SOFTWARE ENGINEERING SRS

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Project Tittle : Mentor-Mentee Allocation System.

Introduction

Scope

The Mentor–Mentee Allocation System is a web-based application that allows administrators to manage mentor and student data and perform automatic allocation based on predefined academic rules.

The system will:

- Store student and mentor profiles
- Allow configuration of allocation rules
- Automatically assign mentors to students
- Allow manual adjustment in special cases
- Publish final allocation results
- Maintain allocation history for future reference

This system focuses only on the allocation process and not on academic counselling sessions.

Intended Users

The system will be used by:

- Students
- Faculty members (Mentors)
- Program Coordinator / Administrator

Overall Description

Users

- **Students**

Students are expected to have basic knowledge of using web applications. They will mainly log in to check their assigned mentor and submit preferences if allowed.

- **Mentors**

Mentors will use the system to view the list of allocated students and basic academic details.

- **Administrator**

The administrator is responsible for managing mentor capacity, configuring allocation rules, running the allocation process, and publishing results.

Operating Environment

The system will operate on:

- Standard web browsers (Chrome, Edge, etc.)
- Desktop or laptop systems
- A server connected to a centralized databaseInternet connectivity is required to access the system.

Constraints

- The system must follow academic mentoring policies.
- Allocation rules must be defined before running the allocation process.
- Only administrators can modify allocation results.

Requirements

Functional Requirements

- **FR1 User Authentication**

The system shall allow students, mentors, and administrators to log in using valid institutional credentials.

- **FR2 Student Profile Management**

The system shall allow students to enter and verify academic information such as department, semester, and roll number.

- **FR3 Mentor Profile Management**

The system shall allow the administrator to add, edit, and manage mentor details including mentoring capacity.

- **FR4 Preference Submission**

The system shall allow students to submit mentor or domain preferences when enabled.

- **FR5 Allocation Rule Configuration**

The system shall allow the administrator to define rules such as:

- Maximum mentees per mentor
- Department matching
- Priority categories (if required)

- **FR6 Automatic Mentor Allocation**

The system shall automatically allocate mentors to students based on configured rules and available mentor capacity.

- **FR7 Manual Allocation Adjustment**

The administrator shall be able to manually adjust allocation results before publishing.

- **FR8 Allocation Result Viewing**

Students and mentors shall be able to view their assigned allocation details.

- **FR9 Allocation History**

The system shall store previous allocation records for auditing and future reference.

Non-Functional Requirements

- **Performance**

The system should respond quickly during login and allocation viewing operations.

- **Security**

Only authorized users should be able to access the system, and sensitive academic data should be protected.

- **Reliability**

The allocation process should not produce duplicate or incomplete assignments.

- **Usability**

The system interface should be simple and easy to understand without special training.

- **Scalability**

The system should support an increasing number of students and mentors in future academic sessions.

User Requirements

- Students should be able to easily check their assigned mentor.
- Mentors should see all their mentees in one dashboard.
- The administrator should have full control over allocation configuration and execution.

Domain Requirements

- Each student must be assigned to only one mentor per allocation cycle.
- Mentor capacity must not be exceeded.

- Allocation should preferably match department or academic program.
- Allocation records must be maintained for each academic year.

System Requirements

- The system must implement role-based access control.
- The system must store all data in a secure database.
- The system must allow multiple allocation cycles across semesters.
- The system must maintain logs of allocation changes for transparency.

External Interface Requirements

User Interface

The system shall provide:

- Student dashboard
- Mentor dashboard
- Administrator dashboard

Each dashboard will display relevant options based on the user role.

Software Interface

The system shall interact with:

- Backend server
- Database management system

to store and retrieve user data and allocation information.

References

The following sources were referred for understanding SRS structure and requirement classification:

1. CHATgpt
2. GeeksforGeeks – Software Requirements Specification (SRS) – https://www.geeksforgeeks.org/software-engineering/software-requirement-specification-srs/