



Independent University, Bangladesh

School of Engineering, Technology, and Sciences, SETS

PROJECT REPORT

Course Name: Database Management

Course Code: CSE303+L

Submitted by: Muzahidul Islam (2010465)

Nushrat Afroz Roza (1910021)

Zayan Zaman (2110540)

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Introduction

Organizational Background

Independent University, Bangladesh (IUB) is a private university established in 1993. It is located in Bashundhara Residential Area of Dhaka, Bangladesh and has tens of thousands of active students and alumni. It boasts 401 faculty members, with the majority being highly qualified PhD holders. The campus is equipped with state-of-the-art facilities and laboratories, and over 120 classrooms.

IUB encourages students to engage in research projects alongside classroom-based learning and has academic research collaborations with prestigious universities. It also offers students opportunities to get involved in extracurricular activities, including 17 university clubs and community service programs.

IUB is ranked highly in various global university rankings with the contribution of its five academic schools, (the): School of Business and Entrepreneurship (SBE), School of Engineering, Technology, and Science (SETS), School of Environment and Life Sciences (SELS), School of Liberal Arts and Social Sciences (SLASS), and School of Pharmacy and Public Health (SPPH).

Project Background – SPMS 4.0

The Student Performance Monitoring System Version 4.0 (SPMS 4.0) is a system that assesses the performance of students, course instructors, schools, departments, and programs using an Outcome-Based Education (OBE) framework.

It provides data that can be used by higher authorities in the educational institution to develop strategies for improving the system.

Project Objective – SPMS 4.0

The Student Performance Monitoring System (SPMS 4.0) is a tool used for Outcome-Based Education (OBE) that assesses and evaluates the performance of various stakeholders in an educational institution, such as students, course instructors, departments, schools, and programs.

The system collects and stores relevant documents and data related to assessments, including exams, quizzes, and course outlines, to measure the achievement of Course Outcomes (CO), Program Learning Outcomes (PLO), and Program Outcomes (PO).

Students, faculties, and administrators alike can use SPMS 4.0 to track their students' performance statistically and calculate their course outcome percentage based on the grades obtained in each course.

This would aid all parties understand student progress, performance trends, satisfaction of criteria required for graduation, and more. Additionally, the system generates analytical reports that the administrators and authority can use to make conclusions and consequential improvements.

Project Scope – SPMS 4.0

An analysis of the existing SPMS 3.0 system identified that the current web application can only provide basic functionality for student enrollment, registration, course management, and academic records.

This implies that although the current system stores and is capable of storing a considerable set of data including student ID, educational year and semester, enrolled course and section, and obtained grades, its potential is underutilized and hence may be modified to include more useful features and facilities.

To be specific, SPMS 4.0 will add the capability to enter new data fields to the existing web application in order to capture a wider range of data points using a manual form or csv file.

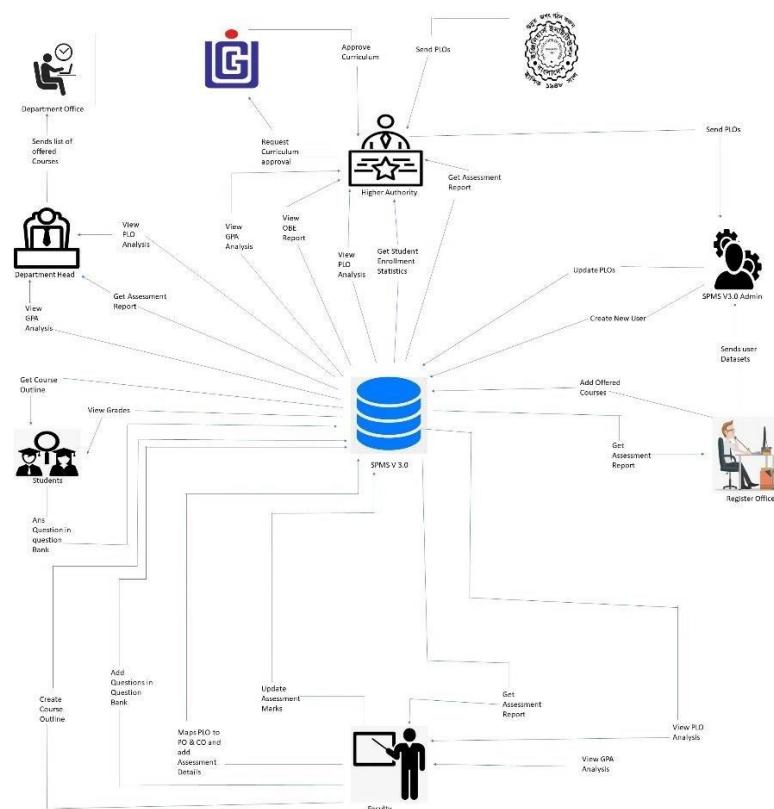
The system will then calculate the course outcome percentage based on the obtained grades for each course and display the calculated course outcome percentage to students and faculty members through the same web application.

Requirement Analysis

Rich Picture for Existing System (SPMS 3.0)

A rich picture is a tool that is used to represent the processes within a system in a way that is easily comprehensible to all individuals. It involves a combination of visual elements, such as pictures, symbols, and icons, along with accompanying text, which are used to graphically illustrate a given situation.

The purpose of a rich picture is to provide a clear representation of the relationships and connections that exist within a system, which may not be readily apparent otherwise. Additionally, it can help identify themes or areas of focus that participants may want to explore further. As a result, rich pictures are commonly utilized in the requirement analysis phase of a project or initiative.



Stakeholders and systems in this rich picture include but may not be limited to: system administrators, university higher authority (e.g.: VC), department head and office, registrar's office, faculty, student, SPMS 3.0, etc.

Six Element Analysis for Existing System (SPMS 3.0)

The six elements analysis is a framework used to design and analyze a database system. It includes six components for each key process: human, non-computing hardware, computing hardware, software, database, & network and communication.

Key process in the existing system are:

1. Generating, storing, and giving course outline
2. Enriching question bank and grading answers
3. Analyzing student performance trends in GPA
4. Analyzing faculty based performance trends in GPA
5. Course wise PLO achievement of the student
6. Head based student performance
7. Course, department, program, and school CLO-PLO statistics
8. Course, department, program, and school expected vs. achieved PLO
9. Average of achieved PLO and number of attempts
10. Head based student enrollment statistics

Process	Human	Non-Computing Hardware	Computing Hardware	Software	Database	Network & Communi cation
Generating, Storing, and Giving Course Outline	<p>Faculty</p> <ol style="list-style-type: none"> Logs into the system by entering their ID and password. Chooses the "Create Course Outline" tab. Picks the desired options to include in their course outline. Clicks on the "Create" button. Saves the course outline in the system. <p>Student</p> <ol style="list-style-type: none"> Logs in to the system by providing their identification and password. Chooses the desired course. Views or downloads the course outline from the system. 		<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for distribution of hard copies of the course outline.</p>	SPMS 3.0	SPMS 3.0 Database , storing vital, relevant, and updated data.	Internet to access SPMS 3.0

Enriching Question Bank and Grading Answers	<p>Faculty</p> <ol style="list-style-type: none"> 1. Logs into the system by providing their identification and password. 2. Chooses a course and selects the section(s) for which they need to solve questions. 3. Enters the question into the question bank. 4. Clicks on the "Assign" button. 5. Evaluates the answers submitted by the students. <p>Student</p> <ol style="list-style-type: none"> 1. Logs in to the system using their ID and password. 2. Provides answers to the questions assigned by the instructor in the answer bank. 3. Clicks on the "Submit" button. 4. Checks their grades on SPMS3.0 once the faculty has finished reviewing. 		<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for distribution of hard copies of attained grades.</p>	<p>SPMS 3.0 to store and access data in the database and generate relevant graphs.</p>	<p>SPMS 3.0 Database, storing vital, relevant, and updated data.</p>	<p>Internet to access SPMS 3.0</p>
Analysing Student Performance Trends in	<p>Department Head</p> <ol style="list-style-type: none"> 1. Logs in to the system by providing their 		<p>Any Smart Device to sign into SPMS 3.0.</p>	<p>SPMS 3.0 to store and</p>	<p>SPMS 3.0 Database, storing vital,</p>	<p>Internet to access SPMS 3.0</p>

GPA	<p>identification and password.</p> <ol style="list-style-type: none"> 2. Enters the time period and course ID they want to review. 3. Views students' progress through an analysis-generated graph and the GPAs earned by the highest/lowest/average performing students. <p>Faculty</p> <ol style="list-style-type: none"> 1. Logs in to the system using their identification and password. 2. Searches for the course they teach by using the course ID and time period and reviews the students' progress in that course. <p>Student</p> <ol style="list-style-type: none"> 1. Logs in to the system using their identification and password. 2. Searches for the course using the course ID and reviews their progress and earned GPA in that course. 		<p>Printer for storing hard copies of progress reports and comparing with past records if needed.</p>	access data in the database and generate performance analysis graphs.	relevant, and updated data.	
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	Dean/VC: 1. Logs in to the system using their identification and password. 2. Search for the course using course ID and time period and view the progress of the students of that course				
Analysing Faculty Based Performance Trends in GPA	<p>Faculty</p> <p>1. Logs in to the system using their identification and password.</p> <p>2. Reviews the progress of students who are under their teaching.</p> <p>Department Head</p> <p>1. Logs in to the system using their identification and password.</p> <p>2. Searches for a faculty member to be evaluated using their name.</p> <p>3. Reviews the progress of students who are being taught under that faculty member, based on the GPAs earned by those students.</p>	<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required.</p>	SPMS 3.0 to store and access data in the database and generate performance analysis graphs.	SPMS 3.0 Database , storing vital, relevant, and updated data.	Internet to access SPMS 3.0

	Dean/VC 1. Logs in to the system using their identification and password. 2. Searches for a faculty member to be evaluated using their name and department ID. 3. Reviews the progress of students who are being taught under that faculty member, based on the GPAs earned by those students.				
Course Wise PLO Achievement of Student	VC/Dean 1. Logs in to the system using their identification and password. 2. Navigates to the PLO achievement tab and searches for the course by using its ID. 3. Reviews the PLOs achieved by the students in that course. Department Head 1. Logs in to the system using their identification and password. 2. Navigates to the PLO	Any Smart Device to sign into SPMS 3.0. Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required, and noting students with highest completed PLOs.	SPMS 3.0 to store and access data in the database and generate PLO automatically based on recorded Cos.	SPMS 3.0 Database , storing vital, relevant, and updated data.	Internet to access SPMS 3.0

	<p>achievement tab and searches for the course by using its ID.</p> <p>3. Reviews the PLOs achieved by the students in that course.</p> <p>Faculty</p> <ol style="list-style-type: none"> Logs in to the system using their identification and password. Navigates to the PLO achievement tab and searches for the course by using its ID. Reviews the PLOs achieved by the students in that course. <p>Student</p> <ol style="list-style-type: none"> Logs in to the system using their identification and password. Reviews the PLOs they have achieved so far and the number of PLOs they need to achieve to complete the course. 				
Head Based Student Performance	<p>Dean</p> <ol style="list-style-type: none"> Logs in to the system using their ID and password Searches for the 		<p>Any Smart Device to sign into SPMS 3.0.</p>	<p>SPMS 3.0 to store and access</p>	<p>SPMS 3.0 Database , storing vital, relevant,</p> <p>Internet to access SPMS 3.0</p>

	<p>Department Head to be evaluated by using their name and Department ID.</p> <p>3. Reviews the student progress under the Department Head being evaluated.</p> <p>VC</p> <ol style="list-style-type: none"> Logs in to the system using their identification and password. Searches for a Dean or Department Head to be evaluated by using their name and either School ID or Department ID. Reviews the student progress under the Dean or Department Head being evaluated. <p>Department Head</p> <ol style="list-style-type: none"> Logs in to the system using their identification and password. Reviews the student progress under themselves. 		<p>Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required.</p>	<p>data in the database and generate performance analysis graphs.</p>	<p>and updated data.</p>	
Course,	Dean/VC		Any Smart	SPMS	SPMS 3.0	Internet

Dept., Program, School, CLO-PLO Statistics	<p>1. Log in to the system using their unique ID and password.</p> <p>2. Access the CLO-PLO mapped statistics achieved by the students by selecting the appropriate tab or menu option.</p> <p>Department Head</p> <p>1. Log in to the system using their unique ID and password.</p> <p>2. Access the CLO-PLO mapped statistics achieved by the students in their department by selecting the appropriate tab or menu option.</p> <p>Faculty</p> <p>1. Log in to the system using their unique ID and password.</p> <p>2. Access the CLO-PLO mapped statistics achieved by the students in their course(s) by selecting the appropriate tab or menu option.</p> <p>Student</p> <p>1. Log in to the system using their unique ID</p>		<p>Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required.</p>	<p>3.0 to store and access data in the database and generate CLO-PLO statistic graphs.</p>	<p>Database, storing vital, relevant, and updated data.</p>	to access SPMS 3.0
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	<p>and password.</p> <p>2. Access the CLO-PLO mapped statistics achieved by them and other students by selecting the appropriate tab or menu option.</p>				
Course, Dept., Program, School Expected vs. Achieved PLO	<p>Dean/VC</p> <p>1. Log in to the system using their ID and password.</p> <p>2. Access information on the PLOs achieved by students within a specified time frame and compare it with the expected level of achievement.</p> <p>Department Head</p> <p>1. Log in to the system using their ID and password.</p> <p>2. Retrieve data on the PLOs accomplished by students during a particular period and compare it to the anticipated level of achievement.</p> <p>Faculty</p> <p>1. Sign in to the system using</p>	<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of target reports for viewing, record keeping, and comparison if required.</p>	<p>SPMS 3.0 to store and access data in the database and generate comparative graphs on expected vs. achieved PLO.</p>	<p>SPMS 3.0 Database, storing vital, relevant, and updated data.</p>	<p>Internet to access SPMS 3.0</p>

	<p>their ID and password.</p> <p>2. Access information on the PLOs achieved by students within a specified time frame and compare it with the expected level of achievement.</p> <p>Student</p> <ol style="list-style-type: none"> Log in to the system using their ID and password. Retrieve data on their own PLO achievement as well as that of other students within a particular period and compare it with the expected level of achievement. 				
Average of Achieved PLO and Number of Attempts	<p>Dean/VC and Department Head</p> <ol style="list-style-type: none"> Login to the system with their ID and password. Enter the semester time period they want to view. View the average of the total achieved PLOs for their department along with the 	<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of PLO reports for viewing, record keeping, and</p>	<p>SPMS 3.0 to store and access data in the database and generate performance analysis graphs.</p>	<p>SPMS 3.0 Database, storing vital, relevant, and updated data.</p>	<p>Internet to access SPMS 3.0</p>

	<p>number of students who attempted them.</p> <p>Faculty</p> <ol style="list-style-type: none"> 1. Login to the system with their ID and password. 2. View the average of the total achieved PLOs for their department. <p>Student</p> <ol style="list-style-type: none"> 1. Login to the system with their ID and password. 2. View the average of the total achieved PLOs for their department. 		comparison if required.		
Head Based Student Enrolment Statistics	<p>VC</p> <ol style="list-style-type: none"> 1. Log in to the system with their unique ID and password. 2. Go to the "Student Enrollment Statistics" tab. 3. Choose the year and semester to view. 4. View the student enrollment statistics for that specific year and semester. <p>Dean</p> <ol style="list-style-type: none"> 1. Log in to the 		<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of student enrolment statistics for viewing, record keeping, and comparison if required.</p>	<p>SPMS 3.0 to store and access data in the database and generate student enrolment statistic graphs.</p>	<p>SPMS 3.0 Database, storing vital, relevant, and updated data.</p> <p>Internet to access SPMS 3.0</p>

