celsius

Celsius Network

Product Case Study

Celsius Network is a new way to earn, borrow, and pay on the blockchain.
We've been working together with the Celsius team since August 2017.

01 **Business Model Ideation**

02 **PoC Showcase**

03 **ICO**

04 **Mobile App**

05 **Celsius Network Back Office**

06 **Celsius API & Integration**

MVP WORKSHOP

01 **Business Model Ideation**

CHALLENGE

Come up with a sustainable, transparent and fair business model which will bring the next 100 million people to the crypto and enable them to earn, borrow and pay on the blockchain.

SOLUTION

Evaluate possible protocols and technical solutions for borrowing and lending, document the idea through:

- ➔ Technical Paper & Architecture
- ➔ Risky Assumptions & Experiments to validate the idea
- ➔ Whitepaper

RESULTS

Build an automated, decentralized, distributed platform that will act in the depositors best interests and let the community keep 80% of all the profit.

02 **PoC Showcase**

CHALLENGE

Build an MVP and show it to the community, get the initial feedback and validate the assumptions.

SOLUTION

React Native app which enables customers to deposit their crypto assets and lend them to others.

RESULTS

Celsius Lender App - **Video #1** & **Video #2**

03 **ICO**

CHALLENGE

Build a community & provide necessary investments to realize the idea.

SOLUTION

MVP Workshop was responsible for the incident report plan and the technical support of the ICO execution.

- ➔ Establishing, configuring, scaling and fine-tuning the infrastructure needed for the website and ICO platform
- ➔ Security hardening around the website and ICO platform
- ➔ 24x7 team (in overlapping shifts) for health monitoring of the website and ICO platform instances/services
- ➔ 24x7 team (in overlapping shifts) for reacting to issues related to the website and ICO platform (including expected hacking and DDOS attacks)
- ➔ Regular offline backups at high frequency (every one minute during the ICO, periodically taking the backup to the secured offline hardware keys) to protect from data lost or corruption

RESULTS

Hard cap achieved - $50,000,000 raised

04 **Mobile App**

CHALLENGE

Bring the next 100 million people to the Blockchain.

Move old traditional banking services, borrowing fiat, earning interest and sending money to friends, to new and emerging cryptocurrency technologies. Bring new non-tech users from fiat into crypto world with an intuitive and easy to use interface, since crypto world is known for being not user friendly and requiring high level of tech literacy.

SOLUTION

A mobile app for both iOS and Android that enables users to manage, earn and spend their crypto assets.

Technical choices:

- ➔ React-Native & Expo - frameworks for app development for both platforms
- ➔ BitGo - service for safeguarding and handling private keys and moving funds
- ➔ Onfido - service for handling KYC verification of users

