Campus-Connect

A Community Forum for Students

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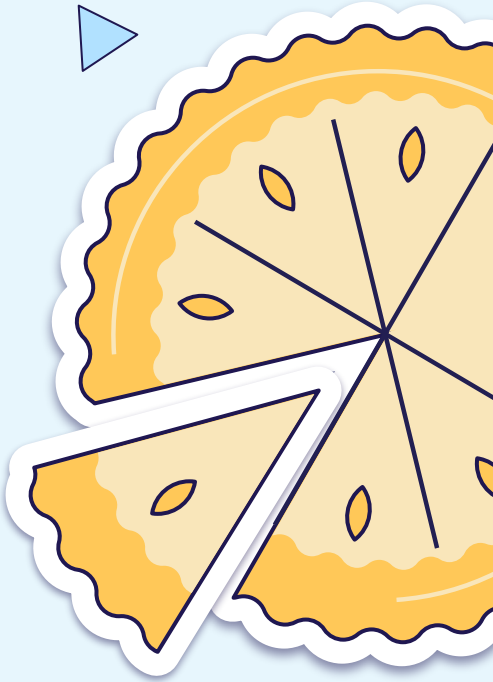

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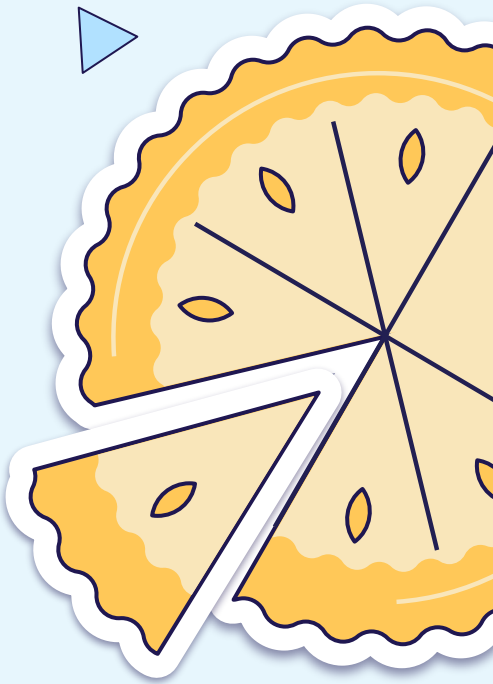

01

ABOUT THE PROJECT

Connecting Students, Empowering Communities

- **Campus Connect** is a collaborative platform for students to join or create communities based on shared interests.
- Facilitates **resource sharing**, **discussions**, and **event announcements** in a unified space.
- Built using the **MEN stack** with a focus on seamless user experience and real-time communication.

02

OBJECTIVE OF THE PROJECT

Bridging Gaps, Building Connections

- To create a **centralized platform** for students to collaborate and connect through shared interests.
- Simplify **resource sharing**, **project collaboration**, and **event organization**.
- Foster a sense of **community and teamwork** within the college ecosystem.

03

EXISTING SYSTEM

Challenges in Current Student Collaboration

- Students rely on **scattered platforms** like WhatsApp, Facebook groups, or email for communication and collaboration.
- Lack of a **dedicated system** for interest-based communities within colleges.
- Difficulty in **managing resources** and tracking event updates effectively.
- Limited opportunities for **real-time engagement** and **structured discussions**.

04

PROPOSED SYSTEM

Revolutionizing Student Collaboration

- **Unified Platform:** A single solution for collaboration, resource sharing, and community building.
- **Personalized Communities:** Enables students to join or create interest-specific groups.
- **Event Management:** Central hub for announcements, registrations, and event tracking.

05

TECHNOLOGY TO BE USED

Shaping Tomorrow with Today’s Technology

Frontend

HTML

CSS

JAVASCRIPT

Backend

NODE JS

EXPRESS JS

Database

MONGO DB

Other Tools

GITHUB

FIGMA

06

MODULES & APIs

Key Components for Seamless Functionality

Express JS:

- Framework for building the web application.
- Handles routing and middleware for handling HTTP requests and responses.
- Supports RESTful APIs for user authentication, post creation, and more.

