Decentralised Pseudonymous Crypto Hedge Fund

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Hedge Fund

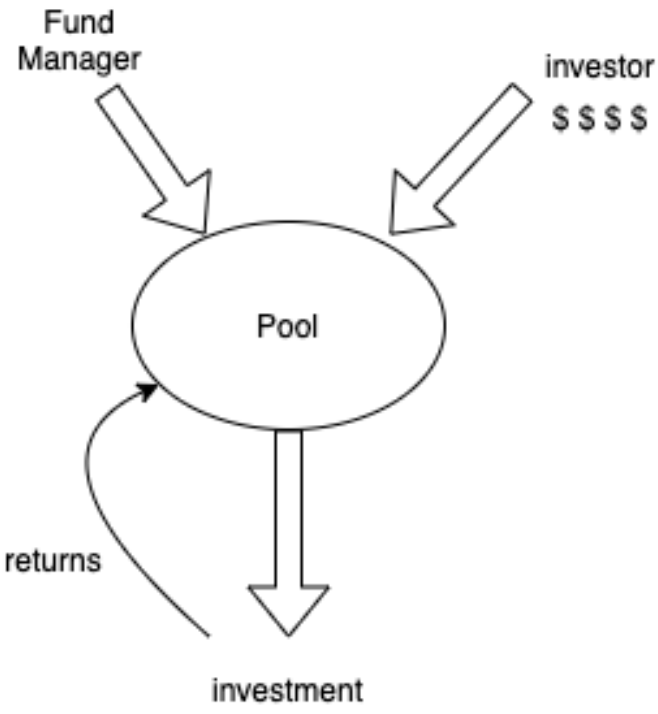
A **hedge fund** is a pooled investment **fund** that trades in relatively **liquid assets** and is able to make extensive use of more complex trading, portfolio construction, and risk management techniques in an attempt to improve performance, such as short selling, leverage, and derivatives.

Bitcoin and liquidity

The importance of high liquidity includes fair asset prices, market stability, technical analysis accuracy, and quicker transactions. Well-known and large-market cap cryptocurrencies such as **Bitcoin** and Ethereum enjoy **high liquidity** as they are traded on the majority of the exchanges in the world. Other highly liquid assets include **USDT**, which is essentially a peg of cash.

Sovryn and Bitcoin

Sovryn is a non-custodial and permissionless smart contract-based system for Bitcoin lending, borrowing, and margin trading. Currently, Sovryn hosts features like Spot Exchange, Margin Trading, Lending pool, and FastBTC Relay (use of Bitcoin almost instantly) and soon promises to add borrowing, perpetual swaps for 20x trading and bitcoin-backed stable coins with overcollateralized Bitcoin.



Investment Pool

Simply taken, any investment pool involves the pooling of money from multiple investors and a Fund manager who invests and manages the portfolio. The Fund Manager can be a single person, or even a group of people depending on pool size. This also

indicates that the pool manager needs to be trusted in order to get the gains

Vision

To introduce complete decentralization, I intend to work on a decentralized crypto hedge fund solution. I have tried to carve out the overviews, while inputs and integrations are highly welcomed.

To accomplish this, I went to get some 101 lessons on trading and tried to set the pieces according to my understanding. Bots can be used to set the predefined protocols and trade directly at the exchange, we needed something human to intervene up to some extent to get better gain and set optimal risk management strategies. Qualified governance is similar to Sovryn, which incentivizes the participants with skin in the game while making money for the pool.

Three underlying pillars to establish such a system:

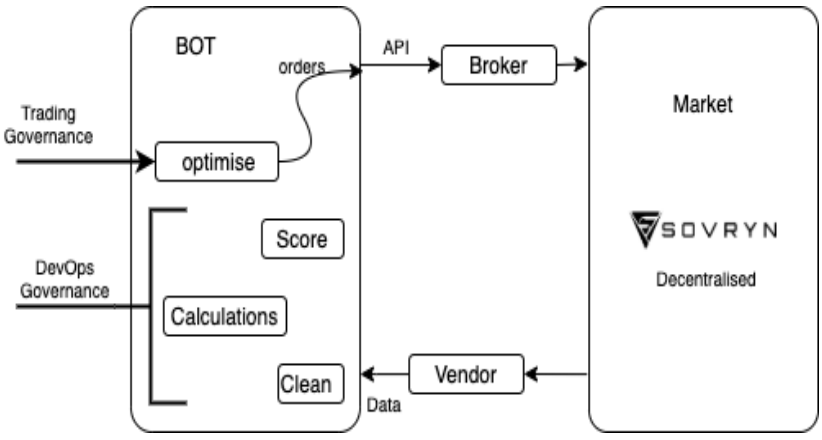
Trading Bot - Trading Bots are automated software that can buy and sell crypto with a predefined set of rules to increase revenue and reduce losses.

