

PROJECT REPORT

On

University Management App (Campus Connect)

Submitted in partial fulfillment of the requirement for the Course BEE
(22CS026) of

COMPUTER SCIENCE AND ENGINEERING B.E.

Batch-2022 in Sep -2024



Under the Guidance of :

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Submitted By:

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2210991450

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**DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING CHITKARA UNIVERSITY PUNJAB**

CERTIFICATE

This is to be certified that the project entitled “Campus Connect”, a university management app has been submitted for the Bachelor of Computer Science Engineering at Chitkara University, Punjab during the academic semester July 2024- December 2024 is a bona fide piece of project work carried out by “Bhuvesh Mittal (2210991450) and Daanushi Sharma (2210991469)” towards the partial fulfillment for the award of the course Integrated Project (CS 203) under the guidance of “Ms. Preenu Mittan” and supervision.

Sign. of Project Guide :

Ms. Preenu Mittan

CANDIDATE'S DECLARATION

We , Bhuvesh Mittal (2210991450) and Daanushi Sharma (2210991469) G-18, B.E.-2022 of the Chitkara University, Punjab hereby declare that the Integrated Project Report entitled “Campus Connect” is an original work and data provided in the study is authentic to the best of our knowledge. This report has not been submitted to any other Institute for the award of any other course.

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2210991450

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2210991469

Place: Chitkara University

Date: September 26, 2024

ACKNOWLEDGMENT

It is our pleasure to be indebted to various people, who directly or indirectly contributed in the development of this work and who influenced my thinking, behavior and acts during the course of study.

We express our sincere gratitude to all for providing me an opportunity to undergo Integrated Project as the part of the curriculum.

We are thankful to "Ms. Preenu Mittan" for her support, cooperation, and motivation provided to us during the training for constant inspiration, presence and blessings.

We also extend our sincere appreciation to “Ms. Preenu Mittan” who provided his valuable suggestions and precious time in accomplishing our integrated project report.

Lastly, we would like to thank the almighty and our parents for their moral support and friends with whom we shared our day-to day experience and received lots of suggestions that improve our quality of work.

Bhuvesh Mittal

2210991450

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1. Abstract

This project focuses on developing a comprehensive university management system using Node.js, Express.js, and HTML/CSS. The system is designed to streamline and integrate the diverse functions necessary for efficient university operations, addressing the needs of students, teachers, clubs, and administrators. It features four distinct dashboards:

1. **Student Dashboard:** Provides students with access to their profiles, attendance records, timetables, report cards, achievements, and current modules. This ensures students can easily track their academic progress and manage their schedules.
2. **Teacher Dashboard:** Enables teachers to view their profiles, timetables, and student lists. It allows them to upload attendance and marks, and access a shared noticeboard, facilitating effective communication and record-keeping.
3. **Club Dashboard:** Displays information about various clubs, including club members and upcoming events, promoting engagement and organization within the university's extracurricular activities.
4. **Admin Dashboard:** Offers administrative staff the capability to manage notices, and teacher and student information, ensuring smooth operation and dissemination of information across the university.

While the initial implementation focuses on core functionalities, future developments will incorporate MongoDB to enhance data management and scalability. The system is designed to improve efficiency by providing a centralized platform that integrates multiple administrative and academic functions, ensuring real-time access to information and enhancing overall university management. The use of modern technologies and a user-friendly interface aims to streamline processes and improve communication among all stakeholders.

2. Introduction

2.1 Background

The rapid advancement of technology has significantly transformed various sectors, including education. The integration of digital tools in education has led to the development of university management systems (UMS), which streamline administrative tasks, enhance communication between stakeholders, and improve the overall efficiency of academic institutions. In the context of higher education, a UMS can play a pivotal role in managing the extensive data and processes associated with students, teachers, clubs, and administrative functions.

University management systems are designed to handle a multitude of tasks, such as managing student information, teacher activities, club activities, and administrative functions, all through a centralized platform. This system not only facilitates better communication and information sharing but also reduces the administrative burden, allowing educators and administrators to focus more on core educational activities.

The importance of such systems has grown in recent years due to the increasing complexity of managing large educational institutions. With the proliferation of online learning and the need for real-time data access, a robust UMS is essential for maintaining the quality of education and ensuring smooth operations within the university. This background sets the stage for the development of a comprehensive university management app, which will serve the needs of students, teachers, clubs, and administrators.

2.2 Problem Statement

The traditional methods of managing university operations often involve manual processes, paper-based records, and isolated systems that do not communicate effectively with each other. This fragmentation leads to inefficiencies, delays in information dissemination, and increased workload for university staff. Moreover, students and teachers may find it challenging to access critical information, such as attendance records, timetables, and academic performance, in a timely manner.