MongoDB (Mongoose):

- Database to store and manage user data, posts, and other resources.
- Mongoose: ODM (Object Data Modeling) library for MongoDB.
- Handles user management (signup, login) and post creation.
- Provides schema validation and modeling for user and post data.

bcrypt:

- Used for hashing passwords securely.
- Hashes user passwords before saving them to the database during signup.
- Compares hashed passwords during login to validate user authentication.

Express-Session:

- Session management to track authenticated users.
- Stores session data (e.g., user info) between requests to maintain login states.
- Ensures user sessions are persisted across page reloads, enabling user login/logout functionality.

Multer:

- Middleware for handling file uploads (image files).
- Handles image uploads when creating new posts.
- Validates image types (JPEG, PNG, GIF) and limits file size to 5MB.
- Saves uploaded images in the public/uploads/ directory and stores their URLs in the database

Path:

- Purpose: Utility module for working with file and directory paths.
- Ensures correct paths are used for serving static files (like images).
- Helps build the upload file paths dynamically to ensure compatibility across different systems.

FS(File System)

- Handles file and directory system tasks.
- Checks if the uploads directory exists and creates it if necessary, ensuring proper storage for uploaded files.

Quill:

- Purpose: Rich text editor for creating and formatting content (e.g., posts, comments).
- Provides a user-friendly interface for formatting text (bold, italic, headers, etc.).
- Enables users to create styled content for posts without needing to know HTML.

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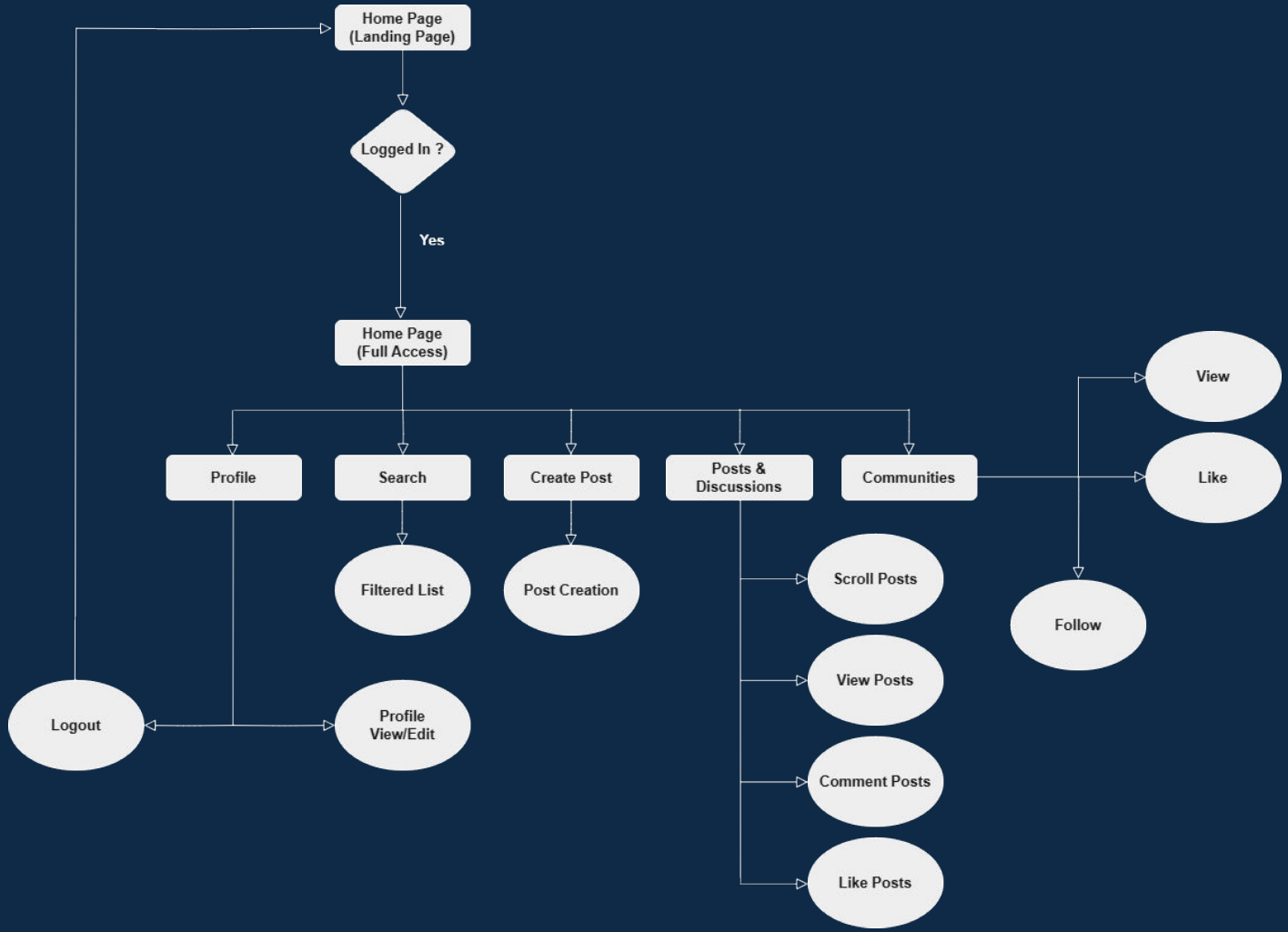
FLOW DIAGRAM

