HKU Personal IPO

Intelligent Personal Valuation Platform
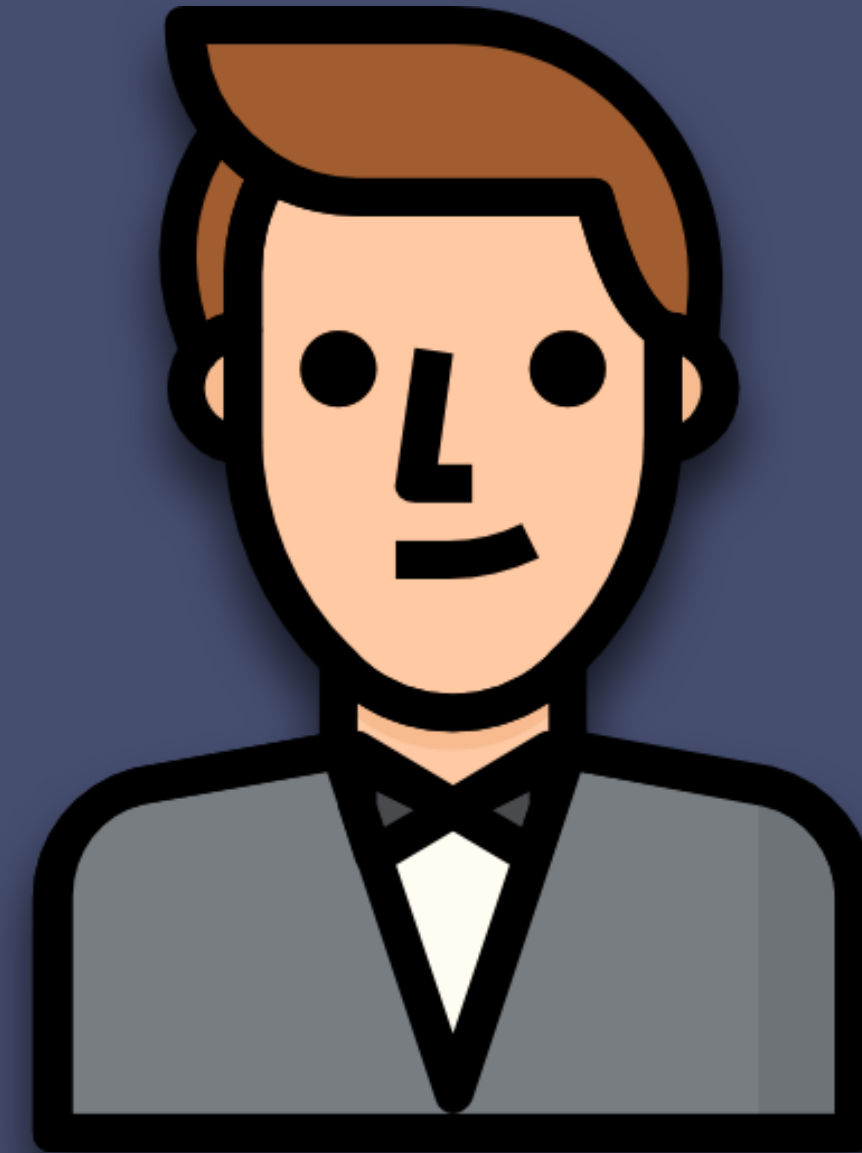
A Story

