
Software Requirements Specification

For

Coaching Center Management System

Version 1.0

Project Manager:

Dr. Kazi Masudul Alam

Associate Professor

**Computer Science & Engineering Discipline,
Khulna University.**

Prepared by:

Sadman Sakib (190214)

&

Saifuddin Mahmud (190235)

Khulna University, Bangladesh.

November 08,2020

Table of Contents

1.	Introduction	4
1.1	Documentation Purpose	4
1.2	Definitions, Acronyms, and Abbreviations.....	4
1.3	Intended Audience and Reading Suggestions.....	4
1.4	Product Scope	5
1.5	References	5
2.	Overall Description.....	5
2.1	Product Perspective	5
2.2	Product Functions	5
2.3	User Classes and Characteristics.....	7
2.4	Operating Environment	7
2.5	Design and Implementation Constraints	8
2.6	User Documentation	8
2.7	Assumptions and Dependencies.....	8
3.	External Interface Requirements	8
3.1	User Interfaces	8
3.2	Hardware Interfaces	8
3.3	Software Interfaces.....	9
3.4	Communication Interfaces.....	9
4.	System Features.....	9
4.1	Features for STUDENTS.....	9
4.2	Features for PARENTS	9
4.3	Features for TEACHERS	10
4.4	Features for ADMIN	10
5.	Other Nonfunctional Requirements	10
5.1	Performance Requirements.....	10
5.2	Safety Requirements.....	10
5.3	Security Requirements.....	11
5.4	Software Quality Attributes	11
5.5	Business Rules	11

6.	Use Case	12
6.1	Use Case Diagram	12
6.2	Use Case Description	13

Revision History

Name	Date	Reason For Changes	Version
SRS	08/11/2020	Features added more elaborately	1.0

1. Introduction

1.1 Documentation Purpose

Education in today's world, administration & management of organizations, particularly educational institutions, has become a tedious and complex task. It requires careful planning, a systematic approach, and accurate control of administrative processes to attract the best students, produce the best results and project the best image. Coupled with tight competition from the industry, these institutions are increasingly seeking the help of information technology to improvise their facilities and maintain a competitive edge in their educational business. Therefore, the purpose of our project is to make a management system with a complete overview of a coaching center which will not only be beneficial to the owner but also the students and their guardians. It will also show what the system will perform and under which it will operate.

1.2 Definitions, Acronyms, and Abbreviations

We will use a bold letter to emphasize the main topics and for all the major functions of the system. Underlined words will represent hyperlinks and *Italic* words will represent acronyms. Some useful terms we will use are:

Term	Definition
System Admin	A person who is responsible for managing the whole system and who has full access to the system.
System User	A person who is using or operating the system but with a limited privilege.
Database (DB)	Collection of all the information monitored by this system.
Software Requirements Specification (SRS)	Documentation that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.
CCMS	Coaching Center Management System

1.3 Intended Audience and Reading Suggestions

Our project is mainly intended for developers, coaching owners and staff, general people, students, testers, and documentation writers. It will also help parents to get an update on various aspects of their children. To understand the paper properly, one has to go through the sections one by one, beginning with the overview system.

1.4 Product Scope

Since we have already said that, our project is mainly aimed at coaching owners, staff, and parents as well, it has numerous other purposes. For example, it may be used for assigning marks for attendance and exams, maintaining the class schedule for teacher and students, fill registration forms, etc. Parents will also be able to check their children's progress, make payments online or check payment status, etc.

1.5 References

List of documents/Web addresses to which this SRS refers:

- Software Requirements - Tutorialspoint. Retrieved 1 November 2020, from https://www.tutorialspoint.com/software_engineering/software_requirements.htm
- Retrieved 1 November 2020, from https://web.cs.dal.ca/~hawkey/3130/srs_template-ieee.doc

2. Overall Description

2.1 Product Perspective

Our system will be free for all. It will be a web-based system that will support all types of the operating system. This system will also provide a simple mechanism for the user to share their complaint with the system admin to solve it. Our system will also focus to help the owner and staff of the coaching center and parents and students for various purposes.

