PROJECT REPORT

On

Tweetzy: A Social Media Hub

Submitted in partial fulfilment of the requirement for the Course
Advance Full Stack of

COMPUTER SCIENCE AND ENGINEERING
B.E. Batch-2022
in

Jan -2025

Submitted By

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Under the Guidance of
Mr. Rahul
CSE

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CHITKARA UNIVERSITY
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CERTIFICATE

This is to be certified that the project entitled "**Tweetzy:A Social Media Hub**" has been submitted for the Bachelor of Computer Science Engineering at Chitkara University, Punjab during the academic semester January 2025- May-2025 is a bonafide piece of project work carried out by "Kavya (2210991776) Khushi Garg (2210991800)" towards the partial fulfillment for the award of the course Full Stack Engineering (22CS037) under the guidance of "Mr. Rahul" and supervision.

Sign. of Project Guide :

Mr. Rahul

CANDIDATE'S DECLARATION

We, **Kavya (2210991776) Khushi Garg (2210991800) ,** B.E.-2022 of the Chitkara University, Punjab hereby declare that the Full Stack Report entitled "**E-learning**" 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.

Sign. of Student 1	Sign. of Student 2
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ID No - 2210991776	ID No - 2210991800

Place: Chitkara University
Date: 3/3/25

ACKNOWLEDGEMENT

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.

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1. Abstract/Keywords

A next-gen social media platform designed to enhance engagement, streamline interactions, and foster real-time content sharing. Built with modern tech, it ensures a seamless and immersive experience for users.

2. Introduction to the Project

2.1 Background

Social media has transformed the way people communicate, share content, and stay informed. However, existing platforms struggle with issues like declining user engagement, algorithmic biases, lack of real-time interaction, data privacy concerns, and inefficient content moderation. Many platforms focus heavily on advertisements and revenue generation rather than prioritizing user experience, community building, and content authenticity.

Additionally, users often face content saturation, misinformation, and toxic digital environments, leading to dissatisfaction and reduced engagement. There is a growing need for a feature-rich, dynamic, and transparent social media hub that fosters genuine conversations, real-time interactions, and AI-powered personalized content recommendations.

2.2 Objective

The objective of this project is to develop a high-performance, scalable, and secure social media hub that offers:

Real-time content sharing – Instant updates, live interactions, and trending topics

AI-powered personalized feeds – Content recommendations tailored to user interests

Community-driven engagement – Interactive spaces for discussions and collaboration

Secure and seamless user experience – Strong authentication and encrypted messaging

Multi-platform accessibility – Responsive design optimized for web and mobile devices.

2.3 Significance

Real-time Connectivity – Enables instant updates and live discussions

Scalability – A full-stack architecture ensures seamless expansion as the user base grows

AI-Powered Personalization – Adaptive algorithms enhance content discovery and engagement

Privacy and Security – End-to-end encryption and user-controlled data settings

Monetization for Creators – Revenue generation opportunities through premium content and ads

Interactive Features – Multimedia sharing, polls, Q&A, and discussion forums

3.2 Problem Statement

Traditional social media platforms face significant challenges in maintaining user engagement, ensuring content relevance, and addressing privacy concerns. Many existing platforms prioritize ad revenue over user experience, leading to excessive promotional content and algorithm-driven feeds that fail to align with individual preferences. Users often struggle with content saturation, misinformation, and a lack of personalized interactions, making social media less engaging and authentic. Additionally, privacy issues such as data breaches and unclear data handling policies have raised concerns about user security. Content creators also face limited monetization opportunities, making it difficult for them to sustain their digital presence. The absence of a seamless, community-driven, and personalized experience has resulted in declining user satisfaction. To address these issues, there is a need for an innovative social media platform that prioritizes real-time engagement, AI-driven personalization, enhanced security, and creator empowerment. Tweetzy aims to bridge these gaps by offering intelligent content curation, community-driven interactions, secure data management, and a user-friendly digital environment that fosters meaningful connections and enhances overall user experience.

3. Software and Hardware Requirement Specification

3.1 Methods

- **Frontend**: React.js for an intuitive user interface.
- **Backend**: Node.js with Express.js for scalable server-side operations.
- **Database**: MongoDB for dynamic and flexible data storage.

3.2 Programming/Working Environment

- **Development Tools**: Visual Studio Code, Postman for API testing.
- **Version Control**: Git/GitHub for code collaboration.
- **Deployment**: AWS for backend, Vercel for frontend hosting.

3.3 Requirements to Run the Application

- **Hardware**: A system with at least 4 GB RAM and stable internet connectivity.
- **Software**: Node.js runtime, MongoDB server, and a web browser.

