LLJ-1 Component – Project Work Report

Academic Year: 2025–2026
Course: 21CSE354T – FULL STACK WEB DEVELOPMENT
Submission Date: [DD/MM/YYYY]

1. Project Title

ProgressPlus(MERN): Unified Learning & Coding Progress Tracker

2. Team Members

Yash Gupta— RA2211003011844
- Full-stack development , integrations, testing, deployment
(Note: Individual project – team size = 1)

3. Project Overview

"Learners and developers often use multiple platforms like LeetCode, CodeChef, YouTube, and GitHub to build skills, but lack a unified view of their overall progress. This project solves that by providing a centralized dashboard that aggregates and visualizes progress from various learning and coding platforms. Using APIs and web scraping, the system automatically syncs user data and displays it through interactive charts and insights. This helps users track consistency, set goals, and stay motivated with a clear view of their learning journey."

4. Key Features

Feature 1: Multi-platform integration (LeetCode, CodeChef, YouTube, GitHub)

Feature 2: Automated data sync via APIs and web scraping

Feature 3: Interactive dashboard with charts and progress visualization

Feature 4: User authentication and profile management

Feature 5: Goal setting and milestone tracking

Feature 6: Manual entry support for unsupported platforms

5. Technologies & Tools Used

Languages: JavaScript (Node.js), Python, HTML/CSS

Frameworks/Libraries: React, Express.js, Chart.js, Cheerio/Puppeteer

Database: MongoDB

APIs: LeetCode GraphQL API, YouTube Data API, GitHub REST API

Tools: Git/GitHub, Postman, VS Code, Render/Vercel

6. Work Allocation

Individual Project — All responsibilities by Yash Gupta:

Frontend and backend development

API integration and data scraping

Database design and management

UI/UX design and deployment

Documentation and testing

7. Weekly Progress Summary

- Week 1

Finalized idea and tech stack. Set up development environment and basic React + Node.js structure.

Difficulty: Choosing between MongoDB and PostgreSQL

Solution: Used MongoDB for flexible schema to handle varied platform data.

- Week 2

Built user authentication and LeetCode API integration. Created basic dashboard UI.

Difficulty: Handling CORS and token-based authentication

Solution: Used proxy server and secure token storage.

- Week 3

Integrated YouTube and GitHub APIs. Added progress visualization with Chart.js.

Difficulty: YouTube API quota limits

Solution: Implemented client-side API calls and caching.

- Week 4

Added manual entry feature, performed end-to-end testing, and deployed the application.

Difficulty: Deployment issues with environment variables

Solution: Used Render for backend and Vercel for frontend hosting.

8. Conclusion & Learning Outcomes

This project strengthened end-to-end MERN proficiency across authentication, background jobs, and deployment. Designing a unified progress model across coding and video platforms taught careful schema and API design with idempotency and security. The dashboard's streaks and analytics convert raw data into insights that improve study discipline. Future work includes expanding providers, mobile app version, leaderboards, and ML-based topic recommendations. Overall, the project demonstrates strong full-stack product development skills.

9. Screenshots / Diagrams

1. Provider Connections Screen
2. Weekly Dashboard (Problems, Minutes, XP)
3. System Architecture (Client ↔ API ↔ MongoDB)

10. GitHub Repository

https://github.com/[your-username]/progress-os-mern