Trailblazing Legal Cryptocurrency Exchange Service

WHITEBIRD

How the development of a white label crypto exchange with **top-level security** and **limitless customization options** allowed our client to **partner with one of the largest banks in Eastern Europe** and be the first to **win users from all EAEU countries.**

Domain:
Financial services, cryptocurrency

Duration:
800 man-days

Budget:
150.000$

Team:
Developers, QA engineer, DevOps engineer, UX/UI designer, Project Manager

Challenge

Digital assets have become an important part of the global economy. Yet, they still oftentimes function in the gray zone due to the lack of convenient tools within the legal field. Indeed, authorities around the world, including the U.S., have been grappling with the question of how to respond to cryptocurrencies. This encouraged Whitebird to leverage the situation in their country where blockchain and cryptocurrency activities had been legislated. The idea was to develop an efficient and secure solution, which would allow the users to make cryptocurrency transactions legally and transparently.

Tasks

- to create a solution independent from third-party developers
- to build a full-featured back end, that will include integration with banking and payment systems and a multi-functional module for managing exchange operations, currency exchange rate, hedging deals, etc.
- to design frontend solutions for the client's part and for the service's administrators
- to meet the requirements of the local regulator in terms of business processes, financial reporting, legitimacy of operations, data security, and fault tolerance.
- to meet the requirements of the bank and VISA payment system
- to establish payment processes and user verification methods according to FATF regulations and the 5th Anti-Money Laundering Directive (AMLD5)

Solutions

Thanks to a gripping business idea and meticulous, high-quality work on its embodiment, *instinctools team has managed to develop a completely legal and regulated cryptocurrency exchange service, which embraces the following **key features:**
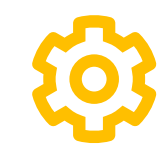
A full-fledged Back-end solution with two Front-end client modules for users and administrators

Automated interaction with the user, incorporating exchange rate offers, submission of applications, and deposits and withdrawals

Automatic processing of user data at the verification stage – from the moment the documents are uploaded to KYC procedure and AML check

Redundancy storage of user and transaction data, access control

Unique, 'from scratch' design

DevOps:
- highly reliable and scalable solution based on Amazon Web Services (AWS)
- optimized usage of in-house and rented nodes.

Control panel for the administrator with:
- manual and automatic exchange rate management
- possibility to choose the rate – the bigger the amount of money you'd like to exchange the lower commission you pay
- differentiated work with VISA cards, depending on countries, status, issuing banks
- direct work with system crypto wallets
- interaction with users in terms of tech support
- exporting reports according to the regulator's and business requests
- notification system for the administrator about the work of the service and emergencies

Integrations:
- direct integration with blockchains
- direct integration with the payment system
- refinement of the tech solution on the part of the bank and Bank Processing Center
- customized CRM, specifically adapted to meet the regulator's requirements: integration into the service of the compliance department and integration into customer support
- integration with the identification service, including automated document recognition, authentication, export to CRM
- integration with services on crypto currency financial control
- integration with liquidity providers, which allows to get optimal rates, hedge deals, and balance liquidity

Key features for the end-user

- one-step exchange process - there's no need to transfer money to intermediary accounts
- guaranteed legitimacy
- complete reliability and security, ensured by the partners (VISA), audit (Ernst&Young), a big authorized capital of the enterprise, and HTP licence
- fast and clear KYC procedure
- timely technical support via a special form and online chat

Ernst & Young Audit

Our solution successfully passes the annual audit conducted by Ernst & Young. All the business processes, security and privacy solutions, and our KYC and AML procedures meet all the FATF requirements.

Value

The product created in cooperation with *instinctools combines all the most complex cryptocurrency algorithms and processes in a simple and user-friendly interface. It can be adapted to a specific business model and integrated into any system, which would allow working with cryptocurrency. While building the solution, we managed to customize all the service processes to meet the regulator's most stringent requirements. Moreover, direct integrations with vendors reduce operating expenses and provide a competitive advantage on the market.

This project became a sort of runway for us, from which we took off to new heights. We improved and expanded our knowledge on work and integration with Bitcoin and Ethereum blockchains and banking payment systems. So now, we are looking forward to sharing our expertise with customers to help them reach their ambitious goals.

Technology

Back-End:
- Java 14 • Maven • Spring • Spring Boot • Oauth2 • Hibernate • OpenFeign • Logback • Dozer • Swagger • Shedlock • Liquibase • ZeroMQ • RabbitMQ • Postgres • Redis • Redisson • JSON-RPC • Github

Front-End:
- JavaScript/TypeScript • React (hooks + context)/React (redux, redux-saga) • Axios • Formik • yup • React-router • Prop-types • Styled-components • I18next • npm • Yx/v • HTML5 • CSS/CSS3

DevOps:
- AWS (EKS, EC2, ECR, S3, KMS, SSM, ELB, Web Application Firewall, Global Accelerator, Cloudfront, Route53) • Kubernetes • GitHub Actions • EFK (ElasticSearch, Fluentd, Kibana) • Kops • Grafana • Prometheus

Do you have a **similar project idea**?

Contact us — and we will estimate your projects costs for free!

CONTACT US