Bamboo

Case Study

MECHANICAL ROCK

The Client

Bamboo is a startup that brings together micro investing and cryptocurrencies.

They provide a platform that allows their customers to invest in cryptocurrency indexes by rounding up bank transactions.

Bamboo currently targets the Australian market and they're aiming to expand globally in the near future.

Since going live in January 2019, Bamboo have proceeded to scale up their user base and have a waitlist of future users around the world.

The Problem

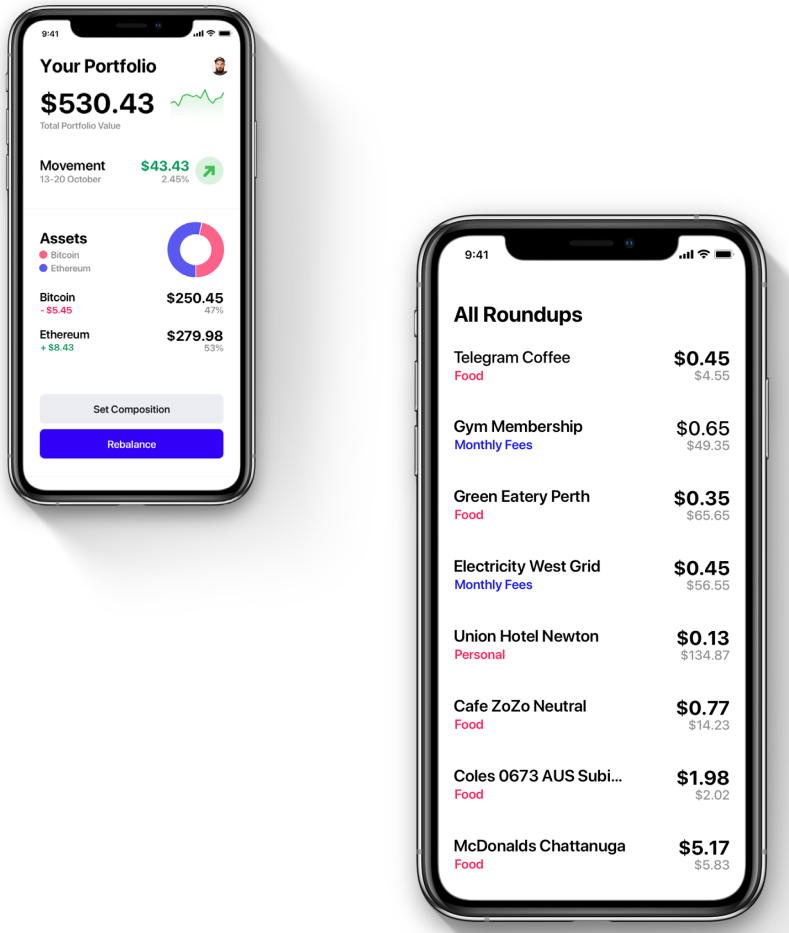
Focusing on Time to Market

The engineering team turned to Mechanical Rock to bring experience of building both Cloud Native applications and financial transaction systems.

Having built a prototype, Bamboo needed to rapidly build a production quality system. Due to the combined pressures of startup runways and a competitive industry, focusing on time to market was a key concern.

Following initial discovery, Mechanical Rock was engaged to deliver:

- A full understanding of the business domain in an event sourced model
- A modern Serverless architecture
- Best of breed CI/CD tooling to expedite value delivery
- Industry leading security embedded into the application and the pipeline
- A fully functional production ready system for a closed beta release



The Solution

1. CQRS and Event Sourcing

With Event Sourcing, application data and audit trail become one and the same. All data that flows through the system is captured, meaning that users can **dynamically generate new views on data across the entire application lifetime** and serve all auditing requirements through the log of events.

CQRS is an architecture pattern, built upon Event Sourcing, that **utilises microservices to enable rapid development**. By capturing business processes as individual services, the application directly models the business domain, allowing it to rapidly morph and extend as the business grows.

2. Serverless

By leveraging the serverless paradigm, Bamboo was able to focus on **delivering business value by keeping both operational cost and effort to a minimum**.

By utilising a pay-per-use billing model, the cost of running the application is negligible under development load, but **automatically scales to meet production loads**.

This serverless model of operation, allowed Bamboo to redirect capital to direct value generating activities, **increasing both agility and efficiency**.

The Solution

3. Security

Security was built into the application from the beginning. Due to the nature of the PII data managed by the application, a Defence In-Depth approach was utilised.

Bamboo leveraged AWS Cognito to cheaply and effectively handle both authentication and authorization for users.

By following the principles of the AWS WAF Security Pillar, all access was implemented following the principle of least privilege. Additionally all data will be encrypted both at rest and in transit, **keeping user data secure at all times**.

By adopting the serverless model, Bamboo reduced the attack surface which **allowed their engineering team to better target their effort** – delivering a better guarantee of security.

The Benefits

The Mechanical Rock solution offered a number of key benefits.

- Architecture automatically scales to meet customer demand.
- By enabling continuous deployment, the lead time for a change to production is under 10 minutes.
- Zero downtime deployments allow for deployments to production without impacting customers.
- Operational costs for the first 6 months of production were negligible relative to the costs of running the business.

Think we can help with your project?

Get in touch so we can chat about your plans over a coffee

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