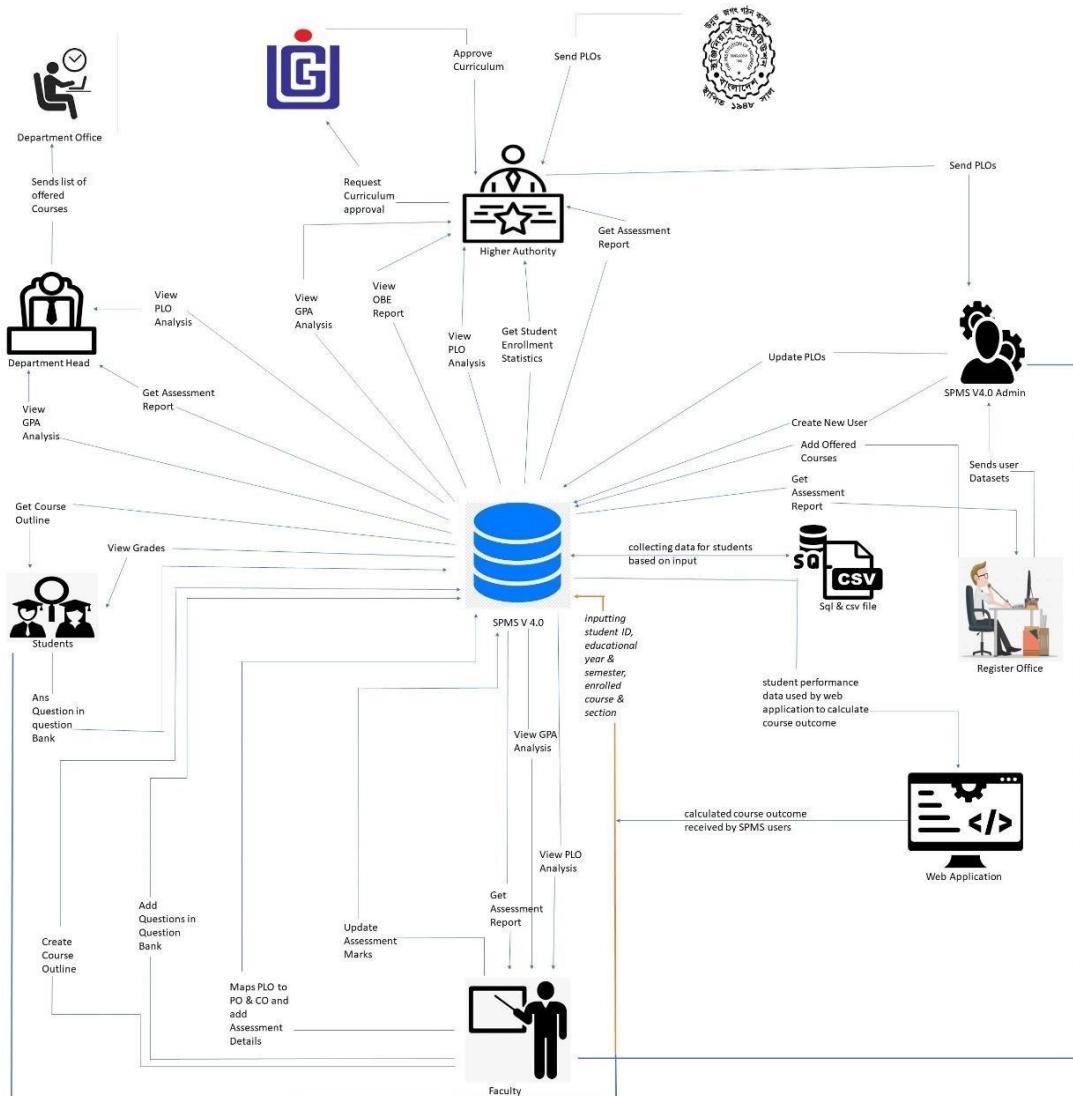
	<p>system using their ID and password.</p> <ol style="list-style-type: none"> 2. Navigate to the "Student Enrollment Statistics" tab. 3. Choose the year and semester to view. 4. Access the student enrollment statistics for the selected year and semester. <p>Department Head</p> <ol style="list-style-type: none"> 1. Use their ID and password to log in to the system. 2. Access the "Student Enrollment Statistics" tab. 3. Select the year and semester of interest. 4. View the student enrollment statistics for that specific year and semester. 				
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Problem Analysis of Existing System (SPMS 3.0)

Process Name	Stakeholders	Concerns (Problems)	Analysis (Reasons for the Problem)	Proposed Solution
Calculation of Course Outcome Based on	<p>Higher Authority</p> <p>To know whether a student has met the criteria to graduate,</p>	<p>Keeping accurate and up to date records of</p>	<p>Higher authority and student needs to know</p>	<p>Expanding the existing web application to</p>

Student Performance Data	<p>record keeping, and statistical analysis</p> <p>Faculty To evaluate class and individual performance, keep records, and analyse statistics</p> <p>Student To keep track of progress towards graduation criteria, trends in performance, and record keeping</p>	<p>student performance</p> <p>Taking input from manual form or csv file from user</p> <p>Calculating the course outcome using available data</p> <p>Displaying the correct course outcome achieved through the web application</p>	<p>whether the student has met or is on track to meet the criteria to graduate; calculation otherwise can be time consuming, impractical, tedious, or unfeasible</p> <p>Faculty may want to identify areas of concern based on COs in their particular course or identify struggling students</p>	<p>include features for calculating course outcomes based on student grades – various data points like student ID, educational year and semester, enrolled course and section, etc. will be entered into the system, which will then calculate the course outcome percentage and display it to the interested user(s)</p>
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Rich Picture for Proposed System (SPMS 4.0)



Stakeholders and systems in this rich picture include but may not be limited to:

system administrators, university higher authority (e.g.: VC), department head and office, registrar's office, faculty, student, web applications, SPMS 4.0, etc

Six Element Analysis for Proposed System (SPMS 4.0)

Key process in the proposed system are:

1. Generating, storing, and giving course outline
2. Enriching question bank and grading answers
3. Analyzing student performance trends in GPA
4. Analyzing faculty based performance trends in GPA
5. Course wise PLO achievement of the student
6. Head based student performance
7. Course, department, program, and school CLO-PLO statistics
8. Course, department, program, and school expected vs. achieved PLO
9. Average of achieved PLO and number of attempts
10. Head based student enrollment statistics
11. Calculating course outcomes based on student grades

Process	Human	Non-Computing Hardware	Computing Hardware	Software	Database	Network & Communication
Generating, Storing, and Giving Course Outline	<p>Faculty</p> <ul style="list-style-type: none"> 6. Logs into the system by entering their ID and password. 7. Chooses the "Create Course Outline" tab. 8. Picks the desired options to include in their course outline. 9. Clicks on the "Create" button. 10. Saves the course outline in the system. <p>Student</p> <ul style="list-style-type: none"> 4. Logs in to the system by providing their identification and password. 5. Chooses the desired course. 6. Views or downloads the course outline from the system. 		<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for distribution of hard copies of the course outline.</p>	SPMS 3.0	SPMS 3.0 Database , storing vital, relevant, and updated data.	Internet to access SPMS 3.0

Enriching Question Bank and Grading Answers	<p>Faculty</p> <ol style="list-style-type: none"> 6. Logs into the system by providing their identification and password. 7. Chooses a course and selects the section(s) for which they need to solve questions. 8. Enters the question into the question bank. 9. Clicks on the "Assign" button. 10. Evaluates the answers submitted by the students. <p>Student</p> <ol style="list-style-type: none"> 5. Logs in to the system using their ID and password. 6. Provides answers to the questions assigned by the instructor in the answer bank. 7. Clicks on the "Submit" button. 8. Checks their grades on SPMS3.0 once the faculty has finished reviewing. 		<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for distribution of hard copies of attained grades.</p>	SPMS 3.0 to store and access data in the database and generate relevant graphs.	SPMS 3.0 Database , storing vital, relevant, and updated data.	Internet to access SPMS 3.0
Analysing Student Performance Trends in	<p>Department Head</p> <ol style="list-style-type: none"> 4. Logs in to the system by providing their 		<p>Any Smart Device to sign into SPMS 3.0.</p>	SPMS 3.0 to store and	SPMS 3.0 Database , storing vital,	Internet to access SPMS 3.0

GPA	<p>identification and password.</p> <p>5. Enters the time period and course ID they want to review.</p> <p>6. Views students' progress through an analysis-generated graph and the GPAs earned by the highest/lowest/average performing students.</p> <p>Faculty</p> <p>3. Logs in to the system using their identification and password.</p> <p>4. Searches for the course they teach by using the course ID and time period and reviews the students' progress in that course.</p> <p>Student</p> <p>3. Logs in to the system using their identification and password.</p> <p>4. Searches for the course using the course ID and reviews their progress and earned GPA in that course.</p>		<p>Printer for storing hard copies of progress reports and comparing with past records if needed.</p>	<p>access data in the database and generate performance analysis graphs.</p>	<p>relevant, and updated data.</p>	
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	Dean/VC: 3. Logs in to the system using their identification and password. 4. Search for the course using course ID and time period and view the progress of the students of that course				
Analysing Faculty Based Performance Trends in GPA	<p>Faculty</p> <p>3. Logs in to the system using their identification and password.</p> <p>4. Reviews the progress of students who are under their teaching.</p> <p>Department Head</p> <p>4. Logs in to the system using their identification and password.</p> <p>5. Searches for a faculty member to be evaluated using their name.</p> <p>6. Reviews the progress of students who are being taught under that faculty member, based on the GPAs earned by those students.</p>	<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required.</p>	SPMS 3.0 to store and access data in the database and generate performance analysis graphs.	SPMS 3.0 Database , storing vital, relevant, and updated data.	Internet to access SPMS 3.0

	Dean/VC 4. Logs in to the system using their identification and password. 5. Searches for a faculty member to be evaluated using their name and department ID. 6. Reviews the progress of students who are being taught under that faculty member, based on the GPAs earned by those students.				
Course Wise PLO Achievement of Student	VC/Dean 4. Logs in to the system using their identification and password. 5. Navigates to the PLO achievement tab and searches for the course by using its ID. 6. Reviews the PLOs achieved by the students in that course. Department Head 4. Logs in to the system using their identification and password. 5. Navigates to the PLO	Any Smart Device to sign into SPMS 3.0. Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required, and noting students with highest completed PLOs.	SPMS 3.0 to store and access data in the database and generate PLO automatically based on recorded Cos.	SPMS 3.0 Database , storing vital, relevant, and updated data.	Internet to access SPMS 3.0

	<p>achievement tab and searches for the course by using its ID.</p> <p>6. Reviews the PLOs achieved by the students in that course.</p> <p>Faculty</p> <p>4. Logs in to the system using their identification and password.</p> <p>5. Navigates to the PLO achievement tab and searches for the course by using its ID.</p> <p>6. Reviews the PLOs achieved by the students in that course.</p> <p>Student</p> <p>3. Logs in to the system using their identification and password.</p> <p>4. Reviews the PLOs they have achieved so far and the number of PLOs they need to achieve to complete the course.</p>				
Head Based Student Performance	<p>Dean</p> <p>4. Logs in to the system using their ID and password</p> <p>5. Searches for the</p>		<p>Any Smart Device to sign into SPMS 3.0.</p>	<p>SPMS 3.0 to store and access</p>	<p>SPMS 3.0 Database , storing vital, relevant,</p> <p>Internet to access SPMS 3.0</p>

	<p>Department Head to be evaluated by using their name and Department ID.</p> <p>6. Reviews the student progress under the Department Head being evaluated.</p> <p>VC</p> <p>4. Logs in to the system using their identification and password.</p> <p>5. Searches for a Dean or Department Head to be evaluated by using their name and either School ID or Department ID.</p> <p>6. Reviews the student progress under the Dean or Department Head being evaluated.</p> <p>Department Head</p> <p>4. Logs in to the system using their identification and password.</p> <p>5. Reviews the student progress under themselves.</p> <p>6.</p>		<p>Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required.</p>	<p>data in the database and generate performance analysis graphs.</p>	<p>and updated data.</p>	
Course,	Dean/VC		Any Smart	SPMS	SPMS 3.0	Internet

Dept., Program, School, CLO-PLO Statistics	<p>3. Log in to the system using their unique ID and password.</p> <p>4. Access the CLO-PLO mapped statistics achieved by the students by selecting the appropriate tab or menu option.</p> <p>Department Head</p> <p>3. Log in to the system using their unique ID and password.</p> <p>4. Access the CLO-PLO mapped statistics achieved by the students in their department by selecting the appropriate tab or menu option.</p> <p>Faculty</p> <p>3. Log in to the system using their unique ID and password.</p> <p>4. Access the CLO-PLO mapped statistics achieved by the students in their course(s) by selecting the appropriate tab or menu option.</p> <p>Student</p> <p>3. Log in to the system using their unique ID</p>		<p>Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of progress reports for viewing, record keeping, and comparison if required.</p>	<p>3.0 to store and access data in the database and generate CLO-PLO statistic graphs.</p>	<p>Database, storing vital, relevant, and updated data.</p>	to access SPMS 3.0
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	<p>and password.</p> <p>4. Access the CLO-PLO mapped statistics achieved by them and other students by selecting the appropriate tab or menu option.</p>				
Course, Dept., Program, School Expected vs. Achieved PLO	<p>Dean/VC</p> <p>3. Log in to the system using their ID and password.</p> <p>4. Access information on the PLOs achieved by students within a specified time frame and compare it with the expected level of achievement.</p> <p>Department Head</p> <p>3. Log in to the system using their ID and password.</p> <p>4. Retrieve data on the PLOs accomplished by students during a particular period and compare it to the anticipated level of achievement.</p> <p>Faculty</p> <p>3. Sign in to the system using</p>	<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of target reports for viewing, record keeping, and comparison if required.</p>	<p>SPMS 3.0 to store and access data in the database and generate comparative graphs on expected vs. achieved PLO.</p>	<p>SPMS 3.0 Database, storing vital, relevant, and updated data.</p>	<p>Internet to access SPMS 3.0</p>

	<p>their ID and password.</p> <p>4. Access information on the PLOs achieved by students within a specified time frame and compare it with the expected level of achievement.</p> <p>Student</p> <p>3. Log in to the system using their ID and password.</p> <p>4. Retrieve data on their own PLO achievement as well as that of other students within a particular period and compare it with the expected level of achievement.</p>				
Average of Achieved PLO and Number of Attempts	<p>Dean/VC and Department Head</p> <p>4. Login to the system with their ID and password.</p> <p>5. Enter the semester time period they want to view.</p> <p>6. View the average of the total achieved PLOs for their department along with the</p>	<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of PLO reports for viewing, record keeping, and</p>	<p>SPMS 3.0 to store and access data in the database and generate performance analysis graphs.</p>	<p>SPMS 3.0 Database, storing vital, relevant, and updated data.</p>	<p>Internet to access SPMS 3.0</p>

	<p>number of students who attempted them.</p> <p>Faculty</p> <ol style="list-style-type: none"> 3. Login to the system with their ID and password. 4. View the average of the total achieved PLOs for their department. <p>Student</p> <ol style="list-style-type: none"> 3. Login to the system with their ID and password. 4. View the average of the total achieved PLOs for their department. 		comparison if required.		
Head Based Student Enrolment Statistics	<p>VC</p> <ol style="list-style-type: none"> 5. Log in to the system with their unique ID and password. 6. Go to the "Student Enrollment Statistics" tab. 7. Choose the year and semester to view. 8. View the student enrollment statistics for that specific year and semester. <p>Dean</p> <ol style="list-style-type: none"> 5. Log in to the 		<p>Any Smart Device to sign into SPMS 3.0.</p> <p>Printer for the storing of hard copies of student enrolment statistics for viewing, record keeping, and comparison if required.</p>	<p>SPMS 3.0 to store and access data in the database and generate student enrolment statistic graphs.</p>	<p>SPMS 3.0 Database, storing vital, relevant, and updated data.</p> <p>Internet to access SPMS 3.0</p>

	<p>system using their ID and password.</p> <ol style="list-style-type: none"> 6. Navigate to the "Student Enrollment Statistics" tab. 7. Choose year to view. 8. Access the student enrollment statistics for the selected year and semester. <p>Department Head</p> <ol style="list-style-type: none"> 1. Use their ID and password to log in to the system. 2. Access the "Student Enrollment Statistics" tab. 3. Select the year and semester of interest. 4. View the student enrollment statistics for that specific year and semester. 				
Calculating Course Outcomes Based on Student Grades	<p>Dean/VC/Department Head</p> <ol style="list-style-type: none"> 1. Login to the system with their ID and password. 2. For the particular student, enter the Student ID, Educational year and semester, and the enrolled course and 		<p>Any Smart Device to sign into SPMS 4.0.</p> <p>Printer for the storing of hard copies of the grade sheet for viewing, record</p>	<p>SPMS 4.0 to store and access data in the database and calculate student grade.</p>	<p>SPMS 4.0 Database, storing vital, relevant, and updated data such as attained marks, PO, CO, PLO, CLO, etc.</p> <p>Internet to access SPMS 4.0</p>

	<p>section.</p> <p>3. View the obtained grade as calculated and displayed by SPMS 4.0.</p> <p>Faculty</p> <ol style="list-style-type: none"> 1. Login to the system with their ID and password. 2. For the particular course they are taking or have taken, enter the Student ID, Educational year and semester, and the enrolled course and section. 3. View the obtained grade as calculated and displayed by SPMS 4.0. <p>Student</p> <ol style="list-style-type: none"> 1. Login to the system with their ID and password. 2. Enter their Student ID, Educational year and semester, and the enrolled course and section. <p>View the obtained grade as calculated and displayed by SPMS 4.0</p>	<p>keeping, and comparison if required.</p>		
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Logical System Design

Business Rules – SPMS 4.0

Business rules are guidelines or constraints that define how data should be stored, processed, and accessed in a database to help ensure data consistency, accuracy, and integrity.