4. Database Analyzing, Design, and Implementation

- **Database Design**:
  Tables include Users, Courses, Mentors, Projects, and Jobs.

- **Schema Implementation**:
  MongoDB used to create collections with JSON-like structure for flexible data modeling.

5. Program's Structure Analyzing and GUI Constructing

GUI Snapshots:

- **Homepage**: Showcases trending topics and featured content.
- **User Dashboard**: Displays feed, engagement statistics, and profile settings.
- **Admin Panel**: Tools for moderation, analytics, and content management

6. Code Implementation and Database Connections

- **Code Implementation**:
    - API Endpoints – Secure user authentication, content management, notifications
- **Database Connections**:
    - MongoDB Atlas for secure cloud database hosting.
    - Mongoose ODM for schema modeling and data querying.
    - React Components – Dynamic UI elements for interactive user experiences

7. System Testing

Testing Levels:

- **Unit Testing**: Tested individual modules like authentication and creating post.
- **Integration Testing**: Verified the interaction between the frontend and backend.

8. Limitations:

- Limited initial features, with more functionalities planned in future updates
- Dependence on stable internet connectivity for optimal user experience

9. Conclusion:

Tweetzy redefines social media by prioritizing engagement, personalization, and security. The platform creates an AI-driven, community-centric space where users can interact meaningfully, fostering a more dynamic and trustworthy digital environment.

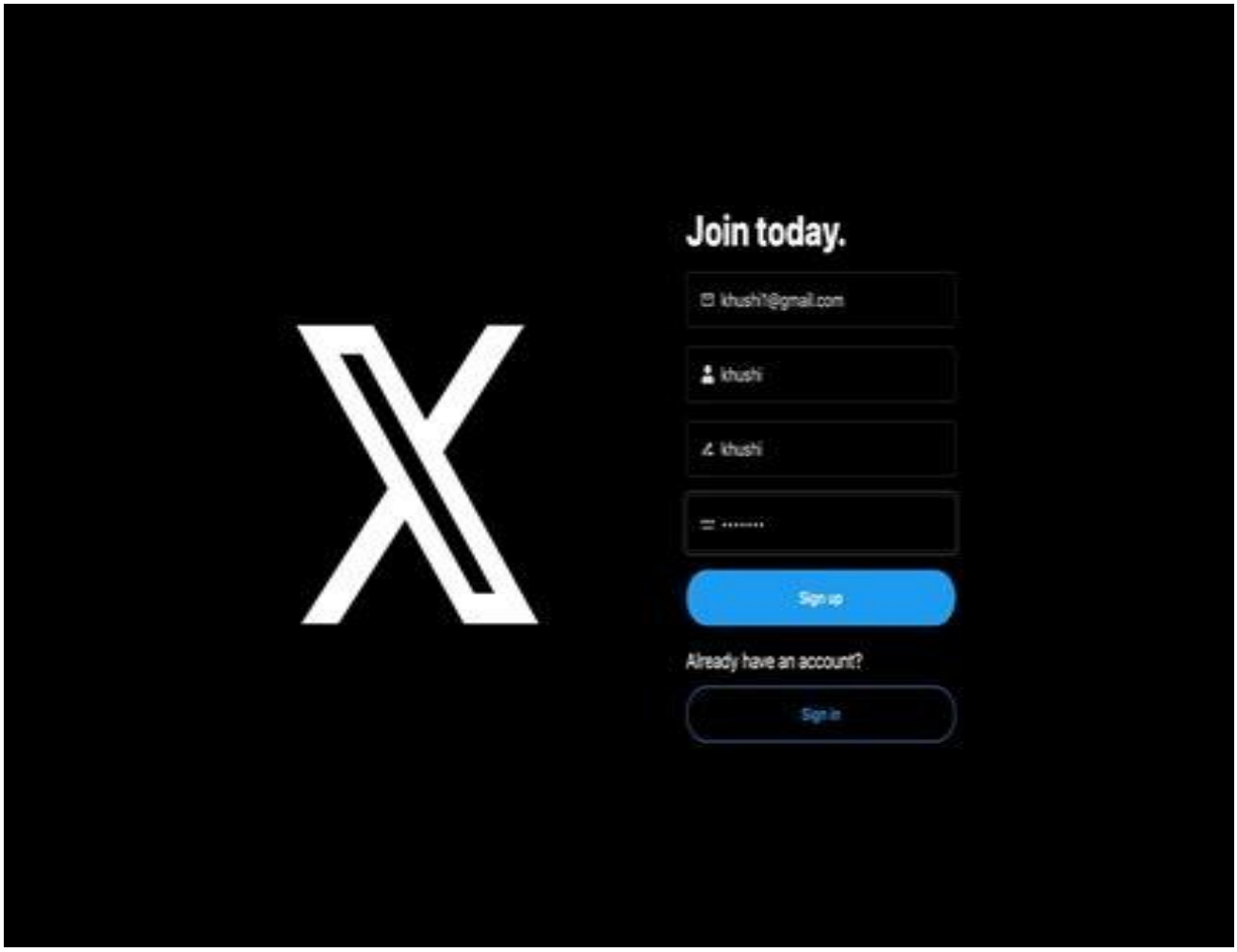
10. Future Scope:

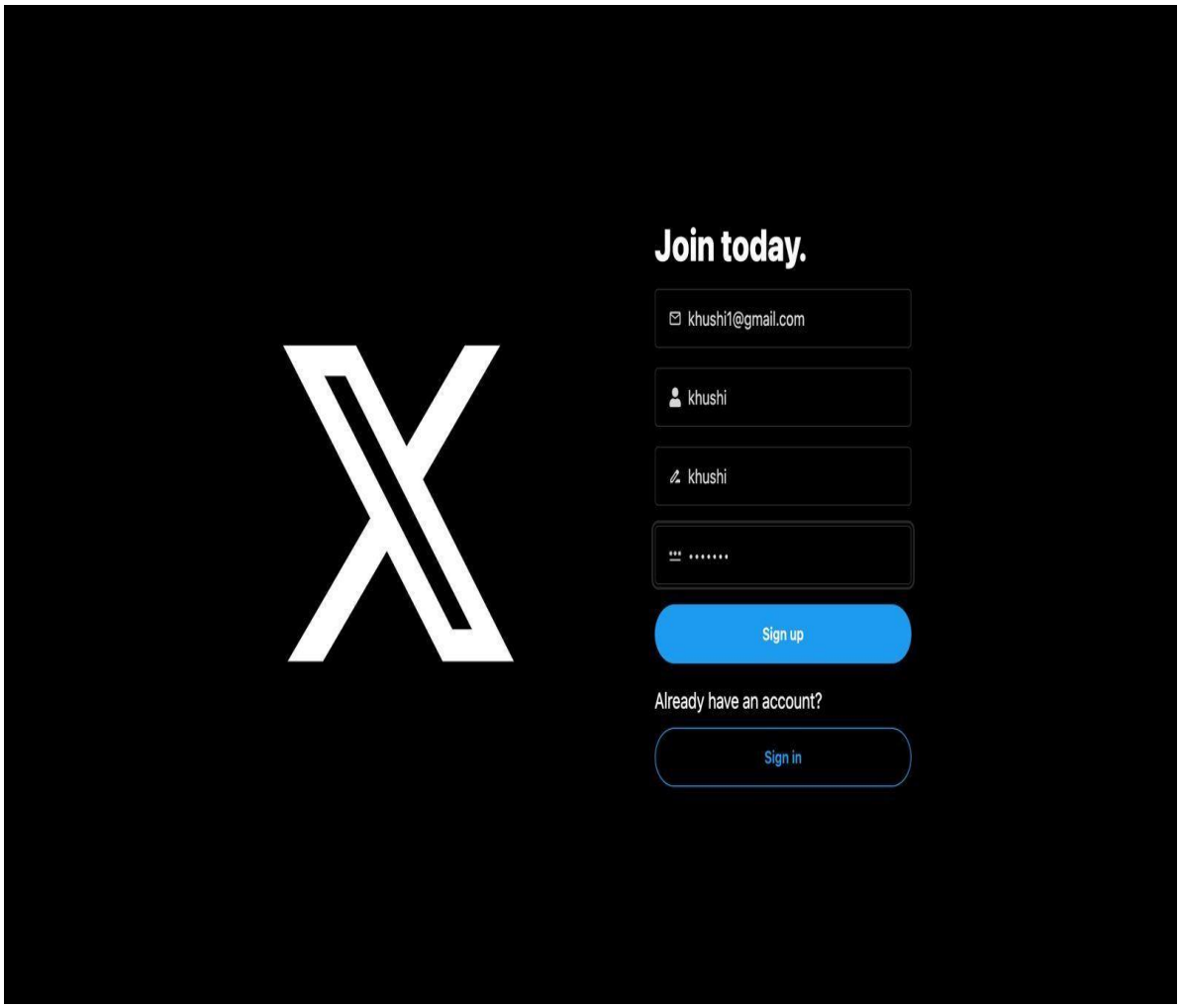
- AI-driven moderation for improved content filtering
- Blockchain-based verification to prevent misinformation and bot activity
- AR/ R integrations for immersive digital networking.

