1Stop Investing Shop

Project 3 - Roy, Padma, Marc and Jigar - August 2022

Problem

People want to invest in the wide variety of options available but developing strategies is the challenge!

Limited options available but restricted to types and size of investment.

Too Defensive

Indexed funds are easier option for investing but are too defensive in terms of returns.

Too Expensive

Can join the fund / investment manager for better returns but returns would be offset with the administration and management fees.

Too Hard

Self learning and investing in the market data is time consuming and needs extensive learning

Executive Summary

Online ecosystem, where the algo-trading developers can sell their algorithm and IP, and the investors (buyers) can buy the one that meets their appetite and risk profile, but before buying they can also "test-drive" and backtest different algorithms before selecting one.

To allow easier, instantaneous, cross-country and less expensive transactions, the payment from investors to sellers is executed through a blockchain platform.

Basically 1Stop Investing shop!

How it Works

Algo-trading developers lists their algorithm

Algo-trading developer builds a trading algorithm that aims to profit, but rather than using it for themselves, they list it on the marketplace for others to also buy and thus making money for themselves

Investors reviews different algorithm and historical returns

Investors uses the marketplace to look at different algorithms listed and reviews the returns as claimed

Investors does their own back testing

Rather than relying on the claimed returns, investors can run their own backtesting in the app using their chosen period and see the results

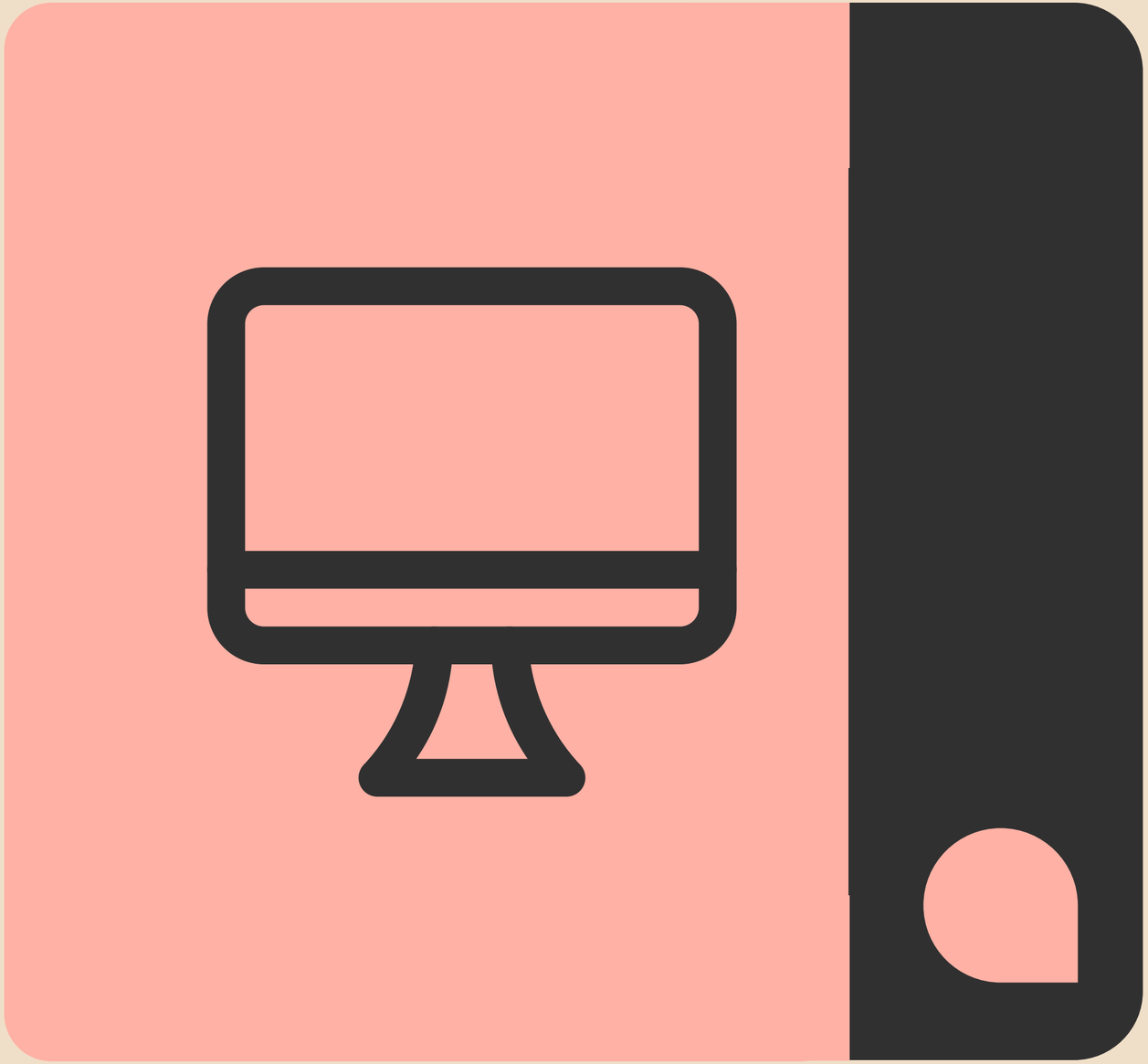
Buy instantly through blockchain

Investors can buy the algorithm instantantly and to provide speed, accuracy and less fees, the transaction is executed through blockchain!

