Course Allocation System

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VERSION NO.

1.3

ASSIGNMENT NO. 4

CASE STUDY # 1

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Software Requirements Specifications using IEEE SRS guidelines

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1. INTRODUCTION

The Computer Science Department at our university is working on a Course Allocation System to make the process of student course registration more efficient. This system will connect with the Course Evaluation System and Course Management System, providing valuable benefits to the academic administration. It will manage student and faculty records, automate registration processes, keep track of fee payments, and ensure that students meet the necessary prerequisites for their chosen courses. This will not only improve data security and accessibility but also enhance the overall system's functionality. Initially, it will be implemented within the Computer Science Department, but the long-term goal is to expand it to all university departments, creating a central hub for essential student information. This document provides an overview of the development specifications for this system.

1.1 Purpose:

The purpose of this Software Requirement Specification (SRS) document is to outline the requirements for creating a Course Allocation System. This system is designed to make it easier for students in the Department of Computer Science to register for courses and to integrate with the Course Evaluation System and Course Management System. The main purposes are to enhance the efficiency, dependability, and transparency of the course registration procedure, decrease the use of paper, and lower the chances of mistakes.

1.2 Scope:

1.2.1. Name:

Course Allocation system

1.2.2. Context:

The Course Allocation System will be interconnected with the Course Evaluation System (CES) and Course Management System (CMS) to ensure their effective operation.

1.2.3. Input and Output:

The system takes inputs in the form of a list containing both students and teachers, user login information (ID and password), and course details, which include prerequisite course results obtained from CES.

It provides various outputs, including:

1. A list of the courses currently registered by a student.

2. A list of courses available in a specific class.

3. Information regarding the fee status of students.

4. A roster of students who are registered in a particular course.

1.2.4. Function:

First log in with valid credentials to access the system. Once logged in successfully, retrieve course details from the course Management System (CMS). Check the student's fee status to ensure they are eligible for enrollment. Retrieve course results from the Course Evaluation System (CES). If the student wishes to enroll in a course, add them to it upon successful enrollment. If a student decides to drop a course, remove them from it. Additionally, you can update the list of students registered for a course by importing data from an Excel file.

1.2.5. Objective:

The system aims to facilitate login access for students, staff, and teachers. It will offer information on the courses that students are registered for, as well as provide a comprehensive list of courses available for registration. Additionally, student will be able to view their fee status through the system. To ensure eligibility, the system will allow course registration only if the specified criteria are met. Furthermore, there will be an option to cancel course registrations within the designated timeframe.

1.2.6. Assumption:

The login details for students are distributed by the staff. The roster of students may undergo changes until the deadline. The admin is responsible for keeping the fee status up to date. Additionally, the administration provides a list of students in an Excel file format.

1.3 Definition, Acronyms, and Abbreviations:

- CAS: Course Allocation System

- CES: Course Evaluation System

- CMS: Course Management System

- ID: Identification

- SRS: Software Requirement Specifications

1.4 References:

- [Book] Systems and Software Engineering - Life Cycle Processes - Project Management (International Standard ISO/IEC/IEEE 16326 2nd Edition- 2019)

- [Book] IEEE Recommended Practice for Software Requirements Specifications (IEEE Std. 830-1998)

1.5 Overview:

The following sections in this SRS (Software Requirements Specification) are organized as follows: In Section 2, you will find information regarding the project perspective, product functions, constraints, and dependencies. Section 3 outlines details related to input and output, functions, performance requirements, and analysis models. This SRS aims to serve as a comprehensive guide for a thorough understanding of the Course Allocation System.

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2. OVERALL DESCRIPTION

2.1 Product Perspective:

The course allotment system is not stand-alone system, but it is part of large system. As the main objective of the course allocation system (CAS) is for the students to register courses, so this system requires courses details etc., which it will take from other systems. This is how CAS is not independent system and need information form course evaluation system, and course management system.

2.1.1. System Interface:

Not Applicable

2.1.2. User Interface:

CAS offers user-friendly interfaces for different user roles:

1. <u>Student interface:</u>
   CAS serves as the user interface for students to log into the system, register for courses, check fee payment status, and perform prerequisite checks.
2. <u>Administration interface:</u>
   The CAS system serves as the user interface for administrators to log into the system and manage course and student information. It is responsible for maintaining and updating these details.

2.1.3. Hardware Interface:

Not Applicable

2.1.4. Software Interface:

In the software interface of CAS, it required to access the system interface of course evaluation system and course management system.

2.1.5. Communication Interface:

Not Applicable

2.1.6. Memory Constraints:

Not Applicable

2.1.7. Operations:

Not Applicable

2.1.8. Site Adaption Requirements:

Not Applicable

2.2 Product Functions:

The followings are the major functions that the CAS will perform.

1. Logged in by the registered students.

2. Logged in by the authorized administrator.

3. Students can check the offered courses each semester.

4. Students can check fee payment status each semester.

5. Students can see the pre-requisites of the course each semester.

6. Admin can update the course details each semester.

7. Admin offers the courses each semester.

8. Admin assign teachers for the courses each semester.

8. Admin maintains students and courses information/ details each semester.

2.3 User Characteristic:

Mainly there are two main user of our system who user this that are students and Admin.

2.3.1 Student:

Students are the main characters to use the system by logging in the system by entering the id and password. They can register the courses, check fee payment status, see the pre-requisite of the course etc.

2.3.1 Administration:

The administration is responsible for offer courses for each semester. Also verify the fee payment status and allocate teacher for their respective courses for each semester.

2.4 Constraints:

The following are the constraints of the course allocation system.

1. Only those students who have valid id and password can enter in the system.

2. Students can only see the domain i.e., course registration, fee payment status, pre-requisites etc.

3. Students can only register those courses whose pre-requisites are passed.

4. Students cannot register for courses if the credit hours exceed the allowed limit.

5. Use project libre for grants charts.

6. Use Argo UML for use case diagram, system sequence diagram, and domain model.

7. Programming should be in JavaScript.

8. MySQL for database.

9. MS word for documentation.

10. Budgets xyz.

11. 6-month (1 semester) duration.

2.5 Assumptions and Dependencies:
So here are the assumptions and dependencies of CAS.

2.5.1. Assumptions:

1. It is assumed that the Administration section will provide timely and accurate data related to admitted students. The data can be manually entered into CAS for their desire work.

2. CAS assume that course evaluation system (CES) will provide reliable pass/fail information for courses. This information is essential for ensuring that prerequisite checks are carried out effectively during the course registration process.

3. It is assumed that once the system is completed and operating effectively, it will be deployed across all the departments of the university.

2.5.1. Dependencies:

1. CAS is dependent on course evaluation system CES for accurate course evaluation data, including pass/fail information. Integrating with CES is essential to ensure that students fulfill the necessary course prerequisites.

2. The case study doesn't specify the precise integration details, but it is anticipated that CAS will be linked to the Course Management System (CMS) to handle course management. The

specific aspects of this interdependence will be established during the integration implementation process.