Case study

ClassWallet – Innovative Financial and Payment System

#fintech   #mobile_payments   #high-load_processing   #education

About the client

Class Wallet is a US-based financial startup for educational organisations that aims to reduce transaction costs, track financial transactions in real-time and eliminate bureaucracy from the educational financial system.

Challenge

Our task was to develop and implement a new version of the product that supports millions of users and includes such features as prepaid cards support, online transactions, a role-based security model, online shopping integration and other features.

The client's financial and payment system was developed on .Net technology that caused many problems, including very slow transaction processing and the inability to support system high loads. In order to scale the system, it became obvious to the client that the product had to undergo significant changes. The decision was made to switch from .Net to Node.js technology.

One of the most challenging tasks to design a database and the architecture to support such features as mass disbursements to different accounts and maintain this system as an automatic operation.
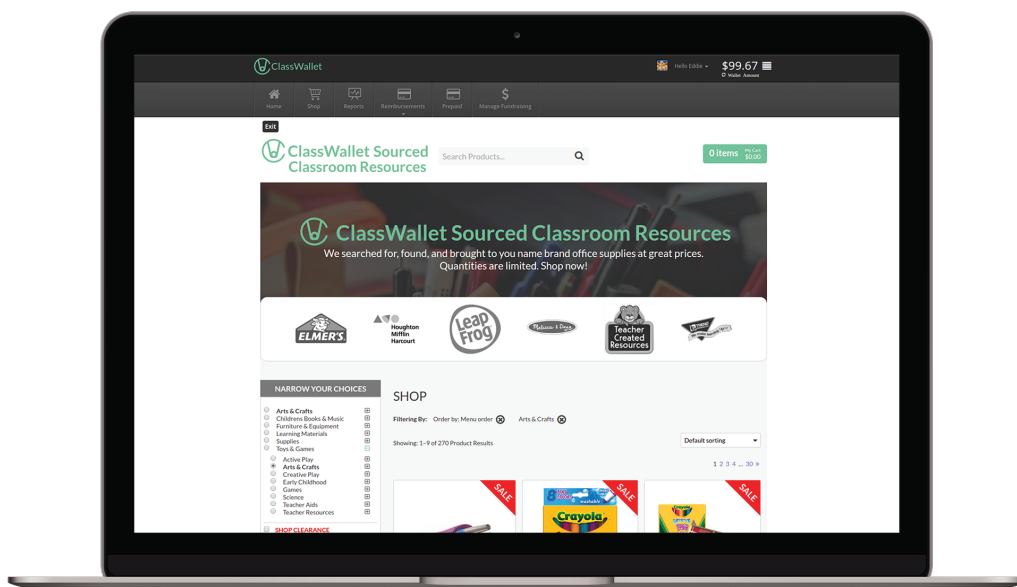
Solution

We developed an innovative payment system from scratch on Node.js technology with the help of MySQL, Redis, and Mongo DB. As a result of our recommendation, the system front-end framework was built on React js (the customer used backbone.js) and we provided the necessary consultancy during the new stack transition process.

We acted as a JS tech consultant for the customer throughout the entire transition process. We also implemented a mobile application for a reimbursement feature, in which the user can scan paper checks for expenditures and receive payments. React Native was used for the mobile application.

The main functionality was developed and included:

- redesigned system architecture
- security with role-based permission
- pre-paid cards functionality implementation
- reports system

Results

Based on the ongoing collaboration, the following results were achieved:

- successfully delivered the new, enhanced version of the product
- launched the product beta version live
- increased the speed of transactions
- improved website responsiveness
- enabled the system's high load operations
- enabled ACH disbursements
- complied with PCI Security Standards
- provided a built-in report system

Features

- prepaid cards support
- online transactions
- role-based security model
- high-load processing
- online shopping integration
- funds management
- reimbursements functionality
- fundraising functionality
- advanced reporting options

Technologies

Node.js, Backbone.js, React.js, MongoDB, Twilio, MySQL, Redis, redux, socket.io

Country: USA

Year: 2015-present

Link: classwallet.com

Winner of Education Industry Associate Innovation Lab 2015

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