The key problem addressed in this research is the lack of an integrated platform that can manage the diverse needs of a university, including student information, teacher activities, club management, and administrative functions. The absence of such system results in fragmented data, poor communication, and inefficiencies that hinder the smooth functioning of the university.

The specific research questions guiding this study are:

1. **Descriptive:** A university management system can be designed to integrate and streamline the diverse functions of students, teachers, clubs, and administrators by providing tailored dashboards for each user group. This ensures seamless communication and coordination across all university activities, from academic management to extracurricular involvement.
2. **Normative:** A university management system should include features such as personalized student and teacher dashboards, a comprehensive club management interface, and an administrative panel for managing notices and records. These features are essential to meet the needs of all stakeholders efficiently, ensuring that the system supports the university's operations and enhances overall productivity.

These research questions are closely tied to the methodology, which involves designing and developing a university management app using Node.js and EJS. The app will feature four distinct dashboards, each tailored to the specific needs of students, teachers, clubs, and administrators, ensuring a comprehensive and user-friendly system.

2.3 Research Questions

The introduction of a university management system raises several questions that are crucial to its successful implementation and adoption. These questions help to define the scope of the system and guide the development process. The research questions include:

1. **How can a centralized platform improve the efficiency of university management processes?**

A centralized platform streamlines university management by consolidating key functions—student information, teacher activities, club operations, and administrative tasks—into a single, integrated system. This reduces redundancies, ensures real-time updates, and enhances communication between students, teachers, and administrators. For example, when teachers upload attendance or marks, students can immediately access this information, and administrators can efficiently manage records and notices. This integration minimizes errors and improves the overall efficiency of university operations.

2. What are the essential features of a university management system that caters to the needs of students, teachers, clubs, and administrators?

A university management system should include features tailored to each user group:

- a. **Student Dashboard:** Access to personal profiles, attendance records, timetables, report cards, achievements, and current modules.
- b. **Teacher Dashboard:** Tools to manage personal profiles, timetables, student lists, attendance, and mark uploads, along with a shared noticeboard.
- c. **Club Dashboard:** Information on club members, events, and other club-related activities.
- d. **Admin Dashboard:** Capabilities to upload and manage student and teacher information, and publish notices on the noticeboards.

These features ensure that each group can efficiently perform their respective tasks within the system, enhancing overall university management.

2.4 Previous Research and Methodology

The development of university management systems has been the subject of extensive research, with various approaches being proposed and implemented. Previous studies have highlighted the importance of user-centered design, the integration of modern technologies such as cloud computing and mobile applications, and the need for scalability and flexibility in such systems.

In this project, the methodology involves the use of Node.js and EJS to develop a university management app that provides tailored dashboards for students, teachers, clubs, and administrators. The system will be designed to be user-friendly, with an emphasis on ease of access to information, efficient management of data, and the ability to handle the unique needs of each user group.

3. Software and Hardware Requirement Specification

3.1 Methods

The development of the university management system involves utilizing agile methodology. Agile allows for iterative progress through small, manageable sections of the project, providing flexibility and continuous feedback. The main methods used include:

- **Requirement Gathering:** Engaging with stakeholders (students, teachers, admins, and club members) to gather requirements for each dashboard.
- **Design:** Creating wireframes and design layouts for different dashboards.
- **Development:** Coding the application using Node.js, Express.js for the backend, and HTML/CSS for the frontend.
- **Testing:** Continuous integration and testing using both manual and automated methods to ensure each feature works as intended.
- **Deployment:** Deploying the application on a server or cloud platform, ensuring accessibility and scalability.

3.2 Programming/Working Environment

The app is being developed in a full-stack JavaScript environment:

- **Node.js:** Server-side runtime environment that allows the use of JavaScript for backend development.
- **Express.js:** Web application framework for Node.js, providing robust features for building web and mobile applications.
- **HTML/CSS:** Frontend technologies used for structuring and styling the web pages.
- **EJS (Embedded JavaScript):** Templating engine used for generating HTML with embedded JavaScript code, allowing dynamic content rendering.
- **Development Tools:**
 - **Visual Studio Code:** Code editor with extensions for Node.js and web development.
 - **Git:** Version control system for managing code changes and collaboration.
 - **Postman:** API testing tool for validating the backend services.