Business rules can cover a wide range of topics, such as data validation, data constraints, referential integrity, and data relationships. They are used to enforce data quality standards and ensure that data is correct, complete, and consistent.

Business rules for SPMS 4.0 are as listed:

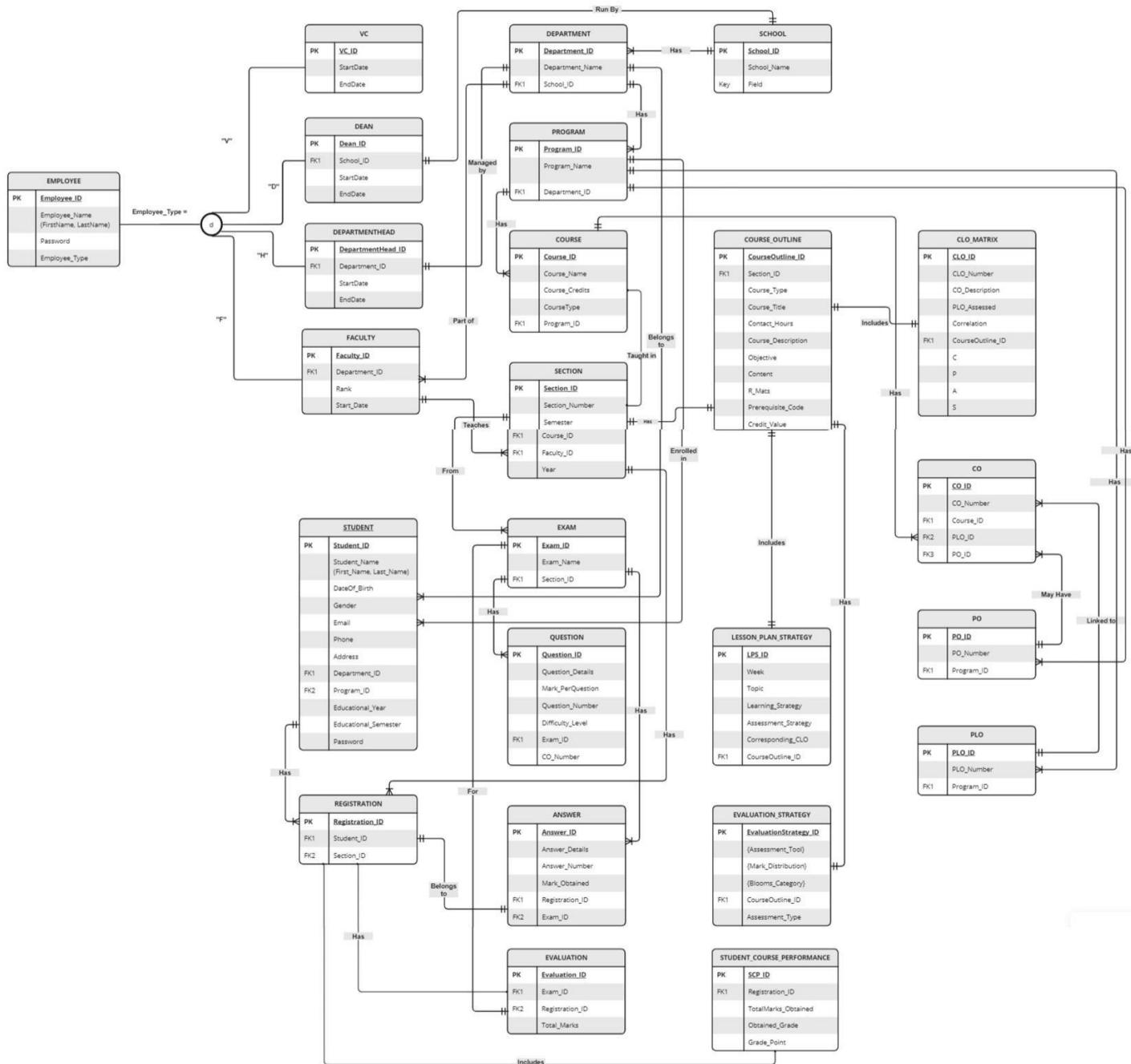
1. Each student is assigned to one department, and a student's information includes their student ID, first name, last name, date of birth, gender, email, phone, address, department ID, program ID, educational year, educational semester, and password. Each department has one or more students.
2. Students can register for multiple courses, and a registration consists of a registration ID, section ID, and student ID. At least one student must perform a registration.
3. A section must have multiple registrations, and a registration must belong to at least one section. A section includes section ID, section number, course ID, faculty ID, and year.

4. A registration can be associated with multiple evaluations, but each evaluation must belong to only one registration. An evaluation contains an evaluation ID, exam ID, registration ID, and total marks.
5. A Course Outcome (CO) must be associated with one Program Learning Outcome (PLO), and each PLO can be associated with one or more COs. A PLO includes a PLO ID, PLO number, and program ID.
6. Each PLO must be part of a program, and each program can have one or more PLOs. A program has a program ID, program name, department ID, and must contain one or more courses. Each course must have only one course outline.
7. Each program must be affiliated with one department, and each department can be associated with one or more programs. A department includes a department ID, department name, and school ID.
8. Each department must belong to one school, and each school can have one or more departments. A school includes a school ID and school name.
9. An employee can have one of four sub-types (Dean, Department Head, Faculty, VC), and their information includes employee ID, password, first name, and last name.
10. Each school must be managed by one Dean, and each Dean can manage only one school. A Dean has a school ID, start date, and end date.
11. Each department must be managed by one Department Head, and each Department Head can manage only one department. A Department Head includes department ID, start date, and end date.

12. Each faculty member must be assigned to one department, and each department can have one or more faculty members. A faculty member includes department ID, rank, and start date. A faculty member can teach multiple sections, but each section can only be taught by one faculty member.
13. Each course outline belongs to one section, and each section must have only one course outline. A course outline includes a course outline ID, section ID, contact hours, course description, objective, content, reference materials, course type, course title, prerequisite code, and credit value.
14. Each course outline must have one CLO Matrix, and each CLO Matrix must belong to only one course outline. A CLO Matrix includes a CLO matrix ID, CLO number, CO description, PLO assessment, correlation, course outline ID, c, p, a, and s.
15. Each Lesson Plan Strategy must have one Evaluation Strategy, and each Evaluation Strategy must have one Lesson Plan Strategy. A Lesson Plan Strategy includes an LPS ID, week, topic, learning strategy, assessment strategy, corresponding CLO, and course outline ID.
16. Each exam has only one evaluation, and each evaluation is associated with only one exam. An exam belongs to one section, and each section can have one or more exams. An exam includes an exam ID, exam name, and section ID.
17. Each exam must have one or more questions, and each question must belong to only one exam. A question includes a question ID, question details, marks per question, question number, difficulty level, exam ID, and CO number.

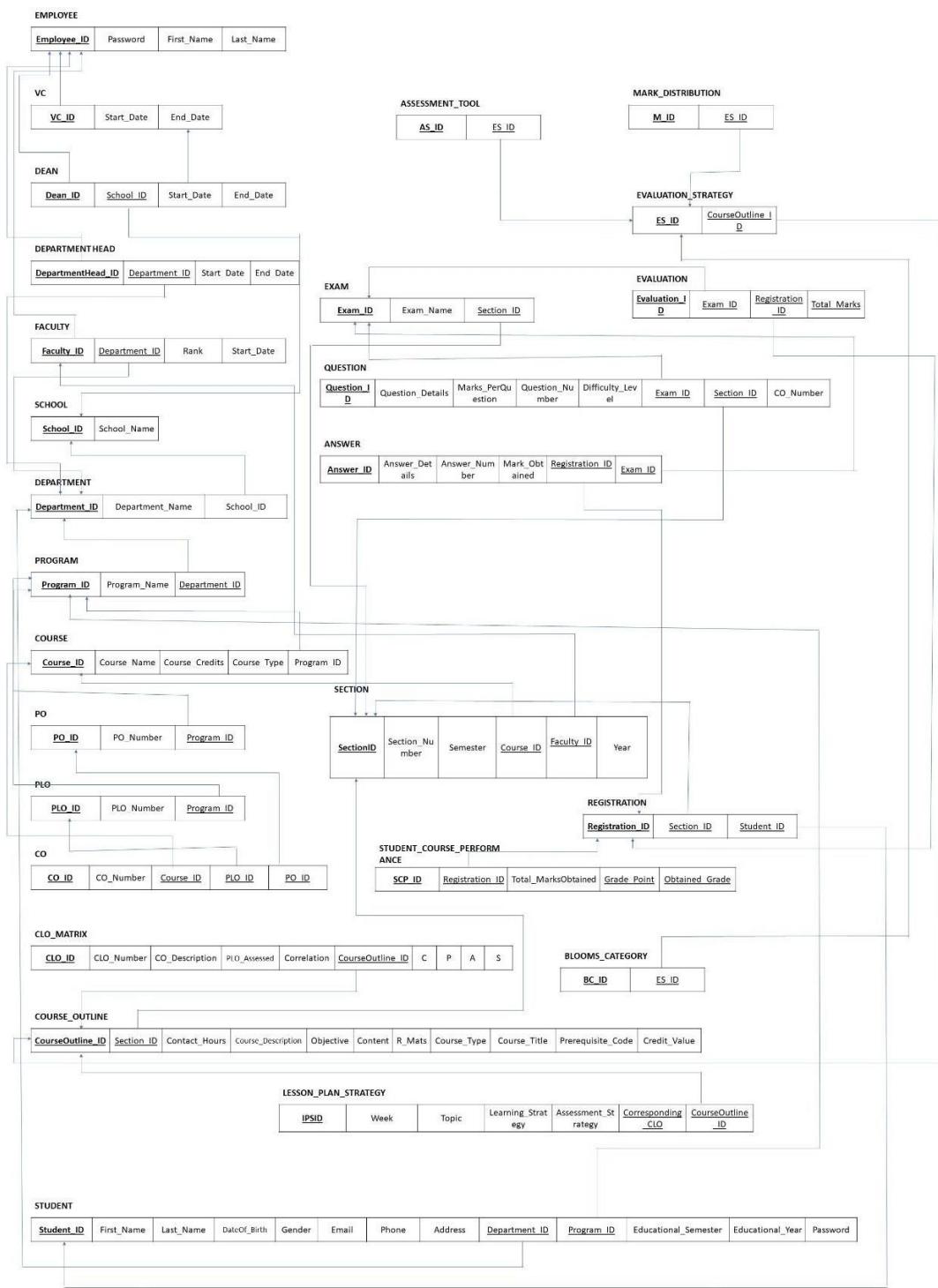
Entity Relationship Diagram – SPMS 4.0

Entity-Relationship Diagram (ERD) is a graphical representation of the entities and their relationships to each other in a database. ERD helps in understanding the data model, identifying the relationships between entities, and designing the database schema for implementation.



Relational Schema – SPMS 4.0

A relational schema is a formal description of a relational database, which represents its tables, columns, and the relationships among them. It defines the structure of the database and serves as a blueprint for the actual database creation.



Normalization – SPMS 4.0

Normalization is the process of organizing data in a database in a way that reduces redundancy and dependency, and ensures data integrity. It involves breaking down a table into smaller, more manageable tables, and establishing relationships between them.

There are several normal forms, including first normal form (1NF), second normal form (2NF), and third normal form (3NF), each with specific criteria that must be met. Normalization helps to eliminate data redundancy, which can lead to inconsistencies and anomalies in the database, and makes the database more efficient and easier to maintain.

EMPLOYEE (i)	Employee_ID	i1			Semester	v3
	FirstName	i2			Course_ID	u1
	LastName	i3			Faculty_ID	f1
	Password	i4			Year	v4
VC (v)	VC_ID	v1			Student_ID	s1
	StartDate	v2			First Name	s2
	EndDate	v3			Last Name	s3
DEAN (w)	Dean_ID	w1			DateOf_Birth	s4
	School_ID	h1			Gender	s5
	StartDate	w2			Email	s6
	EndDate	w3			Phone	s7
FACULTY (F)	Faculty_ID	f1			Address	s8
	Department_ID	d1			Department_ID	d1
	Rank	f2			Program_ID	r1
	Start Date	f3			Educational_Semester	s9
COURSE_OUTLINE (c)	Course_Outline_ID	c1			Educational_Year	s10
	Section_ID	v1			Passport	s11
	Course_Type	c2			School_ID	h1
	Course_Title	c3			School_Name	h2
	Contact_Hours	c4			CLO_ID	m1
	Course_Description	c5			CLO_Number	m2
	Objective	c6			CO_Description	m3
	Code	c7			PLO_Assessed	m4
	R_Mats	c8			Correlation	m5
	Prerequisite_Code	c9			CourseOutline_ID	c1
	Credit_Value	c10			C	m6
DEPARTMENTHEAD (k)	DepartmentHead_ID	k1			P	m7
	Department_ID	d1			A	m8
	Name	k2			S	m9
DEPARTMENT (d)	Department_ID	d1			PLO_ID	p1
	Department_Name	d2			PLO_Number	p2
	School_ID	h1			CO_ID	o1
COURSE (u)	Course_ID	u1			CO_Number	o2
	Course_Name	u2			Course_ID	u1
	Course_Credits	u3			PLO_ID	p1
	CourseType	u4			PO_ID	x1
PROGRAM (t)	Program_ID	t1			Answer_ID	a1
	Program_Name	t2			Answer_Details	a2
	Department_ID	t1			Answer_Number	a3
PO (x)	PO_ID	x1			Mark_Obtained	a4
	PO_Number	x2			Registration_ID	a5
	Program_ID	x1			Exam_ID	e1
QUESTION (q)	Question_ID	q1			EvaluationStrategy_ID	t1
	Question_Details	q2			Assessment_Tool	t2
	Mark_Obtained	q3			Mark_Distribution	t3
	Question_Number	q4			Bloom's_Category	t4
	Difficulty_Level	q5			CourseOutline_ID	c1
	Exam_ID	e1			Evaluation_ID	n1
	Section_ID	v1			Exam_ID	e1
REGISTRATION (g)	Registration_ID	g1			Registration_ID	g1
	Section_ID	s1			Total_Marks	n?
SECTION (y)	Section_ID	v1			examID	e1
	Section_Number	v2			examName	e2

