

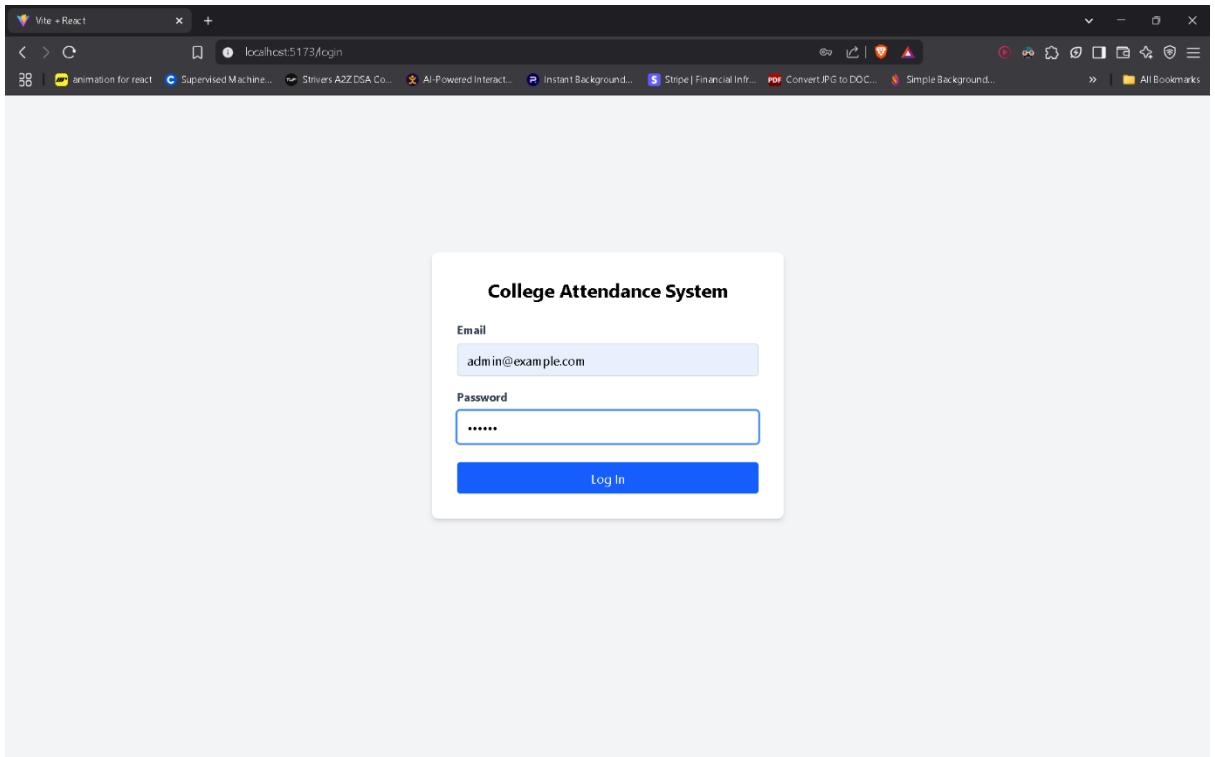
Title: Student Attendance System

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Branch and Section: Computer Engineering, Section 'A'

## 1. Login Page:

The system begins with a secure login page. Based on credentials, users are redirected to role-specific dashboards (Admin, Teacher, or Student). This ensures controlled access to functionalities according to user privileges.



## 2. Admin Pages:

### Users Section:

Admins can add, view, and manage all users—Admins, Teachers, and Students. Role-based user management ensures database access remains tightly controlled.

**Admin Dashboard**

[Logout](#)

Users Branches Courses Teaching Assignments Enrollments Semester Promotions

**Create New User**

Email	Password	First Name
<input type="text"/>	<input type="password"/>	<input type="text"/>
Last Name	Role	Roll Number
<input type="text"/>	Student	<input type="text"/>
Branch	Current Semester	Section
COMPENG	1	<input type="text"/>

[Create User](#)

**User List**

Filter by Role Filter Students by Branch

All Roles All Branches [Apply Filters](#)

NAME	EMAIL	ROLE	DETAILS
abhay kumar	abhay@example.com	STUDENT	Roll: 03   Semester: 4   Branch: ECIENG   Section: NONE
admin user	admin@example.com	ADMIN	
ayush tagare	ayush@example.com	STUDENT	Roll: 23   Semester: 4   Branch: COMPENG   Section: A
prof sir	prof@example.com	TEACHER	Employee ID: ietdavv1
samar joshi	samar@example.com	STUDENT	Roll: 60   Semester: 4   Branch: COMPENG   Section: A

