

NEW PROJECT SET - WEB SOFTWARE DEVELOPMENT (MERN STACK) —STARTUP REALITY FOCUS

Real Startup Use Cases – Hands-on Product Building

Project 1 - Collaborative AI-Powered Ideation & Project Management Platform

Problem Statement: *Develop an advanced platform for teams to collaboratively brainstorm ideas, plan projects, and manage tasks with real-time interaction and AI assistance for enhanced productivity.*

Use Case: Build a sophisticated tool that facilitates team collaboration, idea generation, and project execution, leveraging AI for intelligent suggestions and real-time updates for dynamic work environments.

Key Modules:

- AI-Powered Idea Generation & Brainstorming Module
- Real-time Collaborative Whiteboard/Mind Map (Socket.IO)
- Dynamic Kanban-style Project Boards with Task Management
- Advanced User & Role-Based Access Control (RBAC)
- Integrated Real-time Chat & Commenting
- Version Control for Collaborative Documents/Notes
- Analytics Dashboard with AI-driven Insights

Week-wise Development Plan:

Week	Backend (Node.js + Express)	Frontend (React.js)
Week 1	JWT Auth (Team Roles), User & Project APIs, AI Integration Setup	React Setup, Auth UI, Collaborative Workspace UI
Week 2	Real-time APIs (Socket.IO for Whiteboard), Idea Generation API, Task CRUD APIs	Collaborative Whiteboard, AI Idea Integration, Basic Task UI
Mid Project Review	Real-time Collaboration & AI Integration initiated	Core Collaborative UI functional
Week 3	Task Status APIs, Commenting APIs, Version Control APIs	Task Management UI, Chat UI, Document Version History

Week	Backend (Node.js + Express)	Frontend (React.js)
Week 4	Analytics & Insights APIs, Admin APIs, API Cleanup & Testing	Analytics Dashboard, Admin Panel, UI Polish & Responsiveness
Final Project Review	All modules functional: AI Integration, Real-time Collaboration, Project Management, Admin Panel	Fully responsive frontend: Collaborative Workspace, Dashboards

Project 2 - Personalized Health & Wellness Companion with Biometric Integration

Problem Statement: Create a personalized health and wellness platform that integrates biometric data to provide AI-driven, customized recommendations for fitness, nutrition, and mental well-being.

Use Case: Develop a comprehensive digital health companion that intelligently adapts to user's health data, offering tailored plans and insights to achieve personal wellness goals, akin to a smart personal trainer and nutritionist.

Key Modules:

- User Registration & Health Profile Management
- Biometric Data Input & Integration (manual/API-based)
- AI-Powered Recommendation Engine (Workouts, Meal Plans, Mindfulness)
- Interactive Health Dashboards & Progress Tracking
- Community & Expert Network (Optional: Booking/Video Conferencing)
- Gamification & Streak Tracking System
- Smart Notifications & Reminders

Week-wise Development Plan:

Week	Backend (Node.js + Express)	Frontend (React.js)
Week 1	Auth APIs, User Profile & Goal APIs, Biometric Data APIs	React Setup, Auth UI, Profile Setup, Data Input UI
Week 2	AI Recommendation Engine Integration, Workout/M meal Plan APIs	Dashboard UI (Charts), Recommendation Display, Progress Tracking
Mid Project Review	Auth, Profile, Biometric Data & Basic Recommendations integrated	Core Dashboard & Data Input functional

Week	Backend (Node.js + Express)	Frontend (React.js)
Week 3	Community/Expert APIs, Gamification APIs, Notification APIs	Community/Expert UI, Gamification UI, Notification Settings
Week 4	API Cleanup & Testing, Deployment Readiness	Responsive UI Fixes, UI Polish, Testing
Final Project Review	All modules functional: Personalized Recommendations, Data Tracking, Community, Gamification	Complete responsive frontend: Dashboards, Profile, Community

Project 3 - Decentralized & Community-Driven News Aggregator/Fact-Checker Platform

Problem Statement: Build a community-driven news aggregation platform focused on combating misinformation through collaborative fact-checking, source reliability scoring, and transparent content moderation.

Use Case: Create a unique news consumption experience where users actively participate in verifying information, promoting credible sources, and flagging misinformation, fostering a more trustworthy news environment.

Key Modules:

- User & Content Submission (Articles, Links)
- Community Upvoting/Downvoting & Categorization
- Collaborative Fact-Checking & Annotation System
- Source Reliability Scoring & Transparency Metrics
- Topic-Based Subscriptions & Real-time Alerts
- User Reputation System (Gamified)
- Admin & Moderation Tools

Week-wise Development Plan:

Week	Backend (Node.js + Express)	Frontend (React.js)
Week 1	Auth APIs, News Article CRUD APIs, Category APIs	React Setup, Auth UI, News Feed Display, Article Submission
Week 2	Voting APIs (Articles/Comments), Annotation APIs, Fact-Check Submission APIs	Article Detail View, Voting UI, Annotation UI, Commenting

Week	Backend (Node.js + Express)	Frontend (React.js)
Mid Project Review	Auth, Article Management, and Core Voting/Annotation APIs implemented	News Feed, Article View, and Basic Interaction UI connected to APIs
Week 3	Source Scoring Logic, Subscription APIs, Reputation System APIs	Fact-Check Review UI, Source Reliability Display, Subscription Management
Week 4	Admin/Moderation APIs, Real-time Notification Setup, API Testing	Admin Panel UI, Notification UI, Responsive UI Polish
Final Project Review	All modules functional: Content Submission, Fact-Checking, Source Scoring, Community Management, Admin Controls	Fully responsive frontend: News Feed, Fact-Checking Interface, Admin/User Dashboards

Common Features Across All Projects

- Secure JWT-based Authentication (User, Admin, Provider/Chef/Artisan Roles)
- MongoDB Schema Design and Data Modeling
- RESTful API Development using Express.js
- Protected Routes and Component-based React Architecture
- Razorpay/Stripe Payment Gateway Integration
- Mobile-Responsive, Component-Driven UI Design
- Admin Dashboards for Centralized Management
- Full-Stack Deployment (Frontend and Backend)

Overall Project Summary

Project	Business Type	Technology Focus
Collaborative AI-Powered Ideation & Project Management Platform	Collaborative Workspace & AI Tools	Full MERN Stack, AI Integration, Real-time Collaboration
Personalized Health & Wellness Companion with Biometric Integration	Health & Wellness Personalization	Full MERN Stack, Data Analytics, AI Recommendations
Decentralized & Community-Driven News Aggregator/Fact-Checker	Community-driven News & Fact-Checking	Full MERN Stack, Community Moderation, Data Transparency