LOVELY FINANCE

DeFi V4

Technical Whitepaper

❧the ultimate tutorial of making money out from DEX❧

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Introduction

LOVELY FINANCE DeFi V4 is a revolutionary Automated Market Maker ecosystem aimed to create a sustainable Distributed Finance niche for our beloved community. The main goal is growing the existing investors' capital by providing more and more financial tools attractive for new community players.

The starting point for our work is LOVELY FINANCE DeFi V3 which has already proven its capabilities to build a high-volatility and high-interest 10th million volume market. Now it is a good time to extend the ecosystem further by providing more interesting financial tools to get ready for a more serious game.

While LOVELY FINANCE DeFi V3 was based on Uniswap V2, the time has shown that we are eager to perform deep Uniswap optimization and customization in places which could be more effective for our investors.

Uniswap V3 was also regarded as a technical opportunity to be customized. But it is created rather for filtering the volatility spikes than for providing high-yield investment tools. Therefore, we have decided to build a highly customized version of Uniswap V2.

So, wish you a nice reading and getting deep into the LOVELY FINANCE ecosystem!

The LOVELY Ecosystem

Our goal is to provide any kinds of DeFi tools which maximize benefits for LOVELY investors and projects. At the time being, our team works on V4 smart contracts and corresponding tools which include:

1. DEX, Swap, Liquidity Pools, Token Listings, Token Validation, Custom Fees, ZERO-FEE Swap.
2. Launchpads, ILOs.
3. Liquidity Tokens, Liquidity Tokens Farming.
4. Order Book and Price Oracles, Trading Competitions.
5. The LOVELY Token which powers V1, V2, V3 and V4 DEXes.
6. A broad LOVELY community, strong investors.
7. Software Development Partners.
8. On-Chain Analytics, DEX Analytics.
9. CEX (Centralized Exchange).
10. Wallets and mobile wallets.

Our team concentrates on DEX and tools round DEX and therefore we do not cover some areas ourselves while keeping these prospecting areas for our potential partners. So, especially you may consider open opportunities in:

1. NFTs.
2. Blockchain gaming.
3. Non-fungible liquidity.
4. The LOVELY Metaverse.

In the future, the development team may target these areas specifically. But at the time being, there is a huge opportunity for partherhips in these areas.

Tokenomics

Have you ever thought about the reason to create one more DEX? No? Then, it is a good time to go to the CoinMarketCap and see how much do the DEX owners earn. A usual UniSwap-based DEX takes **0.3%** out of each swap transaction [1]. But just try to calculate this percentage based on the daily swapped amount of tokens. This is a huge amount of money with the scale of a global Automated Market Maker. How about other DEXes? The same. They just copy the Uniswap code.

We could earn a lot from these fees. Also, it makes it possible to continuously hire developers to build the ecosystem. But, the main decision in LOVELY INU DeFi V4 is reinvesting the fees into the ecosystem to provide sustainable token growth. This is accomplished by the token buy-out protocol. Read below.

2022 Protocol	40% revenue for buyback LOVELY from the market to burn it. 60% revenue used for marketing.
2023 Protocol	50% revenue for buyback LOVELY from the market to burn it. 50% revenue for marketing.
2024 Protocol	70% revenue for buyback LOVELY from the market to burn it. 20% for marketing. 10% for the Team.
From 2025	85% revenue for buyback LOVELY from the market to burn it. 10% for the Team. 5% for Donations.

DeFi Architecture

DEX

LOVELY FINANCE DEX V4 is the key point in the DeFi infrastructure update. All other projects are integrated via the DEX. DEX V4 is a highly customized version of Uniswap V4 which was changed to unlock important financial capabilities.

Deep analysis of the LOVELY FINANCE DEX V3 transactions shows that, in most cases, the community needs:

1. Zero-fee or close to zero-fee swapping.
2. Token validation upon DEX entry to keep scam projects away from the DEX.

By combining these two ideas, we have implemented a DEX which takes the commission from token project developers which is enough for supporting the infrastructure.

As it is usual for DEX projects, we are using **a non-upgradable smart contract** for the DEX.

Only approved tokens are eligible to add liquidity. The LOVELY FINANCE DEX V4 operates on "**validated liquidity pools**". *A "validated liquidity pool" is a liquidity pool, which becomes operational only after some predefined conditions are met.*

For the contract (pair, pool, market) approval, the developer can:
Manually approve his pair by the smart contract functions;
Or the user can pay fees in the developer's suggested token.