11. Bibliography/References

- **AWS Documentation**: Hosting backend services.
- **Vercel Documentation**: Deploying React.js applications.
- **GeeksforGeeks**: Full-stack development tutorials.
- **Javatpoint**: MongoDB and Node.js guides.
- **MDN Web Docs**: JavaScript and web development best practices.

12. Screenshots

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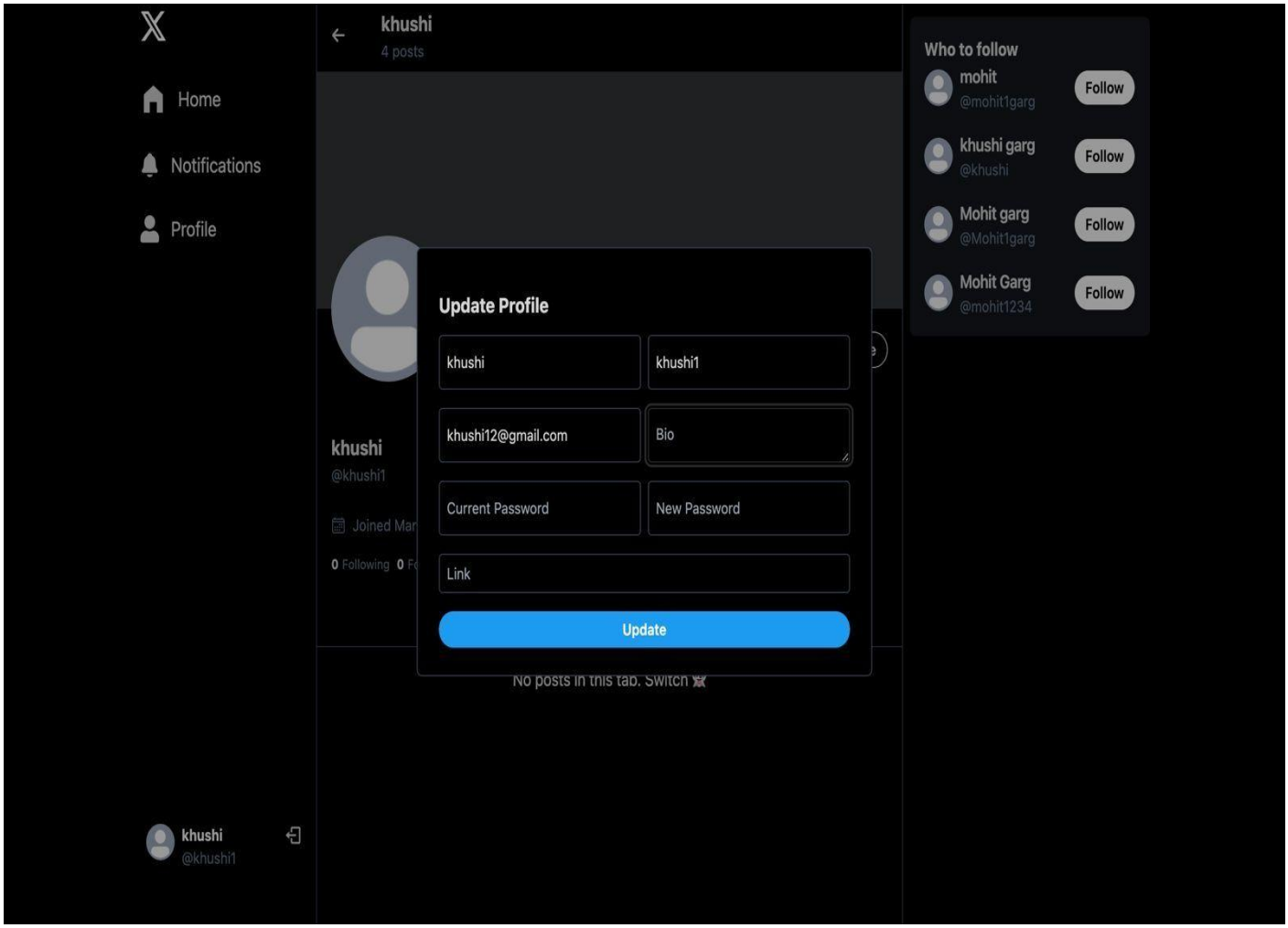
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