2.2 Product Functions

Our project contains the following functions/features:

Here, we will have four types of users.

1. Teachers
2. Students
3. Guardians
4. System Admin

Features for Teachers:

- Login
- Change Password
- Modify profile
- View Class and Exam schedule
- Check exam papers
- Add result
- Add solve
- Assign marks in his/her subject
- Modify those marks

Features for Students:

- Login
- Change password
- Modify profile
- View result
- Make payments
- Check payment status
- Fill registration form
- View class and exam schedule

Features for Guardians:

- Login
- Change password
- Modify profile
- View result
- Make payments
- Check payment status
- Fill registration form
- View class and exam schedule

Features for System Admin:

- Login
- Change password
- Modify profile
- Create class and exam schedule
- Manage users and full system
- View result

- View class and exam schedule
- Manage registrations
- Manage subjects
- Manage teachers
- Manage payments

2.3 User Classes and Characteristics

The coaching center management system has mainly four classes. It is for students, then teachers, guardians, and lastly institutions owner or system admin panel. These users are being differentiated based on their usage of this management system. The institution owner can use their data to develop their organization. Also, some characteristics are:

User Friendly:

Our system is very useful and also easy to use so, all users with some basic knowledge of computers can use it properly.

Open-source software developers and contributors:

Software Developers:

To make any development in source code or to add more features, people need to have good programming language.

Translators:

People of all age groups with very good knowledge of a language not included in the current translation list.

Anyone who wants to help the FOSS (Free and open-source software) community:

The whole project is based on the concept of Free and Open Source software, so all people are welcome to contribute anyway according to their wish and desire.

2.4 Operating Environment

This is mainly a desktop or web-based system. Our system will run on Win7/Win8/Win10. It will also run on LINUX or MAC.

2.5 Design and Implementation Constraints

The system may have some Hardware or memory limitations. The MySQL database will be used here. The JavaScript or PHP framework will be used. There is some security option for this system, it will be well designed that it is hard to hack that. Our system is under the GNU General Public License Version 2, June 1991. Everyone, that does or is going to develop or use our project, should agree or fully accept the terms of this kind of license.

2.6 User Documentation

To use the system properly, there will be various components to help the user. Some of them are:

- User Manual: Will be attached
- Online Help: There will be a report option and an FAQ in the product.
- Tutorial Link: A tutorial will be uploaded for the user on the website.

2.7 Assumptions and Dependencies

- Database server errors may occur.
- System Admin may have stored wrong information by mistake or for lack of information.
- Updated or new information about users may not have been submitted by the System Admin.

3. External Interface Requirements

3.1 User Interfaces

The system interface will be simple and user friendly. For every user, there will be an account profile. There will be a database for the number of students, teachers, and earned marks for students so that the students can compare their marks with others. There will also be a list of subjects taught.

3.2 Hardware Interfaces

Hardware Interfaces is the connection and communications of different devices. This software is supported in all hardware components. This software is a large database system, when the user requests any data, it will read data from that and show it.

3.3 Software Interfaces

There are connections between this management system to other specific software components. Suppose the user requests data from the database, then it will read out the data through hardware components and show it.

3.4 Communication Interfaces

This management system will use HTTP communication standards. This system requires any type of web browsers.

4. System Features

Here we have discussed the features of our system. This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product. We have also organized this section by discussing the USE CASE in sections 6 and 6.1.

4.1 Features for STUDENTS

4.1.1 Description and Priority

In the STUDENT FORUM, we have provided features to know about the information of their results, to fill registration form, to view class and exam schedule. Each feature has equal priority.

4.1.2 Functional Requirements

A student cannot modify anything like the information or result. He/she can only view the results. However, he or she can modify his or her personal information.

4.2 Features for PARENTS

4.2.1 Description and Priority

In the PARENT FORUM, we have provided features to know about the information of the student, to view results, to fill registration form, to view class and exam schedule, and also pay bills or check payment status. Each feature has equal priority.

