

Team Zerochance – T\$O Jazzee GenAI Hackathon 2025

Framework Document

1. Problem Statement:

Modern UI/UX tools like Figma enable rapid design, but transforming these designs into functional code, especially for mobile frameworks like React Native, is tedious and time-consuming. Designers and developers often struggle with preserving design fidelity while ensuring code quality. This affects productivity and introduces errors during translation. A seamless design-to-code workflow is critical, especially for cross-functional teams in startups and product-based companies.

2. Target Audience & Context:

This solution targets frontend developers, UI/UX designers, indie SaaS builders, freelance developers, and small dev teams who frequently work on cross-platform apps. The background lies in the need to automate repetitive design-to-code conversion and reduce the time gap between designing and prototyping.

3. Use of Gen-AI:

Analyze Figma links or files with DeepSeek V3 LLM for layout understanding and design component extraction. DeepSeek V3, as a powerful open-source Mixture-of-Experts model, efficiently processes design data for accurate feature recognition and structure analysis. Then, feed these insights into Gemini 2.5 Pro for code generation—leveraging its advanced reasoning, multimodal understanding, and robust coding capabilities to turn design specifications into production-ready code with high visual fidelity. This approach streamlines the process from design analysis to code implementation, combining the strengths of both leading-edge models.

4. Solution Framework:

The **frontend** is built using **Next.js** and **TypeScript**, styled with **Tailwind CSS** and **Shadcn/UI**, and enhanced with **Framer Motion** animations. It offers two primary input modes—Figma file links and uploaded PNG/JPG files. A built-in self-developed custom code editor (Monaco + Sandpack) allows real-time editing and live preview of the generated code in-browser, accelerating development.

The **backend**, developed with **NestJS** and **TypeScript**, follows a modular structure (e.g., auth, user, ai, utils) and securely connects to the frontend via REST APIs. **Supabase** manages PostgreSQL storage and JWT-based authentication, while **Redis (Upstash)** handles caching and background jobs.

AI workflows involve analyzing design inputs using **DeepSeek V3** for layout understanding, followed by **Gemini 2.5 Pro** for high-fidelity code generation. Environment variables are securely handled via .env files, with rate limiting for API protection.

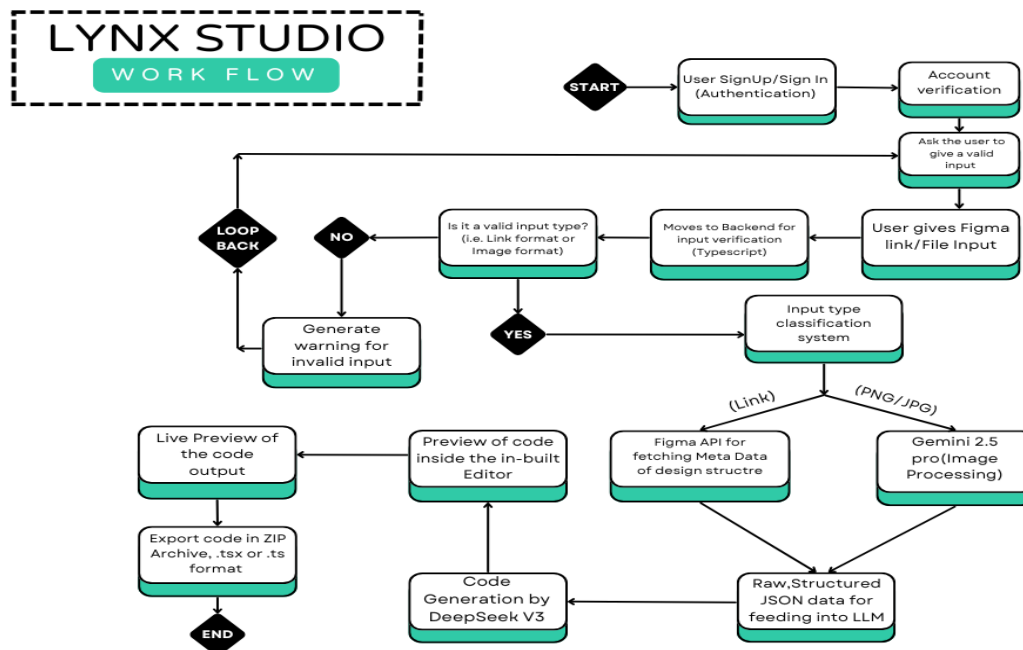
Frontend: Deployed on *Vercel* for optimized CI/CD

Backend: Deployed on *Render* for scalability

AI Services: Accessed through external APIs

Supabase & Redis: Managed as cloud services

Together, this architecture delivers a cloud-native, scalable, and developer-focused platform bridging the gap between design and production code.



5. Feasibility & Execution

The solution is technically feasible with existing tools: Figma API, DeepSeek V3, Google Gemini 2.5 pro, Supabase, Redis (Upstash), Monaco & Sandpack. All APIs and hosting (Vercel, Render) offer free tiers for development. Version control and deployments are handled via GitHub and CI workflows. Development only requires VS Code, Node.js, NextJS, Git, and Supabase CLI.

6. Scalability & Impact

The app can scale horizontally using Supabase's managed DB and authentication services, while backend job queues (Redis) ensure task management at scale. In the future, this can be scaled into a subscription-based web app offering premium AI features such as intelligent code optimization and automatic UI/UX enhancements.

These additions would provide value to freelance developers, startups, and product teams. As design-to-code is a common bottleneck in the dev pipeline, this solution can streamline product cycles, enhance collaboration, and reduce time-to-market for cross-platform apps.

7. Conclusion:

This solution bridges the gap between design and development by automating UI-to-code generation using Generative AI. It eliminates redundant manual work and empowers developers to accelerate their build cycles. With tiered pricing models, targeted marketing to design and dev communities, and minimal infrastructure costs, the product holds strong potential for generating sustainable revenue and a high return on investment. With a lean monthly operational cost of ~\$250 and scalable subscription-based pricing, the platform is projected to generate over \$22,000 in the first year, yielding an estimated ROI of 500%+. Even at minimal user acquisition, the product achieves break-even within 5-6 months, validating it as a high-potential, sustainable SaaS solution.