3.3 Requirements to Run the Application

To run the university management system, the following software and hardware requirements are necessary:

- **Software Requirements:**

- **Node.js:** Version 14.x or higher, along with npm (Node Package Manager).
- **Express.js:** Installed via npm as part of the Node.js ecosystem.
- **Browser:** Any modern web browser (Chrome, Firefox, Edge, etc.) to access the dashboards.
- **Database:** A NoSQL database like MongoDB or a relational database like MySQL for storing and managing user data.
- **Operating System:** The application can be run on any OS that supports Node.js, including Windows, Linux, and macOS

- **Hardware Requirements:**

- **Server:** A server with at least 2 GB RAM and 20 GB disk space for hosting the application.
- **Client Machines:** Any standard computer or mobile device with internet access to interact with the web application.
- **Network:** Stable internet connection for accessing and using the application, both for client and server-side interactions.

4. Database Analysis, Design, and Implementation

4.1 Database Analysis

In the context of the university management system, the database is crucial for managing various data related to students, teachers, clubs, and administrators. The analysis focuses on understanding the types of data, their relationships, and the requirements for future database implementation using MongoDB.

- **Data Requirements:**

- **Student Data:** Includes personal and academic details such as name, date of birth, email, mobile number, gender, roll number, batch, program, program duration, hostel facility, receipt date, and receipt number. Also includes dynamic records like attendance, marks, achievements, and current modules.
- **Teacher Data:** Contains personal information (name, email, mobile number) and professional details including subjects taught, timetable, attendance records, marks records, and contributions to the noticeboard.
- **Club Data:** Encompasses club information, member details, events, and announcements.
- **Administrative Data:** Includes system configurations, noticeboard updates, and management of student and teacher profiles.

- **Data Relationships:**

- **Students and Teachers:** Manage many-to-many relationships regarding attendance and marks.
- **Clubs and Members:** Establish a one-to-many relationship between clubs and their members.
- **Administrators and Users:** Administrators manage notices and user profiles, requiring robust data management and access control.

4.2 Database Design

The design phase involves creating a conceptual schema that outlines how data will be stored and related in MongoDB. While specific implementation details will be addressed later, the initial design considerations include:

- **Collections:**
 - **Students Collection:** Will store detailed student profiles, academic records, and dynamic information like attendance and marks.
 - **Teachers Collection:** Will include teacher profiles, subject details, and records of attendance and marks.
 - **Clubs Collection:** Will document club details, member lists, events, and announcements.
 - **Administrators Collection:** Will manage administrator profiles, roles, and system notices.
- **Indexes:**
 - Indexes will be created on key fields to enhance query performance and ensure efficient data retrieval.

4.3 Database Implementation

The implementation details for MongoDB will be addressed in future stages of the project. Key steps include:

- **MongoDB Setup:** Installation and configuration of MongoDB on the server, ensuring compatibility with the application.
- **Schema Definition:** Creation of collections and indexes based on the design schema.
- **Data Integration:** Migration of existing data into MongoDB collections, involving data transformation and cleaning as needed.
- **Data Access Layer:** Development of a data access layer using Mongoose for interaction with MongoDB.
- **Testing and Optimization:** Conducting tests to ensure database performance and making necessary optimizations.

5. Program's Structure Analyzing and GUI Constructing (Project Snapshots)

5.1 Program Structure Analysis

The university management app is structured into multiple interconnected modules, each serving a distinct purpose to streamline university operations. Below is an analysis of the key components of the program's structure:

1. Student Dashboard:

- **Profile:** Displays student information including personal details and academic records.
- **Report Card:** Displays notice board showing recent and important notices.
- **Attendance Tracking:** Shows attendance data uploaded by teachers.
- **Timetable:** Provides the student's class schedule.
- **Report Card:** Presents academic performance in a structured format.
- **Quiz:** Displays quizzes uploaded by teachers for students.
- **Current Modules:** Shows the current subjects or modules the student is enrolled in.

2. Teacher Dashboard:

- **Profile:** Displays teacher's personal and professional details.
- **Timetable:** Provides the teacher's class schedule.
- **Student:** Allows viewing students assigned to the teacher.
- **Attendance Upload:** Enables teachers to upload and update attendance records.
- **Marks Upload:** Facilitates the entry of student marks for various subjects.
- **Noticeboard:** A shared page for posting notices that are visible to both students and teachers.

