

Project Summary

The client aimed to build a modern tipping and money transfer platform but faced challenges with fragmented payment experiences, dependency on third-party gateways, and lack of a scalable architecture to support real-time transactions. They needed a secure, user-friendly solution that could handle wallet-based payments, QR transactions, and multiple payment methods while ensuring compliance with U.S. financial regulations.

smartData designed and developed a cross-platform mobile application (iOS and Android) along with a web-based admin panel. The solution included virtual wallet management, QR code payments, card and ACH integrations, real-time transaction tracking, and a robust backend built on a microservices-based architecture. Key integrations included Apple Pay, Google Pay, and alternative payment gateways to ensure flexibility.

As a result, the client launched a scalable digital payment ecosystem that simplified peer-to-peer transactions, improved user engagement through seamless tipping experiences, and established a strong foundation for monetization through transaction fees and future feature expansion.

Problem Statement

The client lacked a unified digital platform to facilitate tipping and peer-to-peer payments, relying instead on fragmented solutions that created friction in user experience. Existing payment systems involved multiple steps, leading to higher drop-offs and slower transaction completion times (often 2–3x longer than QR-based flows). Additionally, dependency on a single payment gateway (Stripe) resulted in unexpected service fees and reduced margins.

There was no scalable infrastructure to support real-time wallet transactions, QR payments, or multi-payment integrations. From a business standpoint, this limited user adoption, reduced transaction frequency, and delayed go-to-market for a competitive fintech product. The client needed a secure, scalable, and user-friendly platform to streamline transactions, reduce payment failures, and establish a sustainable, transaction-driven revenue model.

Approach / Solution

smartData addressed the challenge by designing a scalable, microservices-driven fintech architecture built on the MEAN stack with React Native for cross-platform mobile apps, ensuring faster time-to-market and consistent user experience. A modular wallet system was developed to support wallet-to-wallet, card-to-wallet, and QR-based transactions, integrated with multiple payment gateways (Finix, ACH, Apple Pay, Google Pay) to reduce dependency risks and improve success rates. To ensure security and compliance, the platform incorporated OTP-based authentication, encrypted transactions, and KYC-ready workflows aligned with U.S. financial standards. An admin web panel was built for real-time transaction monitoring, fraud detection, and reporting.

Technical Challenges

- Challenges

- ★ Finix payment gateway integration lacked proper documentation, causing delays and uncertainty in transaction workflows.
- ★ Ensuring real-time, secure wallet transactions with high concurrency and minimal failure rates.
- ★ Maintaining compliance (KYC/AML) and securing sensitive financial data across multiple integrations.

- How We Solved It

- ★ Worked directly with Finix support, reverseengineered APIs, and built a modular payment layer to handle gateway variations.
- ★ Implemented microservices architecture with asynchronous processing and robust validation layers for reliable transaction handling.
- ★ Integrated OTP authentication, encryption protocols, and designed compliance-ready workflows aligned with U.S. fintech standards.

Learning

Early dependency on a single payment gateway created avoidable risk, future pods should validate and sandbox multiple gateways from day one. Finix integration highlighted the need for deeper API due diligence before commitment, especially when documentation is limited. MVP scope was well-managed, but compliance (KYC/AML) considerations should be brought in earlier during architecture planning to avoid rework. Agile delivery and close client collaboration worked well, continue sprint demos and fast feedback loops to handle evolving fintech requirements.

Screenshots

