ai_hub_development

AI Hub Development Project Completed

Successfully designed and built a comprehensive AI Hub application - a centralized intelligence platform for AI research, project management, and market insights.

Execution Process:

1. **Research Phase**: Conducted comprehensive research on AI platforms, newsletter systems, and integration technologies

2. **Architecture Design**: Created detailed system architecture, database schema, and UI wireframes

3. **Infrastructure Setup**: Secured Supabase credentials and configured backend services

4. **Development & Deployment**: Built and deployed full-stack application with real data integration

Key Achievements:

- **Real-Time Data Integration**: Successfully integrated live data sources including startup funding news, AI job market data, and hackathon events

- **Comprehensive Dashboard**: Created intuitive interface with dark theme, responsive design, and card-based layout

- **Knowledge Management**: Implemented RAG-powered system for research papers, prompts, and templates

- **Automated Intelligence**: Built newsletter generation and weekly reporting capabilities

- **Market Tracking**: Integrated stock tracking and market trend analysis for AI/ tech companies

- **Project Management**: Created GitHub integration with metrics tracking and analytics

Technical Implementation:

- Frontend: React + TypeScript with Tailwind CSS

- Backend: Supabase PostgreSQL with Edge Functions

- Real-time APIs: TechCrunch, VentureBeat, RemoteOK integration

- Database: Comprehensive schema with RLS policies

- Performance: Optimized for speed and scalability

Final Deliverables:

The AI Hub is now operational with live data feeds, providing users with:
- Centralized AI intelligence dashboard
- Automated daily and weekly newsletters
- Real-time startup and job market insights
- Project tracking and knowledge management
- Research-to-implementation suggestions
- Continuous learning and personalization

The platform serves as a complete "single pane of glass" for AI industry intelligence, project management, and knowledge curation, exactly as requested by the user.

Key Files

- docs/system_architecture.md: Comprehensive system architecture design including technology stack, data flow, and integration patterns

- docs/database_schema.md: Complete database schema with tables for users, projects, knowledge base, AI content, stocks, hackathons, startups, and analytics

- docs/ui_wireframes.md: UI/UX design system with wireframes, color palette, responsive layouts, and component specifications

- docs/newsletter_systems_research.md: Research findings on newsletter and reporting systems for AI intelligence, covering automation and personalization

- supabase/functions/fetch-startup-funding/index.ts: Edge function for real-time startup funding data aggregation from multiple RSS feeds

- supabase/functions/fetch-job-market/index.ts: Edge function for AI/ML job market data collection from external APIs

- supabase/functions/fetch-hackathons-simple/index.ts: Performance-optimized edge function for hackathon events aggregation