STUDENT (s)	Student_ID	s1			examID	e1
	First Name	s2			examName	e2
	Last Name	s3			sectionID	v1
	DateOf_Birth	s4			IPSID	11
	Gender	s5			week	12
	Email	s6			topic	13
	Phone	s7			learningStrategy	14
	Address	s8			assessmentStrategy	15
	Department_ID	d1			correspondingCLO	16
	Program_ID	r1			courseOutlineID	c1
	Educational_Semester	s10			scpID	z1
	Educational_Year	s11			registrationID	g1
	Passport	s11			totalMarksObtained	z2
	School_ID	h1			gradePoint	z3

Table i:

i1	i2	i3	i4
----	----	----	----

Table v:

v1	v2	v3
----	----	----

Table w:

w1	w2	w3
----	----	----

Table d:

d1	d2
----	----

Table u:

u1	u3	u4	r1
----	----	----	----

Table r:

r1	r2
----	----

Table x:

x1	x2	r1
----	----	----

Table q:

q1	q2	q3	q4	q5	q6
----	----	----	----	----	----

Table y:

y1	y2	y3	u1	f1	y4
----	----	----	----	----	----

Table s:

s1	s2	s3	s4	s5	s6	s7	s8	d1	r1	s9	s10	s11
----	----	----	----	----	----	----	----	----	----	----	-----	-----

Table h:

h1	h2
----	----

Table m:

m1	m2	m3	m4	m5	e1	m6	m7	m8	m9
----	----	----	----	----	----	----	----	----	----

Table a:

a1	a2	a3	a4
----	----	----	----

Table t:

t1	t2	t3	t4	e1
----	----	----	----	----

Table n:

n1	e1	g1	n2
----	----	----	----

Table c:

e1	c2	y1
----	----	----

1NF:

1) No groups are repeated.
2) At least one primary key exists

i1	i2	i3	i4	v1	v2	v3	w1	w2	w3
f1	f2	f3	c1	c2	c3	c4	c5	c6	c7
c8	c9	c10	k1	k2	k3	d1	d2	u1	u2
u3	u4	r1	r2	x1	x2	g1	q2	q3	q4
q5	q6	g1	y1	y2	y3	y4	s1	s2	s3
s4	s5	s6	s7	s8	s9	s10	s11	h1	h2
m1	m2	m3	m4	m5	m6	m7	m8	m9	p1
p2	o1	o2	a1	a2	a3	a4	t1	t2	t3
t4	n1	n2	e1	e2	l1	l2	l3	l4	l5
l6	z1	z2	z3						

2NF:

1) Partial Dependencies are eliminated.

3NF

Data Dictionary

VC_T

Name	Data Type	Size	Remark
VC_ID	INTEGER	11	PK from Employee table.
Start_Date	DATE		Starting date
End_Date	DATE		Retirement date

STUDENT_T

Name	Data Type	Size	Remark
Student_ID	INTEGER	11	Student identifier
First_Name	VARCHAR	30	First name
Last_Name	VARCHAR	30	Surname
DateOfBirth	DATE		Birthday
Gender	VARCHAR	6	Sex
Email	VARCHAR	30	Electronic Contact
Phone	VARCHAR	11	Mobile number

Address	VARCHAR	50	Location
Department_ID	VARCHAR	3	Department identifier
Program_ID	INTEGER	11	Program identifier
Educational_Semester	VARCHAR	10	Semester in question
Educational_Year	VARCHAR	4	Year in question

STUDENT_COURSE_PERFORMANCE_T

Name	Data Type	Size	Remark
SCP_ID	INTEGER	11	SCP identifier
Registration_ID	INTEGER	11	Registration identifier
TotalMarks_Obtained	INTEGER	11	Marks received
Grade_Point	FLOAT		GP

SECTION_T

Name	Data Type	Size	Remark
Section_ID	INTEGER	11	Section identifier
Section_Number	INTEGER	11	Section number
Semester	VARCHAR	6	Current semester
Course_ID	VARCHAR	6	Course identifier
Faculty_ID	INTEGER	11	Faculty identifier
Year	YEAR	4	Date

SCHOOL_T

Name	Data Type	Size	Remark
School_ID	VARCHAR	5	School identifier
School_Name	VARCHAR	50	Name of school

REGISTRATION_T

Name	Data Type	Size	Remark
Registration_ID	INTEGER	11	Registration identifier
Section_ID	INTEGER	11	Section identifier
Student_ID	INTEGER	11	Student identifier

QUESTION_T

Name	Data Type	Size	Remark
Question_ID	INTEGER	11	Question identifier
Question_Details	MEDIUMTEXT		Details
Marks_PerQuestion	INTEGER	11	Marks allocated
Question_Number	INTEGER	11	Question number
Difficulty_Level	INTEGER	11	Hardness
Exam_ID	VARCHAR	20	Exam identifier
Course_ID	VARCHAR	6	Course identifier
CO_Number	INTEGER	11	CO identifier

PROGRAM_T

Name	Data Type	Size	Remark
Program_ID	INTEGER	11	Program identifier
Program_Name	VARCHAR	50	Name
Department_ID	VARCHAR	3	Department identifier

PO_T

Name	Data Type	Size	Remark
PO_ID	VARCHAR	5	PO identifier
PO_Number	INTEGER	11	PO number
Program_Number	INTEGER	11	Program number

PLO_T

Name	Data Type	Size	Remark
PLO_ID	INTEGER	11	PLO identifier
PLO_Number	INTEGER	11	PLO number
Program_ID	INTEGER	11	Program identifier

LESSON_PLAN_STRATEGY_T

Name	Data Type	Size	Remark
LPS_ID	INTEGER	11	LPS identifier
Week	INTEGER	11	Date
Topic	MEDIUMTEXT		Subject
Learning_Strategy	MEDIUMTEXT		Strategy
Assessment_Strategy	VARCHAR	10	Strategy
CourseOutline_ID	INTEGER	11	Outline identifier

FACULTY_T

Name	Data Type	Size	Remark
Faculty_ID	INTEGER	11	Faculty identifier
Department_ID	VARCHAR	3	Department identifier
Rank	VARCHAR	30	Rank
Start_Date	DATE		Starting date

EXAM_T

Name	Data Type	Size	Remark
Exam_ID	INTEGER	11	Exam identifier
Exam_Name	VARCHAR	30	Name
Section_ID	INTEGER	11	Section identifier

EVALUATION_T

Name	Data Type	Size	Remark
Evaluation_ID	INTEGER	11	Evaluation identifier
Exam_ID	VARCHAR	20	Exam identifier
Registration_ID	INTEGER	11	Registration identifier
Total_Marks	INTEGER	11	Marks allocated

EVALUATION_STRATEGY_T

Name	Data Type	Size	Remark
ES_ID	INTEGER	11	ES identifier
CourseOutline_ID	INTEGER	11	Outline identifier

ASSESSMENT_TOOL_T

Name	Data Type	Size	Remark
AS_ID	INTEGER	11	AS identifier
ES_ID	INTEGER	11	ES identifier

MARK_DISTRIBUTION_T

Name	Data Type	Size	Remark
MD_ID	INTEGER	11	MD identifier
ES_ID	INTEGER	11	ES identifier

BLOOMS_CATEGORY_T

Name	Data Type	Size	Remark
BC_ID	INTEGER	11	BC identifier
ES_ID	INTEGER	11	ES identifier

EMPLOYEE_T

Name	Data Type	Size	Remark
Employee_ID	INTEGER	11	Employee identifier
Password	VARCHAR	10	Key
First_Name	VARCHAR	50	Name
Last_Name	VARCHAR	50	Name

DEPARTMENTHEAD_T

Name	Data Type	Size	Remark
DepartmentHead_ID	INTEGER	11	Dept. Head identifier
Department_ID	VARCHAR	3	Department identifier
Start_Date	DATE		Starting date
End_Date	DATE		Retirement date

DEPARTMENT_T

Name	Data Type	Size	Remark
Department_ID	VARCHAR	3	Department identifier
Department_Name	VARCHAR	50	Name
School_ID	VARCHAR	5	School identifier

DEAN_T

Name	Data Type	Size	Remark
Dean_ID	INTEGER	11	Dean identifier
School_ID	VARCHAR	5	School identifier
Start_Date	DATE		Starting date
End_Date	DATE		Retirement date

COURSE_T

Name	Data Type	Size	Remark
Course_ID	VARCHAR	6	Course identifier
Course_Name	VARCHAR	40	Name
NumberOf_Credits	INTEGER	11	Credits allocated
Course_Type	VARCHAR	10	Type
Program_ID	INTEGER	11	Program identifier

COURSE_OUTLINE_T

Name	Data Type	Size	Remark
CourseOutline_ID	INTEGER	11	Outline identifier
Section_ID	INTEGER	11	Section identifier
Course_Description	MEDIUMTEXT		Details
Objective	MEDIUMTEXT		Aims
Content	MEDIUMTEXT		Subject
R_Mats	MEDIUMTEXT		Reference
Course_Title	VARCHAR	1000	Name
Prerequisite_Code	VARCHAR	6	Prerequisites
Credit_Value	INTEGER	11	Credits

CLO_MATRIX_T

Name	Data Type	Size	Remark
CLOMatrix_ID	INTEGER	11	CLO Matrix identifier
CLO_Number	INTEGER	11	CLO value
CO_Description	MEDIUMTEXT		Details
PLO_Assessed	VARCHAR	10	PLO Assessment
Correlation	INTEGER	11	Relation
CourseOutline_ID	INTEGER	11	Outline identifier
C	INTEGER	11	BC Level
P	INTEGER	11	BC Level
A	INTEGER	11	BC Level
S	INTEGER	11	BC Level

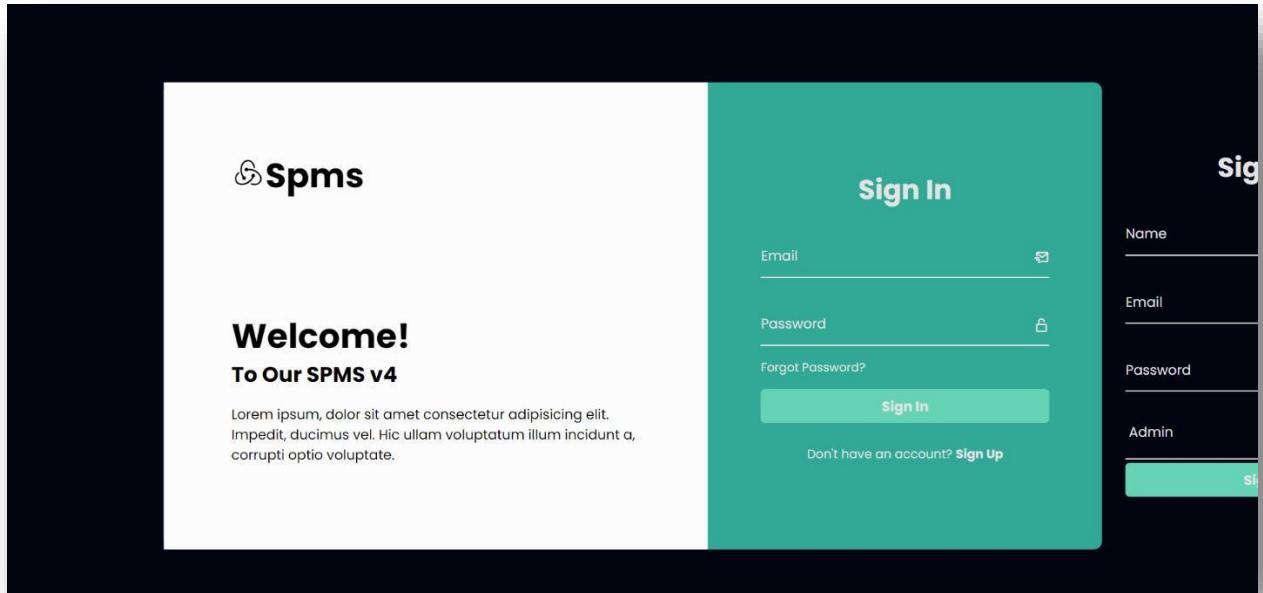
CO_T

Name	Data Type	Size	Remark
CO_ID	INTEGER	11	CO identifier
CO_Number	INTEGER	11	CO number
Course_ID	VARCHAR	6	Course identifier
PLO_ID	VARCHAR	5	PLO identifier
PO_ID	VARCHAR	6	PO identifier

ANSWER_T

Name	Data Type	Size	Remark
Answer_ID	INTEGER	11	Answer identifier
Answer_Details	MEDIUMTEXT		Description
Answer_Number	INTEGER	11	Answer value
Mark_Obtained	INTEGER	11	Marks received
Registration_ID	INTEGER	11	Registration identifier
Exam_ID	INTEGER	11	Exam identifier

Input and Output Forms (SPMS 4.0)



The image shows the SPMS Sign In form. It features a white header with the SPMS logo and a teal footer. The main content area has a white background. It includes a "Welcome! To Our SPMS v4" message, a "Forgot Password?" link, and a "Sign In" button. Below the "Sign In" button is a "Don't have an account? Sign Up" link.

Name
<input type="text"/>

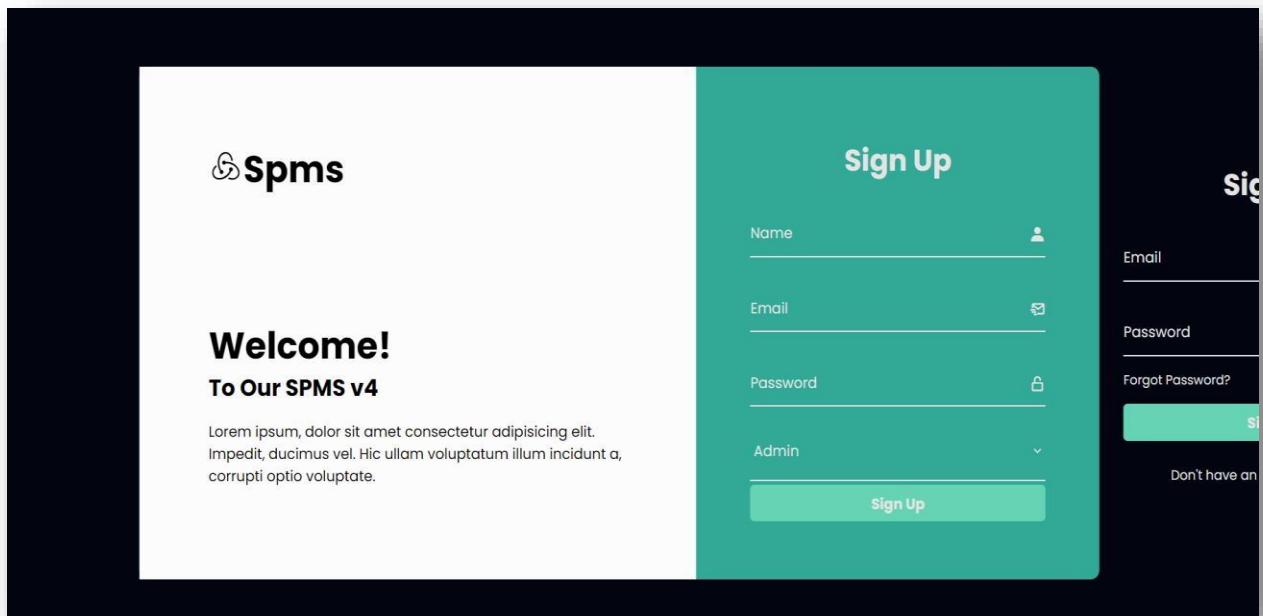
Email
<input type="text"/>

Password
<input type="password"/>

Forgot Password?
Forgot Password?

Sign In
<button type="button">Sign In</button>

Don't have an account? Sign Up
Sign Up



The image shows the SPMS Sign Up form. It has a white header with the SPMS logo and a teal footer. The main content area has a white background. It includes a "Welcome! To Our SPMS v4" message, a "Forgot Password?" link, and a "Sign Up" button. Below the "Sign Up" button is a "Don't have an account? Sign In" link.

