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North South University

CSE327 Project

Software Requirements Specification (SRS)

Project Title: North South University Advising System

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[30 Sep, 2024]

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Introduction

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) is to define the functional and non-functional requirements for the **NSU Advising System**, which is designed to automate and streamline the advising process for students and faculty members at North South University. This system will enable students to efficiently choose and register for courses, and advisors to monitor and approve their selections.

1.2 Intended Audience

The primary audience for this SRS includes the system developers, faculty advisors, university administration, and students. The document is also intended for stakeholders involved in the academic advising process, including department heads and IT administrators.

1.3 Intended Use

The system will be used to facilitate the following:

- Students will use the platform to select, request, and register for courses.

- Advisors will approve, reject, or provide guidance for course selections.

- Administrators will manage user access, course catalogs, and system performance.

1.4 Product Scope

The NSU Advising System aims to improve the efficiency of the advising process by allowing students to choose courses online, based on their academic history and credit requirements. Advisors will be able to track student progress, approve course selections, and provide academic guidance.

1.5 Risk Definition

Potential risks include:

- **Technical Risks:** Integration issues with existing NSU systems, data loss during registration periods.
- **Operational Risks:** System downtime during peak registration times.
- **Security Risks:** Unauthorized access to student or faculty data

Overall Description

2.1 User Classes and Characteristics

- **Students:** Undergraduate and graduate students who need to register for courses each semester.
- **Advisors:** Faculty members responsible for guiding and approving students' course selections.
- **Administrators:** IT personnel responsible for system maintenance, user management, and support.

2.2 User Needs

- Students need an easy-to-use platform to choose courses, view course offerings, and track their degree progress.
- Advisors need a tool to monitor students' academic records and approve course registrations.
- Administrators need full control over system access, course information, and user accounts.

2.3 Operating Environment

- The NSU Advising System will run on a web-based platform accessible through any modern browser (e.g., Chrome, Firefox, and Opera).
- The system should support both desktop and mobile users.

2.4 Constraints

- The system must be available during registration periods with minimal downtime.
- Data security and user privacy must adhere to university and national regulations.
- Integration with existing NSU systems (e.g., student records) is required.

2.5 Assumptions

- Users have access to reliable internet connections.

- Users are familiar with basic web browsing and online forms.

Requirements

3.1 Functional Requirements

3.1.1 User Registration and Profiles

- Students and faculty can register using their NSU-provided credentials.
- Users can update their profiles with relevant academic or advising information.

3.1.2 Course Selection

- Students can browse available courses, view prerequisites, and add courses to their advising list.\
- Advisors can view, approve, or reject the courses selected by students.

3.1.3 Advising Approval

- Advisors receive notifications when students submit their course selections.
- Advisors can provide feedback or request changes to the course selection.

3.1.4 Academic Progress Tracking

- The system tracks student progress towards degree completion based on completed credits and course requirements.

3.1.5 Admin Panel

- Administrators can manage users, courses, and system settings.
- Admins can generate reports on student registration and advising statistics.

3.2 Non-Functional Requirements

1. Performance

- The system must handle concurrent users during peak registration periods without significant delays.

2. Security

- User data must be encrypted and securely stored.
- Authentication will use NSU's single sign-on (SSO) system.

3. Usability

- The interface should be intuitive and accessible for all users, including those with disabilities.
- The system should be responsive, adapting to various screen sizes.

Performance Requirements:

The performance of the online advising system is crucial for ensuring a smooth user experience, particularly for students, academic advisors, and administrative staff. This section outlines the key performance metrics and considerations for the system to function optimally under different conditions.

4.1 Database Performance

The online advising system's database must be able to handle large volumes of data efficiently, including student profiles, course offerings, advisor schedules, and advising session records. The database should be optimized to support fast read and write operations to avoid delays during peak periods, such as course registration or academic advising periods. Specific performance goals include: Response Time: Database queries must return results within a certain seconds under normal load conditions. During peak times, such as registration, query response times should not exceed in certain limited seconds. Concurrency: The database should support multiple simultaneous users without locking or significant slowdowns. A minimum of some no. of concurrent users must be supported without noticeable performance drops.

Appendix

Glossary

- **SRS:** Software Requirements Specification.
- **SSO:** Single Sign-On, a user authentication process that allows a user to access multiple applications with one set of login credentials.
- **UI**: User Interface
- **DBMS**: Database Management System
- **UML**: Unified Modeling Language

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