Capstone Project

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DevResolve

Technical and Non-Technical Requirements:

1. Technical Implementation Plan

System Design Approach

Our platform will leverage a modern tech stack combining React.js with TailwindCSS for a responsive frontend, supported by a Node.js/Express.js backend. Data will be managed through PostgreSQL with AWS S3 for secure chat log storage. Key integrations include:

- Secure authentication (User/Password or JWT)
- Real-time communication via Socket.io WebSockets
- Payment processing through Stripe's escrow system

Core Functionality

The system will enable:

- Seamless account creation/login flows
- Bounty-based doubt posting/claiming system
- Interactive feedback mechanisms between students and solvers
- Protected payment escrows that release funds upon solution approval
- Admin-mediated dispute resolution
- Reputation-based visibility for solvers

Performance & Security Measures

We prioritize:

- Database optimization through indexing and caching
- Scalable infrastructure with load balancing
- Robust API security (encryption, rate limiting)
- Granular role-based permissions

2. Strategic & User-Centric Objectives

Business Value Proposition

- Drive user engagement through gamified leaderboards
- Build trust via transparent payment protection and archived chat histories
- Sustainable monetization through service fees and premium tiers

Accessibility Focus

- Intuitive interface designed for effortless navigation
- Universal mobile responsiveness
- Multi-language support for global reach

Quality Assurance Priorities

- Rigorous testing of payment flows and dispute systems
- Progressive rollout with pilot user feedback
- Continuous performance monitoring post-launch