Ms. Blue

Mr. White

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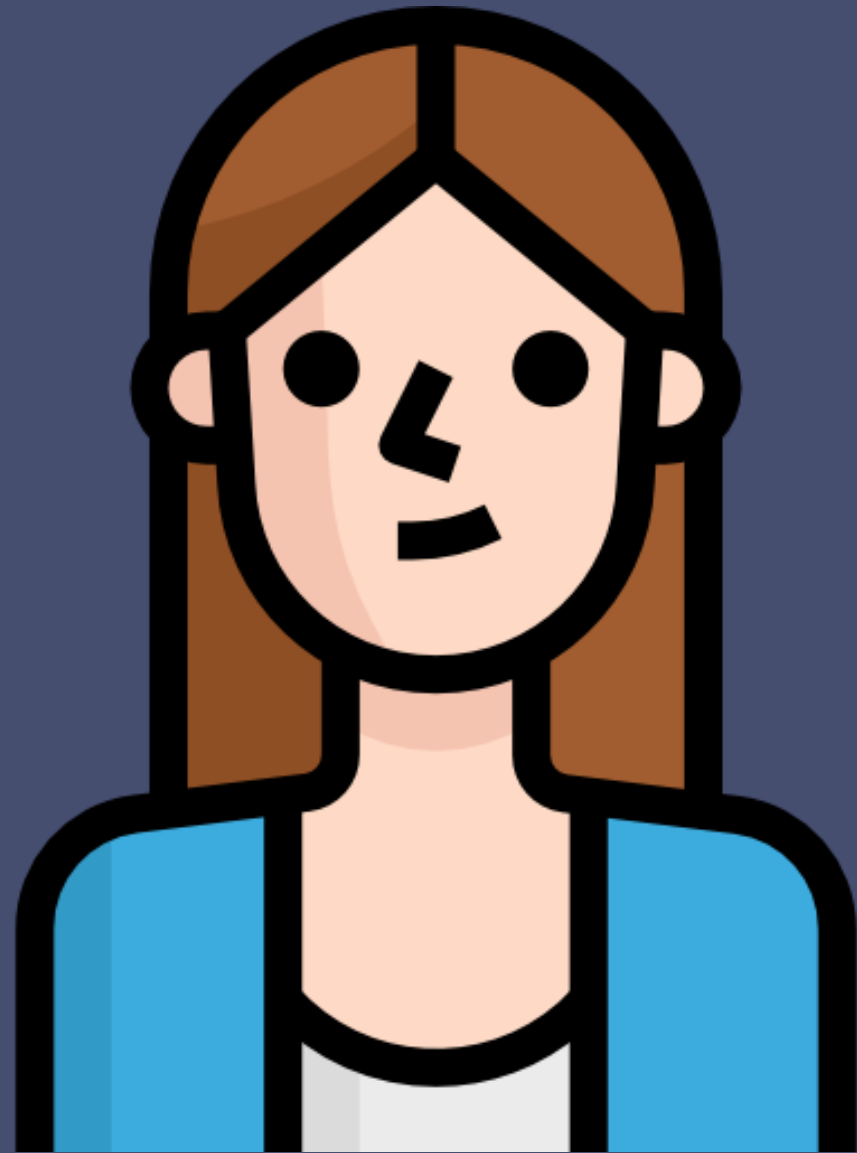
Why not loans ?

Bureaucratic processes delay access to finance

Loans are expensive in the longer run

Quantitative Analysis denies access to loan people with potential

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Traditional System
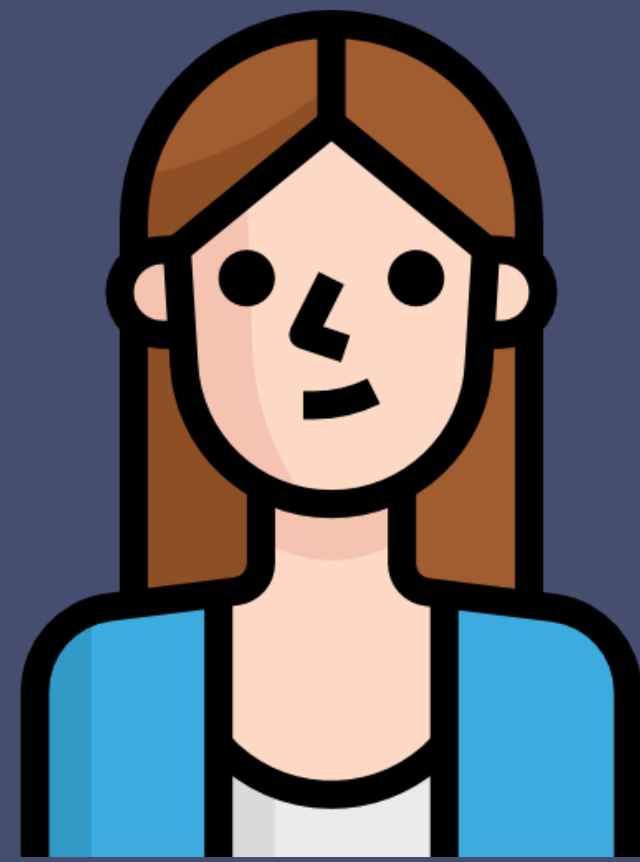
Blue

