

Success Story

Unthinkable helps mercaDolar to build a currency exchange platform to combat the rising inflation in the Venezuela market

Customer

mercaDolar

Country

USA

Industry

FinTech

About The Client

mercaDolar is a US-based fintech company that provides an exchange platform for the hyper-inflated Venezuelan market. Venezuela has been facing hyperinflation due to the social-economic and political crisis in the country that started in 2016. With the inflation rate rising to 53,798,500% from 2016 to 2019. The Venezuelan people needed a solution to exchange their unstable currency (Venezuelan Bolivar) for a stable one (USD). mercaDolar's aim is to provide the restricted Venezuelan exchange market a safe and secure platform to conduct exchange transactions.

Technology Stack

ANGULAR

ASP.NET
Core

Business Situation

The Venezuelan currency market has many legal restrictions and a complex multi-layered exchange rate system that offers different exchange rates to different people depending on the purpose. There is limited transparency provided to the citizens by the Venezuelan government to conduct exchange transactions. Due to such strict restrictions, the black market has been playing a major role in the currency exchange process in the country resulting in an increase in fraudulent transactions. mercaDolar intended to provide a legal and fraud-free currency exchange platform to users from Venezuela through which they could purchase or sell USD. They also wanted to provide a secure in-built digital wallet for users to store multiple currencies, transfer funds and request payments in the wallet.

mercaDolar was on the lookout for a technology partner who could help them transform their vision into a viable and market-ready product. mercaDolar singled out Unthinkable Solutions for its hands-on knowledge of finance operations, compliances, and experience in developing breakthrough fintech applications. The key challenges that Unthinkable was presented with were:

- ✔ To build secure and scalable web and mobile applications for currency management that enable users to exchange their Venezuelan bolívar for USD. Security was to be a crucial aspect of user experience and interface design, more so for a fintech application. Hence, it was important to incorporate all security measures and compliances such as the PCI DSS while building the applications.
- ✔ To build a digital wallet using technologies that are hard to decrypt and hence, ensure data security as the foremost priority. The wallet had to have a functionality to 'add funds' through transfers from the user's bank account in the US or 'transfer funds' from other MercaDolar users.
- ✔ To maintain, modernize and upgrade their applications at a regular interval in order to ensure that the product is up-to-date according to the technology trends at all times.

The Solution

Unthinkable engaged a team of business analysts, technology specialists and subject matter experts in the Fintech domain to execute this project. Their role was crucial in capturing our client's vision of the product. The initial challenge was to determine the ideal technology stack and architecture for the application. Our engineers built the architecture, which became the basis for the MVP and future product enhancements. Upon analyzing the requirement and comparing several technology platforms that could support certain parameters, such as speed to market, scalability, security etc. ASP. NET Core was identified as the underlying technology for the application. Unthinkable's UX experts applied design thinking techniques to build an interactive user experience and create a compelling, transparent user interface for the application.

Angular 7 was used for front-end development which resulted in intuitive UI/UX, faster development and enhanced application performance due to its upgraded features such as the compatibility compiler, CLI prompt, and improved accessibility for native select elements.

Unthinkable used the DevOps approach and implemented the Continuous Implementation / Continuous Delivery (CI/CD) pipeline which made the release cycle 5 times faster and helped reduce the mean-time-to-deployment (MTTD). This strategy allowed more time to be allocated for testing and quality assurance and hence, saved on development time and optimized project cost.

The application includes a digital wallet called the MercaDolar wallet, that can be used by buyers and sellers for storing funds. The MercaDolar wallet can be connected with the user's bank account and they can add, send and receive funds through it. The wallet was equipped with a strong authentication mechanism, allows for face recognition, fingerprints, and secure passwords.

A few additional features that were responsible for the success of the application were:

Automatic Currency Exchange: The application was integrated with an automatic currency exchange software that enabled the user to set a rate that they were willing to sell or buy the currency for and if an offer matching the set rate is made the user is notified automatically about the same.

Financial Integrations: The application was seamlessly integrated with accounting programs, payment gateways, POS systems, and other standard applications to ensure smooth transactions.

Cloud Deployment: CI/CD pipeline was implemented to ensure a faster-time-to-market. Microsoft Azure cloud platform and its app service were used to deploy the application. The efficiency and cost of the application were kept in consideration by leveraging on the static website hosting feature of the Azure cloud storage.

Database: The AWS DynamoDB was used as the key-value and document database to support the workload of the applications as it provides consistent, single-digit millisecond response times at any scale.

Performance Monitoring: Azure's Application Insight service was used to monitor the live web application, it helped in automatically detecting performance anomalies that help to improve the performance and usability of the application. It also provided powerful analytics tools that helped diagnose issues to increase the understanding of the web application.

The technical leadership displayed by our team of experts while defining the project architecture, including infrastructure capabilities, data architecture, and design has helped mercaDolar develop an innovative, secure, scalable and high-performing currency management system, ensuring smooth delivery and reduced time-to-market.

Unthinkable was instrumental in setting up a strong foundation for the product's technological capabilities through proactive identification and implementation of relevant technologies and expertise. The end result was a safe, efficient, and successful currency exchange platform with an in-built digital wallet which helped the users conduct currency transactions not just in Venezuela but around the world. The project had a 5x faster release cycle and 25% of cost-optimized due to the effective use of DevOps approach.

The Impact

Is there a digital platform you want to build or take to the next level?

Setup a personalized consultation with our technology expert.

Let's Talk