

Computer Department Student Management System

The Computer Department Student Management System is a software tool that helps make the admin tasks in the department easier and more organized. It is mainly used by an Admin, who handles student, course, and grade records.

The system is divided into three main parts:

- Manage Student – For adding, updating, searching, and deleting student information.
- Manage Courses – For handling course details like adding new courses, updating them, or removing them.
- Manage Grades – For entering, saving, and calculating student grades, as well as viewing and printing rf.

Note: The recorded demo video was uploaded to Google Drive because the file size is too large to upload directly. Please check the shared link for access.

Drive Link:

https://drive.google.com/drive/folders/1zBF1iPhqKaWQ3VFdPQ5brQdNTBthmEBX?usp=drive_link

Modules and Functionalities:

1. Manage Student

The Admin can:

- Fill Student Info – Input student details into the system.
- Save Student Info – Save the filled student information .
- Search Student – Look up existing student records.
- Update Student Info – Modify existing student information.
- Delete Student – Remove student records from the system.
- Undo Changes – Revert unsaved changes made during the management process.
- Log-out – Exit the system.

The screenshot shows a web-based application with a green header bar containing the title "COMPUTER DEPARTMENT STUDENT MANAGEMENT SYSTEMS". Below the header, there are three tabs: "Student", "Course", and "Grades", with "Student" being the active tab. The main area is divided into two sections: a left sidebar and a right content area. The sidebar contains input fields for "Student's ID", "Student's Name", "Course", "Year & Section", "Sex" (with a dropdown menu showing "Male"), "Date of Birth" (with a date picker), "Address", "Email", "Phone Number", "Father's Name", and "Mother's Name". The right content area has a search bar labeled "Search Student" with a "Search" button and a "Refresh" button. Below the search bar is a table titled "Search Student" with columns: ID, Name, Course, Year & S., Sex, Date of Birth, Address, Email, Phone N., Father's ..., Mother's ...". The table lists 22 student records, each with a unique ID and details such as name, course (e.g., BS Com., BS Infor.), year & section (e.g., 3-C, 4-A), sex (Female/Male), date of birth, address (e.g., Lapaz, Il., Baranga...), email (e.g., carlmf..., jake.me...), phone number (e.g., 0921345..., 0918345...), father's name (e.g., Mark Lim, Fernando...), and mother's name (e.g., Julia Lim, Tina Me...). At the bottom of the content area are five buttons: "Save", "Undo", "Update", "Delete", and "Logout".

2. Manage Courses

The Admin can:

- Fill Course Info – Input course-related data.
- Save Course – Store new course information.
- Drop Course – Remove a course from a student's list.
- Delete Course – Remove a course from the system.
- Load Course – Retrieve and display course data for editing or viewing.
- Log-out – Exit the system.

The screenshot shows the 'COMPUTER DEPARTMENT STUDENT MANAGEMENT SYSTEMS' application. The main menu at the top has tabs for 'Student', 'Course', and 'Grades'. The 'Course' tab is selected. On the left, there are input fields for 'Student's ID', 'Academic Year', 'Course', 'Year and Section', and a dropdown for 'Semester' set to '1st Semester'. Below these are five rows for 'Course 1' through 'Course 5', each with a dropdown and '3 UNITS' next to it. On the right, there is a search bar with 'Search Record', a 'Search' button, and a 'Refresh' button. Below the search area is a table header with columns: Student ID, Student Na..., Academic ..., Semester, Course 1, Course 2, Course 3, Course 4, and Course 5. At the bottom of the screen are buttons for 'Save', 'Drop', 'Delete', and 'Logout'.

3. Manage Grades

The Admin can:

- Fill Student Info – Access or input student data relevant to grade inputting.
- Load Courses – Access course data.
- Input Grades – Enter student grades for enrolled courses.
- Calculate GWA – Compute the General Weighted Average (GWA) for a student.
- Save Grades – Save the entered and calculated grades.
- Fill Search Info – Access or input student data relevant to searching.
- Update Grades – Modify existing grade entries.
- Search Record – Look up a student's academic record.
- Print RF (Report Form) – Generate a printable version of a student's academic record.
- Log-out – Exit the system.