3. Club Dashboard:

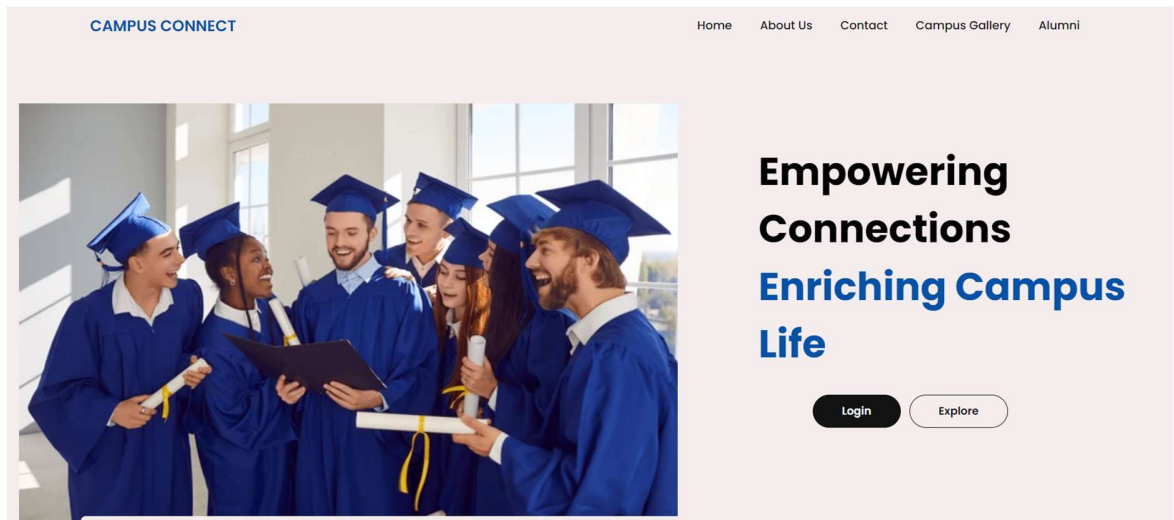
- **About club:** Displays details about the clubs.
- **Club Members:** Shows the list of members associated with each club.
- **Notice board:** A page where club members and heads can upload and view notices for students and teachers.
- **Club Gallery:** Displays pictures of events and activities conducted by the club.

4. Admin Dashboard:

- **Noticeboard:** Allows admins to post notices on the student and teacher noticeboards.
- **Admin profile:** Displays the role and profile of the admin.
- **Students' management:** From this page admin can manage and upload the students and their information and also can view the list of current students.
- **Teachers' management:** From this page admin can manage and upload the teachers and their information and also can view the list of current teachers.
- **Clubs' management:** Similar to teachers and students, club information and new clubs can also be added by admin.

5.2 GUI Construction (Project Snapshots)

1. Home page:



1.1 Landing page

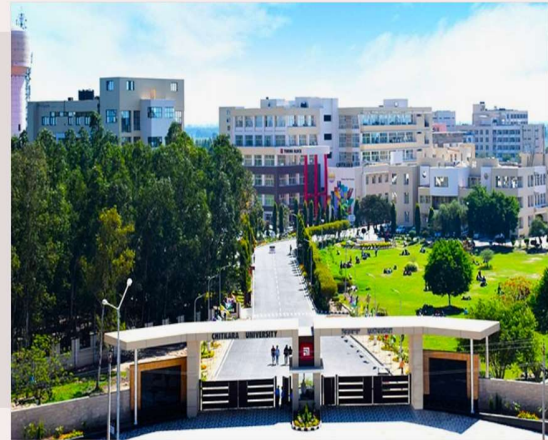
About Us

Welcome to our, where academic excellence meets vibrant campus life. Our university is committed to providing a rigorous education with a supportive and inclusive atmosphere. With a distinguished faculty, we prepare students for success in their chosen fields. Our campus is a hub of activity, hosting a variety of educational events, cultural festivals, and collaborative projects.

At Chitkara University, we offer not just an education, but a community where every student is supported to achieve their best. Join us and be part of a thriving academic environment where opportunities abound.

Discover. Achieve. Succeed.

[READ MORE...](#) →



1.2 About us

Campus Gallery



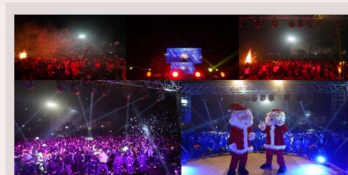
Lush Green Environment

Our campus features numerous lush green parks, offering a serene environment where you can connect with nature and enjoy a refreshing atmosphere.



Lit Fest

Our campus organized a lively lit fest where esteemed personalities from the industry joined us, sharing their valuable insights and enriching the experience for everyone.



Christmas Music Fiesta

We celebrated Christmas with a vibrant event featuring a dynamic DJ performance and a lively musical celebration, creating a festive atmosphere that brought joy to everyone.

1.3 Campus gallery

Our Esteemed Alumni



Amandeep Sidhu

Our Alumni from Mechanical Engineering Batch 2002 - Amandeep Singh Sidhu, who is currently working as Technical Program Manager II, in Amazon, California, United States of America.

