CASE STUDY: A CRYPTOCURRENCY WEB SOLUTION

A Cryptocurrency Web Solution for a Blockchain-based Gaming Platform

Client information:
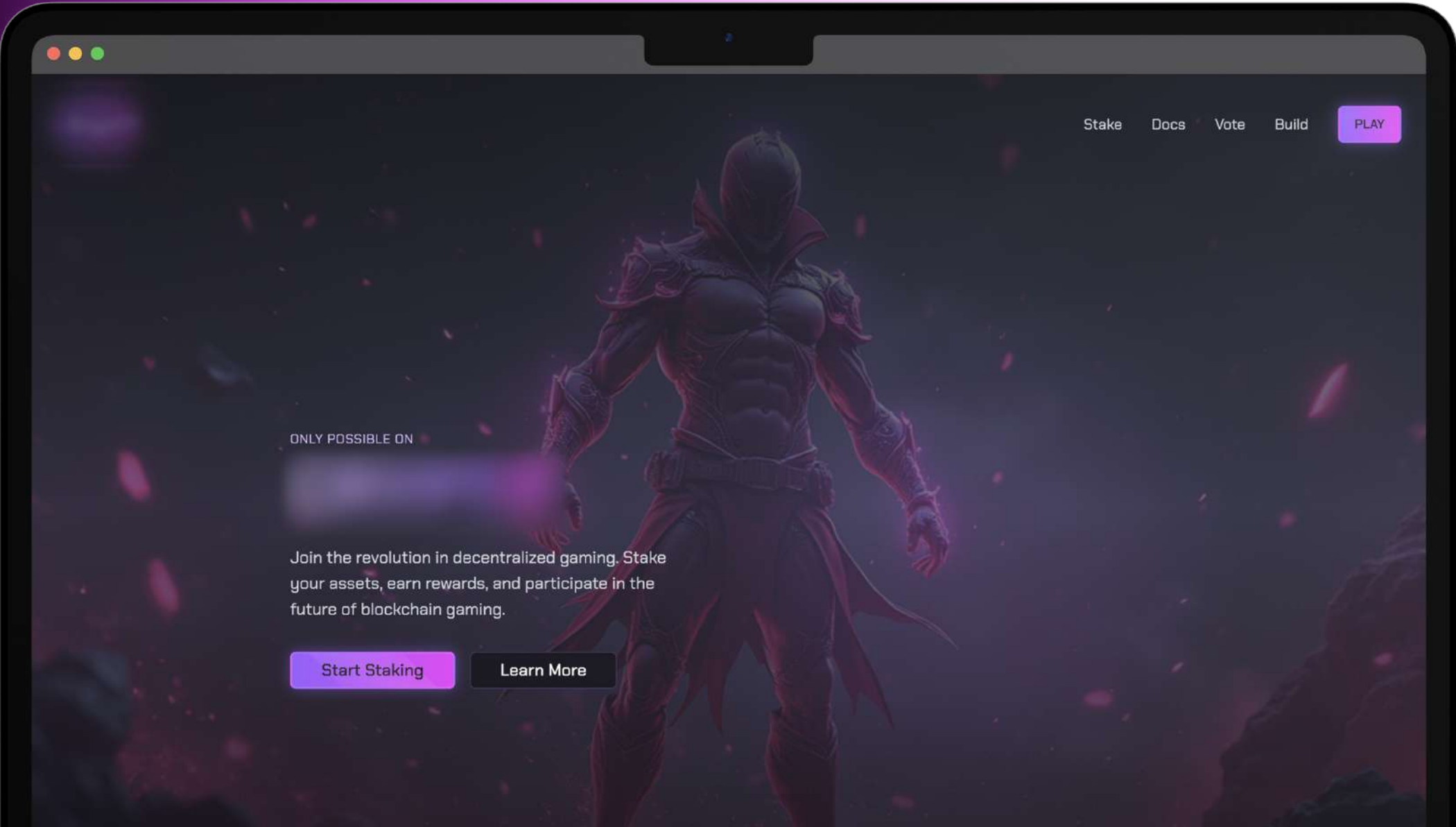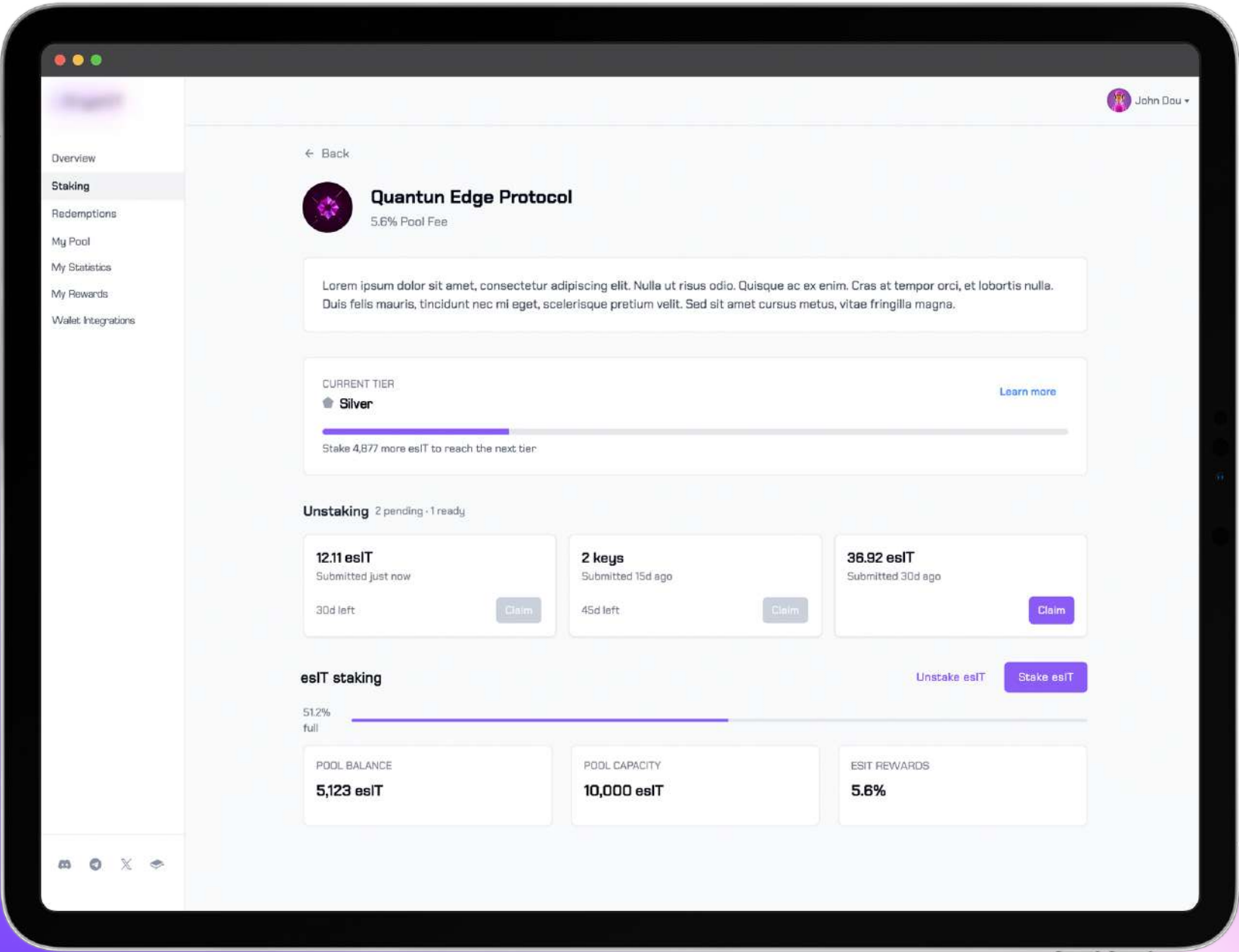
Client: **NDA**