This screenshot is identical to the one above, showing the 'COMPUTER DEPARTMENT STUDENT MANAGEMENT SYSTEMS' application. The 'Course' tab is selected. The left side contains input fields for 'Student's ID', 'Academic Year', 'Semester' (set to '1st Semester'), and course dropdowns for 'Course 1' through 'Course 5' with '3 UNITS' each. The right side features a search interface with a table header and buttons for 'Save', 'Update', 'Delete', and 'Logout'.

ERD:

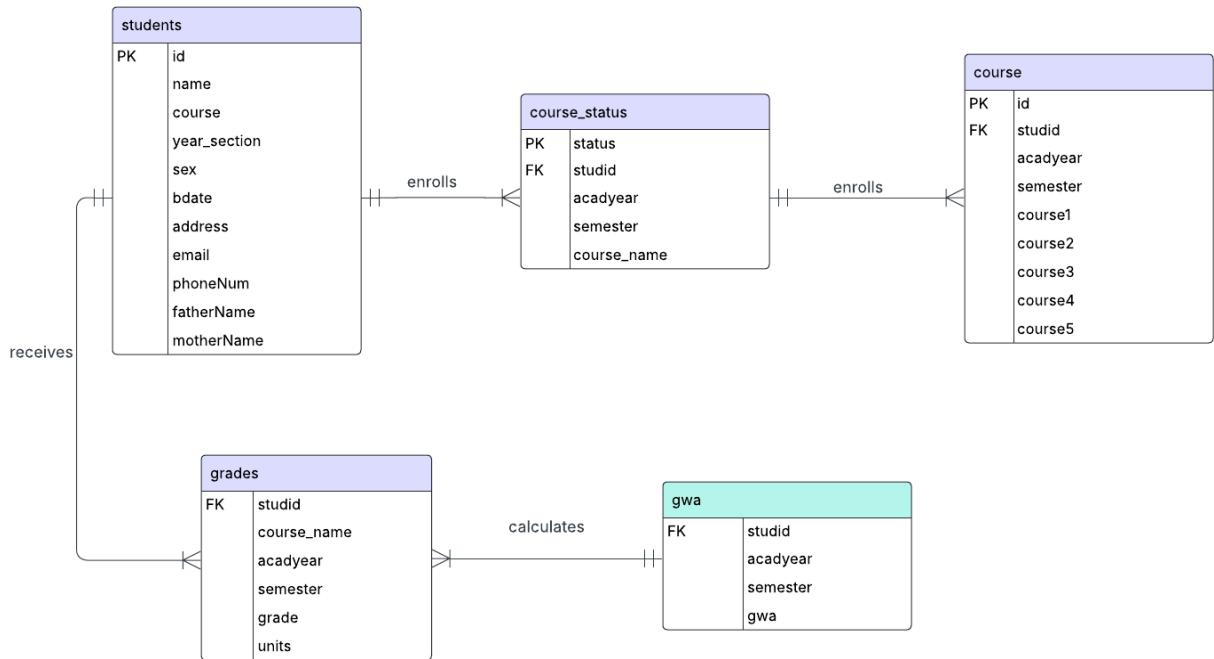


Figure 1. ERD

Use Case Diagram:

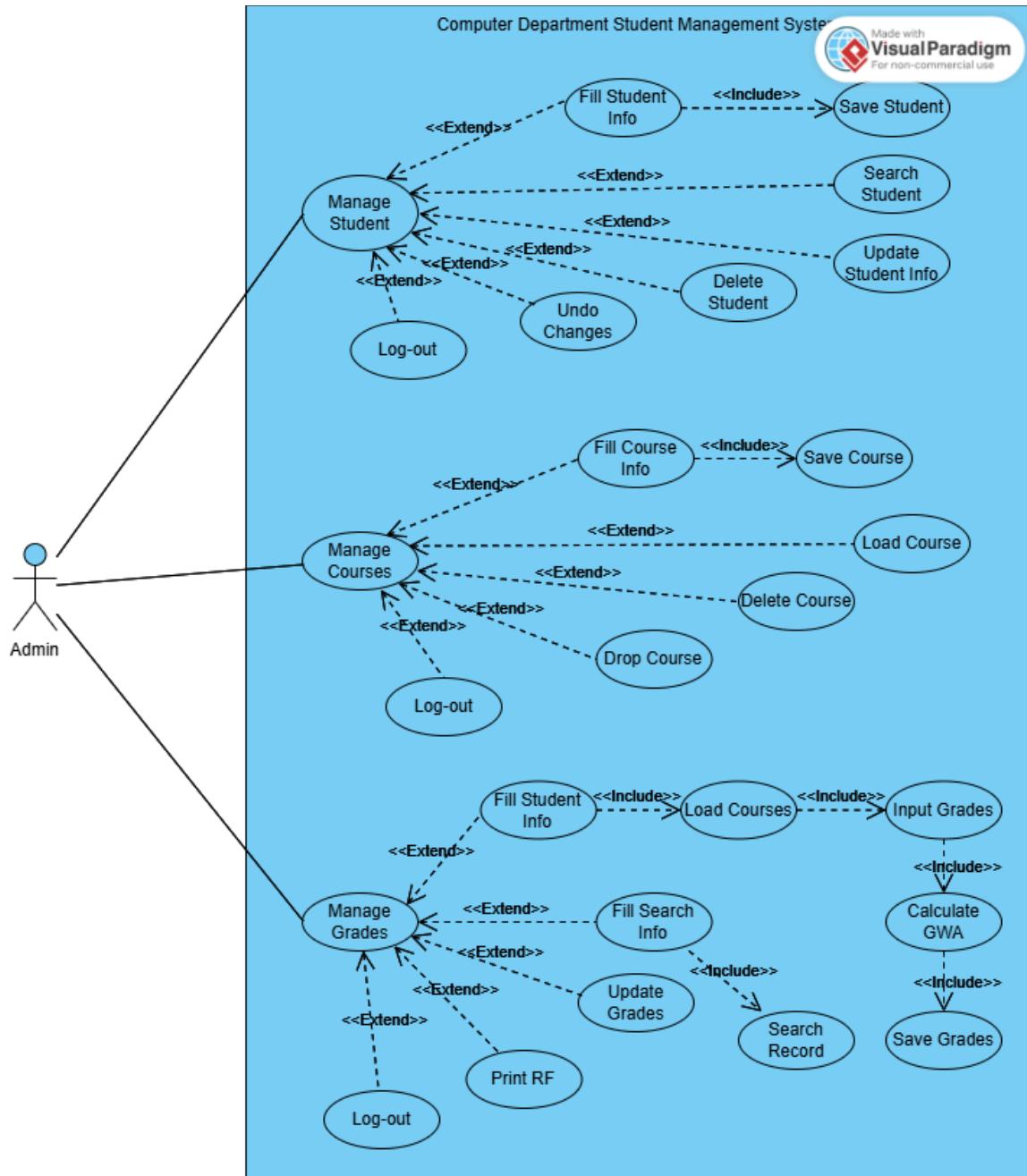


Figure 2. Use Case Diagram of Computer Department Student Management System

Multiple Client Session Validation

COMPUTER DEPARTMENT STUDENT MANAGEMENT SYSTEMS

Student Course Grades

Student's ID	<input type="text"/>
Student's Name	<input type="text"/>
Course	<input type="text"/>
Year & Section	<input type="text"/>
Sex	Male <input type="button" value="▼"/>
Date of Birth	<input type="text"/> <input type="button" value="..."/>
Address	<input type="text"/>
Email	<input type="text"/>
Phone Number	<input type="text"/>
Father's Name	<input type="text"/>
Mother's Name	<input type="text"/>

Search Student

ID	Name	Course	Year & S...	Sex	Date of Bi...	Address	Email	Phone N...	Father's ...	Mother's ...
2021-102...	Andrew ...	BS Infor...	4-A	Female	2001-12-...	Pavia, Ilo...	ifitzgeral...	0920752...	James Ri...	Angela F...