Name
<input type="text"/>

Email
<input type="text"/>

Password
<input type="password"/>

Admin
<input type="checkbox"/>

Sign Up
<button type="button">Sign Up</button>

Don't have an account? Sign In
Sign In

```

</head>
<body>
    <div class="container">
        <div class="content">
            <h2 class = "logo"><i class='bx bxl-redux'></i>Spms</h2>
            <div class="welcome_text">
                <h2>Welcome!<br><span>To Our SPMS v4</span></h2>
                <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Impedit, ducimus vel. Hic ullam voluptatum illum incidunt a, corr
            </div>
        </div>
        <div class="login_reg_box">
            <div class="form-box login">
                <form action="#">
                    <h2>Sign In</h2>
                    <div class="input-box">
                        <span class="icon"><i class='bx bx-mail-send'></i></span>
                        <input type="email" required>
                        <label>Email</label>
                    </div>
                    <div class="input-box">
                        <span class="icon"><i class='bx bx-lock-open-alt'></i></span>
                        <input type="password" required>
                        <label>Password</label>
                    </div>
                    <div class="forgot_password">
                        <a href="#">Forgot Password?</a>
                    </div>
                    <button type = "submit" class = "btn">Sign In</button>
                    <div class="registration">
                        <p>Don't have an account? <a href="#" class = "reg_link">Sign Up</a></p>
                    </div>
                </form>
            </div>
        </div>
    </div>

```

```

gin_reg.php
    <p>Don't have an account? <a href="#" class = "reg_link">Sign Up</a></p>
    </div>
    </div>
    </div>

    <div class="form-box register">
        <form action="#">
            <h2>Sign Up</h2>
            <div class="input-box">
                <span class="icon"><i class='bx bxs-user'></i></span>
                <input type="text" required>
                <label>Name</label>
            </div>
            <div class="input-box">
                <span class="icon"><i class='bx bx-mail-send'></i></span>
                <input type="email" required>
                <label>Email</label>
            </div>
            <div class="input-box">
                <span class="icon"><i class='bx bx-lock-open-alt'></i></span>
                <input type="password" required>
                <label>Password</label>
            </div>
            <div class="input-box">
                <select>
                    <option value="Admin">Admin</option>
                    <option value="faculty">Faculty</option>
                    <option value="student">Student</option>
                </select>
            </div>
            <button type = "submit" class = "btn">Sign Up</button>
        </form>
    </div>

```

The dashboard features a sidebar on the left with links for Dashboard, Employee, Departments, Student Info, and Sign Out. The main area has a header "Admin". It includes four summary boxes: "Departments 15", "Employee 1000", "New Notice 5", and "Courses 600". Below these is a bar chart titled "Student Enrollment" showing counts for CSE, EEE, BBA, and Pharmacy.

Department	Count
CSE	4
EEE	9
BBA	6
Pharmacy	8

The "Notice Board" section lists five items: TechFest », Eid Vacation », Makeup Classes », Ramadan Class Routine », and Online Class ».

```

admin_page.php
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <link href="https://fonts.googleapis.com/css2?family=Montserrat:wght@100;200;300;400;500;600;700;800;900&display=swap" rel="stylesheet">
8      <link href="https://fonts.googleapis.com/icon?family=Material+Icons+Outlined" rel="stylesheet">
9      <link rel="stylesheet" href="login_style.css">
10     <link rel="stylesheet" href="https://unpkg.com/boxicons@2.1.4/css/boxicons.min.css" rel='stylesheet'>
11     <title>Admin Dashboard</title>
12     <link rel="stylesheet" href="admin_page.css">
13 </head>
14 <body>
15 <div class="grid-container">
16
17     <aside id="sidebar">
18         <div class="sidebar-title">
19             <div class="sidebar-brand"><i class='bx bxl-redux'></i>SPMS</div>
20         </div>
21
22         <ul class="sidebar-list">
23             <li class="sidebar-list-item">
24                 <a href="admin_page.php" target="_blank">Dashboard</a>
25             </li>
26             <li class="sidebar-list-item">
27                 <a href="#" target="_blank">Employee</a>
28             </li>
29             <li class="sidebar-list-item">
30                 <a href="#" target="_blank">Departments</a>
31             </li>
32         </ul>
33     </aside>
34     <div class="grid-content">
35         <div class="content-area">
36             <div class="row">
37                 <div class="col-4">
38                     <div>Departments<br>15</div>
39                 </div>
40                 <div class="col-4">
41                     <div>Employee<br>1000</div>
42                 </div>
43                 <div class="col-4">
44                     <div>New Notice<br>5</div>
45                 </div>
46                 <div class="col-4">
47                     <div>Courses<br>600</div>
48                 </div>
49             </div>
50             <div class="row">
51                 <div class="col-12">
52                     <div>Student Enrollment</div>
53                     <div>
54                         <img alt="Bar chart showing student enrollment by department: CSE (4), EEE (9), BBA (6), Pharmacy (8)." data-bbox="315 205 560 315"/>
55                         <table border="1">
56                             <thead>
57                                 <tr>
58                                     <th>Department</th>
59                                     <th>Count</th>
60                                 </tr>
61                             </thead>
62                             <tbody>
63                                 <tr>
64                                     <td>CSE</td>
65                                     <td>4</td>
66                                 </tr>
67                                 <tr>
68                                     <td>EEE</td>
69                                     <td>9</td>
70                                 </tr>
71                                 <tr>
72                                     <td>BBA</td>
73                                     <td>6</td>
74                                 </tr>
75                                 <tr>
76                                     <td>Pharmacy</td>
77                                     <td>8</td>
78                                 </tr>
79                             </tbody>
80                         </table>
81                     </div>
82                 </div>
83             </div>
84             <div class="row">
85                 <div class="col-12">
86                     <div>Notice Board</div>
87                     <div>
88                         <a href="#">TechFest »</a>
89                         <a href="#">Eid Vacation »</a>
90                         <a href="#">Makeup Classes »</a>
91                         <a href="#">Ramadan Class Routine »</a>
92                         <a href="#">Online Class »</a>
93                     </div>
94                 </div>
95             </div>
96         </div>
97     </div>
98 </body>
99 </html>

```

```
admin_page.php
31     </li>
32     <li class="sidebar-list-item">
33         <a href="admin_student_report.php" target="_blank">Student Info</a>
34     </li>
35
36     <li class="sidebar-list-item">
37         <a href="#" target="_blank">Sign Out</a>
38     </li>
39   </ul>
40 </aside>
41
42 <main class="main-container">
43   <div class="main-title">
44     <p class="font-weight-bold">Admin</p>
45   </div>
46
47   <div class="main-cards">
48
49     <div class="card">
50       <div class="card-inner">
51         <p class="text-primary">Departments</p>
52       </div>
53         <span class="text-primary font-weight-bold">15</span>
54     </div>
55
56     <div class="card">
57       <div class="card-inner">
58         <p class="text-primary">Employee</p>
59       </div>
60         <span class="text-primary font-weight-bold">1000</span>
```

```
admin_page.php
60     <span class="text-primary font-weight-bold">1000</span>
61   </div>
62
63   <div class="card">
64     <div class="card-inner">
65       <p class="text-primary">New Notice</p>
66     </div>
67     <span class="text-primary font-weight-bold">5</span>
68   </div>
69
70   <div class="card">
71     <div class="card-inner">
72       <p class="text-primary">Courses</p>
73     </div>
74     <span class="text-primary font-weight-bold">600</span>
75   </div>
76
77 </div>
78
79 <div class="charts">
80
81   <div class="charts-card">
82     <p class="chart-title">Student Enrollment</p>
83     <div id="bar-chart"></div>
84   </div>
85
86   <div class="notice_board">
87     <h2>Notice Board</h2>
88     <div class = "notice_items">
89       <h2>TechFest<i class='bx bx-chevrons-right'></i></h2>
```

```

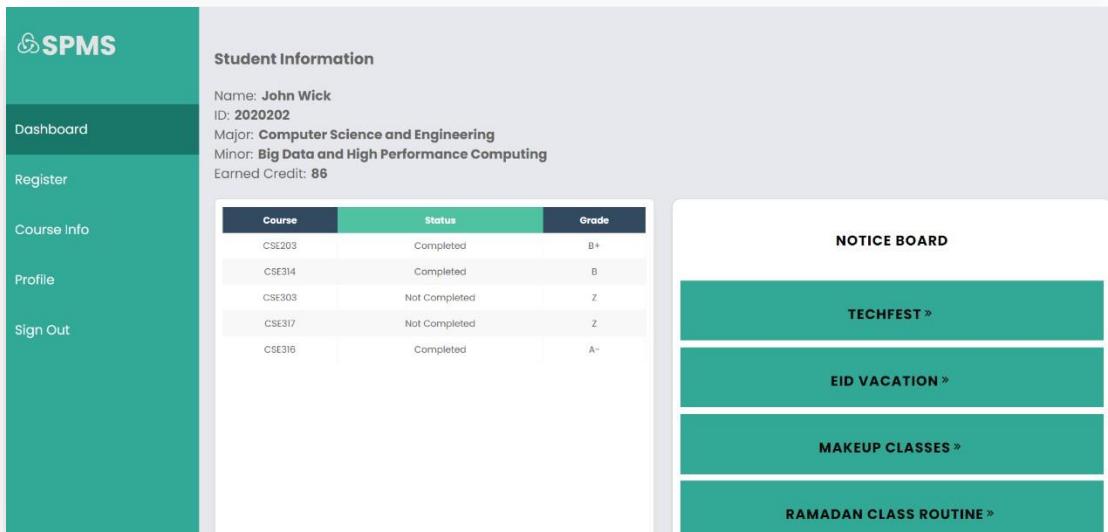


```

90 </div>
91 <div class = "notice_items">
92 <h2>Eid Vacation<i class='bx bx-chevrons-right'></i></h2>
93 </div>
94 <div class = "notice_items">
95 <h2>Makeup Classes<i class='bx bx-chevrons-right'></i></h2>
96 </div>
97 <div class = "notice_items">
98 <h2>Ramadan Class Routine<i class='bx bx-chevrons-right'></i></h2>
99 </div>
100 <div class = "notice_items">
101 <h2>Online Class<i class='bx bx-chevrons-right'></i></h2>
102 </div>
103 </div>
104
105 </div>
106 </main>
107
108 </div>
109
110 <script src="https://cdnjs.cloudflare.com/ajax/libs/apexcharts/3.35.3/apexcharts.min.js"></script>
111 <script src = "admin_page.js"></script>
112 </body>
113 </html>

```


```



SPMS

Student Information

Name: **John Wick**
ID: **2020202**
Major: **Computer Science and Engineering**
Minor: **Big Data and High Performance Computing**
Earned Credit: **86**

Course	Status	Grade
CSE203	Completed	B+
CSE314	Completed	B
CSE303	Not Completed	Z
CSE317	Not Completed	Z
CSE316	Completed	A-

NOTICE BOARD

- TECHFEST »**
- EID VACATION »**
- MAKEUP CLASSES »**
- RAMADAN CLASS ROUTINE »**

```

Student_dashboard.php
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4     <meta charset="UTF-8">
5     <meta http-equiv="X-UA-Compatible" content="IE=edge">
6     <meta name="viewport" content="width=device-width, initial-scale=1.0">
7     <link href="https://fonts.googleapis.com/css2?family=Montserrat:wght@100;200;300;400;500;600;700;800;900&display=swap" rel="stylesheet">
8     <link href="https://fonts.googleapis.com/icon?family=Material+Icons+Outlined" rel="stylesheet">
9     <link rel="stylesheet" href="login_style.css">
10    <link href="https://unpkg.com/boxicons@2.1.4/css/boxicons.min.css" rel='stylesheet'>
11    <title>Student Dashboard</title>
12    <link rel="stylesheet" href="student_dashboard.css">
13 </head>
14 <body>
15 <div class="grid-container">
16
17 <aside id="sidebar">
18     <div class="sidebar-title">
19         <div class="sidebar-brand"><i class='bx bxl-redux'></i>SPMS</div>
20     </div>
21
22     <ul class="sidebar-list">
23         <li class="sidebar-list-item">
24             <a href="admin_page.php" target="_blank">Dashboard</a>
25         </li>
26         <li class="sidebar-list-item">
27             <a href="#" target="_blank">Register</a>
28         </li>
29         <li class="sidebar-list-item">
30             <a href="studentpage_report.php" target="_blank">Course Info</a>
31         </li>

```

```

Student_dashboard.php
30     <a href="studentpage_report.php" target="_blank">Course Info</a>
31 </li>
32 <li class="sidebar-list-item">
33     <a href="#" target="_blank">Profile</a>
34 </li>
35
36 <li class="sidebar-list-item">
37     <a href="#" target="_blank">Sign Out</a>
38 </li>
39 </ul>
40 </aside>
41
42 <main class="main-container">
43     <div class="main-title">
44         <p class="font-weight-bold">Student Information</p>
45     </div>
46
47     <div class="main-cards">
48         <p>Name: <snap>John Wick</snap></p>
49         <p>ID: <snap>2020202</snap></p>
50         <p>Major: <snap>Computer Science and Engineering</snap></p>
51         <p>Minor: <snap>Big Data and High Performance Computing</snap></p>
52         <p>Earned Credit: <snap>86</snap></p>
53     </div>
54
55     <div class="charts">
56
57         <div class="charts-card">
58             <div class="table-wrapper">
59                 <table class="fl-table">
60                     <thead>

```

```

Student_dashboard.php
60      <thead>
61          <tr>
62              <th>Course</th>
63              <th>Status</th>
64              <th>Grade</th>
65      </tr>
66  </thead>
67  <tbody>
68      <tr>
69          <td>CSE203</td>
70          <td>Completed</td>
71          <td>B+</td>
72      </tr>
73      <tr>
74          <td>CSE314</td>
75          <td>Completed</td>
76          <td>B</td>
77      </tr>
78      <tr>
79          <td>CSE303</td>
80          <td>Not Completed</td>
81          <td>Z</td>
82      </tr>
83      <tr>
84          <td>CSE317</td>
85          <td>Not Completed</td>
86          <td>Z</td>
87      </tr>
88      <tr>
89          <td>CSE316</td>
90          <td>Completed</td>

```

```

Student_dashboard.php
95      </div>
96  </div>
97
98  <div class="notice_board">
99      <h2>Notice Board</h2>
100     <div class = "notice_items">
101         <h2>TechFest<i class='bx bx-chevron-right'></i></h2>
102     </div>
103     <div class = "notice_items">
104         <h2>Eid Vacation<i class='bx bx-chevron-right'></i></h2>
105     </div>
106     <div class = "notice_items">
107         <h2>Makeup Classes<i class='bx bx-chevron-right'></i></h2>
108     </div>
109     <div class = "notice_items">
110         <h2>Ramadan Class Routine<i class='bx bx-chevron-right'></i></h2>
111     </div>
112     <div class = "notice_items">
113         <h2>Online Class<i class='bx bx-chevron-right'></i></h2>
114     </div>
115 </div>
116
117 </div>
118 </main>
119
120
121 </div>
122 <script src="https://cdnjs.cloudflare.com/ajax/libs/apexcharts/3.35.3/apexcharts.min.js"></script>
123 <script src = "admin_page.js"></script>
124 </body>
125 </html>

```

```

faculty.dashboard.php
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <link href="https://fonts.googleapis.com/css2?family=Montserrat:wght@100;200;300;400;500;600;700;800;900&display=swap" rel="stylesheet">
8      <link href="https://fonts.googleapis.com/icon?family=Material+Icons+Outlined" rel="stylesheet">
9      <link rel="stylesheet" href="login_style.css">
10     <link href="https://unpkg.com/boxicons@2.1.4/css/boxicons.min.css" rel='stylesheet'>
11     <title>Faculty Dashboard</title>
12     <link rel="stylesheet" href="faculty_dashboard.css">
13 </head>
14 <body>
15 <div class="grid-container">
16
17 <aside id="sidebar">
18     <div class="sidebar-title">
19         <div class="sidebar-brand"><i class='bx bxl-redux'></i>SPMS</div>
20     </div>
21
22     <ul class="sidebar-list">
23         <li class="sidebar-list-item">
24             <a href="admin_page.php" target="_blank">Dashboard</a>
25         </li>
26         <li class="sidebar-list-item">
27             <a href="#" target="_blank">Course Details</a>
28         </li>
29         <li class="sidebar-list-item">
30             <a href="studentpage_report.php" target="_blank">Course Info</a>