Company size: **NDA**

Headquarters: **NDA**

Team size:
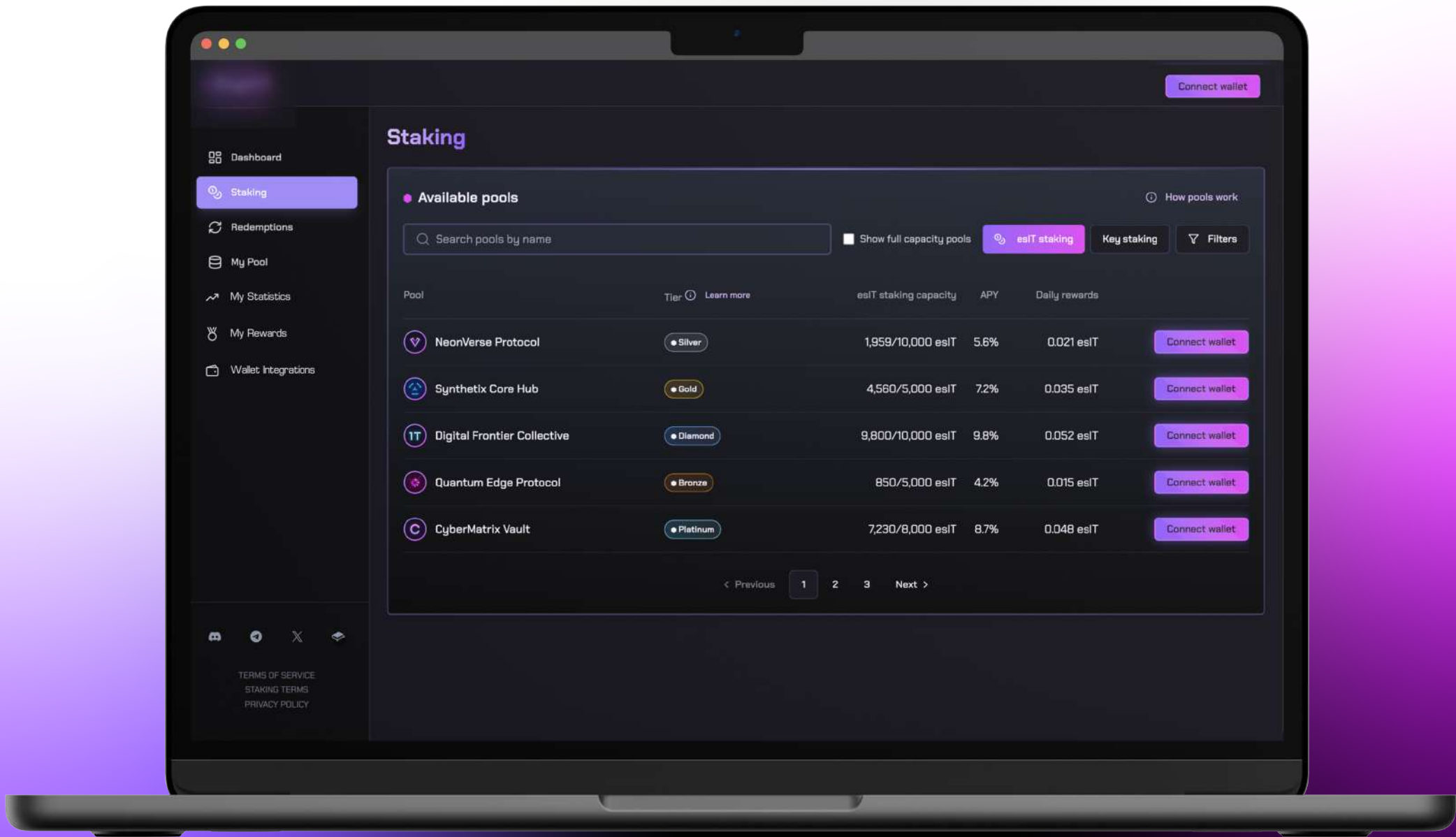
Fullstack developers: 2

PROJECT OVERVIEW

Summary

Our partner needed to build a seamless, secure environment where players and game developers could use Web3 technologies to improve their gaming experience and monetize their in-game assets.

Their target audience includes two groups: gamers looking to earn crypto, and game developers seeking to add blockchain-based features. Our team designed the platform to support both gamers with ways to participate in exclusive events and trade their digital assets and game developers on a path to incorporating blockchain technology into games.

The finished web solution lets gamers buy crypto, join pools, and purchase tokens and keys to access virtual goods and game content, like in-game events. Along the way, we also supported their rebrand, as well as fixed and updated their other apps.