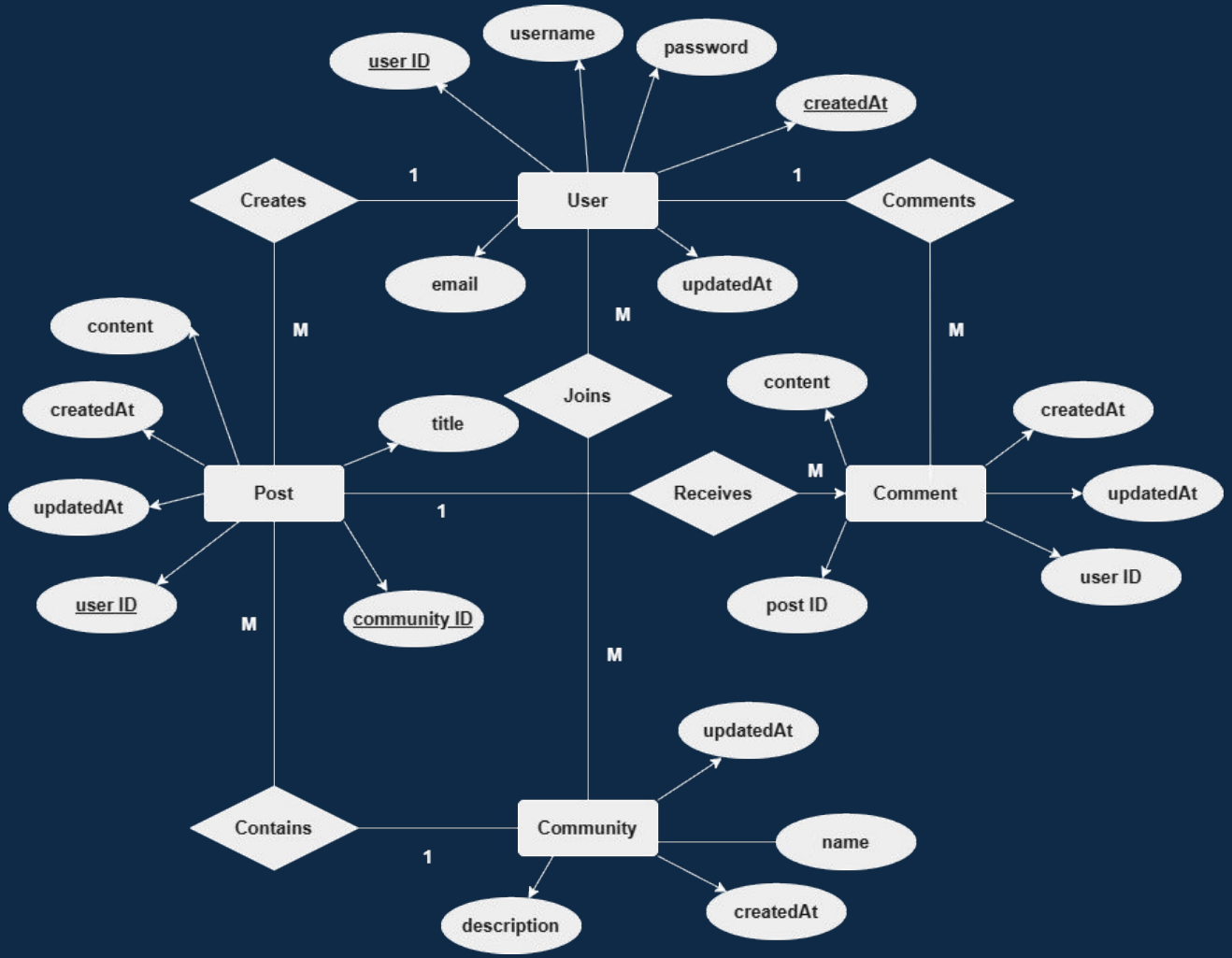
System Workflow of Campus Connect


Home Page (Landing Page)
Logged In ?
Yes
Home Page (Full Access)
Profile
Search
Create Post
Posts & Discussions
Communities
View
Like
Follow
Filtered List
Post Creation
Scroll Posts
View Posts
Comment Posts
Like Posts
Logout
Profile View/Edit

08

ER DIAGRAM

The Roadmap of Database Design


user ID
username
password
createdAt
Creates
1
User
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Comments
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name
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09

IMPLEMENTATION

Where Ideas Take Shape

Authentication System:

- User Signup and Login using MongoDB for storage.
- Secure passwords with **bcrypt hashing**.
- Session management with **express-session** for logged-in users.

Dynamic Content Rendering:

- Leveraged **EJS templates** for rendering user-specific data dynamically.

Post Creation:

- Rich-text editor implemented with **Quill.js** for intuitive input.
- Posts stored in MongoDB, rendered dynamically on the dashboard.

Protected Dashboard:

- Middleware ensures only authenticated users can access this feature.

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SCREENSHOTS

Where Ideas Meet Visual Reality

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TASKS YET TO COMPLETE

Tasks Waiting to Be Achieved

1. **Enable Users to Upload Files:** Basic functionality to upload and share files like PDFs or images.