```

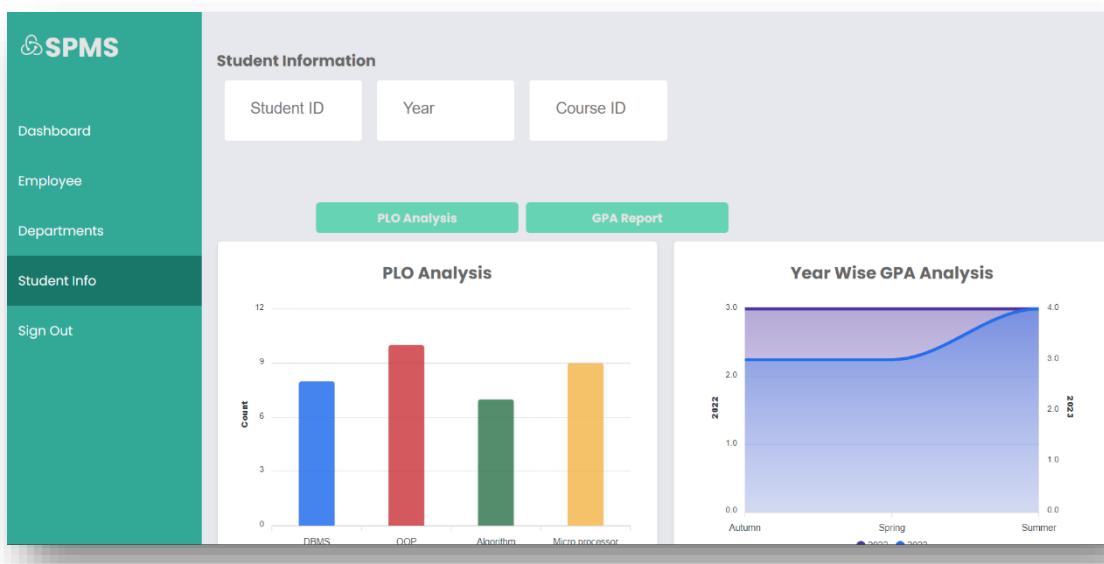
```
faculty_dashboard.php
25     </li>
26     <li class="sidebar-list-item">
27         <a href="#" target="_blank">Course Details</a>
28     </li>
29     <li class="sidebar-list-item">
30         <a href="studentpage_report.php" target="_blank">Course Info</a>
31     </li>
32     <li class="sidebar-list-item">
33         <a href="#" target="_blank">Profile</a>
34     </li>
35
36     <li class="sidebar-list-item">
37         <a href="#" target="_blank">Sign Out</a>
38     </li>
39   </ul>
40 </aside>
41
42 <main class="main-container">
43   <div class="main-title">
44     <p class="font-weight-bold">Faculty Dashboard</p>
45   </div>
46
47   <div class="main-cards">
48     <p>Name: <snap>John Wick</snap></p>
49     <p>ID: <snap>1010101</snap></p>
50   </div>
51
52   <div class="charts">
53     <div class="charts-card">
```

```
faculty_dashboard.php
54   <div class="charts-card">
55     <div class="table-wrapper">
56       <table class="fl-table">
57         <thead>
58           <tr>
59             <th>Course</th>
60             <th>Status</th>
61             <th>Graded</th>
62           </tr>
63         </thead>
64         <tbody>
65           <tr>
66             <td>CSE203</td>
67             <td>Completed</td>
68             <td>Yes</td>
69           </tr>
70           <tr>
71             <td>CSE314</td>
72             <td>Completed</td>
73             <td>Yes</td>
74           </tr>
75           <tr>
76             <td>CSE303</td>
77             <td>Not Completed</td>
78             <td>No</td>
79           </tr>
80         </tbody>
81       </table>
82     </div>
83   </div>
```

```

84 <div class="notice_board">
85   |   <h2>Notice Board</h2>
86   |   <div class = "notice_items">
87   |     <h2>TechFest<i class='bx bx-chevron-right'></i></h2>
88   |   </div>
89   |   <div class = "notice_items">
90   |     <h2>Eid Vacation<i class='bx bx-chevron-right'></i></h2>
91   |   </div>
92   |   <div class = "notice_items">
93   |     <h2>Makeup Classes<i class='bx bx-chevron-right'></i></h2>
94   |   </div>
95   |   <div class = "notice_items">
96   |     <h2>Ramadan Class Routine<i class='bx bx-chevron-right'></i></h2>
97   |   </div>
98   |   <div class = "notice_items">
99   |     <h2>Online Class<i class='bx bx-chevron-right'></i></h2>
100  |   </div>
101  | </div>
102 </div>
103
104 </div>
105 </main>
106
107
108 </div>
109 <script src="https://cdnjs.cloudflare.com/ajax/libs/apexcharts/3.35.3/apexcharts.min.js"></script>
110 <script src = "faculty_dashboard.js"></script>
111 </body>
112 </html>

```



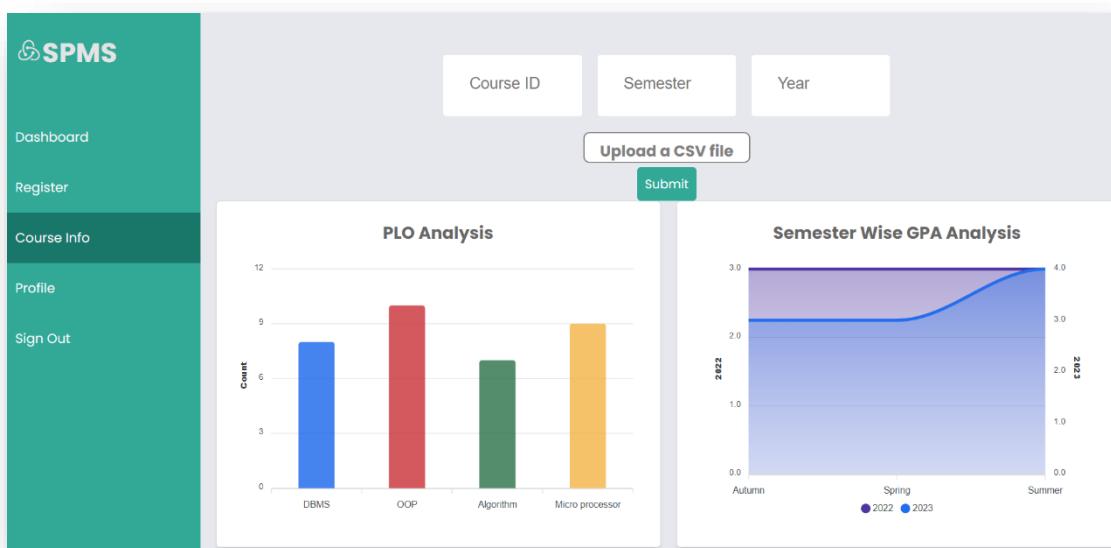
```
<main class="main-container">
  <div class="main-title">
    <p class="font-weight-bold">Student Information</p>
  </div>

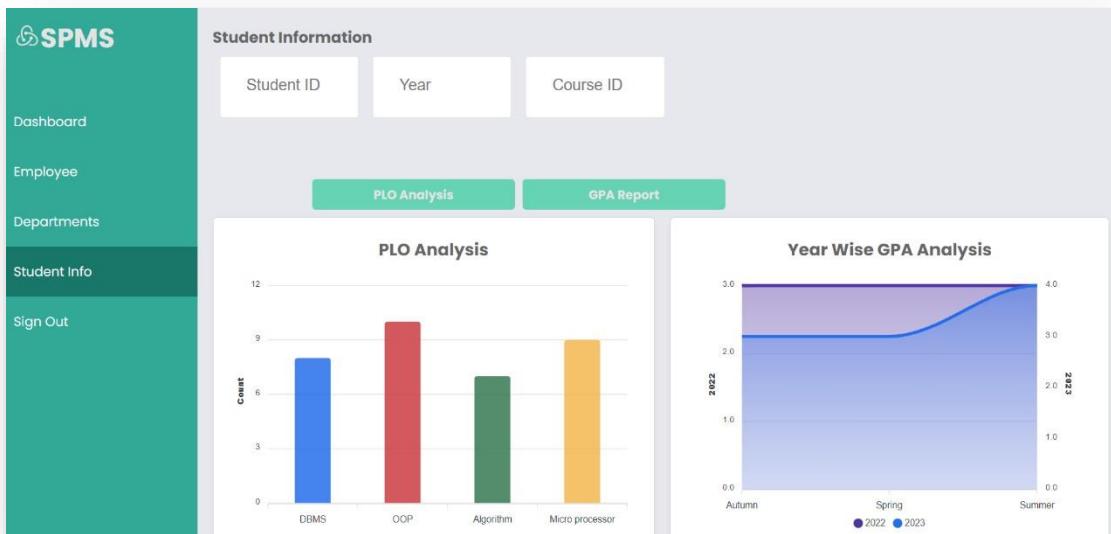
  <div class = "actions">
    <div class="main-cards">
      <div class="form_group">
        <input type="ID" class="form_input" id="name" placeholder="Student ID" required="" />
        <label for="ID" class="form_label">Student ID</label>
      </div>
      <div class="form_group">
        <input type="year" class="form_input" id="name" placeholder="Year" required="" />
        <label for="year" class="form_label">Year</label>
      </div>
      <div class="form_group">
        <input type="course_ID" class="form_input" id="name" placeholder="Course ID" required="" />
        <label for="course_ID" class="form_label">Course ID</label>
      </div>
    </div>
    <div class = "form_Buttons">
      <button type = "submit" class = "btn">PLO Analysis</button>
      <button type = "submit" class = "btn">GPA Report</button>
    </div>
  </div>
  <div class="charts">
    <div class="charts-card">
      <div>...</div>
    </div>
  </div>
</main>
```

```

59 admin.student.report.php
60
61 </div>
62 </div>
63 </div>
64 </div>
65 </div class="charts">
66
67     <div class="charts-card">
68         <p class="chart-title">PLO Analysis</p>
69         <div id="bar-chart"></div>
70     </div>
71
72     <div class="charts-card">
73         <p class="chart-title">Year Wise GPA Analysis</p>
74         <div id="area-chart"></div>
75     </div>
76
77 </div>
78 </main>
79
80 </div>
81 <script src="https://cdnjs.cloudflare.com/ajax/libs/apexcharts/3.35.3/apexcharts.min.js"></script>
82 <script src = "admin_student_report.js"></script>
83
84 </body>
85 </html>

```





```

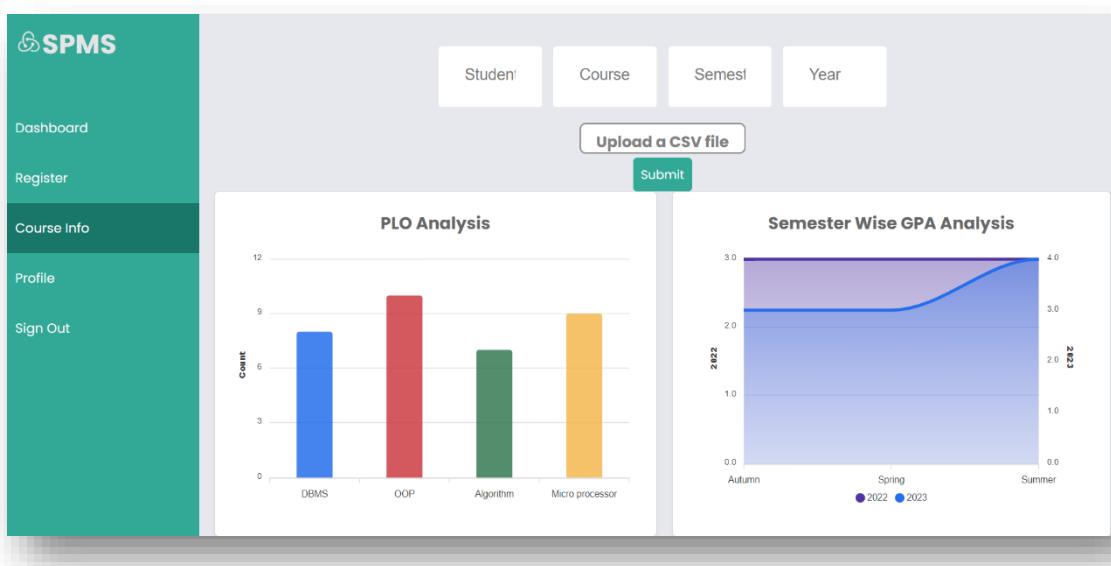
1  studentpage_report.php
2  <!DOCTYPE html>
3  <html lang="en">
4  <head>
5      <meta charset="UTF-8">
6      <meta http-equiv="X-UA-Compatible" content="IE=edge">
7      <meta name="viewport" content="width=device-width, initial-scale=1.0">
8      <link href="https://fonts.googleapis.com/css?family=Montserrat:wght@100,200,300,400,500,600,700,800,900&display=swap" rel="stylesheet">
9      <link href="https://fonts.googleapis.com/icon?family=Material+Icons+Outlined" rel="stylesheet">
10     <link rel="stylesheet" href="login_style.css">
11     <link href="https://unpkg.com/boxicons@2.1.4/css/boxicons.min.css" rel='stylesheet'>
12     <title>Student Dashboard</title>
13     <link rel="stylesheet" href="studentpage_report.css">
14 </head>
15 <body>
16 <div class="grid-container">
17     <aside id="sidebar">
18         <div class="sidebar-title">
19             <div class="sidebar-brand"><i class='bx bxl-redux'></i>SPMS</div>
20         </div>
21
22         <ul class="sidebar-list">
23             <li class="sidebar-list-item">
24                 <a href="student_dashboard.php" target="_blank">Dashboard</a>
25             </li>
26             <li class="sidebar-list-item">
27                 <a href="#" target="_blank">Register</a>
28             </li>
29             <li class="sidebar-list-item">
30                 <a href="studentpage_report.php" target="_blank">Course Info</a>
31             </li>
32         </ul>
33     </aside>
34     <div class="main-content">
35         <div class="header">
36             <h1>Student Page</h1>
37             <div class="header-right">
38                 <span>Logout</span>
39             </div>
40         </div>
41         <div class="content">
42             <div class="card">
43                 <div class="card-header">Student Information</div>
44                 <div class="card-body">
45                     <div class="row">
46                         <div class="col-3">Student ID</div>
47                         <div class="col-3">Year</div>
48                         <div class="col-3">Course ID</div>
49                     </div>
50                     <div class="row">
51                         <div class="col-6 text-center"><button>PLO Analysis</button></div>
52                         <div class="col-6 text-center"><button>GPA Report</button></div>
53                     </div>
54                 </div>
55             </div>
56             <div class="card">
57                 <div class="card-header">PLO Analysis</div>
58                 <div class="card-body">
59                     <div>
60                         <table border="1">
61                             <thead>
62                                 <tr>
63                                     <th>Subject</th>
64                                     <th>Count</th>
65                                 </tr>
66                             </thead>
67                             <tbody>
68                                 <tr>
69                                     <td>DBMS</td>
70                                     <td>8</td>
71                                 </tr>
72                                 <tr>
73                                     <td>OOP</td>
74                                     <td>10</td>
75                                 </tr>
76                                 <tr>
77                                     <td>Algorithm</td>
78                                     <td>7</td>
79                                 </tr>
80                                 <tr>
81                                     <td>Micro processor</td>
82                                     <td>9</td>
83                                 </tr>
84                             </tbody>
85                         </table>
86                     </div>
87                 </div>
88             </div>
89             <div class="card">
90                 <div class="card-header">Year Wise GPA Analysis</div>
91                 <div class="card-body">
92                     <div>
93                         <img alt="Stacked area chart showing Year Wise GPA Analysis for 2022 and 2023 across Autumn, Spring, and Summer semesters." data-bbox="610 200 850 330"/>
94                     </div>
95                 </div>
96             </div>
97         </div>
98     </div>
99 </body>
100 </html>