Provided services

• Web development

Technologies & tools

• **Platform:** JavaScript
• **Database:** MongoDB
• **Frontend:** React.js, Next.js, Tailwind CSS, TypeScript, Next UI, Webpack
• **Backend:** Node.js. Mongoose
• **DevOps:** Docker, AWS, Docker Compose
• **Third-party integrations:** Google Analytics, Web3, Ethers
• **Additional tools:** Git, Webstorm

REQUIREMENTS & CHALLENGES

Our partner needed a web solution with a custom web-based platform, as well as integrations with the wider Web3 ecosystem that let users buy crypto and use their integrated wallets while gaming.

The platform had to support dynamic game economies and let players interact in a decentralized way and handle real-time transactions, support crypto exchanges, and give access to various in-game assets securely and efficiently. Our team needed to manage the complexity of blockchain integrations, but keep the user interface simple.

As we operated under technical complexity and tight deadlines, the platform also had to be highly secure, easy to maintain and scalable to evolve with the rapidly changing worlds of crypto and blockchain.

Other key challenges involved supporting bug fixes and the rebranding of three main parts of their solution: our partner's website, token trading app, and Electron-based desktop app.

Blockchain integration & performance

Ensuring seamless crypto transactions and token exchanges through Web3, while maintaining high speed and efficiency in real-time operations.

Scalability

Building a platform that could scale smoothly with increasing numbers of users and transactions.

User experience (UX)

Designing an intuitive, user-friendly interface that caters to both gamers and game developers in the world of blockchain.

Docker containers and automated testing

Managing Docker containers to integrate the frontend and blockchain backend, and building automated testing to spot and resolve issues before deployment.

Cross-platform accessibility

For smooth functionality across both web and desktop versions of the platform and full support of crypto wallet integrations.
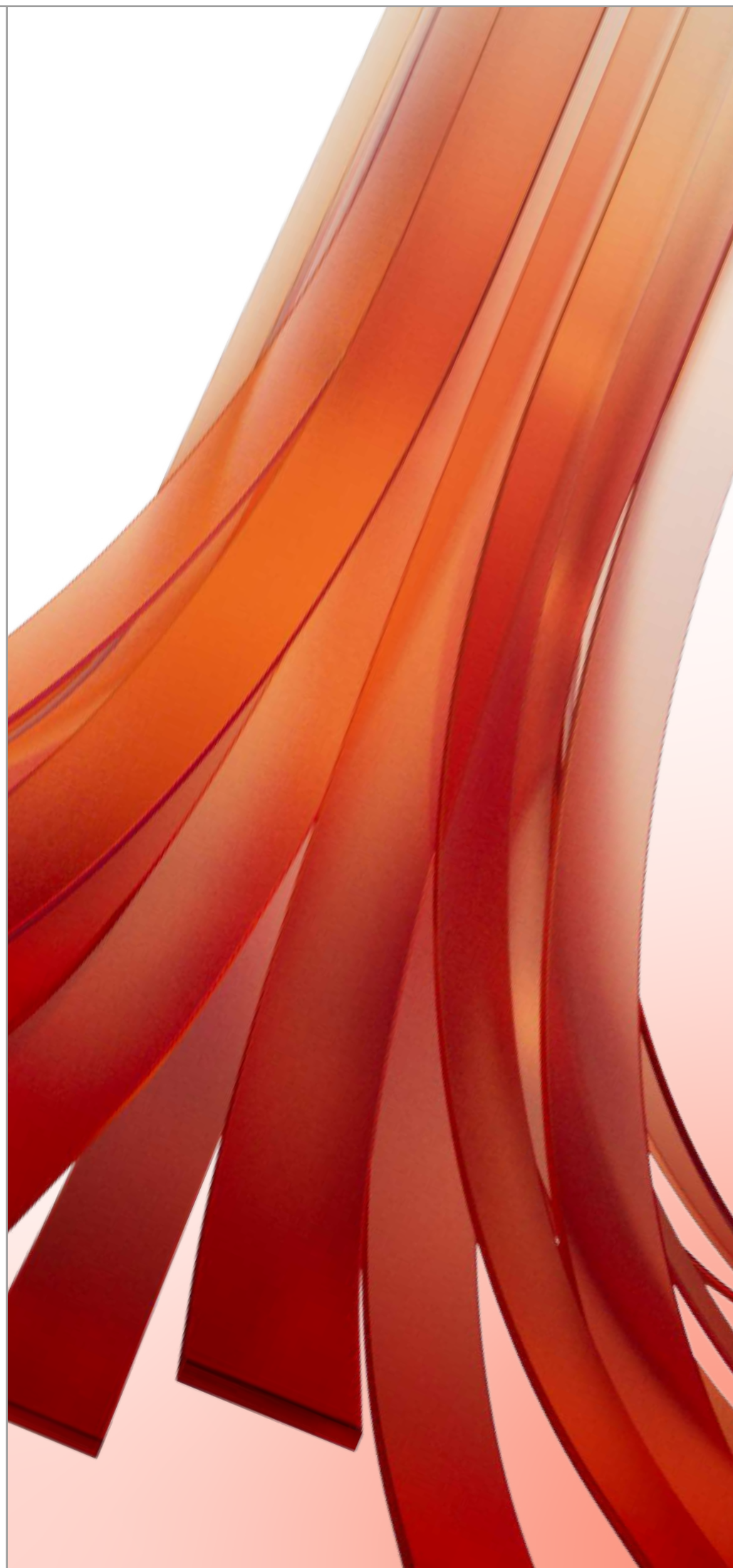
Third-party integrations