COMPUTER DEPARTMENT STUDENT MANAGEMENT SYSTEMS

Student Course Grades

Student's ID	<input type="text"/>
Academic Year	<input type="text"/>
Course	<input type="text"/>
Year and Section	<input type="text"/>
Semester	1st Semester <input type="button" value="▼"/>
Course 1	<input type="text"/> 3 UNITS
Course 2	<input type="text"/> 3 UNITS
Course 3	<input type="text"/> 3 UNITS
Course 4	<input type="text"/> 3 UNITS
Course 5	<input type="text"/> 3 UNITS

Search Record

Student ID	Student Na...	Academic ...	Semester	Course 1	Course 2	Course 3	Course 4	Course 5
2022-0143...	Julliana Hu...	2024-2025	1st Seme...	Design an...	Web Deve...	CS Electiv...	Professio...	Life and ...

COMPUTER DEPARTMENT STUDENT MANAGEMENT SYSTEMS

Student	Course	Grades																																				
<table border="1"><tr><td>Student's ID</td><td colspan="2">2022-0143-A</td></tr><tr><td>Academic Year</td><td colspan="2">2024-2025</td></tr><tr><td>Semester</td><td colspan="2">2nd Semester</td></tr><tr><td colspan="3"><input type="button" value="Load Courses"/></td></tr><tr><td>Course 1</td><td>Artificial Intelligence</td><td>1.0</td></tr><tr><td>Course 2</td><td>CS Elective 2</td><td>1.0</td></tr><tr><td>Course 3</td><td>Technopreneurship</td><td>1.0</td></tr><tr><td>Course 4</td><td>Internship Preparation</td><td>1.0</td></tr><tr><td>Course 5</td><td>Readings in Philippine History</td><td>1.0</td></tr><tr><td colspan="3"><input type="button" value="Calculate GWA"/></td></tr><tr><td>GWA:</td><td colspan="2">1.00</td></tr></table>			Student's ID	2022-0143-A		Academic Year	2024-2025		Semester	2nd Semester		<input type="button" value="Load Courses"/>			Course 1	Artificial Intelligence	1.0	Course 2	CS Elective 2	1.0	Course 3	Technopreneurship	1.0	Course 4	Internship Preparation	1.0	Course 5	Readings in Philippine History	1.0	<input type="button" value="Calculate GWA"/>			GWA:	1.00				
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Server is listening on port 12345...

Client connected.

Received: SEARCH:Andrew Lopez

Processing search for: Andrew Lopez

Client connected.

Received: COURSESEARCH:Julliana Hurgo

Processing course search for: Julliana Hurgo

Client connected.

Received: GRADESEARCH:2022-0143-A

Processing grade search for student ID: 2022-0143-A

Client Disconnected.

BUILD SUCCESSFUL (total time: 39 seconds)

```
public class Server {
    public static void main(String[] args) {
        try (ServerSocket serverSocket = new ServerSocket(port: 12345)) {
            System.out.println("Server is listening on port 12345...");

            while (true) {
                Socket socket = serverSocket.accept();
                System.out.println("Client connected.");

                ClientHandler clientHandler = new ClientHandler(socket);
                Thread clientThread = new Thread(task: clientHandler);
                clientThread.start();
            }
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}

public class Client {
    private Socket socket;
    private BufferedReader reader;
    private PrintWriter writer;

    public Client(String serverAddress, int port) {
        try {
            socket = new Socket(host: serverAddress, port);
            reader = new BufferedReader(new InputStreamReader(in: socket.getInputStream()));
            writer = new PrintWriter(out: socket.getOutputStream(), autoFlush: true);
        } catch (IOException e) {
            e.printStackTrace();
        }
    }

    public void sendCommand(String command) {
        writer.println(command);
    }

    public String readResponse() throws IOException {
        return reader.readLine();
    }

    public void close() {
        try {
            reader.close();
            writer.close();
            socket.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

Files Link:

https://drive.google.com/drive/folders/1zBF1iPhqKaWQ3VFdPQ5brQdNTBthmEBX?usp=drive_link

Proponents:

Julliana Antonette D. Hurgo

Mary Angel B. Palmares