"Joining Chitkara Engineering College in 2002 was a life-changing event for me. I was provided with innumerable opportunities to learn and grow in the four years I spent there."



Tamanna Bhasin

Our University will forever cherish as Captain Tamanna Bhasin, an illustrious alumni of Chitkara University, Electronics & Communication Engineering (ECE) Batch 2012, was the Contingent Commander of TSAT vehicle, which is a DEFCON equipment providing communication to Army, Airforce and Navy.

1.4 Our esteemed alumni

Contact Us

Full Name *

Email Address

Your Message

SEND MESSAGE

More About Campus Connect


We are here to assist you with any questions or concerns you may have about the university management app. Whether you need technical support, have feedback to share, or require assistance with any aspect of the app, please don't hesitate to get in touch.

Our team is dedicated to providing prompt and helpful responses, and we aim to address all inquiries within 24 hours. Your feedback is essential to us as we continuously work to enhance your user experience. Thank you for your engagement and for helping us make our app better for everyone!

1.5 Contact us

2. Student Dashboard Snapshot:

Campus Connect Log out




Student

- Profile
- Notice Board
- Attendance
- Modules
- Time Table
- Quiz
- Report Card

Name Bhuvesh Mittal	Roll No. 2210991450	Gender Male
D.O.B. 08-05-2004	Category General	Mobile No. 6283010969
Email bhuvesh1450.be22@chitkara.edu.in	Batch 2022	Program BE Computer Science & Engineering
Father Name Suresh Kumar	Mother Name Renu Bala	Address St No 2, Lakhi Colony, Barnala

2.1 Student Profile

Campus Connect Log out



Student

- Profile
- Notice Board
- Attendance
- Modules
- Time Table
- Quiz
- Report Card

Module	From	To	Attended	Absent	Total	Total %
Introduction to Python	15-7-2024	31-8-2024	90	6	96	93.75%
Calculus & Statistical Analysis	15-7-2024	31-8-2024	87	9	96	90.63%
Modern Physics	15-7-2024	31-8-2024	93	3	96	96.88%
Source code Management	15-7-2024	31-8-2024	84	12	96	87.50%

2.2 Student attendance

Campus Connect

Log out

Student

- Profile
- Notice Board
- Attendance
- Modules
- Time Table
- Quiz
- Report Card

Module Code	Module Name	Credits
CSEI01	Introduction to Python Programming	4
CSEI02	Calculus and Statistical Analysis	3
CSEI03	Modern Physics	3
CSEI04	Source Code Management	4
CSEI05	Operating System	3
CSEI06	Front End Engineering	4

2.3 Student Modules

Campus Connect

Log out

Student

- Profile
- Notice Board
- Attendance
- Modules
- Time Table
- Quiz
- Report Card

•Question 1

Which of the following data types is immutable in Python?

- ☐ List
- ☐ Set
- ☐ Dictionary
- ☐ Tuple

Check

•Question 2

How do you create a virtual environment in Python?

- ☐ python -m venv myenv
- ☐ python --create-env myenv
- ☐ python create venv myenv
- ☐ python -m create-env myenv

Check

•Question 3

What does the len() function do in Python?

2.4 Student quizzes

Campus Connect Log out

Student

- Profile
- Notice Board
- Attendance
- Modules
- Time Table
- Quiz
- Report Card

Subject	Marks
Introduction to Python programming	50
Calculus and Statistical Analysis	30
Modern Physics	40
Source code management	60
Operating System	20
Front end engineering	30

2.5 Student Report Card

3. Teacher Dashboard Snapshot:

Campus Connect Log out

Teacher

- Profile
- Notice Board
- My Students
- Attendance
- Time Table
- Quiz
- Report Card

Name Riya Mehta	Id. 1257	Gender Female
D.O.B. 18-05-1996	Category General	Mobile No. 9876540969
Email riya1257@chitkara.edu.in	Age 28	Qualification Phd in Mathematics, Masters in Computer Applications
Joining year 2019	Experience Assitant Professor, Panjab University, Ujiana	Address 340, Barnala

3.1 Teacher profile

Campus Connect

Log out

Teacher

Profile

Notice Board

My Students

Attendance

Time Table

Quiz

Report Card

Workshop on Cybersecurity Essentials

We are pleased to announce a workshop on Cybersecurity Essentials for all students. It will be held on 4 September at 3 PM in the Sun Hall. Interested students are requested to register at the earliest.

Blood Donation Camp

The university is organizing a Blood Donation Camp on 5 September in association with the Health Sciences block. All students are encouraged to participate and contribute to this noble cause. Please register at the medical wing.