Blue needs a loan

Bank takes its own processing time to approve the loan
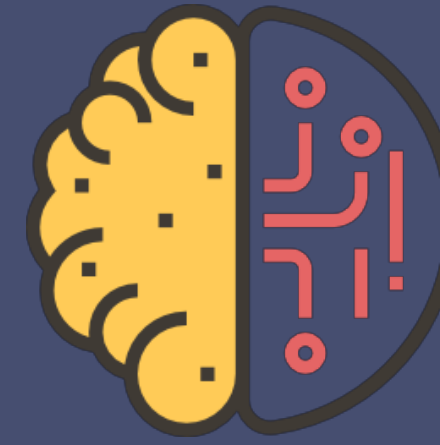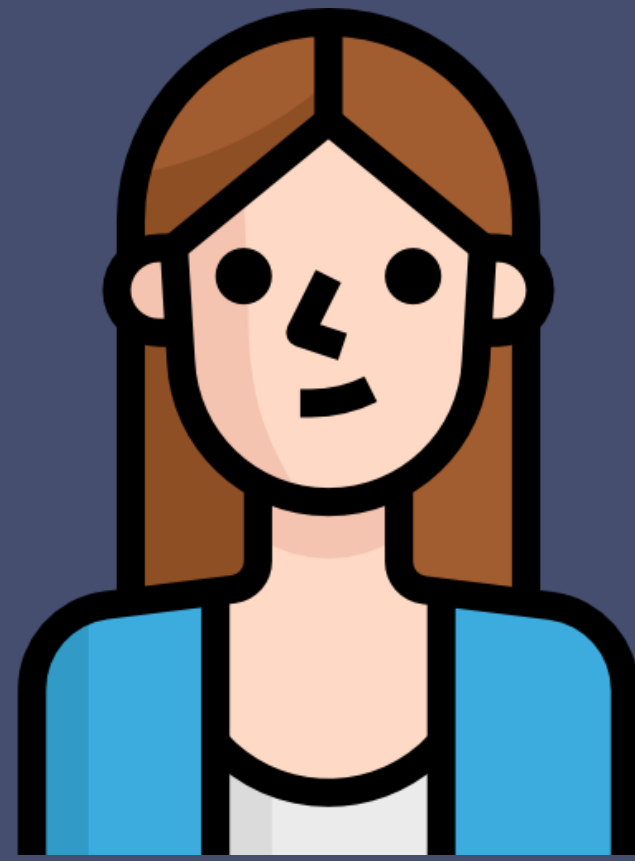
Bank