Managing the integration of key external services for smooth communication and minimal disruptions to the user experience.

HOW WE WORK

Collaboration approach & process

The solution had to be scalable and user-friendly, and it was crucial our team offer a **structured approach tailored to our partner's needs.**

As both sides value communication and transparent workflows, regular **progress updates** were a key part of meeting milestones according to requirements, and open **feedback loops** helped us make adjustments to better align with expectations. And **flexibility** and **responsiveness** helped us adapt to changes, meet tight deadlines, and make successful updates.

With this adaptable, streamlined process, we transformed our partner's initial concept into a full-fledged crypto web solution.

STEP-BY-STEP PROJECT FLOW

Developing the web app from scratch

After in-depth conversations with our partner about their top priorities and requirements, our team began developing the web app from the ground up. The first version had a basic but comprehensive design and core functionality that prioritized user-app interaction and blockchain integration, laying the foundation for scalability and growth.

Token trading web app maintenance & rebranding

Upon the initial release, we also aided in fixing bugs and rebranding our partner's token trading web app. The rebrand improved visual identity and user experience with updated design and functionality to appeal to the target audience and align more closely with business goals.

Desktop app support and rebranding

At this stage, our team addressed issues with their Electron-based desktop app, fixing bugs and updating features, while matching visual elements to the platform's new direction and keeping changes consistent across web and desktop interfaces.
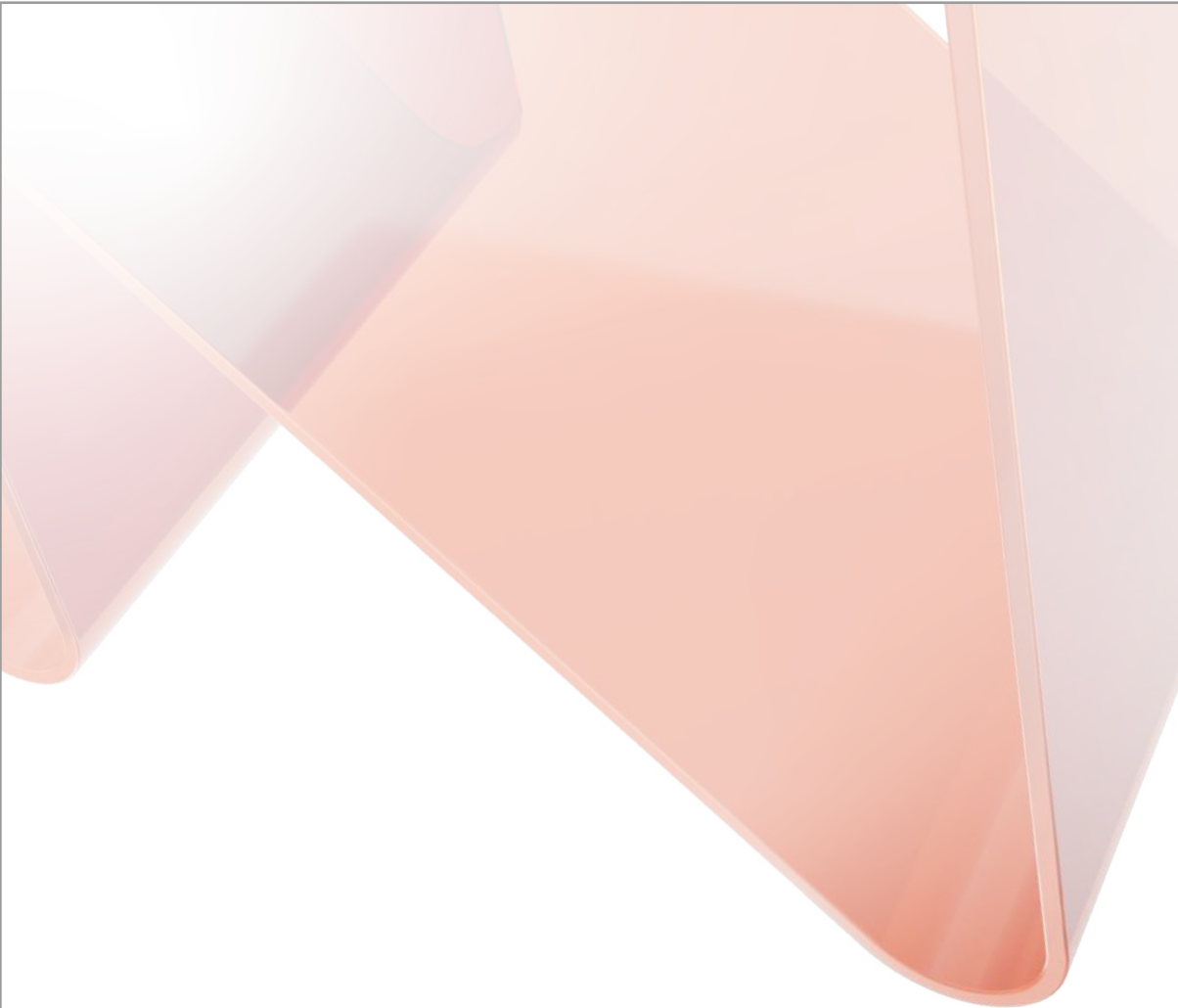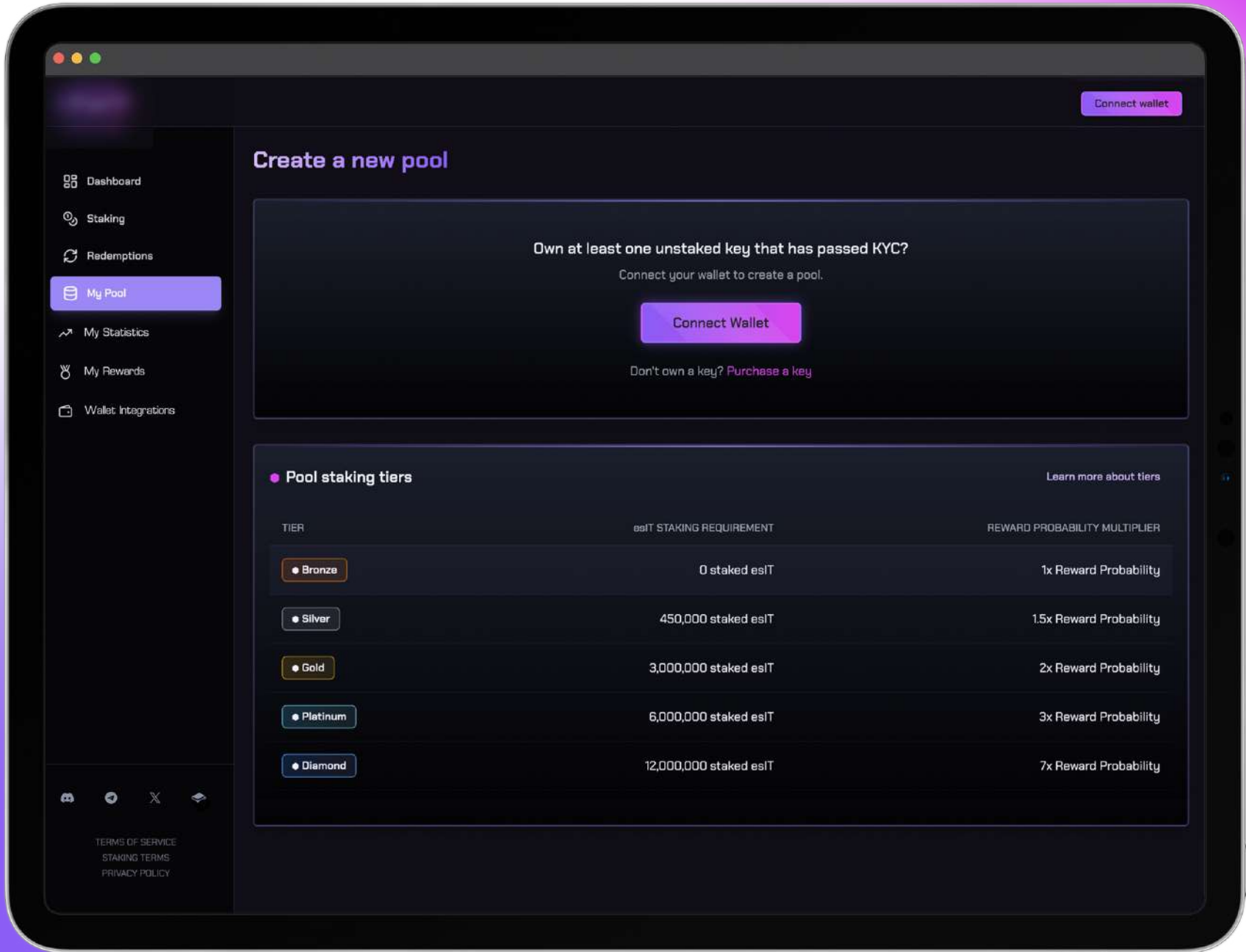
Improvements & maintenance