4.2.2 Functional Requirements

A parent cannot modify anything like the information or result of his or her student. He/she has to take permission and help of the associated teacher and admin panel. However, he or she can modify his or her personal information.

4.3 Features for TEACHERS

4.3.1 Description and Priority

In the TEACHER FORUM, we have provided features to check papers and add result or add solve, to view class and exam schedule. Each feature has equal priority.

4.3.2 Functional Requirements

A teacher cannot add new members. However, he or she can modify his or her personal information.

4.4 Features for ADMIN

4.4.1 Description and Priority

In the ADMIN FORUM, we have provided features to add teachers, to manager registrations, to manage payments, etc. Each feature has equal priority.

4.4.2 Functional Requirements

An admin can add and modify all types of data.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Our system will be always up-to-date with all newly supported features and bug fixes. So, the user can check for new versions of the program just by clicking a button. It's a light application that needs very few system resources to work.

5.2 Safety Requirements

Our system is 100% safe to use. Besides, it is an open-source system. So, anyone who has doubts can check the source code. There may be a multifunctional problem with this system. There also may be server problems. At a time, many users will use this system, so the server system will be strong.

5.3 Security Requirements

To secure the database of the institutions or users, the database server should be highly upgraded. There will be an account verification system for any user so that anyone cannot misuse it.

5.4 Software Quality Attributes

This system is very flexible to the users, users can easily use it. This product will be portable. It is reusable, testable, and robust.

5.5 Business Rules

Business rules consist of requirements, design, coding, configuration, and testing.

