UE22CS341A: Software Engineering
Case Study

Unit 1 Deliverable

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SRS Document for Club Management System

1. Introduction

1.1 Purpose

This document specifies the requirements for the Club Management system. The system allows students to view events conducted by various clubs, apply to various positions in the clubs. Each student will have a profile on the platform, which shows various positions held by the student in different clubs.

1.2 Scope

The Clubs Management system is designed to be a comprehensive platform that caters to the dynamic needs of college clubs where extracurricular activities play a pivotal role in student development. The system's core functionality enables students to seamlessly browse and participate in events organized by a multitude of clubs. By integrating a feature that allows students to apply for various roles within these clubs, the system ensures a structured approach to club management. Each student's profile on the platform acts as a personalized dashboard, reflecting their involvement across different clubs. The system's design ensures that the interface is intuitive and user-friendly. Moreover, the system is built with scalability in mind, allowing for the addition of new clubs and events.

1.3 Definitions, Acronyms, and Abbreviations

- SRS: Software Requirements Specification
- DBMS: Database Management System
- UI: User Interface

1.4 References

- IEEE Standard for Software Requirements Specifications (IEEE Std 830 1998)
- clubs.pes.edu

1.5 Overview

The document is structured into sections detailing the functional and non-functional requirements, system features, external interface requirements, and more.

2. Overall Description

2.1 Product Perspective

The Club Management system is part of the institution's existing club infrastructure, connected to a central database.

2.2 Product Functions

- Authentication: Separate secure logins for users and clubs with role-based access
- Student Profile: Each student's profile reflects the roles performed by the student in various clubs
- Club Profile: Each club's profile shows the members of the club and various events conducted by the club in the past
- Applications: Students can apply to various positions in the club
- Event notifications: Notifications for future events

2.3 User Classes and Characteristics

- Students: View events, apply to various clubs
- Clubs: Showcase club members, promote events

2.4 Operating Environment

Software: Web application compatible with various browsers

Hardware: Servers for hosting the application and database, Client devices for user access

2.5 Design and Implementation Constraints

- Secure data transmission
- Secure authentication
- User-friendly

2.6 Assumptions and Dependencies

- The system assumes the availability of a stable network connection to the database.
- Regular software maintenance is performed.

- Users have access to devices that can run modern web browsers.

3. External Interface Requirements

3.1 User Interfaces

- Responsive UI for all devices
- Notification of future events via email or in-app
- User applications
- Profiles of students and clubs

3.2 Hardware Interfaces

- Servers: Hosting of applications and database
- Client devices: Students and clubs use their respective devices to access the system

3.3 Software Interfaces

- API integration for notifications
- Backend database system (MySQL) for storing user, club and event information

3.4 Communication Interfaces

User Authentication

4. System Features

4.1 Authentication

4.1.1 Description:

The system requires students and clubs to authenticate using valid credentials.

4.1.2 Functional Requirements:

The system shall validate the entered credentials against the stored credentials in the database.

4.2 Application

4.2.1 Description:

The system allows students to apply for roles in various clubs.

4.2.2 Functional Requirements:

The system provides an interface for users to apply for roles in various clubs. The system sends their information to the clubs for verification.

4.3 Profile

4.3.1 Description:

Every student and club will have a profile of their own on this system.

4.3.2 Functional Requirements:

Student profile shall display the user details and positions held by them in various clubs.

Club profile shall display description of the club and various events conducted by the club in the past.

4.4 Events

4.4.1 Description:

The system displays the upcoming events conducted by the clubs.

4.4.2 Functional Requirements:

The system sends notifications to the students about the upcoming events.

The system allows students to register for upcoming events.

The system shall receive the registrations of the students along with their details.

4.5 Error Handling

4.5.1 Description:

Handles errors such as network failures or invalid inputs.

4.5.2 Functional Requirements:

The system shall log all errors for later analysis.

5. Non Functional Requirements

5.1 Performance Requirements

The application should be responsive.

5.2 Security Requirements

The application should require authentication for students and clubs.

5.3 Usability Requirements

The application should provide an intuitive and user friendly interface.

6. Other Requirements

6.1 Regulatory Requirements

The system shall comply with college rules and regulations.

Requirements Traceability Matrix (RTM)

The RTM ensures that all requirements are covered by design, development, and testing activities. Below is a simplified RTM for club management system.

Requirement ID	Description	Design Specification	Implementation Module	Test Case ID
FR1	Authentication	DS-1.1	IM-1	TC-1.1
FR2	Application	DS-2.1	IM-2	TC-2.1
FR3	Profile	DS-3.1	IM-3	TC-3.1
FR4	Events	DS-4.1	IM-4	TC-4.1

Each entry in the RTM links a functional or nonfunctional requirement to a specific design specification, implementation module, and test case, ensuring that all requirements are accounted for throughout the project lifecycle.