**Design & Implementation of a Web Based Registration System for U.A University**

CS 5910 BL1

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**1. Meeting Log**

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| --- | --- | --- | --- | --- |
| Location | Date/Time | Members Present | Discussed Topics | Decisions Made |
| Discord (Virtual) | 09/09/2023 8:40PM | All Present | First Meeting. Discussion of assignment due on Tuesday (Problem Statement, 09/12/2023) | Email professor for more clarification on assignment. Create Problem Statement on Monday if no answer is received. |
| Discord (Virtual) | 9/11/2023 5:50PM | All Present | Further discussion on assignment due on Tuesday (09/12/2023) assignment. | Work was performed on the cover page and problem statement. |
| Discord (Virtual) | 09/13/2023  6:00 PM | All Present | Discussion of assignment due on Thursday (09/14/2023) | Revision of problem statement. Addition of Table of Contents, Meeting Log, and SRS sections |
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2. Problem Statement

Our team has been tasked with the project of creating the registration system for the U.A. University website, and we have been presented with an extensive set of precise instructions to guide us through the development process. These instructions serve as a comprehensive roadmap, delineating the specific actions and functionalities that each user category should be able to access and utilize on the website. However, within this framework, there are instances where certain actions and functionalities have been designated as 'Restricted' or 'Forbidden' for the designated user roles.

This project entails the careful integration of user privileges, ensuring that the administrators, faculty, students, and statistics office users, can interact with the website in accordance with their roles and responsibilities. To successfully navigate this endeavor, we must interpret and implement these instructions accurately, taking into account the nuanced restrictions and permissions that apply in different scenarios.

**3. Software Requirements Specification (SRS)**

**3.1 Introduction**

**3.1.1 Purpose**

The purpose of this Software Requirements Specification (SRS) is to outline the functional and non-functional requirements for the development of the registration system of the university website. This document serves as a reference for stakeholders, developers, and testers involved in the project.

**3.1.2 Scope**

This SRS document focuses on the software requirements for four user types: Students, Administrators (Admin), Faculty and Statistics Office. It defines the necessary features and constraints for each user type.

**3.1.3 Definitions, Acronyms, and Abbreviations**

* + UID: User Identification
  + CRN: Course Reference Number

**3.1.4 Overview**

This section gives an overview of the entire SRS document, including its sections and contents.

**3.2. Specific Requirements**

**3.2.1 Student User Requirements**

**3.2.1a Required Software Requirements Specification**

**User Types and Credits:**

Graduate students (part-time or full-time) and Undergrad students (part-time or full-time) are supported. Full-time students are allowed to register for up to 12 credits, while part-time students can register for up to 6 credits.

**Authentication:**

Users are required to sign in using their User ID (email) and password. The system will lock out users after a certain number of wrong password attempts.

**Academic Scheduling:**

Students can view and review the master schedule for Fall 2023 and Spring 2024. The system allows students to search the master schedule by department name, course name, professor name, time slot, room, and building. Students can view their current semester's personal schedule and the next semester's personal schedule (Spring 2023).

**Academic Information:**

Students can view academic holds (academic, disciplinary, finance, health). They can also access their grades, unofficial transcript, degree audit, advisors (allowed 2 majors or 1 major and 1 minor), list of departments, majors in a department, minors in a department, courses in a department, course prerequisites, and personal information.

**User Actions:**

Students have the ability to update their address, phone number, and password. They can declare a major or minor, as well as change their major or minor.

**3.2.1b Forbidden Software Requirements Specification**

**Users cannot register if:**

They have an academic hold.Prerequisite requirements are not met.Full-time students are not allowed to register for more than 12 credits.Part-time students are not permitted to register for more than 6 credits.Registration is prohibited outside certain time periods.Users cannot register for a course with no available seating.Registering for two course sections at the same given time is not allowed.Users cannot register for a course if they have already received a passing grade.Dropping a course after a given time window is prohibited.Changing User ID (email) is not permitted.Changing a user's grade is prohibited.Changing attendance records is not allowed.

**3.2.2 Admin User Requirements**

**3.2.2a Required Software Requirements Specification**

**User Type:**

Admins are full-time employees.

**Authentication:**

Admins can log in to the system and are assigned a security/priority level.

**User Management:**

Admins can create users and update user information, including UID, name, email, password, address, and type. They can also update student information (graduate or undergrad) and faculty information (departments, full-time, part-time).

**Academic Scheduling:**

Admins can create and update the Master Schedule for Fall 2023 and Spring 2024. They can search the Master Schedule by department name, course name, professor name, CRN, timeslot, room number, and available seats.

**Academic Course Management:**

Admins have the ability to create course sections, departments, majors, minors, define course prerequisites, major and minor requirements, faculty members in various departments, CRNs, course section numbers, assign faculty to course sections, assign timeslots, assign rooms, assign the number of available seats, delete course sections, update course section information (faculty, room, available seats), add students to course sections, remove students from course sections, and update students' grades in course sections (CRNs). They can also add or remove holds for students.

**Academic Information Viewing:**

Admins can view student degree audits, unofficial transcripts, contact information, faculty department assignments, faculty schedules, list majors and minors, view major and minor requirements, view course prerequisites, and access class rosters for course sections.

**3.2.2b Forbidden Software Requirements Specification**

**Admins cannot:**

Assign full-time faculty members to more than 2 courses. Assign part-time faculty members to more than 1 course. Assign a faculty member to 2 courses in the same timeslot. Assign more than one course to a room in the same timeslot. Assign faculty members to a course section outside their department.

**3.2.3 Faculty User Requirements**

**3.2.3a Required Software Requirements Specification**

**User Type:**

Full-time faculty can teach 2 courses, while part-time faculty can teach 1 course. Faculty can belong to multiple departments.

**Academic Scheduling:**

Faculty members can view and review the master schedule for Fall 2023 and Spring 2024. They can search the master schedule by department name, course name, timeslot, room, and building. Faculty can view their current semester's personal schedule (Fall 2023, Spring 2024). They have access to class rosters, student IDs, student emails, transcripts, and advisees.

**Academic Actions:**

Faculty can keep attendance only on the day of class. They can assign semester grades within a specified time window. Faculty members can change their address and passwords.

**3.2.3b Forbidden Software Requirements Specification**

**Faculty cannot:**

Teach more than 2 classes if they are full-time or 1 class if they are part-time. Be affiliated with more than 3 departments. Teach outside their department. Take attendance outside their department. Assign grades to students. Have fewer than 10 advisees. Change email addresses and user IDs. Access other users' information except for their advisees.

**3.2.4 Stats Office Requirements**

**3.2.4a Overall School Statistics**

The system shall provide the Stats Office with tools to generate overall school statistics. For example, the percentage of graduate students, the percentage of full-time students and the percentage of part-time students.

**3.2.4b Departmental Statistics**

The system shall provide the Stats Office with tools to generate the following departmental statistics: Number of Masters (M.S.) Students per Discipline (Department) and Number of Ph.D. Students per Discipline (Department).

**3.2.4c Graduation Rate**

The system shall provide the Stats Office with tools to calculate and display the graduation rate based on the number of years specified by the Stats Office.

**3.2.4d Major and Minor Statistics**

The system shall provide the Stats Office with tools to generate the following statistics: Number of Majors in different academic majors and Number of Minors in different academic minors.