RESULTS

Mobile App 1.0

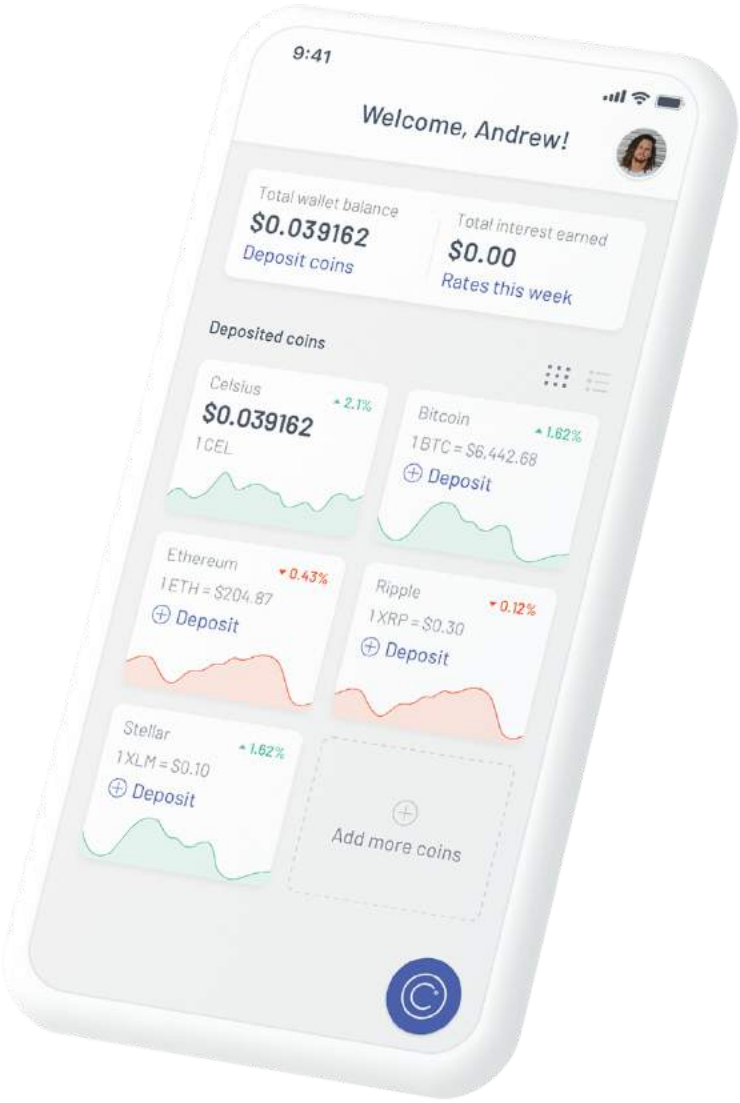
- 5+ cryptocurrencies
- Deposits/Withdrawals
- Earning weekly interest on deposited coins