**Branches:**  
Admins can define and manage various academic branches available at the university.

**Admin Dashboard**

[Logout](#)

Users **Branches** Courses Teaching Assignments Enrollments Semester Promotions

**Create New Branch**

Branch Name	<a href="#">Create Branch</a>
<input type="text"/>	<a href="#">Create Branch</a>

**Branch List**

ID	BRANCH NAME
6db76525-4e9e-47d8-9fdc-f3161edf0e1c	COMPENG
0db44370-36e0-48f2-b026-f4609228f191	ITENG
538bec1a-27f2-4f77-a694-a02537851cf5	CIVIENG
d1af93d6-f934-409a-bf49-314cd8f1252d	ECIENG
b07866f6-ef88-40e7-aea2-77fac02b67dd	ECTELEG
a752b615-64df-4100-9fa1-d2456858f4bd	MECHENG

## Courses:

Courses can be added and linked with branches, sections, and semesters for better curriculum structuring.

The screenshot shows the Admin Dashboard with the 'Courses' tab selected. The 'Create New Course' form is open, requiring inputs for Course Code (4CERC4), Course Name (DATABASE MANAGEMENT SYSTEMS), Semester (1), and Branch (COMPENG). A 'Create Course' button is present. Below the form is a 'Course List' table with columns: CODE, NAME, SEMESTER, and BRANCH. The table contains six rows of course data.

CODE	NAME	SEMESTER	BRANCH
4CERC4	DATABASE MANAGEMENT SYSTEMS	Semester 4	COMPENG
4CERC1	-DISCRETE STRUCTURES	Semester 4	
4CERC2	OPERATING SYSTEMS	Semester 4	
4CERC3	MACHINE LEARNING	Semester 4	
4CERG2	COMPUTER GRAPHICS AND VISUALIZATION	Semester 4	

## Teaching Assignments:

Admins assign teachers to specific courses, branches, sections, and semesters. This relation is used to control what data teachers can access.

The screenshot shows the Admin Dashboard with the 'Teaching Assignments' tab selected. The 'Create Teaching Assignment' form is open, requiring inputs for Teacher (prof sir), Course (4CERC1 - DISCRETE STRUCTURES), Branch (COMPENG), Semester (4), and Section (A). A 'Create Assignment' button is present.

## Enrolments:

Admins enroll students into specific branches, sections, and semesters. These enrollments determine what attendance data is shown to students and teachers.

The screenshot shows the Admin Dashboard with the 'Enrollments' tab selected. The interface includes a 'Batch Enrollment' form. On the left, under 'Select Students', there is a list of three students with checkboxes: abhay kumar (03), ayush tagare (23), and samar joshi (60). On the right, under 'Select Courses', there is a list of five courses with checkboxes: 4CERC4 - DATABASE MANAGEMENT SYSTEMS, 4CERC1 - DISCRETE STRUCTURES, 4CERC2 - OPERATING SYSTEMS, 4CERC3 - MACHINE LEARNING, and 4CERG2 - COMPUTER GRAPHICS AND VISUALIZATION. Below these lists are fields for 'Semester' (set to 1) and 'Academic Year' (set to 2024-2025). A blue 'Enroll Students' button is at the bottom of the form.