Investors shortlist the algorithm

After comparing the few algorithm, the investors narrows down on the algorithm they prefer based on the backtesting results they have reviewed.

Demo



Breakdown of Tasks

1. Create Profiles and Data

Roy created profiles with investment stratigies and back tested using BacktestZone, hard coding this information into CSV files to create our homepage profile.

2. Streamlit creation

Padma then used the profiles and data to build the streamlit application.

3. Testing and Video

Marc and Jigar used Ganache and the Streamlit app interface to check the transaction was able to be complete

4. Presentation

Jigar created Canva template and the team edited slides to create the presentation flow

5. GitHub Preparation

Marc created the ReadMe file adding detail and screen shots about the project.

The group worked well asking for feedback on their components and providing constructive feedback to others where appropriate in all areas of the project stages.

Technologies Used

Streamlit & Streamlit Multipage

Steamlit based app for the UX and interaction

BIP44 and Web3

BIP44 and Web3 library to handle Ethereum based wallet transactions

Blockchain & Cryptowallet Library

Blockchain based cryptowallet library to generate account, get balance and execute transactions.

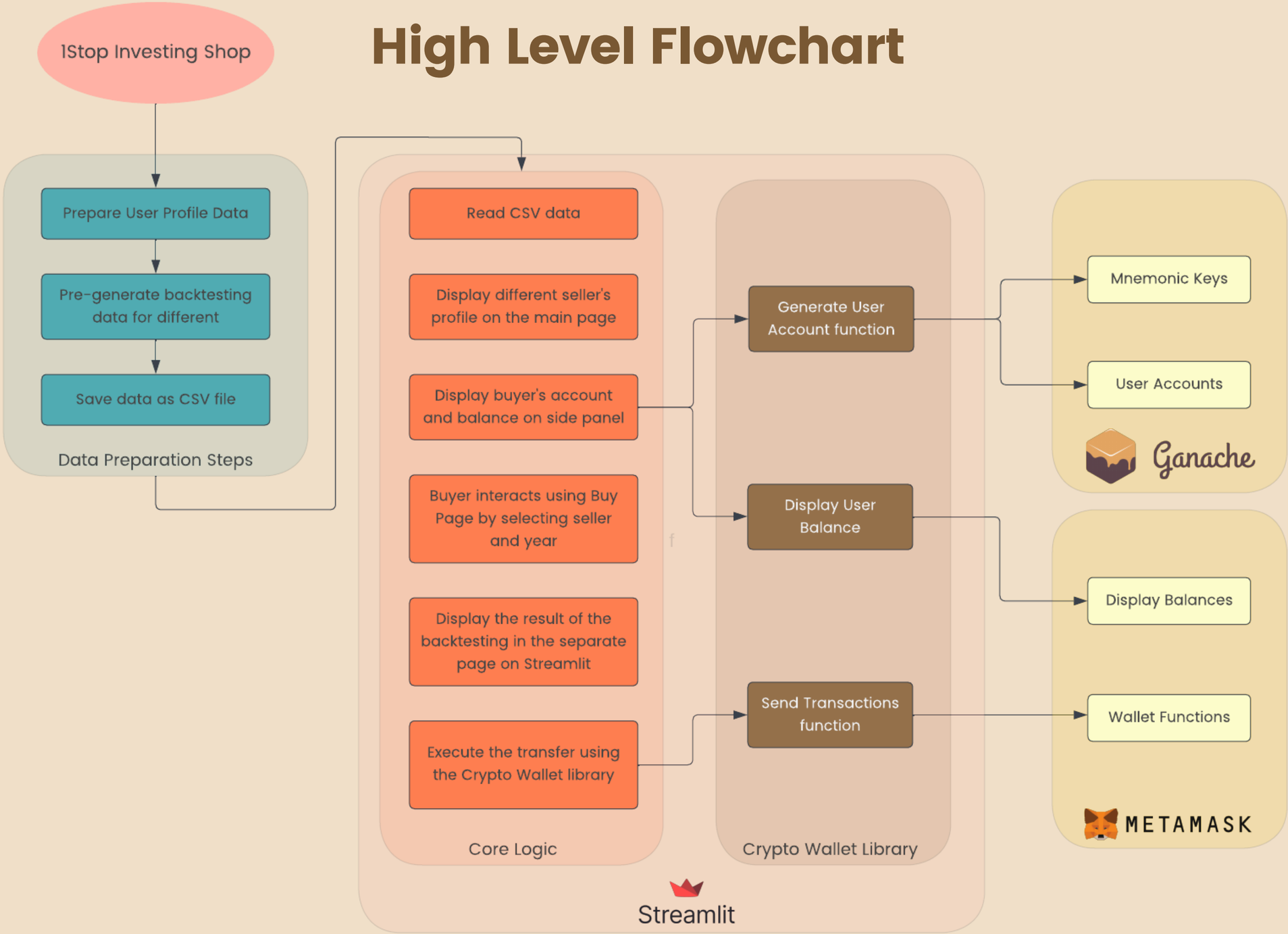
Results from Backtest zone

https://www.backtestzone.com/