Governance - A small set of people with highly specialized skills in the game may help develop the system along with governance to distributedly manage the funds.

Fund Token - A token as a symbol for holding the share of that fund, provided at the time of investment to the pool, and can be redeemed after a certain period time to enjoy the gains.

Working

To align with the vision of decentralization, trading bot and governance will be bound by tokenomics to develop the community around for the long-term development of the project.



The focus here is to develop a community that can suffice itself while using cooperative methods. As I tend to remove centralization from this process too, a governance token would be put in place to hold the entities together. Any user can directly leverage from trading BOTS or they can earn rewards by helping in building bots or deciding trading strategies, which will be

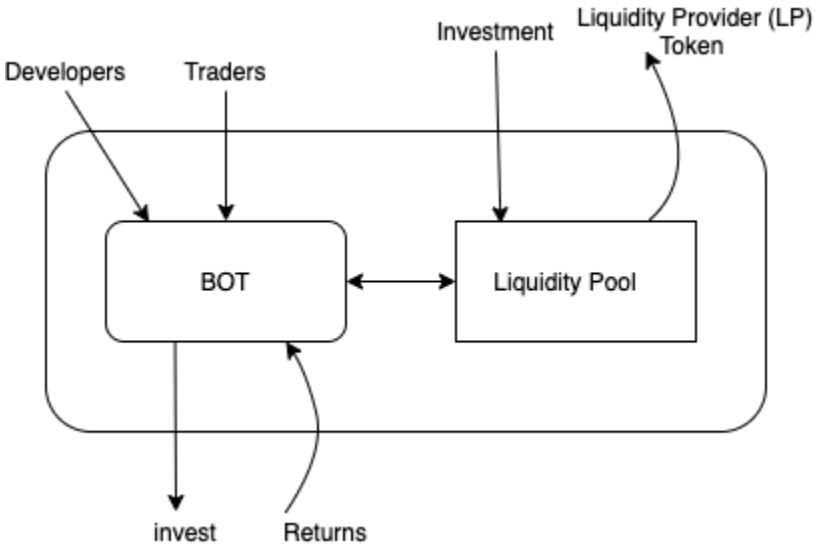
voted by token holders to safeguard the interest of the whole community. Refer to the image below to get a better understanding.

As sovryn provides all the financial solutions in one place, multiple bots can be created to distribute portfolios and leverage from multiple opportunities. Simple trading, lending, borrowing, liquidity providing, as well as arbitrage trading are some direct leverage options. The lucrative part is being focused on the most liquid trading option, i.e Bitcoin while getting the support of Smart contracts using the RSK layer2 solution.

The scalability options are enormous and yet to be explored but the scope of this research involves an overview of the system.

Liquidity Pool

We have 2 main aspects to this system involving BOT and the Liquidity pool. As simple as I can explain through this image, investors would invest in the pool following the instructions (TBD) and will get an LP token as a symbol to invest in the pool. This money will be handled by the pseudo autonomous bot, maintained by community members under the Governance umbrella. These workers will get rewarded in the form of tokens.



The profit made by the bot will be reflected in the price of the token, dividing the profit among investors and maintainers. If the same token would be used to reward traders is still to be decided but if another token is used it creates distribution and a more complex process, thus reward in the form of LP tokens are advisable.

To further scale the project, multiple BOTS can be placed working separately, gaining from multiple strategies like trend following, arbitrage, yield farming, leverage trading. While oracles can also be used to train an AI bot to give them more autonomous powers.