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Our Idea

Data Analytics

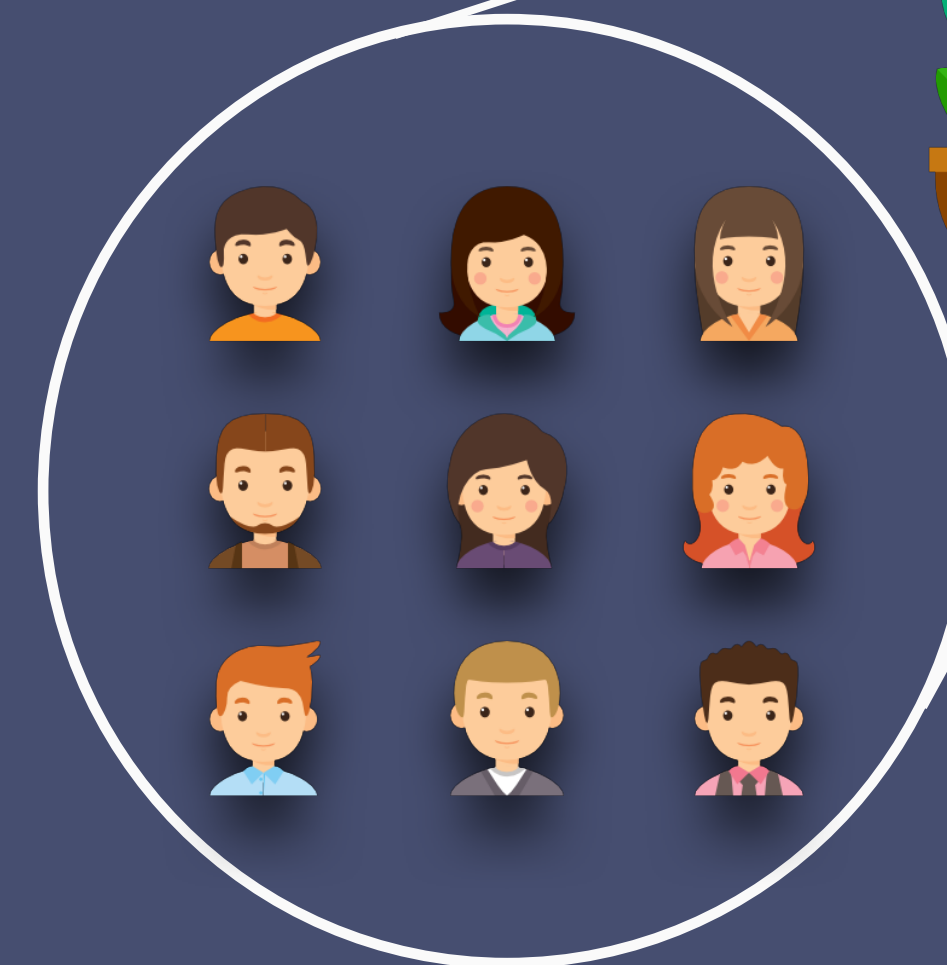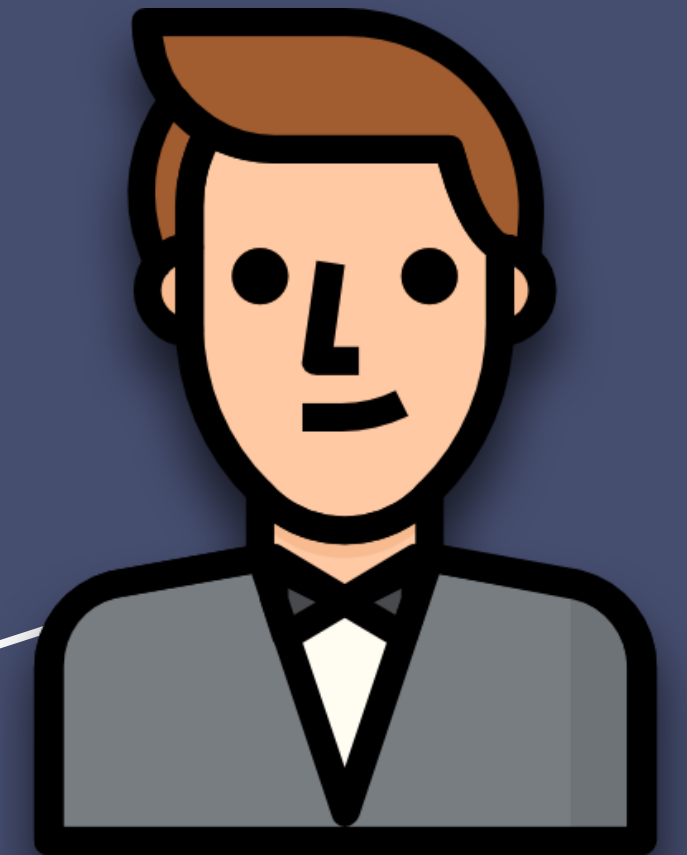**Artificial Intelligence**

