CSE2102 Assignment Submission 2

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Contribution Report

Each group member contributed to the write up and shared work was done between everyone, for online collaboration a google docs folder was used to perform the write up, and everyone communicated through WhatsApp. We had a good experience our strength was that we can communicate with everyone and work can be done anytime, it was difficult communicating the idea because some members joined late. A challenge experienced was new members were unclear of the idea so an explanation was done.

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Introduction

1.1 Purpose

The product whose requirements that is being specified is a current students records database system for St. Stanislaus College, it will cover all current students of the establishment. The database system will store a variety of information such as names, DOB, DOE, current grade, emergency contacts, class, class teacher and so on.

1.2 Intended Audience and Reading Suggestions

The intended audience for this document includes the Headteacher, teachers, staff, the technical writers of the document and the developers responsible for the design and implementation of the system.

Overall Description

2.1 Product Perspective

The current student database is a relational database management system (RDBMS) created using Microsoft Access, a software used for creating relational databases. They will have the features necessary for storing, manipulating and management of information.
Microsoft Access is a part of the Microsoft Office suite which allows the product to integrate with other software included in the suite, should the users deem it necessary.

2.2 Product Functions

- This system shall allow the user to register.
- This system shall allow the user to create a student profile.
- This system shall allow the user to update the student profile.
- This system shall allow the user to add the student's date of birth.
- This system shall allow the user to add the student's address.
- This system shall allow the user to update the student's address.
- This system shall allow the user to add the names of the student's parents.
- This system shall allow the user to add the student's emergency contacts.
- This system shall allow the user to enter the student's class grade.
- This system shall allow the user to update the student's class grade.
- This system shall allow the user to add the name of the class teacher.
- This system shall allow the user to update the class teacher name.
- This system shall allow the user to add the student's grades.
- This system shall allow the user to update the student's grades.

2.3 User Classes and Characteristics

Data entry clerk - The data entry clerk will access this system to enter and update all student information.

Characteristics
- Good communications

- Fast typing skills
- Basic knowledge of the software

Administrative user - The administrative user will direct and perform all activities in order to maintain a successful database environment.

Characteristics
- Organizational awareness
- Advanced technical expertise
- Flexibility and problem solving

2.4 Design and Implementation Constraints

1. The product requires the a PC preferably one with a windows operating system
2. The PC should meet the minimum system requirements need to run Microsoft Access
3. The PC should also have Microsoft Access installed

2.5 Assumptions and Dependencies

1. The users do not need internet access to use the product
2. Users should possess the basic understanding of computer skills
3. The user should have the knowledge and application needed to use Microsoft Access and preferably other Microsoft Office products.

System Features

3.1 System Feature 1:

Add records

The program should allow to user to enter students records and information

3.1.1 Description and Priority

The program will take entered students information, assign it a unique id and store it to the database system. This function will have a high priority since this will be the main way to enter students' information.

3.1.2 Stimulus/Response Sequences

1. User command by data entry clerk or admin user.
2. Responds by showing a form requesting data entry
3. After data entry is completed, the response says data is saved.

3.1.3 Functional Requirements

REQ-1: It should indicate what information is required for a record to be saved.
REQ-2: Date should have appropriate data types assigned.

3.2 System Feature 2:

Edit record

The ability to manipulate or change the data stored.

3.2.1 Description and Priority

The program will allow users to change certain details about specific records by using a specified id or name.

3.2.2 **Stimulus/Response Sequence**s

1. User command issued by user.
2. Interface showing requests information, promoting users to make their changes.
3. Once submitted respond by saying changes saved

3.2.3 **Functional Requirements**

 REQ-1: Date should have appropriate data types assigned.