Semester Exam Time Table Released

The timetable for the upcoming semester examinations has been released. Students are advised to check the university notice boards for the detailed schedule.

Cultural Fest Registration

Registrations for the annual cultural fest are now open. Students interested in participating in events such as dance, music, drama, and art exhibitions can fill out the registration form available at the student center.

3.2 Teacher Noticeboard

Campus Connect

Log out

Teacher

Profile

Notice Board

My Students

Attendance

Time Table

Quiz

Report Card

Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469
Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469
Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469
Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469
Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469	Daanushi 22100991469

3.3 Teacher's list of students

Campus Connect Log out

Teacher

- Profile
- Notice Board
- My Students
- Attendance**
- Time Table
- Quiz
- Report Card

Roll No.

Subject

From

To

Total Attended

Total Absent

Upload

3.4 Attendance uploaded by teacher

Campus Connect Log out

Teacher

- Profile
- Notice Board
- My Students
- Attendance**
- Time Table
- Quiz
- Report Card

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 9:45				Frontend Engineering	Frontend Engineering
9:45 - 10:30		Frontend Engineering			
10:30 - 11:15	Source Code Management				
11:15 - 12:00			Source Code Management		
12:00 - 12:45					
12:45 - 1:30					
1:30 - 2:15					
2:15 - 3:00				Operating System	
3:00 - 3:45	Operating System				
3:45 - 4:30					

3.5 Teacher's timetable

Campus Connect Log out

Teacher

- Profile
- Notice Board
- My Students
- Attendance
- Time Table
- Quiz
- Report Card

Marks

Roll Number

Subject

Marks Obtained

Total Marks

Upload Marks

3.6 Marks uploaded by teacher

4. Admin Dashboard Snapshot:

Campus Connect Log out

Admin

- Profile
- Notice Board
- Students
- Teachers
- Clubs

Name Saurabh Roy	Role Dean	Gender Male
D.O.B. 12-09-1978	Category General	Mobile No. 6267654969
Email saurabh.be22@chitkara.edu.in	Dean since 2019	Program BE Computer Science & Engineering
Qualifications Phd in Mathematics, Masters in Computer Science, Masters in Assistant	Office Room No. 312, CSE block	Experience Professor Chitkara university, Assistant Dean

4.1 Admin profile

Campus Connect Log out

Admin

Profile

Notice Board

Students

Teachers

Clubs

Notices

Notice Details

Heading

Message

Enter heading

Message

Post notice

• [Workshop on Cybersecurity Essentials](#)

We are pleased to announce a workshop on Cybersecurity Essentials for all students. It will be held on 4 September at 3 PM in the Sun Hall. Interested students are requested to register at the earliest.

• [Blood Donation Camp](#)

The university is organizing a Blood Donation Camp on 5 September in association with the Health Sciences block. All students are encouraged to participate and contribute to this noble cause. Please register at the medical wing.

• [Semester Exam Time Table Released](#)

4.2 Notices uploading by admin

Campus Connect Log out

Admin

Profile

Notice Board

Students

Teachers

Clubs

Registration

Student Details

Full Name

Date of Birth

Email

Enter your name

dd-mm-yyyy

Enter your email

Mobile Number

Gender

Roll number

Enter mobile number

Select gender

Enter roll number

Other Details

Batch

Program

Category

Enter batch

Enter the program

Enter Category

Father's Name

Mother's Name

Address

Father's Name

Mother's Name

Permanent Address

Add student

Daanushi
22100991469

Daanushi
22100991469

Daanushi
22100991469

Daanushi
22100991469

Daanushi
22100991469

4.3 Students information uploaded by admin

Campus Connect

Log out

Admin

- Profile
- Notice Board
- Students
- Teachers
- Clubs

Registration

Teacher Details

Full Name

Date of Birth

Email

Mobile Number

Gender

ID

Other Details

Qualification

Joining Year

Experience

Category

Age

Address

Add Teacher

Riya Mehta
1257

Riya Mehta
1257

Riya Mehta
1257

Riya Mehta
1257

Daanushi
22100991469

4.4 Teachers information uploaded by admin

Campus Connect

Log out

Admin

- Profile
- Notice Board
- Students
- Teachers
- Clubs

Registration

Club Details

Club Name

Establishment

Email

Members

Events

Faculty Head

Student Head

Social Media

Office

Add Club

4.5 Club information uploaded by admin

5. Club Dashboard Snapshot:

Campus Connect Log out

Club

- About Club
- Notice Board
- Club Members
- Club Gallery

Club Name Alpha tech club	Established in. 2018	No. of members 10
No. of Events organised 32	Faculty lead Mr. Gurvinder Singh	Club Contact 9873010969
Email alphatech.be22@chitkara.edu.in	Social media @alphatech	Office Room no.113, Turing block