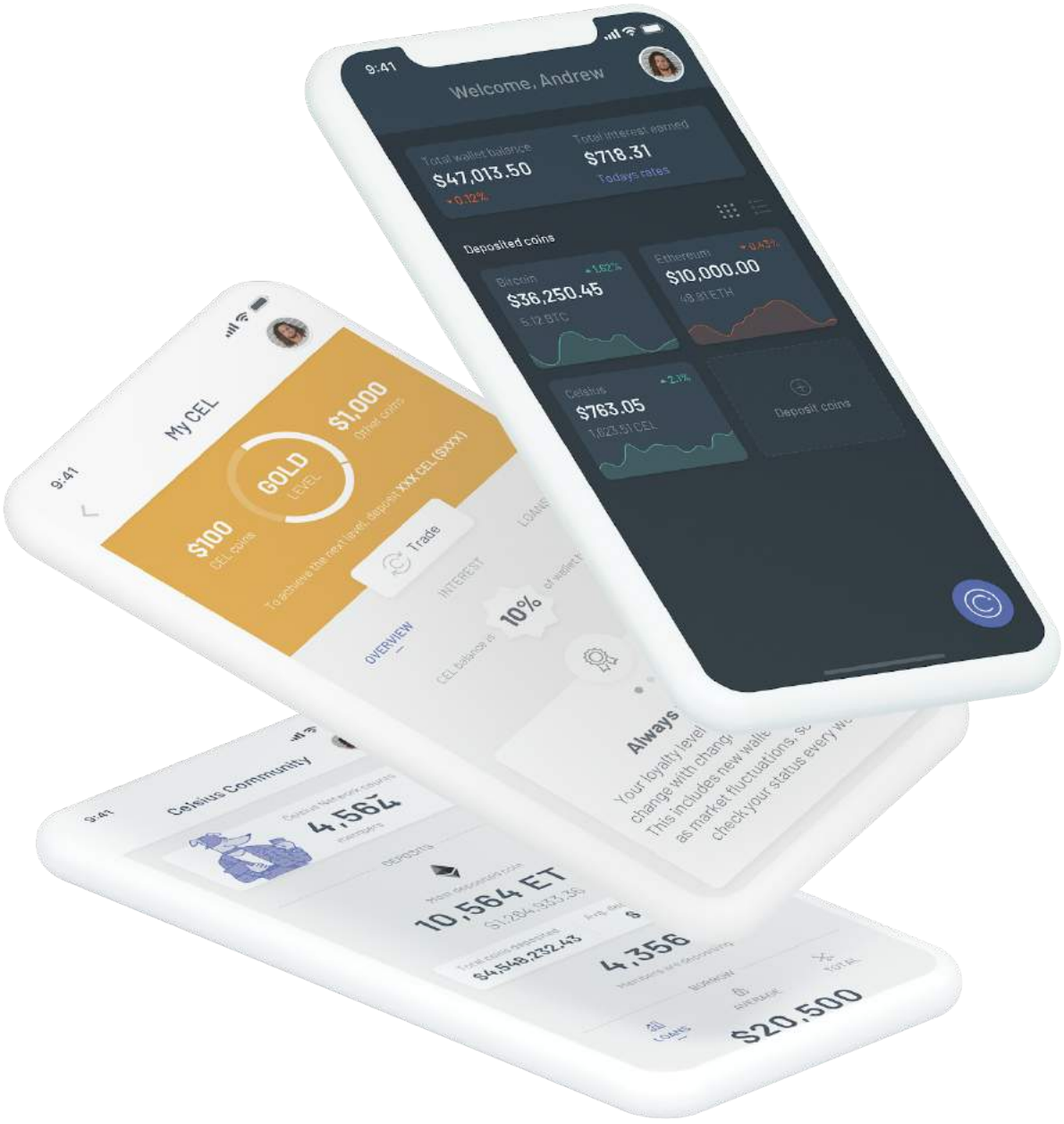
Mobile App 2.0

- 15+ cryptocurrencies
- Borrowing USD for crypto collateral
- Sending crypto to friends through the app