## Semester Promotions:

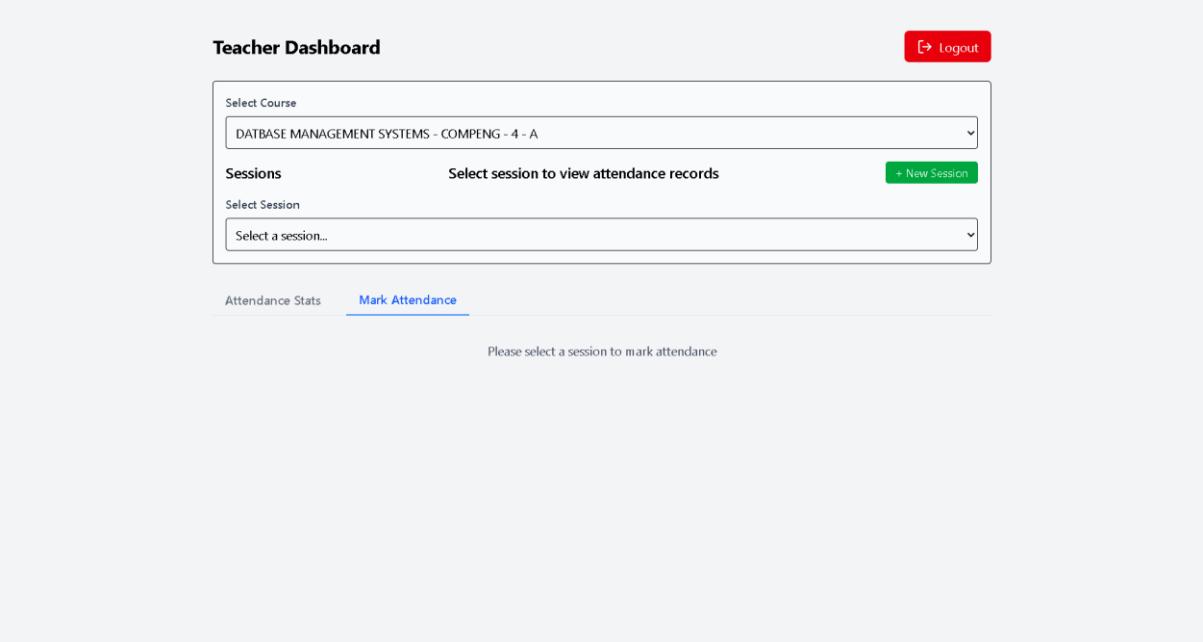
Admins can promote or retain students by updating their current semester. This simplifies academic year transitions.

The screenshot shows the Admin Dashboard with the 'Semester Promotions' tab selected. The interface includes a 'Update Student Semester' form. It has three main input fields: 'Student' (dropdown menu showing 'samar joshi (60)'), 'New Semester' (text input field showing '5'), and 'Academic Year' (text input field showing '2024-2025'). Below these fields is a blue 'Update Semester' button.

### 3. Teacher Pages:

#### Teacher Dashboard:

Teachers can log in and view their assigned courses and sections. This dashboard gives a quick overview of responsibilities.



The screenshot shows the Teacher Dashboard interface. At the top left is the title "Teacher Dashboard". At the top right is a red "Logout" button. Below the title is a dropdown menu labeled "Select Course" which is currently set to "DATABASE MANAGEMENT SYSTEMS - COMPENG - 4 - A". To the right of the course dropdown is a section titled "Sessions" with a sub-section "Select Session to view attendance records" and a green "+ New Session" button. Below the sessions section is another dropdown menu labeled "Select Session" with the placeholder "Select a session...". At the bottom of the dashboard, there are two tabs: "Attendance Stats" and "Mark Attendance", with "Mark Attendance" being the active tab. A message "Please select a session to mark attendance" is displayed below the tabs.

#### Attendance Stats:

Teachers can mark attendance for students across different sessions. Attendance records are stored per session and course, and can be reviewed at any time.

Select Course  
DATABASE MANAGEMENT SYSTEMS - COMENG - 4 - A

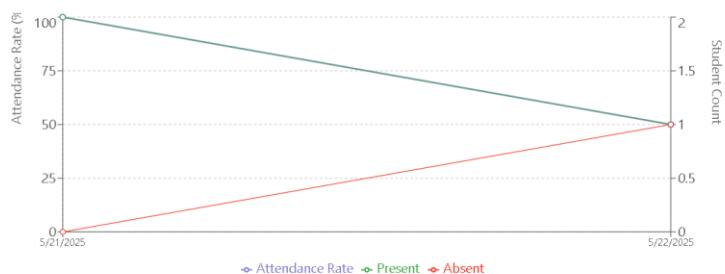
Sessions      Select session to view attendance records      + New Session

Select Session  
5/22/2025 - Hashing

[Attendance Stats](#)    [Mark Attendance](#)

### Attendance Trends

#### Attendance Trends



### Attendance Statistics

#### Attendance Statistics

**2**

Total Sessions

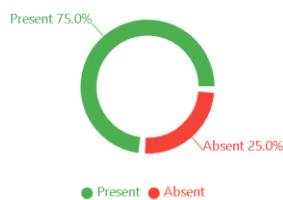
**2**

Total Students

**75.0%**

Attendance Rate

#### Overall Attendance



#### Recent Sessions

DATE	TOPIC	ATTENDANCE
5/22/2025	Hashing	<a href="#">View</a>
5/21/2025	Functional dependency	<a href="#">View</a>

#### Student Attendance Report

STUDENT	PRESENT	ABSENT	ATTENDANCE RATE
ayush tagare	2	0	<b>100.0%</b>
samar joshi	1	1	<b>50.0%</b>

4.  **Student Page:**  
Student dashboard  
Students can view their own attendance statistics presented through clean visuals and graphs. This provides transparency and self-tracking for learners.