```

```

studentpage.report.php
39 |     </ui>
40 |   </aside>
41 |
42 <main class="main-container">
43   <div class = "info_box">
44     <div class = "input_box">
45       <div class="form__group">
46         <input type="ID" class="form__input" id="name" placeholder="Course ID" required="" />
47         <label for="ID" class="form__label">Course ID</label>
48       </div>
49       <div class="form__group">
50         <input type="Semester" class="form__input" id="name" placeholder="Semester" required="" />
51         <label for="Semester" class="form__label">Semester</label>
52       </div>
53       <div class="form__group">
54         <input type="Year" class="form__input" id="name" placeholder="Year" required="" />
55         <label for="Year" class="form__label">Year</label>
56       </div>
57     </div>
58     <div class="upload-btn-wrapper">
59       <button class="btn">Upload a CSV file</button>
60       <input type="file" name="myfile" />
61     </div>
62     <button class="submit_btn">Submit</button>
63   </div>
64   <div class="charts">
65     <div class="charts-card">
66       <p class="chart-title">PLO Analysis</p>
67       <div id="bar-chart"></div>
68     </div>
69   </div>
70

```



```


1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <link href="https://fonts.googleapis.com/css2?family=Montserrat:wght@100;200;300;400;500;600;700;800;900&display=swap" rel="stylesheet">
8      <link href="https://fonts.googleapis.com/icon?family=Material+Icons+Outlined" rel="stylesheet">
9      <link rel="stylesheet" href="login_style.css">
10     <link href="https://unpkg.com/boxicons@2.1.4/css/boxicons.min.css" rel='stylesheet'>
11     <title>Student Report</title>
12     <link rel="stylesheet" href="facultyStudent_report.css">
13 </head>
14 <body>
15 <div class="grid-container">
16
17 <aside id="sidebar">
18     <div class="sidebar-title">
19         <div class="sidebar-brand"><i class='bx bx1-redux'></i>SPMS</div>
20     </div>
21
22     <ul class="sidebar-list">
23         <li class="sidebar-list-item">
24             <a href="faculty_dashboard.php" target="_blank">Dashboard</a>
25         </li>
26         <li class="sidebar-list-item">
27             <a href="#" target="_blank">Register</a>
28         </li>
29         <li class="sidebar-list-item">
30             <a href="facultyStudent_report.php" target="_blank">Course Info</a>
31         </li>
32         <li class="sidebar-list-item">
33             <a href="#" target="_blank">Profile</a>
34         </li>
35
36         <li class="sidebar-list-item">
37             <a href="#" target="_blank">Sign Out</a>
38         </li>
39     </ul>
40 </aside>
41
42 <main class="main-container">
43     <div class = "info_box">
44         <div class = "input_box">
45             <div class="form_group">
46                 <input type="stdID" class="form_input" id="name" placeholder="Student ID" required="" />
47                 <label for="stdID" class="form_label">Student ID</label>
48             </div>
49             <div class="form_group">
50                 <input type="ID" class="form_input" id="name" placeholder="Course ID" required="" />
51                 <label for="ID" class="form_label">Course ID</label>
52             </div>
53             <div class="form_group">
54                 <input type="Semester" class="form_input" id="name" placeholder="Semester" required="" />
55                 <label for="Semester" class="form_label">Semester</label>
56             </div>
57             <div class="form_group">
58                 <input type="Year" class="form_input" id="name" placeholder="Year" required="" />
59                 <label for="Year" class="form_label">Year</label>
60             </div>


```

```


31         </li>
32         <li class="sidebar-list-item">
33             <a href="#" target="_blank">Profile</a>
34         </li>
35
36         <li class="sidebar-list-item">
37             <a href="#" target="_blank">Sign Out</a>
38         </li>
39     </ul>
40 </aside>
41
42 <main class="main-container">
43     <div class = "info_box">
44         <div class = "input_box">
45             <div class="form_group">
46                 <input type="stdID" class="form_input" id="name" placeholder="Student ID" required="" />
47                 <label for="stdID" class="form_label">Student ID</label>
48             </div>
49             <div class="form_group">
50                 <input type="ID" class="form_input" id="name" placeholder="Course ID" required="" />
51                 <label for="ID" class="form_label">Course ID</label>
52             </div>
53             <div class="form_group">
54                 <input type="Semester" class="form_input" id="name" placeholder="Semester" required="" />
55                 <label for="Semester" class="form_label">Semester</label>
56             </div>
57             <div class="form_group">
58                 <input type="Year" class="form_input" id="name" placeholder="Year" required="" />
59                 <label for="Year" class="form_label">Year</label>
60             </div>


```

```

❷ facultyStudent_report.php
60 | </div>
61 | </div>
62 <div class="upload-btn-wrapper">
63 | <button class="btn">Upload a CSV file</button>
64 | <input type="file" name="myfile" />
65 </div>
66 | <button class="submit_btn">Submit</button>
67 </div>
68 <div class="charts">
69 | <div class="charts-card">
70 | | <p class="chart-title">PLO Analysis</p>
71 | | <div id="bar-chart"></div>
72 | </div>
73 <div class="charts-card">
74 | <p class="chart-title">Semester Wise GPA Analysis</p>
75 | <div id="area-chart"></div>
76 | </div>
77 </div>
78 | </div>
79 </main>
80
81
82 </div>
83 <script src="https://cdnjs.cloudflare.com/ajax/libs/apexcharts/3.35.3/apexcharts.min.js"></script>
84 <script src = "facultyStudent_report.js"></script>
85 </body>
86 </html>

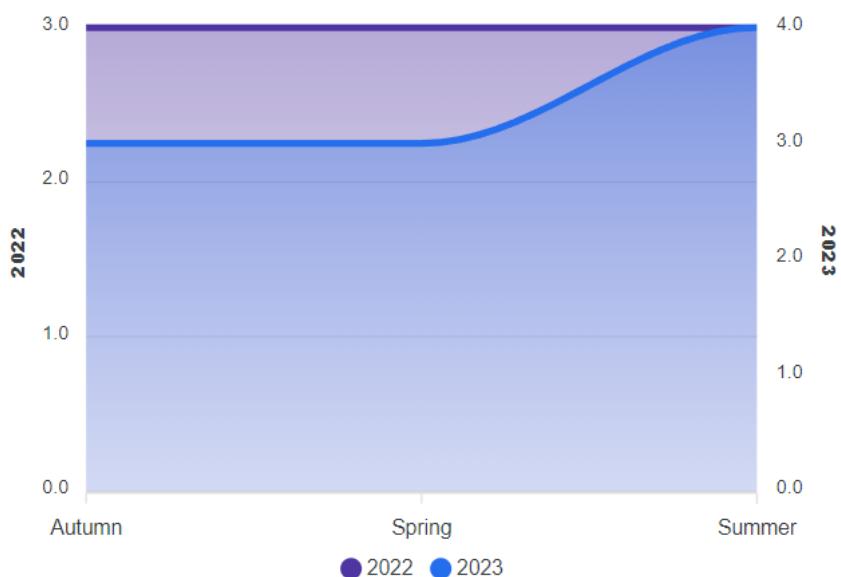
```

```

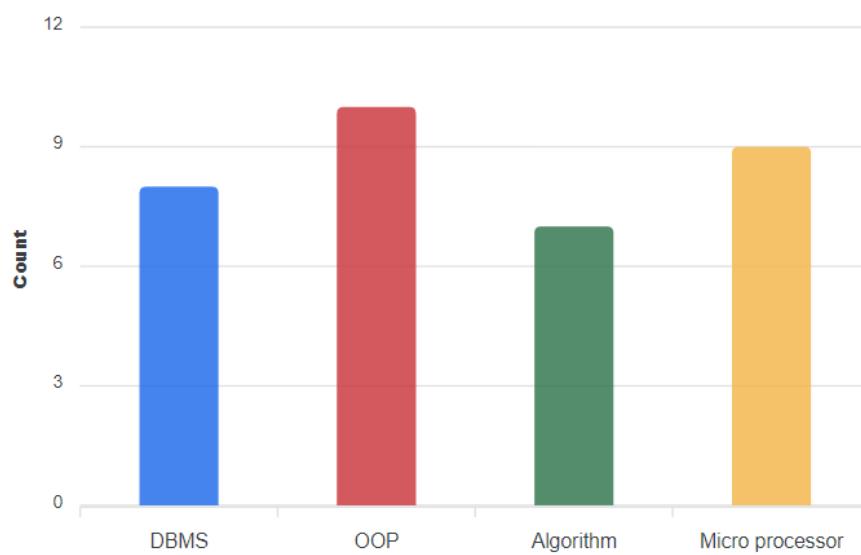
❸ login_reg.js > ...
1 const loginregBox = document.querySelector('.login_reg-box');
2 const loginLink = document.querySelector('.login_link');
3 const registerLink = document.querySelector('.reg_link');
4
5 registerLink.addEventListener('click', () => {
6 |   loginregBox.classList.add('active');
7 });
8
9 registerLink.addEventListener('click', () => {
10 |   loginregBox.classList.remove('active');
11 });
12

```

Semester Wise GPA Analysis



PLO Analysis



JS facultyStudent_report.js > [2] areaChartOptions > ↴ yaxis

```
1 // BAR CHART
2 var barChartOptions = {
3   series: [
4     { data: [8, 10, 7, 9]
5   }],
6   chart: {
7     type: 'bar',
8     height: 350,
9     toolbar: {
10       show: false
11     },
12   },
13   colors: [
14     "#246dec",
15     "#cc3c43",
16     "#367952",
17     "#f5b74f",
18     "#4f35a1"
19   ],
20   plotOptions: {
21     bar: {
22       distributed: true,
23       borderRadius: 4,
24       horizontal: false,
25       columnWidth: '40%',
26     }
27   },
28   dataLabels: {
29     enabled: false
30   },
31   legends: [
```

```
JS facultyStudent_report.js > [area] areaChartOptions > yaxis
  34   },
  35   xaxis: {
  36     categories: ["DBMS", "OOP", "Algorithm", "Micro processor"]
  37   },
  38   yaxis: {
  39     title: {
  40       text: "Count"
  41     }
  42   };
  43
  44 var barChart = new ApexCharts(document.querySelector("#bar-chart"), barChartOptions);
  45 barChart.render();
  46
  47
  48 // AREA CHART
  49 var areaChartOptions = {
  50   series: [
  51     {
  52       name: '2022',
  53       data: [3, 3, 3]
  54     },
  55     {
  56       name: '2023',
  57       data: [3, 3, 4]
  58     }
  59   ],
  60   chart: {
  61     height: 350,
  62     type: 'area',
  63     toolbar: {
  64       items: [
  65         {
  66           name: 'grid'
  67         },
  68         {
  69           name: 'range'
  70         }
  71       ]
  72     }
  73   },
  74   dataLabels: {
  75     enabled: true
  76   },
  77   stroke: {
  78     width: 2
  79   },
  80   fill: {
  81     opacity: 0.8
  82   },
  83   markers: {
  84     size: 80
  85   },
  86   grid: {
  87     padding: 10
  88   },
  89   legend: {
  90     position: 'right'
  91   },
  92   xaxis: {
  93     categories: ["DBMS", "OOP", "Algorithm", "Micro processor"]
  94   },
  95   yaxis: {
  96     title: {
  97       text: "Count"
  98     }
  99   }
 100 }

var areaChart = new ApexCharts(document.querySelector("#area-chart"), areaChartOptions);
areaChart.render();
```

```
opposite: true,
title: {
  text: '2023',
},
],
tooltip: {
  shared: true,
  intersect: false,
}
};

var areaChart = new ApexCharts(document.querySelector("#area-chart"), areaChartOptions);
areaChart.render();
```

```
js facultyStudent_report.js > [area] areaChartOptions > > yaxis
54     name: '2023',
55     data: [3, 3, 4]
56   ],
57   chart: {
58     height: 350,
59     type: 'area',
60     toolbar: {
61       show: false,
62     },
63   },
64   colors: ["#4f35a1", "#246dec"],
65   dataLabels: {
66     enabled: false,
67   },
68   stroke: {
69     curve: 'smooth'
70   },
71   labels: ["Autumn", "Spring", "Summer"],
72   markers: {
73     size: 0
74   },
75   yaxis: [
76     {
77       title: {
78         text: '2022',
79       },
80     },
81     {
82       opposite: true,
83       title: {
84         text: '2023'
85       }
86     }
87   ]
88 }
```

Tree View:

- New
- dbggrading
 - New
 - ay
 - class
 - course
 - department
 - grades
 - instructor
 - level
 - major
 - photo
 - room
 - schoolyr
 - semester
 - studentsubjects
 - subject
 - tblrequirements
 - tblstuddetails
 - tblstudent
 - useraccounts

Toolbar:

- Browse
- Structure
- SQL
- Search
- Insert
- Export
- Import
- Privileges
- Operations
- Triggers

Message Bar:

Showing rows 0 - 0 (1 total, Query took 0.0005 seconds.)

Query:

```
SELECT * FROM `tblstudent`
```

Table Headers:

S_ID	IDNO	FNAME	LNAME	MNAME	SEX	BDAY	BPLACE	STATUS	AGE	NATIONALITY	RELIGION	CONTACT_NO	HOME
------	------	-------	-------	-------	-----	------	--------	--------	-----	-------------	----------	------------	------

Table Data:

58	2020111	Muzahidul	Nouman	Islam	M	2019-04-01	Dhaka	Single	21	Bangladeshi	Islam	123456789	Dhaka
----	---------	-----------	--------	-------	---	------------	-------	--------	----	-------------	-------	-----------	-------

Table Tools:

- Check all
- With selected:
- Edit
- Copy
- Delete
- Export

Table Row Controls:

- Show all
- Number of rows: 25
- Filter rows: Search this table

Query results operations:

- Print
- Copy to clipboard
- Export
- Display chart
- Create view

Showing rows 0 - 0 (1 total, Query took 0.0004 seconds.)

