the slider or rating scale so that the students can choose their answers with ease. The generated score will assist the guidance officer in evaluating their mental health status. Since the application stores the information, Ms. Harripersad will also be able to search for past tests a student has taken to compare the scores with a current test. The print function will also allow Ms. Harripersad to print this information afterwards for her own personal hardcopy storage.

## 2.3 Performance Requirements

In this application the main performance requirement discussed was the option to fill in the relevant form and save the data to be further processed. The data retrieved from the student is then saved to a database allowing the administrator to have access to the digitized version of the mentioned forms. The storage capacity was considered as one of the main performance requirements as it allows the guidance counsellor to retrieve the information that has been stored. Another crucial performance requirement was the ability to create a score for the forms in addition to storage capacity. Since it is one of the primary system requirements for the guidance counsellor to utilize, the user interface was made to outline all these features. For the user interface the main performance requirement considered was navigation. To incorporate this requirement different tabs was added to the application along with instructions for students to choose.

## 2.4 Interface Requirements

As aforementioned the overall interface is made up of six main components as seen in the main user interface. With these sections the most common requirements needed were:

|  |  |  |
| --- | --- | --- |
| Requirement | Contents | Requirement No. |
| User interface requirement | 1. Includes General, Stress test, Depression test, Self-Esteem test, preview and database tabs. | R.1 |
| 2. User friendly and easy to interpret | R.2 |
| 3. Contains instructions for users to read and navigate the app. | R.3 |
| Database Requirement | 1. Accessible from the main page | R.4 |
| 2. Shows all student data | R.5 |
| 3. Shows the relevant form done by the student | R.6 |
| 4. Performs a overall tally of the test results | R.7 |
| 5. stores data that can be found by a search | R.8 |
| 6. Allows user to print data. | R.9 |
| **Interdependencies Requirements** | 1. The database only stores valid information | R.10 |
| 2. The preview tab depends on the information filled in the general tab. | R.11 |
| 3. The code implemented for tallying the scores in the database depends on the options the student chooses | R.12 |
| 4. The users are not able to do more than one form without having a stored file in the database | R.13 |

## 2.5 System Operations

The requirements for the application encompass various aspects aimed at ensuring efficient and secure interaction between users and the system. The main requirement is the login mechanism implemented on the application's initial page, which restricts access to authorized personnel via password authentication. Beyond login authentication, the system is designed with intuitive user interfaces to facilitate smooth navigation and interaction. Clear instructions are provided throughout the application to guide users through completing the assessments.