While creating a liquidity pool (a market, a pair) in the factory contract, the following method is used:

The "createValidatedPair" method from the "LOVELYFactory"

//
// Creates a market pair.
//
// tokenA - the first token of a pair;
// tokenB - the second token of a pair;
// tokenC - the token in which the validation amount should be paid;
// validationAmount - the amount to be deposited to validate the pair.
//
function createValidatedPair(address tokenA, address tokenB, address tokenC, uint validationAmount) external returns (address pair)

This method call creates a validated liquidity pool. Such pool becomes operational when the "**validationAmount**" of "**tokenC**" is received by the "**validate**" method of the liquidity token contract.

The "validate" method from the "LOVELYPairToken"
function validate() public

The "**validate**" method requires the "**allowance**" for "**validationAmount**" of "**tokenC**" to be given to the "**LOVELYPairToken**" (the liquidity pool token contract).

The standard Uniswap V2 implementation has an approximate fee of 0.3% for each swap transaction. We have added an ability to define this fee in a flexible way mainly to be able to have **the zero-swap fee for most tokens**.
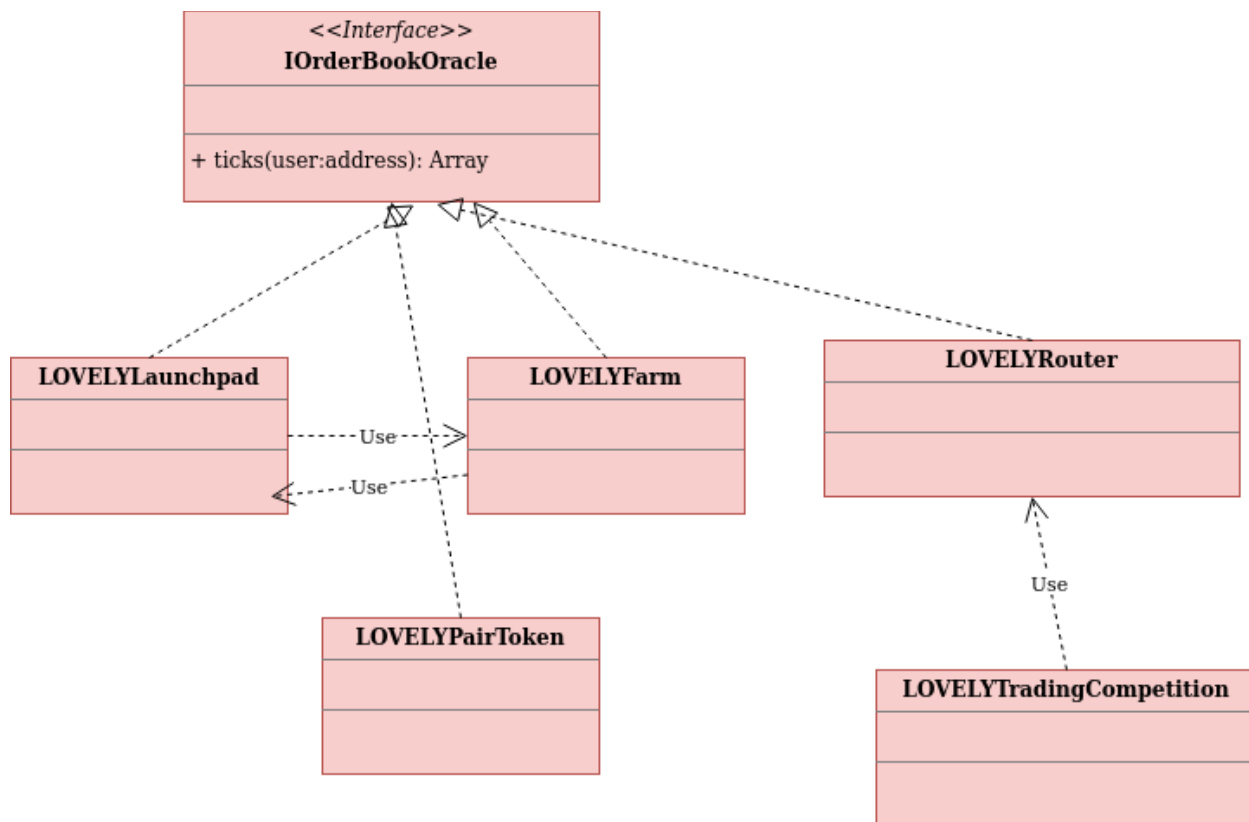
Order Book Oracle Protocol

LOVELY ecosystem values members who intensively use various ecosystem projects. Therefore, it is critical to gather the **motivation degree** and pass this information between ecosystem projects.

For example, consider that one user has staked XXX amount of LOVELY Token to the LOVELY Farm. Then the user has staked YYY amount of LOVELY Token to a LOVELY Launchpad project. This user definitely deserves an additional bonus from the ecosystem! But how can this bonus be calculated?