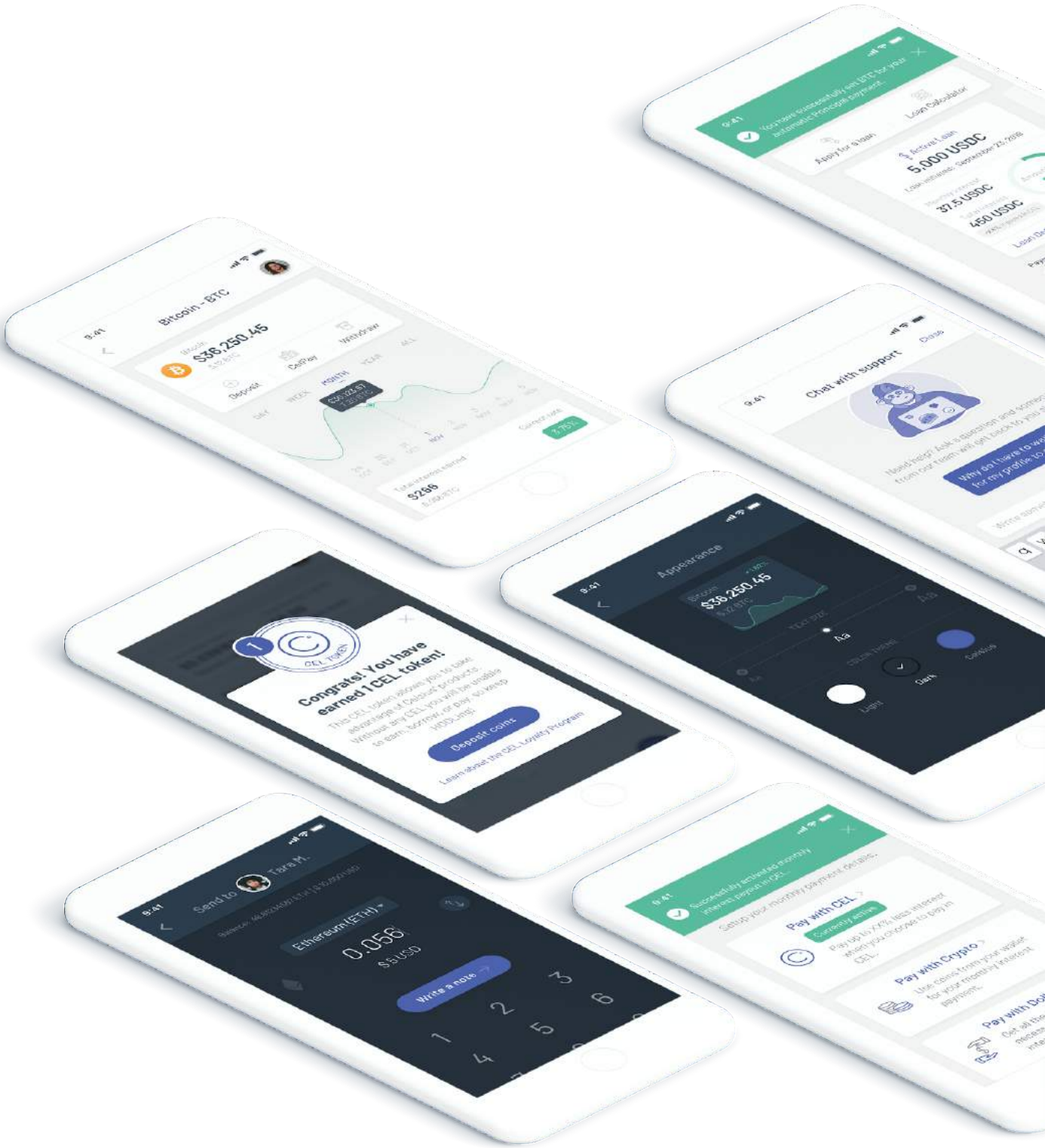
Mobile App 3.0

- Redesigned the app and improved performance
- CEL Utility Token: Earning interest in CEL, Loyalty program, Paying loan interest in CEL
- Community stats
- Dark mode





MVP WORKSHOP



MVP WORKSHOP

05 **Celsius Network Back Office**

CHALLENGE

Enable Celsius team members to run their operations effectively from one place, make decisions quickly and track key business indicators.

SOLUTION

A dashboard that consolidates all of the sources and sinks, for all assets under Celsius's management. The dashboard itself must contain real-time information from both internal systems and exchanges. Also the Back Office service itself automates a lot of "footwork" that Celsius employees did manually before.

RESULTS

- ➔ Service that consolidates all of the business logic for loans
- ➔ Microservice that pulls in real-time market data and transforms that data into actionable information dashboards
- ➔ Tooling for all Celsius department: Marketing campaign management, Growth dashboards, Trading widgets etc.
- ➔ Internal framework **badoom-ts**, that greatly reduces possible errors by utilizing typescript and it's advanced type system
- ➔ Easily add support for new currencies: right now the Back Office supports 27 currencies
- ➔ Integration with exchanges: Binance, Bitfinex, Coinbase Prime, IDEX, Kraken, OKEX, Poloniex
- ➔ Deep integration with Branch management API
- ➔ Numerous reporting mechanisms that can be used to export helpful information about the whole system and the data in it

06 **Celsius API & Integration**

CHALLENGE

Make API integration as easy and frictionless as possible for our partners while keeping the flexibility to accommodate a wide range of partners' business models.

SOLUTION

Secure and robust API gateway interface to existing Celsius microservices which supported quick prototyping and feature-rich customizable service for our partners.

https://developers.celsius.network

To simplify the decision making process for our partners and speed-up operations, we have devised a couple of technical partnership types which cover 100% use cases so far.

Technical choices included:

- ➔ Delegated authentication / authorization & API gateway pattern as steps toward achieving the **KISS principle**
- ➔ Incorporate microservice architecture to build on existing system to achieve maximum code reusability
- ➔ Code in a strongly typed language (TypeScript) for automatic API doc generation and less mistakes
- ➔ Anonymous and privacy-aware API usage analytics & logs as a core feature to allow for zero-hassle debugging

RESULTS

5+ active partnerships, depositing their users' funds on their behalf with a minimal technical challenge.

Further developed MVP Workshop in-house TypeScript Web framework: **badoom-ts**