Backtest Zone app was used to generate the backtesting data that is used within the Streamlit App

Ganache and Metamask for testing transactions

Ganache was used a virtual blockchain for testing and Metamask as a wallet to confirm the transactions.

High Level Flowchart



Future State

1. Backtesting Automation

Currently the backtesting function is simulated and can be automated

2. Alpaca API Integration

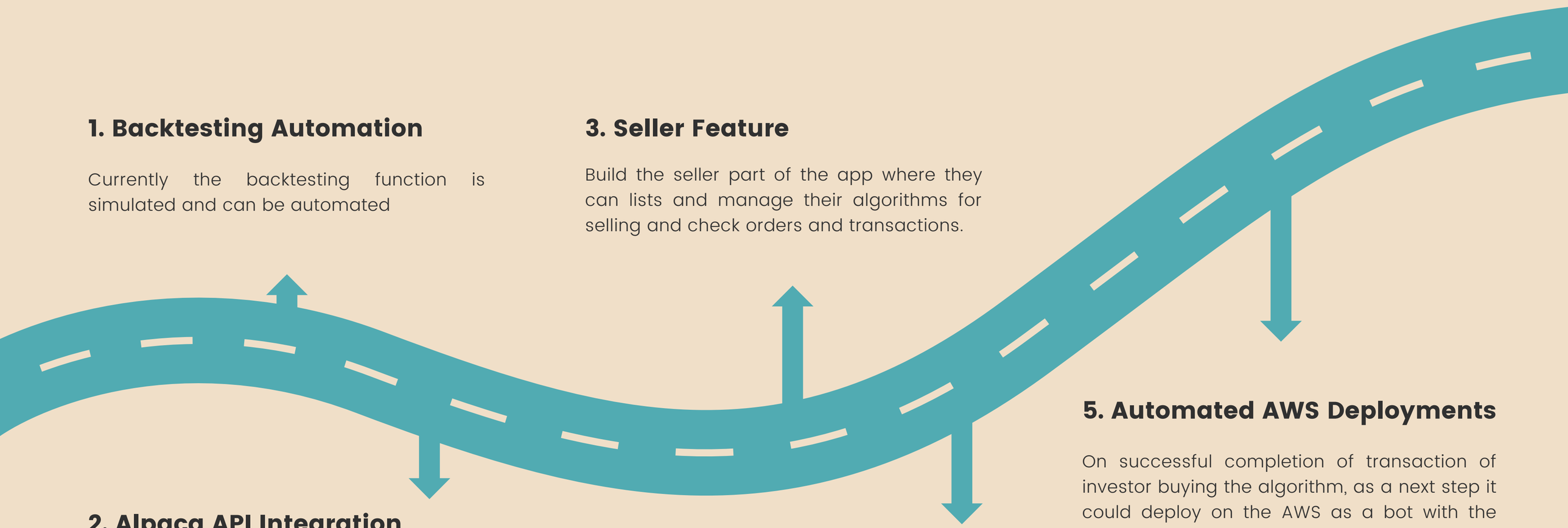
Connect to Alplaca API to fetch the historical data requried for backtesting

3. Seller Feature

Build the seller part of the app where they can lists and manage their algorithms for selling and check orders and transactions.

4. Customer Insights

Ability to provide the ratings and feedback to seller which will build over the period of time and help other investors



5. Automated AWS Deployments

On successful completion of transaction of investor buying the algorithm, as a next step it could deploy on the AWS as a bot with the algorithm logic so investors can start making money without needing to go technical on how to deploy and run the algorithm

Challenges

Streamlit - Multipage concept

Team had to investigate the multipage concept of Streamlit which is released only in June '22.

Data Preparation

The data had to be prepared to "simulate" the backtesting step within the Streamlit App.

Local Ganache Addresses

For the demo, we had to setup Metamask and had to update addresses locally for each member

Thank You

Group 1 - Project 3