5.1 Club Information

Campus Connect Log out

Club

- About Club
- Notice Board
- Club Members
- Club Gallery

Notices

Notice Details

Heading

Message

Post notice

- Workshop on Cybersecurity Essentials**
We are pleased to announce a workshop on Cybersecurity Essentials for all students. It will be held on 4 September at 3 PM in the Sun Hall. Interested students are requested to register at the earliest.
- Blood Donation Camp**
The university is organizing a Blood Donation Camp on 5 September in association with the Health Sciences block. All students are encouraged to participate and contribute to this noble cause. Please register at the medical wing.

5.2 Notices uploaded by admin



Club Heads

Name	Role	Contact
Abc	President	president_club@gmail.com
Efg	Vice President	vice_president_club@gmail.com
Hij	Technical Head	technical_head_club@gmail.com
Klm	Social Media Head	socialmedia_club@gmail.com

Club Members

Name	Team	Contact
Abc	Technical	m1@gmail.com
Efg	Technical	m2@gmail.com
Hij	Technical	m3@gmail.com
Klm	Technical	m4@gmail.com
Abc	Social Media	m5@gmail.com
Efg	Social Media	m6@gmail.com
Hij	Social Media	m7@gmail.com
Klm	Social Media	m8@gmail.com

5.3 Club Members

Campus Connect

Log out

Club

- About Club
- Notice Board
- Club Members
- Club Gallery

5.4 Club Gallery

5.3 GUI Design Considerations

- **User Experience (UX):** Each dashboard is designed to be intuitive, ensuring that users can easily navigate between sections and perform their tasks efficiently.
- **Responsive Design:** The interface is responsive, adapting to various screen sizes to provide a seamless experience on both desktop and mobile devices.
- **Consistency:** Uniform design elements and styles are used across different dashboards to maintain consistency and enhance usability.
- **Accessibility:** Ensures that the interface is accessible to users with disabilities, adhering to web accessibility standards.

6. Code-Implementation and Database Connections (If any)

```
import express from "express";
const app = express();
const port = 3000;
import web from "../routes/web.js";

app.set("view engine", "ejs");

app.use(express.static("public"));

app.use("/", web);

app.use(express.urlencoded({ extended: true }));
app.use(express.json());

const users = [
  { email: "student1@example.com", password: "student123", role: "student" },
  { email: "teacher1@example.com", password: "teacher123", role: "teacher" },
  { email: "club1@example.com", password: "club123", role: "club" },
  { email: "admin1@example.com", password: "admin123", role: "admin" },
];

app.post("/login", (req, res) => {
  const { email, password, role } = req.body;

  const user = users.find(
    (u) =>
      u.email === email &&
      u.password === password &&
      (u.role === role || u.role === "admin")
  );

  if (user) {
    if (user.role === "student") {
      return res.redirect("/student_dashboard");
    } else if (user.role === "teacher") {
      return res.redirect("/teacher_dashboard");
    } else if (user.role === "club") {
      return res.redirect("/club_dashboard");
    } else if (user.role === "admin") {
      return res.redirect("/admin_dashboard");
    }
  } else {
    You, 17 hours ago • login completed
    return res.status(401).send("Invalid email, password, or role");
  }
});
```



```
import { studentquizController } from "../controllers/studentquizController.js";
import { studentreportcardController } from "../controllers/studentreportcardController.js";
import { teachernoticeboardController } from "../controllers/teachernoticeboardController.js";
import { teacherstudentsController } from "../controllers/teacherstudent.js";
import { teacherattendanceController } from "../controllers/teacherattendanceController.js";
import { teachertimetableController } from "../controllers/teachertimetableController.js";
import { teacherquizesController } from "../controllers/teacherquizesController.js";
import { teacherreportcardController } from "../controllers/teacherreportcardController.js";
import { admindashboardController } from "../controllers/admindashboardController.js";
import { adminnoticeboardController } from "../controllers/adminnoticeboardController.js";
import { adminstudentsController } from "../controllers/adminstudentsController.js";
import { adminteachersController } from "../controllers/adminteachersController.js";

import { clubdashboardController } from "../controllers/clubdashboardController.js";
import { clubmembersController } from "../controllers/clubmembersController.js";
import { clubnoticeboardController } from "../controllers/clubnoticeboardController.js";
import { clubgalleryController } from "../controllers/clubgalleryController.js";
import { adminclubController } from "../controllers/adminclubController.js";

router.get("/", homeController);
router.get("/student_dashboard", studentdashboardController);
router.get("/student_noticeboard", studentnoticeboardController);
router.get("/student_attendance", studentattendanceController);
router.get("/student_modules", studentmoduleController);
router.get("/student_timetable", studenttimetableController);
router.get("/student_quizes", studentquizController);
router.get("/student_reportcard", studentreportcardController);
router.get("/teacher_dashboard", teacherdashboardController);
router.get("/teacher_noticeboard", teachernoticeboardController);
router.get("/teacher_students", teacherstudentsController);
router.get("/teacher_attendance", teacherattendanceController);
router.get("/teacher_timetable", teachertimetableController);
router.get("/teacher_quizes", teacherquizesController);
router.get("/teacher_reportcard", teacherreportcardController);
router.get("/admin_dashboard", admindashboardController);
router.get("/admin_noticeboard", adminnoticeboardController);
router.get("/admin_students", adminstudentsController);
router.get("/admin_teachers", adminteachersController);

router.get("/club_dashboard", clubdashboardController);
router.get("/club_members", clubmembersController);
router.get("/club_noticeboard", clubnoticeboardController);
router.get("/club_gallery", clubgalleryController);
router.get("/admin_club", adminclubController);

export default router;
```

```
const homeController = (req, res) => {
  res.render("pages/home", { title: "Home" });
};
export { homeController }; You, 3 weeks ago
```