6. Use Case

6.1 Use Case Diagram

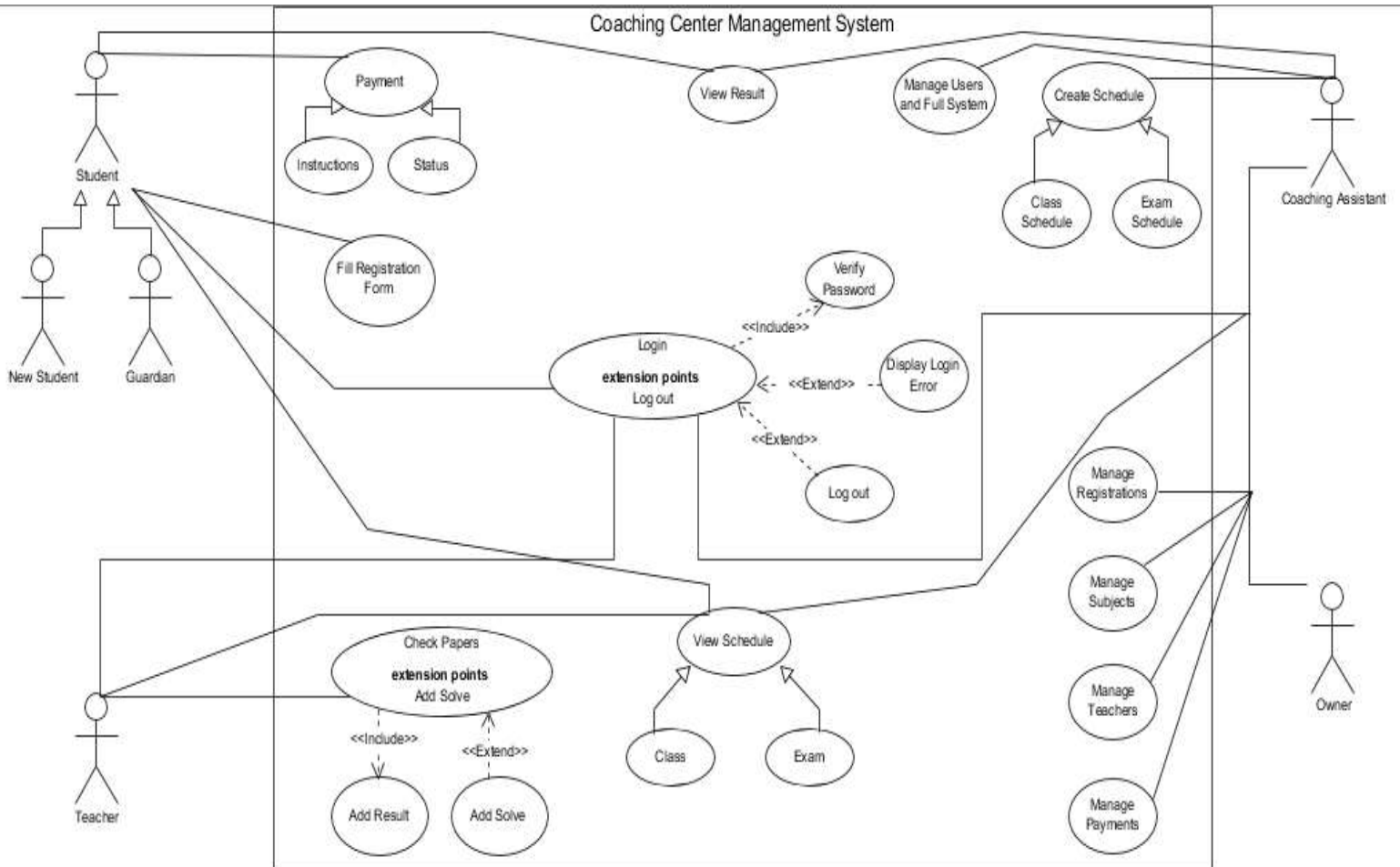


Figure 1: Use Case Diagram

6.2 Use Case Description

Login

Use Case Name	Login
Actor	Student, Teacher, Coaching Assistant, Owner
Brief Description	This operation allows user to get access to the system.
Priority	Essential
Trigger	User decides to use the system.
Precondition	1. User must be connected to the internet. 2. User must input valid login details.
Basic Path	1. Server presents the users with the user Login Page.
Alternate Path	N/A
Post Condition	User gets access to the system.
Exception Path	1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown. 3. If the user has already been using the system, he would be presented with a log out section.

Fill Registration Form

Use Case Name	Fill Registration Form
Actor	Student
Brief Description	This operation makes entry of new students to the system.
Priority	Essential
Trigger	A new student wants to register himself/herself to the system.
Precondition	1. User must be connected to the internet.
Basic Path	1. Server presents the users with the Student Registration Page. 2. Users fill up all necessary data field and submit.

	3. Admin panel check the information and make approval.
Alternate Path	N/A
Post Condition	Server creates a new student entry to the database and a unique login key will be presented to the new user of the system.
Exception Path	1. If there is a connection failure, the server returns to the wait state.

Payment

Use Case Name	Payment
Actor	Student
Brief Description	This operation allows a student to know about the payment instruction and status.
Priority	Critical
Trigger	User decides to know about the payment procedure or decides to know about his/her current payment status.
Precondition	1. User must be connected to the internet. 2. User must login to the system.
Basic Path	1. Server presents the users with the user Login Page. 2. User login to the system and go to payment section.
Alternate Path	N/A
Post Condition	Users get to know about the payment method and status.
Exception Path	1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.

Create Schedule

Use Case Name	Create Schedule
Actor	Coaching Assistant
Brief Description	This operation allows user to create schedule for classes and exams.
Priority	Essential
Trigger	User decides to create schedule

Precondition	1. User must be connected to the internet. 2. User must login with the Admin ID
Basic Path	1. Server presents the users with the Admin Login Page. 2. Users login as Admin and create new schedule for the system.
Alternate Path	N/A
Post Condition	New classes and exams schedule will be created.
Exception Path	1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.

View Schedule

Use Case Name	View Schedule
Actor	Student, Teacher, Coaching Assistant, Owner
Brief Description	This operation allows user to know the upcoming schedule for the classes and exams.
Priority	Essential
Trigger	User decides to view the schedule.
Precondition	1. User must be connected to the internet. 2. User must input valid login details.
Basic Path	1. Server presents the users with the user Login Page. 2. User login to the system and go to view schedule section.
Alternate Path	N/A
Post Condition	Users get to know about the classes and exams schedule.
Exception Path	1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.