**My Attendance Dashboard**

Enrolled Courses: 1    Total Sessions: 3    Sessions Attended: 1    Overall Attendance: 33%

**Overall Attendance**

Present 33.3%  
Absent 66.7%  
● Present ● Absent

**Course-wise Attendance**

Attendance: 33%  
Course: 4CERC4

**My Courses**

<b>DATABASE MANAGEMENT SYSTEMS</b>	
Code: 4CERC4	
A, prof sir	
Sessions: 1/3	33%
Click to view detailed attendance.	

**Attendance Warning:** You have courses with attendance below 75%. Consider attending more classes to maintain good academic standing.  
Courses with low attendance: 4CERC4



## WhatsApp Bot Integration:

To improve accessibility and real-world usability, a WhatsApp Bot has been integrated into the system. Teachers can:

- Log in using their mobile number.
- View assigned courses and batches.
- Mark attendance for sessions via chat.
- View session-wise attendance summaries directly on WhatsApp.

This bot bridges the gap between classroom and system, allowing attendance to be handled from mobile devices with ease.

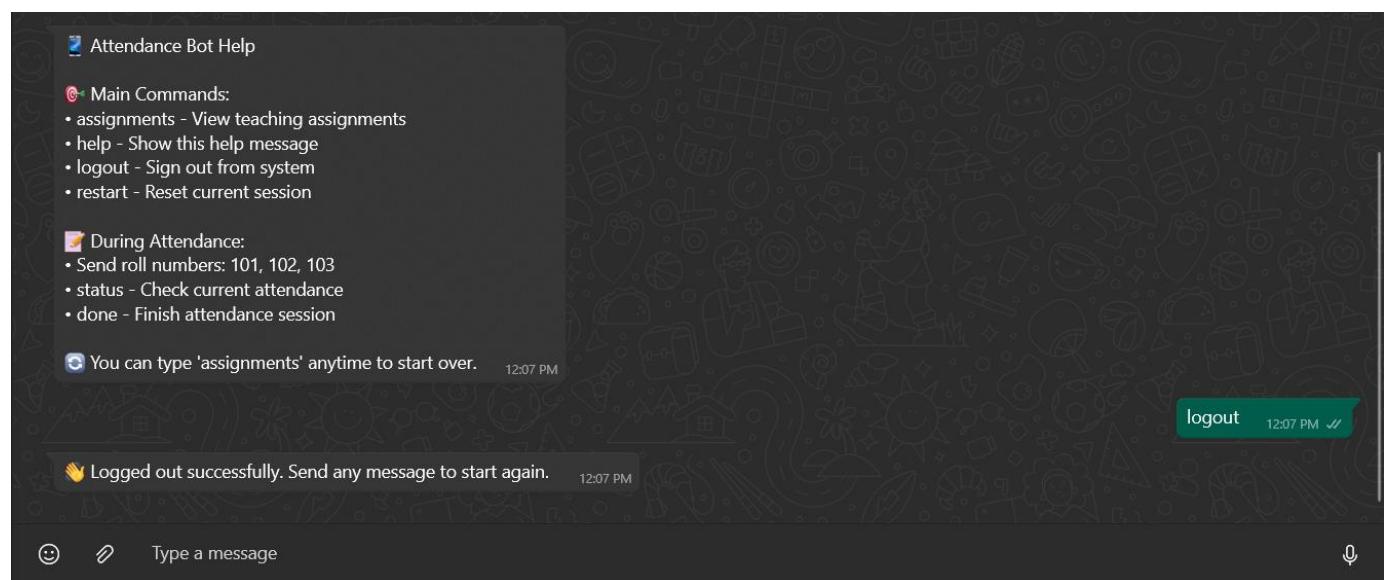
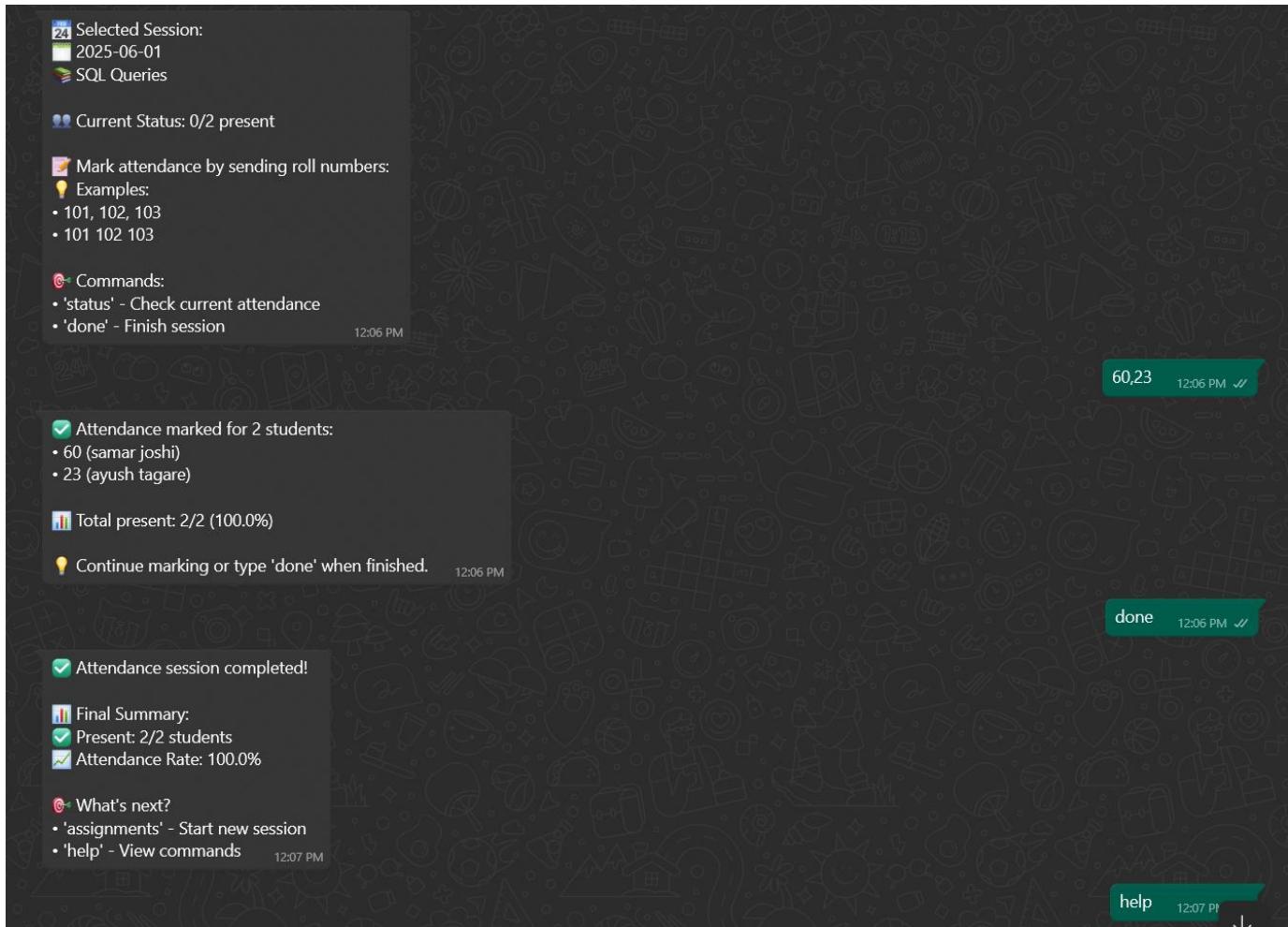
The screenshot shows a WhatsApp conversation with a bot. The top status bar indicates the phone number +1 (415) 523-8886 and the time 12:05 PM. The message history includes:

- Welcome prof sir!
- Authentication successful!
- Type 'assignments' to view your teaching assignments.
- Type 'help' for available commands.

A message from the bot at 12:05 PM says "assignments".

The user replies with "1" at 12:06 PM, which triggers a list of recent sessions:

- Selected Assignment: DATABASE MANAGEMENT SYSTEMS  
COMPENG | Sem 4 | Sec A
- Recent Sessions:
  - 2025-06-01 - SQL Queries
  - 2025-05-26 - Three Schema Architecture
  - 2025-05-22 - Hashing
  - 2025-05-21 - Functional dependency
- Options:
  - 'new' - Create new session
  - '1-4' - Select existing session
  - 'all' - View all sessions



## 🔧 Tech Stack:

- Frontend: React.js + Tailwind CSS

- Backend: Node.js with Express

- Database: PostgreSQL (via NeonDB)
- ORM: Prisma (for efficient query handling and optimization)
- Bot Platform: WhatsApp API integration (details handled via server routes)

 Note:

This project was developed with the intent to apply DBMS concepts in a practical scenario. The full feature set, including role-based access control, real-time data manipulation, and mobile integration, was designed to simulate a scalable institutional solution.

(As discussed during class, project submissions like these were to be considered for evaluation — I hope this work reflects the effort and learning involved 😊.)