SELECT * FROM `department`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

Extra options

← T → ▼ DEPT_ID DEPARTMENT_NAME DEPARTMENT_DESC

Edit Copy Delete 3 CSE Computer Science and Engineering

↑ Check all With selected: Edit Copy Delete Export

Show all | Number of rows: 25 Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

SELECT * FROM `subject`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

← T → ▼ SUBJ_ID SUBJ_CODE SUBJ_DESCRIPTION UNIT PRE_REQUSITE COURSE_ID AY

<input type="checkbox"/>	Edit Copy Delete	476	hjgjhghh	gj	3		51	2013-2014
<input type="checkbox"/>	Edit Copy Delete	477	CSE303	Database Management System	4		0	2019-2020
<input type="checkbox"/>	Edit Copy Delete	478	CSE316	Data Communication and Networking	4		0	2019-2020
<input type="checkbox"/>	Edit Copy Delete	479	CSE303	Database Management System	4		47	2019-2020

↑ Check all With selected: Edit Copy Delete Export

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Query results operations

Print Copy to clipboard Export Display chart Create view

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)

`SELECT * FROM `grades``

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

GRADE_ID	IDNO	SUBJ_ID	INST_ID	SYID	FIRST	SECOND	THIRD	FOURTH	AVE	DAY	G_TIME	ROOM	REMARKS	COMMENT
----------	------	---------	---------	------	-------	--------	-------	--------	-----	-----	--------	------	---------	---------

Query results operations

 Create view

```
[?>

<?php if($_SESSION['ACCOUNT_TYPE']=='Teacher'){
    ?>
        <li class=<?php echo (currentpage_admin() == 'inst_front') ? "active" : false;?>>
            <a href=<?php echo WEB_ROOT; ?>admin/modules/inst_front/index.php?view=record">
                <i class="now-ui-icons users_single-02"></i>
                <p>Record</p>
            </a>
        </li>
    </?php
}>
    <?php if($_SESSION['ACCOUNT_TYPE']=='Administrator'){
    ?>
        <li class=<?php echo (currentpage_admin() == 'user') ? "active" : false;?>>
            <a href=<?php echo WEB_ROOT; ?>admin/modules/user/index.php">
                <i class="now-ui-icons users_single-02"></i>
                <p>Manage Users</p>
            </a>
        </li>
    </?php
}>
    <!-- <li><a href=<?php echo WEB_ROOT; ?>admin/logout.php">Logout</a></li> -->
</ul>
</div>
```

```

<script>
function checkall(selector)
{
    if(document.getElementById('chkall').checked==true)
    {
        var chkelement=document.getElementsByName(selector);
        for(var i=0;i<chkelement.length;i++)
        {
            chkelement.item(i).checked=true;
        }
    }
    else
    {
        var chkelement=document.getElementsByName(selector);
        for(var i=0;i<chkelement.length;i++)
        {
            chkelement.item(i).checked=false;
        }
    }
}

function checkNumber(textBox){
    while (textBox.value.length > 0 && isNaN(textBox.value)) {
        textBox.value = textBox.value.substring(0, textBox.value.length - 1)
    }
    textBox.value = trim(textBox.value);
}
// 
function checkText(textBox)
{
    var alphaExp = /^[a-zA-Z]+$/;
    while (textBox.value.length > 0 && !textBox.value.match(alphaExp)) {
        <input class="form-control input-sm" id="level" name="level" placeholder=
            | "Course Level" type="hidden" value="">
        </div>
    </div>
</div>
<div class="form-group">
    <div class="col-md-8">
        <label class="col-md-4 control-label" for=
            "major">Major</label>

        <div class="col-md-8">
            <select class="form-control input-sm" name="major" id="major">
                <option value="None">None</option>
                <?php
                    $major = new Major();
                    $cur= $major->listOfmajor();
                    foreach ($cur as $major) {
                        echo '<option value='.$major->MAJOR.'>'.$major->MAJOR.'</OPTION>';
                    }
                ?>
            </select>
            <input class="form-control input-sm" id="major" name="major" placeholder=
                | "Course Level" type="hidden" value="">
        </div>
    </div>

```

```

<?php
require_once("../..../includes/initialize.php");
//checkAdmin();
$view = (isset($_GET['view']) && $_GET['view'] != '') ? $_GET['view'] : '';
switch ($view) {
    case 'list' :
        $content     = 'list.php';
        break;

    case 'add' :
        $content     = 'add.php';
        break;

    case 'edit' :
        $content     = 'edit.php';
        break;
    case 'view' :
        $content     = 'view.php';
        break;
    case 'class' :
        $content     = 'class.php';
        break;
    case 'time' :
        $content     = 'updatetime.php';
        break;

    default :
        $content     = 'list.php';
}
<form class="form-horizontal well span6" action="controller.php?action=add" method="POST">
    <fieldset>
        <legend>New Course</legend>

        <div class="form-group">
            <div class="col-md-8">
                <label class="col-md-4 control-label" for="coursename">Course Name</label>

                <div class="col-md-8">
                    <input class="form-control input-sm" id="coursename" name="coursename" placeholder="Course Code" type="text" value="">
                </div>
            </div>
        </div>

        <div class="form-group">
            <div class="col-md-8">
                <label class="col-md-4 control-label" for="level">Level</label>

                <div class="col-md-8">
                    <input class="form-control input-sm" id="level" name="level" placeholder="Course Level" type="hidden" value="">
                </div>
            </div>
        </div>
    </fieldset>

```

```

<?php } ?>

<?php
if (isset($_POST['btnlogin'])) {
    //form has been submitted

    $uname = trim($_POST['uname']);
    $upass = trim($_POST['pass']);

    $h_upass = sha1($upass);
    if ($uname == '' OR $upass == '') {
?>        <script type="text/javascript">
            alert("Invalid Username and Password!");
            </script>
        <?php

    } else {
        $user = new User();
        $res = $user::AuthenticateUser($uname, $h_upass);
        if($res == true){
            ?>        <script type="text/javascript">
                window.location = "index.php";
            </script>
        <?php

        } else {
?>        <script type="text/javascript">
            alert("Username or Password Not Registered! Contact Your administrator.");
            window.location = "index.php";
69
70    ?>
71    <div class="limiter">
72        <div class="container-login100" style="background-image: url('../plugins/login/images/bg-01.jpg');">
73            <div class="wrap-login100 p-t-30 p-b-50">
74                <span class="login100-form-title p-b-41">
75                    Admin Account Login
76                </span>
77                <form class="login100-form validate-form p-b-33 p-t-5" action="login.php" method="POST">
78
79                    <div class="wrap-input100 validate-input" data-validate = "Enter username">
80                        <input class="input100" type="text" name="uname" placeholder="User name">
81                        <span class="focus-input100" data-placeholder=""></span>
82                    </div>
83
84                    <div class="wrap-input100 validate-input" data-validate="Enter password">
85                        <input class="input100" type="password" name="pass" placeholder="Password">
86                        <span class="focus-input100" data-placeholder=""></span>
87                    </div>
88
89                    <div class="container-login100-form-btn m-t-32">
90                        <button class="login100-form-btn" name="btnlogin">
91                            Login
92                        </button>
93                    </div>
94
95                </form>
96            </div>

```

```

<div class="col-12 col-sm-12 col-lg-12">
<?php

    if (isset($_GET['studentId'])){

        $student = new Student();
        $cur = $student->single_student($_GET['studentId']);
    }

    if (isset($_POST['search'])){
        if ($_POST['txtsearch']==""){
            message("ID Number is required!","error");
            check_message();
        }else{
            $student = new Student();
            $cur = $student->single_student($_POST['txtsearch']);
        }
    }

    if (isset($_POST['savestep1'])){

        $created = strftime("%Y-%m-%d %H:%M:%S", time());
        $idno = $_POST['idno'];
        $Status = $_POST['Status'];
        $course = $_POST['course'];
        $ay = $_POST['ay'];
        $Semester = $_POST['Semester'];

    }

    /*
require_once(LIB_PATH.DS.'database.php');
19 references | 0 implementations
class Grades{

    7 references
    protected static $tbl_name = "grades";
    1 reference | 0 overrides
    function db_fields(){
        global $mydb;
        return $mydb->getFieldsOnOneTable(self::$tbl_name);
    }

    0 references | 0 overrides
    function find_all_studentssubjects($studentId="",$subjectId="",$instructorId=""){
        global $mydb;
        $mydb->setQuery("SELECT *
                            FROM ".self::$tbl_name."
                            WHERE `IDNO` ='{$studentId}' AND `SUBJ_ID` ='{$subjectId}' AND `INS_ID`='{$instructorId}'");
        $cur = $mydb->executeQuery();
        $row_count = $mydb->num_rows($cur);//get the number of count
        return $row_count;
    }

    0 references | 0 overrides
    function listOfgrades(){
        global $mydb;
        $mydb->setQuery("SELECT *
                            FROM ".self::$tbl_name");
        $cur = $mydb->loadResultList();
    }
}

```

```

global $mydb;
$clean_attributes = array();
foreach($this->attributes() as $key => $value){
    $clean_attributes[$key] = $mydb->escape_value($value);
}
return $clean_attributes;
}

0 references | 0 overrides
public function save() {
    // A new record won't have an id yet.
    return isset($this->id) ? $this->update() : $this->create();
}

1 reference | 0 overrides
public function create() {
    global $mydb;
    $attributes = $this->sanitized_attributes();
    $sql = "INSERT INTO ".self::$tbl_name." (";
    $sql .= join(", ", array_keys($attributes));
    $sql .= ") VALUES ('";
    $sql .= join("'", "'", array_values($attributes));
    $sql .= "'')";
    echo $mydb->setQuery($sql);

    if($mydb->executeQuery()) {
        $this->id = $mydb->insert_id();
        return true;
    } else {
        return false;
    }
}

<?php
require_once(LIB_PATH.DS.'database.php');
12 references | 0 implementations
class Student_details {

    5 references
    protected static $tbl_name = "tblstuddetails";
    1 reference | 0 overrides
    function db_fields(){
        global $mydb;
        return $mydb->getFieldsOnOneTable(self::$tbl_name);
    }

    0 references | 0 overrides
    function secondary_details($id=0){
        global $mydb;
        $mydb->setQuery("SELECT * FROM ".self::$tbl_name." Where IDNO= {$id} LIMIT 1");
        $cur = $mydb->loadSingleResult();
        return $cur;
    }
    /*---Instantiation of Object dynamically---*/
    0 references | 0 overrides
    static function instantiate($record) {
        $object = new self;

        foreach($record as $attribute=>$value){
            if($object->has_attribute($attribute)) {
                $object->$attribute = $value;
            }
        }
    }
}

```

```

1 <?php
2 require_once(LIB_PATH.DS.'database.php');
16 references | 0 implementations
3 class Subject{
4
5     7 references
6     protected static $tbl_name = "subject";
1 reference | 0 overrides
7     function db_fields(){
8         global $mydb;
9         return $mydb->getFieldsOnOneTable(self::$tbl_name);
10    }
11
12     0 references | 0 overrides
13     function find_all_subject($subj_code=""){
14         global $mydb;
15         $mydb->setQuery("SELECT *
16             |           |           FROM ".self::$tbl_name."
17             |           |           WHERE `SUBJ_CODE` ='{$subj_code}'");
18         $cur = $mydb->executeQuery();
19         $row_count = $mydb->num_rows($cur); //get the number of count
20         return $row_count;
21    }
22
23     0 references | 0 overrides
24     function listOfsubject(){
25         global $mydb;
26         $mydb->setQuery("SELECT *
27             |           |           FROM ".self::$tbl_name);
28         $cur = $mydb->loadResultList();
29         return $cur;
30    }

```

```
5
0
1 a:hover {
2   text-decoration: none;
3   color: #fff;
4 }
5
6 /*-----
7 h1,h2,h3,h4,h5,h6 {
8   margin: 0px;
9 }
10
11 p {
12   font-family: Ubuntu-Regular;
13   font-size: 14px;
14   line-height: 1.7;
15   color: #666666;
16   margin: 0px;
17 }
18
19 ul, li {
20   margin: 0px;
21   list-style-type: none;
22 }
23
24
25 /*-----
26 input {
27   outline: none;
28   border: none;
29 }
```

```
color: #7b7b7b; }

.font-gray-9 {
  color: #636363 #4d4d4d; }

.font-gray-10 {
  color: #353535; }

.border-gray-1 {
  border-color: #f7f7f7; }

.border-gray-2 {
  border-color: #e9e9e9; }

.border-gray-3 {
  border-color: #d9d9d9; }

.border-gray-4 {
  border-color: #c9c9c9; }

.border-gray-5 {
  border-color: #b8b8b8; }

.border-gray-6 {
  border-color: #a8a8a8; }

.border-gray-7 {
  border-color: #939393; }

.border-gray-8 {
```

SPMS

STUDENT PERFORMANCE MANAGEMENT SYSTEM

Search...   

List of Student

Show 10 entries

No.	ID#.	Fullscreen	Gender	Age	Birth Date	Email Address	Options
No data available in table							

Showing 0 to 0 of 0 entries

Previous Next

New Delete Selected

STUDENTS COURSES COURSE LEVEL FACULTY DEPARTMENT ROOMS CLASS MANAGE USERS

SPMS

STUDENT PERFORMANCE MANAGEMENT SYSTEM

Search...   

Add New Student

Student ID*

Last Name*

Gender

Civil Status

Religion

Home

Firstname*

Birth Date

Age

Contact

Middle name*

Birth place

Nationality

Email*

Secondary Details

Father

Occupation

STUDENTS COURSES COURSE LEVEL FACULTY DEPARTMENT ROOMS CLASS MANAGE USERS

SPMS

STUDENT PERFORMANCE MANAGEMENT SYSTEM

Search...   

List of Courses

Show 10 entries

No.	Courses	Description	Credits	Pre-requisite	Semester	Grade Level	Level
No data available in table							

Showing 0 to 0 of 0 entries

[New](#) [Delete Selected](#)

Previous Next

 STUDENTS

 COURSES

 COURSE LEVEL

 FACULTY

 DEPARTMENT

 ROOMS

 CLASS

 MANAGE USERS

SPMS

STUDENT PERFORMANCE MANAGEMENT SYSTEM

Search...   

List of Faculty

Show 10 entries

No.	Fullname	Address	Gender	Civil Status	Specialization	Email Address
No data available in table						

Showing 0 to 0 of 0 entries

[New](#) [Delete Selected](#)

 STUDENTS

 COURSES

 COURSE LEVEL

 FACULTY

 DEPARTMENT

 ROOMS

 CLASS

 MANAGE USERS

New Faculty

Fullscreen:

Account Name

Current Address:

Current Address

Gender:

Male

Civil Status:

Single

Specialization:

Specialization

Employment Status:

Employment Status

Email Address:

Email Address

Password:

Account Password

SPMS

STUDENT PERFORMANCE MANAGEMENT SYSTEM

Search...



STUDENTS

COURSES

COURSE LEVEL

FACULTY

DEPARTMENT

ROOMS

CLASS

MANAGE USERS

List of Department

Department Name

Department Description

New Delete Selected

New Department

Department Name

Department Description

New student addedd successfully!

List of Student

Show entriesSearch:

No.	ID#.	Fullname	Gender	Age	Birth Date	Email Address	Options
1	<input type="checkbox"/> 2020111	NOUMAN, MUZHIDUL ISLAM	M	21	2019-04-01	someone@example.com	View

Showing 1 to 1 of 1 entries

Previous Next

New Subject created successfully!

List of Courses

Show entries

No.	Courses	Description
1	<input type="checkbox"/> CSE303	Database Management System

Showing 1 to 1 of 1 entries

New

Delete Selected

Student's subjects already Added!

Enrolled Subject by the Student

Section : 7

ID Number : 2020111

Name : Nouman, Muzahidul

Status : Continuing

Subject	Description	1st	2nd	3rd	4th	Final	Remarks	Semester	Department	Pre-requisite	Credits
<input type="checkbox"/> CSE303	Database Management System	0	0	0	0	0	NONE	First	Grade 7	7	4

Back

Assign Subject

Delete Selected

Print

New [CSE] Department created successfully!

List of Department

<input type="checkbox"/> Department Name	Department Description
<input type="checkbox"/> CSE	Computer Science and Engineering

[New](#) [Delete Selected](#)

New Instructor created successfully!

List of Faculty

Show	10	▼ entries	Search:				
No	<input type="checkbox"/> Fullname	Address	Gender	Civil Status	Specialization	Email Address	
1	<input type="checkbox"/> John Wick	Dhaka	M	Single	Blockchain Developer	JohnWick@example.com	List of Loads

Showing 1 to 1 of 1 entries

[Previous](#) [1](#) [Next](#)

[New](#) [Delete Selected](#)

Conclusion

Problems and Solutions

Analysis and Designing Phase

It was difficult to determine what exactly to include in the six elements analysis and consequentially the entity relationship diagram as the information available was slightly vague.

This issue was solved by referring to similar pre-made diagrams and data models and inferring the relevant relationships. Some hardship was also seen when designing the relational schema as the ERD diagram was quite complex; the issue was solved by individually analyzing each entity and its attributes.

Implementation Phase

It was difficult to learn and implement all the system requirements using front end developing tools such as HTML, CSS, and JavaScript – especially the design and linking of various web pages.

This issue was solved by consulting with respected faculty members and using their guidance to implement all the system requirements successfully.

Additional Features and Future Development

Features that can be added to the existing and proposed system in the future may include monitoring performance in extracurricular activities, community

service, research projects, internships and part-time work, on-campus jobs, and more in order to provide reports and analytics based on a student's holistic capabilities and involvement.

References

- Project specification
- Project requirements
- Wikipedia: Independent University
- GitHub: Past Projects
- Consultants – Faculty members
- Class Provided Lecture Slides: Rich Picture, Six Elements Analysis, ERD and Business Rules, Relational Schema, Normalization