The Order Book Oracle Protocol is a way to exchange user investment analytics between LOVELY ecosystem projects to be able to provide complex bonus metrics based on the user activity.

The diagram below shows how the Order Book Oracle Protocol integrates into ecosystem components.

The Launchpad, the Farm, the Pool and the Router implement the IOrderBookOracle interface. This enables them return by-user action history to bordering components.

The Trading Competition, the Launchpad and the Farm consume this data for advanced yield calculations. Also, this data is consumed by any kind of on-chain analytics.

Farming Pools

The LOVELY ecosystem implements liquidity pool token farming analogous to farming that other DEXes have. We have optimized the farming pool contract to provide a base for sustainable improvements in the future.

Token project owners / developers can:

> Enter the farmed amount in the LOVELY Token.
> Select start and end time.
> Automatically define the APY according to entered details.
> Manually set fees for every harvest / stake / unstake in the smart contract.

LOVELY Token owners can:

> Select a pool to participate;
> Manually put the amount of both tokens.

OR

> Put USDT amount automatically buying the second token for 50% of this amount according to the slippage while adding to the liquidity.

Launchpad

The **LOVELY Launchpad** is a platform that allows projects and teams to raise funds. The project party can launch their token for a project in multiple chains, on which the **LOVELY Launchpad** is available.

Each project can define custom settings:
1. Soft / hard cap.
2. Start / end time of sale (min 30 min., max 7 days).
3. Min/Max contribution limit.

When the sale ends, unsold tokens are deposited to the project wallet while sold tokens are sent to participants.

The following currencies are available for token sales:
1. USDT.
2. Chain's native coin (only for the Binance Smart Chain).
3. The LOVELY Token.

Buyers can get an additional 10% to their purchase by staking a LOVELY 50% value of their XYZ token purchase for 5 days. Staking APY will be 182.5%.
Participants will get extra 10% of the XYZ token in two parts. First 50% of that 10% is available after 15 days after the ILO completes. Another 50% from that 10% is available after 30 days after the ILO completes.

Launchpad fee customization:

> The fees above are not fixed and can be decided by project owners.
> Fees are defined while creating a launchpad campaign.
> Project owners / developers can choose themselves what is the balance between ecosystem members.

Launchpad fees can be as follows:

> 1.25% is used for the LOVELY staking reward.
> 11.25% is deducted for the Launchpad.
> 47.5% of raised funds is locked at LOVELY DEX as liquidity. For the whitelist, fees are deducted from 47.5% of the funds and then the rest is added as the liquidity to the DEX.
> 40% is transfered to the project owner.

LOVELY Launchpad Fee % Distribution

Staking reward
1.3%
Launchpad
11.3%

Project owner
40.0%

DEX Liquidity
47.5%
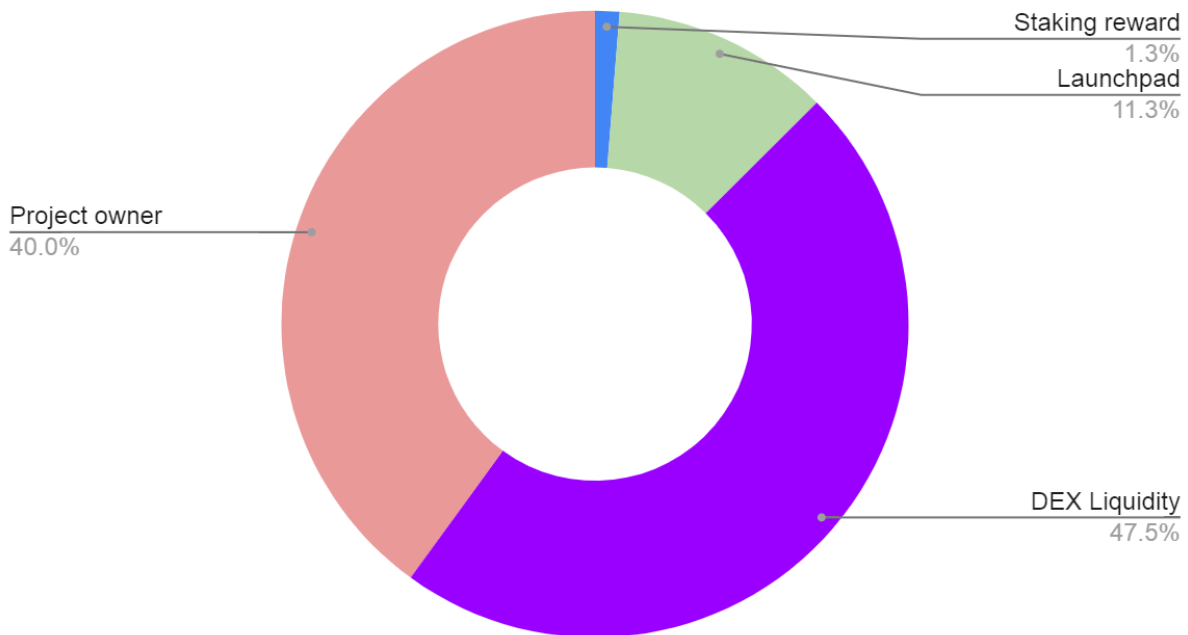
*** The chart above shows a sample of balanced fee coefficients for the Launchpad. Depending on the particular Launchpad project, these values can be changed.