Blue

posts her personal
details on the profile
to do her own IPO

Potential shareholders
bid for her stock and
invest in it
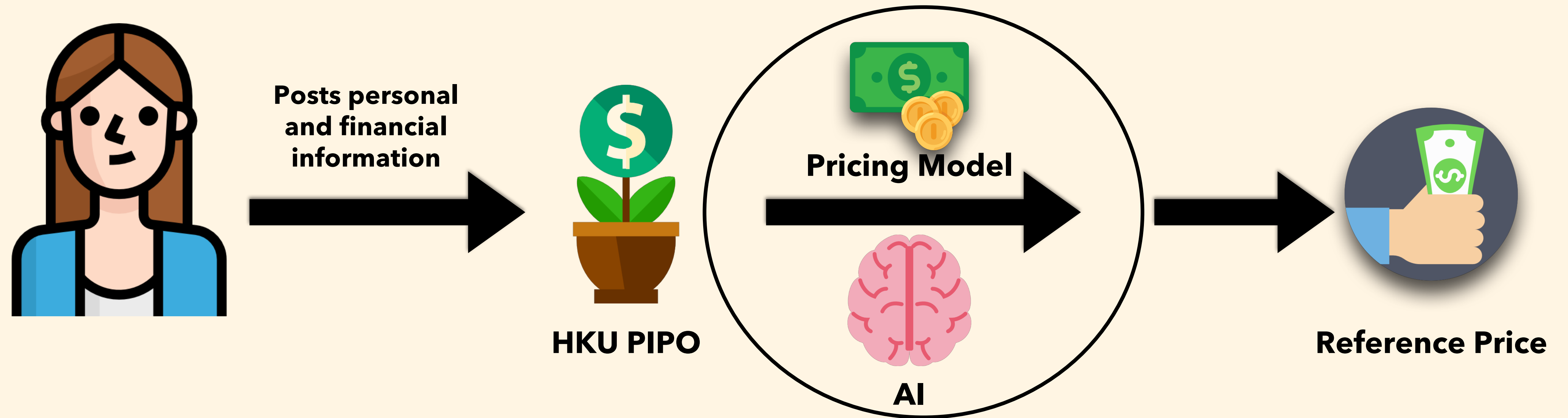
**Shareholders of the
Personal IPO**

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So how do we do it ?

🤔

Analytics

Share Pricing

Posts personal and financial information

HKU PIPO

Pricing Model

AI

Reference Price

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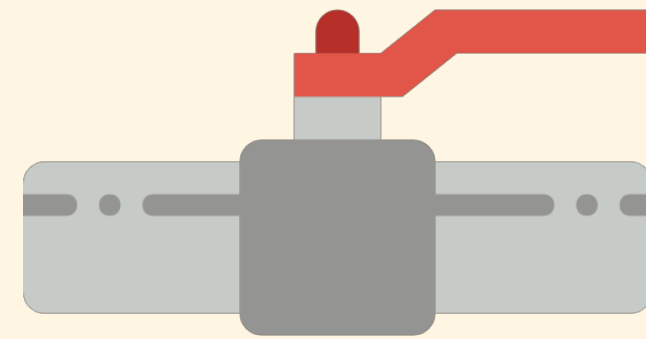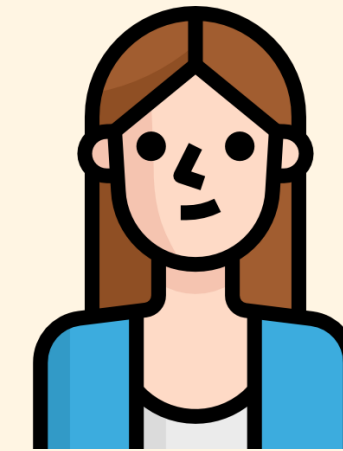
Transaction Matching

- Bid, Ask as limited orders
- Mode Selected by Issuer
- Transaction Price = min(bid,ask) when they cross
- Supports multiple Personal IPOs at the same time

First In First Out like in Stock Exchange

Customised Share Distribution like stock IPO

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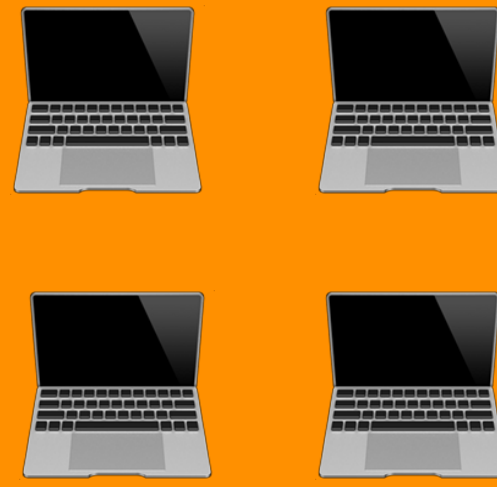**Demo**