7. Future Scope

The university management system project, while already offering a robust set of functionalities, has significant potential for further development and enhancement. Several key areas have been identified for future improvements:

1. **Database Integration:** Currently, the system operates without a database. Integrating MongoDB in the future will provide a scalable and efficient way to manage and store data. This will enable complex queries, data analysis, and improved data consistency. MongoDB's NoSQL architecture will support flexible data models, making it easier to handle various types of data related to students, teachers, and administrative records.

2. **Advanced Analytics and Reporting:** With the addition of a database, the system will be able to implement advanced analytics and reporting features. This will allow administrators and faculty to generate detailed reports on academic performance, attendance trends, and other key metrics. Data visualization tools can also be integrated to present these insights in a user-friendly manner.

3. **Enhanced Security Measures:** Future development will focus on bolstering security protocols to protect sensitive information. This includes implementing encryption for data at rest and in transit, multi-factor authentication for user access, and rigorous access controls. Regular security audits and updates will be crucial to safeguarding against potential threats.

4. **Mobile Application Development:** To enhance accessibility, a mobile application version of the system could be developed. This would allow students, teachers, and administrators to access the system's features on the go, increasing convenience and engagement. The mobile app could include push notifications for important updates and deadlines.

5. **Integration with External Systems:** The system could be extended to integrate with other university systems and third-party applications. For example, integration with library management systems, financial aid platforms, and online learning tools could provide a more holistic view of student and faculty activities.

6. **User Experience Improvements:** Continuous feedback from users will guide further enhancements in the user interface and experience. This includes refining the design for better usability, adding personalized features, and ensuring the system remains intuitive and efficient for all stakeholders.

By addressing these areas, the university management system can evolve to meet the growing and changing needs of the academic institution, ultimately contributing to a more efficient and effective university administration.

8. Conclusion

The development of the university management system represents a pivotal advancement in the administration and academic processes within a university environment. By leveraging Node.js, Express.js, EJS, and HTML/CSS, the project aims to integrate a variety of functionalities into a single, cohesive platform tailored to the needs of students, teachers, clubs, and administrators.

The system's design effectively centralizes key functions, such as managing student profiles, tracking attendance, and handling mark submissions, into a unified interface. This centralization not only simplifies administrative tasks but also enhances operational efficiency by providing seamless access to essential data. Each user group benefits from a dedicated dashboard—Student, Teacher, Club, and Admin—ensuring that the system caters specifically to their needs and responsibilities. For instance, students can view their profiles, attendance records, and academic achievements, while teachers can manage their schedules, upload attendance, and post marks.

Looking ahead, the integration of MongoDB into the project will be a crucial step, enabling robust data storage and management capabilities. This enhancement will support more complex data operations and scalability, which are essential for accommodating the growing needs of the university. Although the system currently lacks a database, the planned inclusion will facilitate comprehensive data handling and reporting.

The design prioritizes user experience through a responsive interface that adapts to various devices, ensuring that the system is both user-friendly and accessible. Security measures are anticipated to be a key focus in future developments, with plans to implement data encryption, secure connections, and strict access controls to safeguard sensitive information.

In conclusion, this university management system project lays a strong foundation for improving administrative and academic efficiency within the institution. With future enhancements planned for database integration and security, the system is poised to offer even greater support to the university's operations and its diverse stakeholders.

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