2. **Community Page:** A page for users to share posts and interact.

3. **Event Management:** Add and view simple event details like name, date, and location.

4. **Comment System for Posts:** Allow users to add comments under posts.

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TIMELINE DIAGRAM

Development Journey of Campus Connect

Week – 1 & 2
Project Planning & Requirements

Week – 3
Frontend development & Initial Setup

Week – 4
Backend development & Core API's

Week – 5
API integration & advanced backend features

Week – 6
Testing, debugging & UI enhancements

Week – 7 & 8
Deployment & Report documentation

Week – 9 & 10
Final testing & Presentation

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REFERENCES

Acknowledging Resources and Tools

1. **Documentation & Tutorials**:
    - MongoDB Documentation
    - Express.js Guide
    - Node.js Official Docs
2. **Libraries & Frameworks Used**:
    - Bootstrap for responsive design (getbootstrap.com)
    - EJS for templating (ejs.co)
3. **Learning Resources**:
    - YouTube tutorials and online coding platforms.
    - Stack Overflow and GitHub discussions for troubleshooting.

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CONCLUSION

Empowering Students Through Innovation

- Campus Connect provides a unified platform for student collaboration and resource sharing.
- Simplifies community building, event management, and real-time communication.
- A step forward in fostering engagement and teamwork within the college.

Thank you!