After finalizing core components, we began a process of iterative optimization – making regular updates and improvements to expand functionality and refine user experience, including platform maintenance, for better security and adaptability to future needs.

DELIVERED FUNCTIONALITY

Dashboard: An intuitive dashboard gives users a clear overview of their crypto holdings, token balances, and pool participation to easily track, manage, and monitor their assets and activity in the gaming ecosystem.

Token and key purchases: The platform integrates virtual economies with crypto, letting them purchase tokens and keys – digital access codes – to access exclusive content for a better gaming experience

Web3 integration: Full support for Web3 technologies lets users interact with decentralized apps (dApps) and blockchain-powered activities, like buying tokens, and transferring assets within their crypto wallets.

Crypto wallet integration: Users can add their crypto wallets to the platform, and store, manage, and withdraw their digital assets directly.

Pool participation: Users can join or create pools to make collective investments in crypto ventures and earn rewards.

Cross-platform accessibility: A unified experience across both web and desktop apps with full support of crypto transactions lets users comfortably access and manage their assets anytime, anywhere.

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PROJECT OUTCOMES

A crypto web app from scratch

Users can trade crypto easily and securely, create pools with other users, and withdraw funds with an app that integrates with crypto wallets.

End-to-end automated testing

We introduced comprehensive automated testing to identify and fix issues early on, making the platform more reliable and stable.

30% faster load speed

We increased load speed by 30% with caching and lazy loading, improving platform efficiency and user experience.

Scalable IT infrastructure

The app is ready to handle large transaction volumes and scale with increasing demand, performing consistently even under large workloads.

Rebranding and documentation updates

Our team added visual elements on the frontend of our partners' platforms to align with new designs and brand direction. We also updated each UI component's documentation and made them flexible for fast, easy reuse or extensions in the future.

Integration with crypto wallets

The platform integrates with popular crypto wallets for secure transactions and easy access to players' digital assets within the gaming ecosystem.

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