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Performance

Load Distribution:
Utilise all CPUs

Extremely Fast Matching
Engine with 10x faster Python
Implementation

1 Exchange Engine per
IPO

25,000
Transactions/Second for a
single PC

Bitcoin: 7tx/s
Paypal: 200tx/s
Visa: 2000tx/s

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Security & Modifiability

Limit number of order/s per user

Blockchain ? Nah

2 Factor Authentication

Sandboxed by Docker for enhanced security

Hack Protection from SQL Injection(Top Attack in 2017)
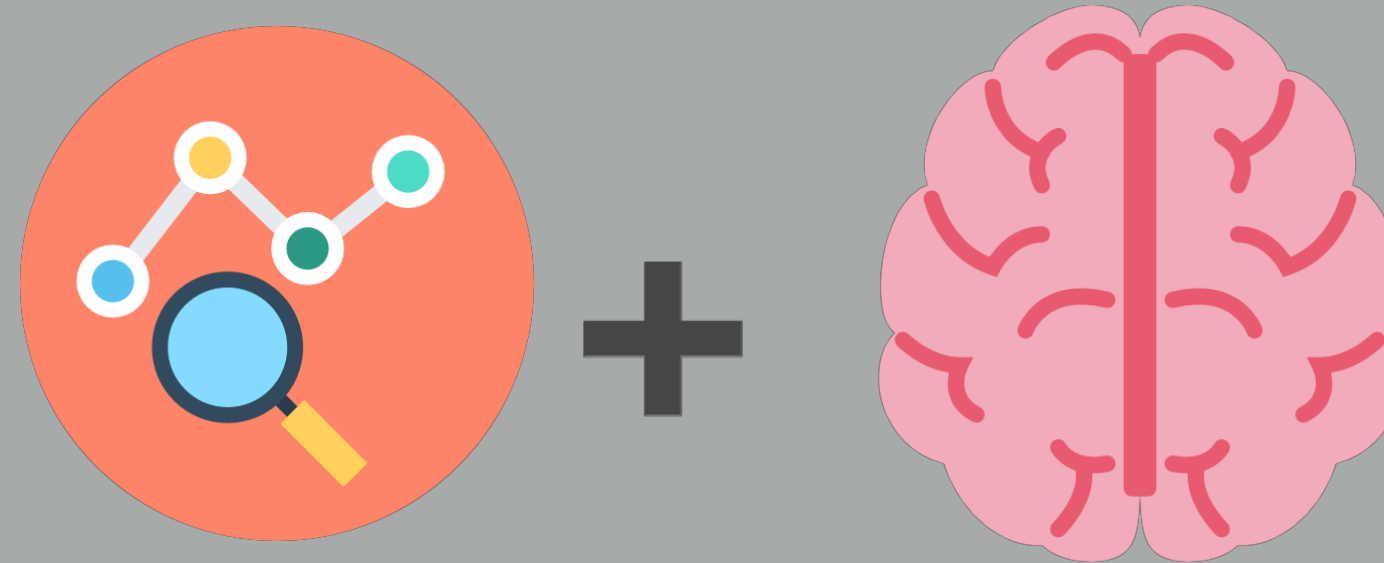
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Feature Summary

UI & Modifiability

Modular Design
News Feed
Interactive Graphs
Risk Analysis Assistant
Source Controlled by GitLab
Microservice design allows easy replacement of components

Analytics

Portfolio Factors Weighting and Suggestions
Scoring System
Optimising Issuer Price
AI for Reference Pricing
10x Faster Python Implementation
Ready for Reinforcement Learning in the future

System Architecture

Hack Protection
2 Factor Authentication
Ready for Real Time Trading
Unlimited Scalability
25000 transactions/second
Risk Analysis Assistant

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