Check Papers

Use Case Name	Check Papers
Actor	Teacher
Brief Description	This operation allows user to add the results of the exams and solve of the question papers.

Priority	Critical
Trigger	User decides to add result or the solve.
Precondition	1. User must be connected to the internet. 2. User must login with a Teacher ID.
Basic Path	1. Server presents the users with the Login Page. 2. Users login to the system. 3. Users add result of the students and answers of the questions for previous exams.
Alternate Path	N/A
Post Condition	Students results and solve for the question paper would be added.
Exception Path	1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown. 3. User can skip the solve section and add the results only.

View Result

Use Case Name	View Result
Actor	Student, Coaching Assistant
Brief Description	This operation allows user to view the results of previous exams.
Priority	Critical
Trigger	User decides to know about the results.
Precondition	1. User must be connected to the internet. 2. User must input valid login details.
Basic Path	1. Server presents the users with the user Login Page. 2. User login to the system and go to view result section.
Alternate Path	N/A
Post Condition	Users get to know about the results of the previous exams.
Exception Path	1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.

Manage Registrations

Use Case Name	Create Schedule
Actor	Coaching Assistant, Owner
Brief Description	This operation allows user to manage the registrations of new students.
Priority	Essential
Trigger	New student registration has been requested.
Precondition	1. User must be connected to the internet. 2. User must login with the Admin ID
Basic Path	1. Server presents the users with the Admin Login Page. 2. Users login as Admin and check the new student registration to the system.
Alternate Path	N/A
Post Condition	New student entry to the database will be accepted or denied.
Exception Path	1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.

Manage Subjects

Use Case Name	Manage Subjects
Actor	Coaching Assistant, Owner
Brief Description	This operation allows user to manage the offered courses and subjects.
Priority	Critical
Trigger	User decides to manage the subjects to be taught.
Precondition	1. User must be connected to the internet. 2. User must login with the Admin ID
Basic Path	1. Server presents the users with the Admin Login Page. 2. Users login as Admin and make changes to the offered courses and subjects.
Alternate Path	N/A
Post Condition	Offered courses and subject information will be stored.

Exception Path	<ol style="list-style-type: none"> 1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.
----------------	--

Manage Teachers

Use Case Name	Manage Teachers
Actor	Coaching Assistant, Owner
Brief Description	This operation allows user to manage the teachers.
Priority	Essential
Trigger	User decides to manage the teachers.
Precondition	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User must login with the Admin ID
Basic Path	<ol style="list-style-type: none"> 1. Server presents the users with the Admin Login Page. 2. Users login as Admin and go to manage teachers section.
Alternate Path	N/A
Post Condition	N/A
Exception Path	<ol style="list-style-type: none"> 1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.

Manage Payments

Use Case Name	Create Schedule
Actor	Coaching Assistant, Owner
Brief Description	This operation allows user to manage the payments of the students.
Priority	Critical
Trigger	User decides to manage payments information.
Precondition	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User must login with the Admin ID
Basic Path	<ol style="list-style-type: none"> 1. Server presents the users with the Admin Login Page. 2. Users login as Admin and go to manage payments section.
Alternate Path	N/A

Post Condition	Payment status of the students will be updated.
Exception Path	<ol style="list-style-type: none"> 1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.

Manage Users and Full System

Use Case Name	Manage Users and Full System
Actor	Coaching Assistant
Brief Description	This operation allows user to manage the overall system.
Priority	Essential
Trigger	User decides to do the maintenance of the system.
Precondition	<ol style="list-style-type: none"> 1. User must be connected to the internet. 2. User must be the system admin.
Basic Path	<ol style="list-style-type: none"> 1. Server presents the users with the Admin Login Page. 2. Users login as Admin and manage all the system users and overall system.
Alternate Path	N/A
Post Condition	N/A
Exception Path	<ol style="list-style-type: none"> 1. If there is a connection failure, the server returns to the wait state. 2. If the user doesn't enter any valid login details a login error would be shown.