

# Scoop Labs Project Lab

## Full Stack Development Project Brief

**Project Title:** Social Network App

**Difficulty Level:** Advanced

**Estimated Duration:** 7-9 Weeks

**Suggested Stack:** MERN (MongoDB, Express.js, React, Node.js) + Socket.io

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## Project Overview

In this project, you will build a **Social Network Web Application** that allows users to create profiles, share posts, follow other users, and interact through likes, comments, and real-time messaging.

The goal of this project is to help students understand how modern social platforms manage **user relationships, real-time updates, and dynamic content feeds**.

Students will implement a simplified version of a social networking platform where users can publish content, follow other users, and receive notifications about interactions.

All tools required for development and deployment are available through **free development tiers**, making it possible to complete this project without paid services.

## Why This Project Matters

Social networking platforms demonstrate some of the **most complex user interaction systems in modern web development**.

Building a social network application helps developers understand how to manage:

- User relationships (followers and following)
- Dynamic content feeds
- Real-time updates and messaging
- Notifications and engagement systems

This project also introduces students to **real-time communication technologies**, which are commonly used in chat systems, collaborative tools, and social platforms.

Completing this project will demonstrate the ability to build **complex, scalable full-stack applications**, making it a strong portfolio project.

## Learning Outcomes

By completing this project, students will learn and practice:

- Implementing **real-time communication using WebSockets**
- Designing complex database relationships between users
- Managing user-generated content such as posts and comments
- Building social feed systems that aggregate user activity
- Handling file uploads and media content
- Implementing notification systems
- Optimizing performance for interactive applications

## Project Requirements

Your social network application should include the following features:

### User Profiles

- User registration and login functionality
- Profile page displaying user information and posts
- Ability to follow and unfollow other users

### Posts and Content Sharing

- Users can create posts with text and optional images
- Display posts in a user feed
- Users should be able to edit or delete their own posts

## Likes and Comments

- Users can like posts from other users
- Comment system for interacting with posts

## Personalized Feed

- Display posts from users that the current user follows
- Feed should update as new content is created

## Real-Time Messaging

- Implement basic private messaging between users
- Messages should update in real time

## Notifications

- Notify users when someone likes or comments on their post
- Notify users when they receive a new message

## Responsive Interface

- The application should work properly on **desktop and mobile devices**

# Technical Guidelines

Students are encouraged to follow the guidelines below while implementing the project.

## Frontend

- Use **React** to build the user interface
- Implement reusable UI components
- Use state management tools such as **React Context or Redux**

## Backend

- Use **Node.js with Express.js** to create backend APIs
- Implement **JWT-based authentication** for secure user sessions

## Real-Time Features

- Use **Socket.io** to implement real-time messaging and notifications

## Database

- Use **MongoDB** to store user data, posts, comments, and follower relationships
- Design database models for users, posts, comments, and notifications

## Media Storage

Students can use free image hosting services such as:

- **Cloudinary (Free Tier)**
- or
- Local file storage for development purposes

## Free Development Tools

Students can complete this project using the following free tools:

- **VS Code** for development
- **GitHub** for version control and repository hosting
- **MongoDB Atlas (Free Tier)** for database hosting
- **Vercel / Netlify** for frontend deployment
- **Render** for backend hosting

These platforms provide free tiers suitable for this project.

# Bonus Challenges (Optional)

Students who want to extend their project can add additional features such as:

- Stories feature similar to modern social platforms
- Video posts support
- Hashtag and mention functionality
- Group chat feature
- Infinite scrolling for social feeds

These features help demonstrate advanced full-stack and real-time development skills.

# Submission Guidelines

To receive the **Project Completion E-Certificate**, students must submit the following:

### Required

- GitHub repository link containing the complete project source code
- Live deployed project link

Students can deploy their project using free platforms such as **Vercel, Netlify, or Render**.

### Optional (Recommended)

- 2-3 screenshots demonstrating the application interface and features

All submissions must be made through the **official Scoop Labs Project Lab submission form**.

Submission Form:

<https://scooplabs.in/project-lab>

Ensure that your GitHub repository includes a **README file explaining the project setup and features**.

## Certification

Students who successfully complete and submit their project will receive a **Project Completion E-Certificate from Scoop Labs**, an **Authorized Training Partner of the National Skill Development Corporation (NSDC)** under the **Skill India Mission**.

This certification recognizes the successful completion of an industry-oriented development project.

## Project Showcase Opportunity

Selected high-quality submissions may be **featured in the Scoop Labs Project Gallery**.

Projects showcased in the gallery serve as a **public portfolio reference**, providing additional credibility when students share their work with recruiters and potential employers.

## Need Help?

If you have questions or face issues while building the project, you can contact the Scoop Labs team for guidance.

Support Email:  
[info@scooplabs.in](mailto:info@scooplabs.in)

## Scoop Labs Project Lab

Building **industry-ready projects for aspiring developers.**

Scoop Labs is an **Authorized Training Partner of the National Skill Development Corporation (NSDC)** under the **Skill India Mission**, committed to helping learners develop practical technical skills through real-world projects.