Trading BOT

Trading bots can be as simple as connecting the market APIs and putting the amount at which to buy/sell or as complex as AI using Bots like InsiderProtocol. A lot of Trading Bots are available in the market purchased or free, simple or complex but none seems to adopt the decentralized thinking to make a sustainable business by the community. Developers/centralized Companies either create their bot and use it or put them on a marketplace for others to use, where traders can use those bots free or paid.
This project will evolve into a decentralized community project where people with multiple skills will come together and benefit the whole ecosystem.

Steps to build a trading bot:

1. Choose Platform and Framework: depends on language, cost, brokerage options, deployment - local/ cloud, data - historical/ live.
2. Understand platform: check tutorial, boot camps, data
3. Data Science Process:

    a. Obtain
    b. wrangle: Clean/ bias
    c. Understand: Type - price, fundamental, estimates, and Resolution - minute, hourly, daily, All time.
    d. Explore

4. Researching on the strategy

    a. Explore
    b. Signals
    c. Analyze Signals

5. Backtest and performance Analysis

    a. Combine signals
    b. Historical Strategy Performance
    c. Strategy Trends

        i. High Turnover
        ii. Volume
        iii. Proportions considerations

    d. Returns compared with the benchmark
    e. Risk - Standard Deviation/ returns
    f. Drawdowns
    g. Trade Frequency
    h. Performance Attribution

6. Optimize Parameters and apply constraints

    a. Find optimal parameters and maximum returns from signals
    b. Info. ratio - constraint to max the net returns per unit risk
    c. Reduce cost
    d. Maximize net returns per risk

7. Repeat Research process

    a. Research
    b. Backtest
    c. Analyze and attribute performance
    d. Optimize parameters
    e. Repeat
    f. Find a Strategy version that suits the community
    g. Ongoing Process

8. Integrate Live Data: It should be reliable, accurate, and up-to-date.
9. Choose Broker: Compatibility, and suitability.
10. Deploy Server: Decentralised
11. Monitor and improve strategy: Token Governance.

After researching crypto trading bots I found multiple paid or free bots platforms but mostly they provide a paid service to traders. Some recommended bots are listed below, but the sea is deep to understand in a short time.

- Trade Santa: long, short, custom bot. 5-day free trial, then 2 free bots or $3K/month.
- Shrimpy: long term portfolio management (no mobile support)
- Gunbot: step gain simplified, 0.02Bitcoin as a one-time fee.
- Crypto Hopper: trading temporary, signals
- 3 commas: recommended by many professionals.
- Pionex
- Trality
- CryptoHopper
- CoinRule
- Quadency
- Bitsgap
- Napbots
- Mudrex
- HaasOnline
- Bot Crypto
- Bots Folio
- CryptoHero

I found some platforms which can help create trading bots.

- SuperAlogs
- PyCryptoBot
- hummingBot.io

Creating a bot at such a level primarily requires skills like a Developer, Data Scientist, and Trader. I would not go deep in creating the BOT now or selecting the Technical stacks, but small research is shared above for the next phase reference.

Challenges

- A crucial challenge is to create such a bot, which can be trusted to make a stable fortune even if the market crashes.
- Hosting on a decentralized chain would be simpler but parameters should be exposed to vote on and be decided by the community over time.
- Trading BOT needs constant upgrades, possibly difficult on blockchains. Hence, the alpha version of the first BOT should be highly sustainable.
- Sovryn Community members should help connect the two pieces in this vision on decentralization

Conclusion

- This project will bring more financial solutions to the most liquid cryptocurrency Bitcoin's side chain.
- The Bots will help increase the trading volume on sovryn and thus rewarding Sovryn's AMM Lipquid providers, thus Bots can also be programmed to earn from sovryn's rewards schemes.
- The first in a form of a decentralized trading Bot that will be maintained by the community, trading in the most liquid crypto assets.

References

- https://academy.ivanontech.com/blog/understanding-tokenomics-an-introduction-to-token-economics
- https://superalgos.org/
- http://www.investogram.net/hedge-funds/advantages-and-disadvantages-of-hedge-funds/
- https://www.cryptovantage.com/guides/what-does-liquidity-mean-for-cryptocurrency/
- https://www.linkedin.com/pulse/insight-guide-staking-crypto-2021-michael-gebert