3.3 System Feature 3:

Delete record

Allow users to remove a specified record.
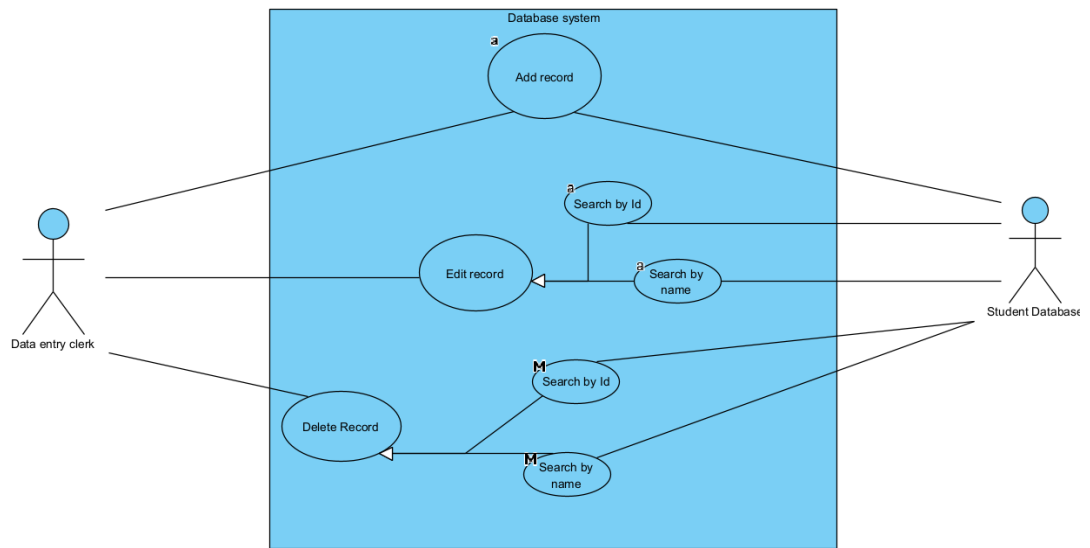
3.3.1 Description and Priority

The user specifies an id or name \, that the system will remove from the database. The priority of this function will be high since the ability to remove information will be required.

3.3.2 Stimulus/Response Sequences

1. User command issued by user
2. Prompt to enter id or name
3. System searches for matching Id or name
4. Prompt are you sure you are to remove
5. Once confirmed response recorded deleted will be displayed

3.3.3 Functional Requirements

REQ-1: Confirmation to ensure the correct record is being removed.

Database system

Add record

Search by Id

Edit record

Search by name

Search by Id

Delete Record

Search by name

Data entry clerk

Student Database

Other Nonfunctional Requirements

4.1 Performance Requirements

The user interface for the Database must be simple enough for the data entry clerk to understand and add student information to the database. Student information will be stored on the computer hard drive and can be uploaded to the cloud later for security preferences.

4.2 Safety Requirements

The best approach to avoid data loss is to regularly backup all of the files and documents. Cloud storage shall be used as an effective means of backing up data, therefore all data can be accessed easily on the internet.

Some other safety requirements are:
- Keeping the computers in a safe location - Computers are kept out of the way to prevent data loss, damage or harm.
- Control employee access - All of the employees shall receive adequate training on data sharing and confidentiality. To prevent unintentional or intentional data loss, it is best to limit who has access to different levels of data.

4.3 Security Requirements

Security is a concern for any database management system, especially one that is responsible for storing personal information of students. The follow security requirements guard against unauthorized access to data and help preserve the integrity of the RDBMS:

- Availability - Ensuring that all resources and information are always accessible to authorized users.
- Integrity - Ensuring that data is only altered in a predetermined and approved manner
- Confidentiality - Data, items, and resources are shielded against unwanted access and sight.

User Authentication Requirements

- One of the fundamental types of authentication are passwords. In order to prevent unauthorized access to the database system, a user must enter an appropriate password while establishing a

connection. By using the data kept in the database, users making an effort to connect to it may be verified. Passwords are assigned when users are created. The database may keep an encrypted copy of a user's password in the data dictionary. Password changes are always possible for users.

4.4 Software Quality Attributes

- The product must be operable during office hours
- Maintenance if necessary should be done at a scheduled time
- The product makes it possible for easy export/import or information to other microsoft office software

4.5 Business Rules

- Once in operation the database should only be directly accessed by the data entry clerk or admin user.
- Only the administrator can remove students directly from the record.