Trading Competitions

The trading competition is an additional tool to motivate swappers to swap more. No matter why you swap - you can win additional bonuses if you swap enough to get into the leaderboard.

The project developer can:

Start the trading competition: DEX will detect approved token contracts from the connected wallet. Here the token contract is chosen for the competition.

Minimum 5000$ equivalent of this token is accepted for a deposit to define the reward amount.

The start date and the end date for the competition is chosen.

The "Top 5 Traders Reward" is configured: 20%, 10%, 7%, 5%, 5%.
The "6-10 Traders Reward" is configured: 20%.
The "11-20 Traders Reward" is configured: 33%.
The "21-50 Traders Reward"" is 0%.

Token owners can:

Pay fees to get entry in trading. Fees will be automatically set from the total reward amount of 0.05%.

The developer can set the percentage of fees for the entry ticket.

See all live / upcoming / completed trading competitions.

Token owner can click on upcoming / live / completed trading events to check more details.

In live / completed events top 10 traders will be shown. The detailed list will show upto 50 Top Traders in the list.

The reward amount will be automatically distributed to winners according to "Event Win" details.

The **Order Book Oracle** protocol enables a tricky and convenient software development pattern which greatly improves the trading competition - **the Instrumented Router**.

The Instrumented Router is a router analogous to Uniswap V2 router 01 / 02. With the exception that this router is capable to record the by-user swap history. Having the swap history recorded in the router enables the Order Book Oracle to record immutable data containing all exact information needed for the fair trading competition.

Other DEXes perform winner calculations off-chain. We have brought the winner calculation on-chain because we consider this more fair. So, the leaderboard contract can load all required information directly from the **Order Book Oracle** provided by the **Instrumented Router**.

NFTs

We will be releasing a limited series of NFT collectibles for most valuable ecosystem members:

> Trading competition winners;
> Advisors and influencers;
> Leading community developers;
> Others who do impress.

Blockchain Gaming

The LOVELY Team fully concentrates on DeFi / DEX implementation. This is a highly technical task requiring much effort. The LOVELY Token as well as the LOVELY DEX can power a huge amount of various projects in different areas of expertise. So, while the LOVELY Team is not making any Block-chain games, it would be unfair to stop community members to use the token in a way they LOVE to.

DeFi Analytics

LOVELY Analytics portal gives detailed information about DeFi health status. Using that portal, community members can understand hype around DeFi, LOVELY token, other LOVELY products and any events happening in the community. Also, this is the best place to discover new trending information about events to participate.

The power of the DeFi ecosystem greatly depends on marketing. Therefore, key marketing metrics are also provided.

We combine community metrics with On-Chain analytics metrics to cover all possible views at the DeFi evolution.

DeFi Community Analytics & Support

Community analytics serve as a proof of community activities and interest to the ecosystem.
LOVELY Community Metrics include:

Web visitors. Shows several months of chart data from Web Analytics. Data is given per each LOVELY product. This gives the proof of interest to the ecosystem.

Geography. Shows Web visitors geography. This gives the spread of interest by-country.

Hype⊙Dev News Feed from https://hype.dev. Shows the list of news about the LOVELY ecosystem which were published on various news sites. This gives the proof of events happening round the ecosystem.
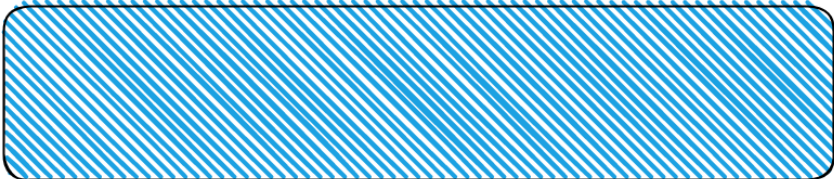
CoinMarketCap Community from https://coinmarketcap.com/community/search/top/lovely-inu. Shows the list of community messages available from CoinMarketCap.

CoinMarketCal Events from https://coinmarketcal.com/. Shows the list of community events.

DeFi On-Chain Analytics

DeFi On-Chain Analytics provides a standard set of on-chain indicator to be used for judging the trends happening in tokenomics.

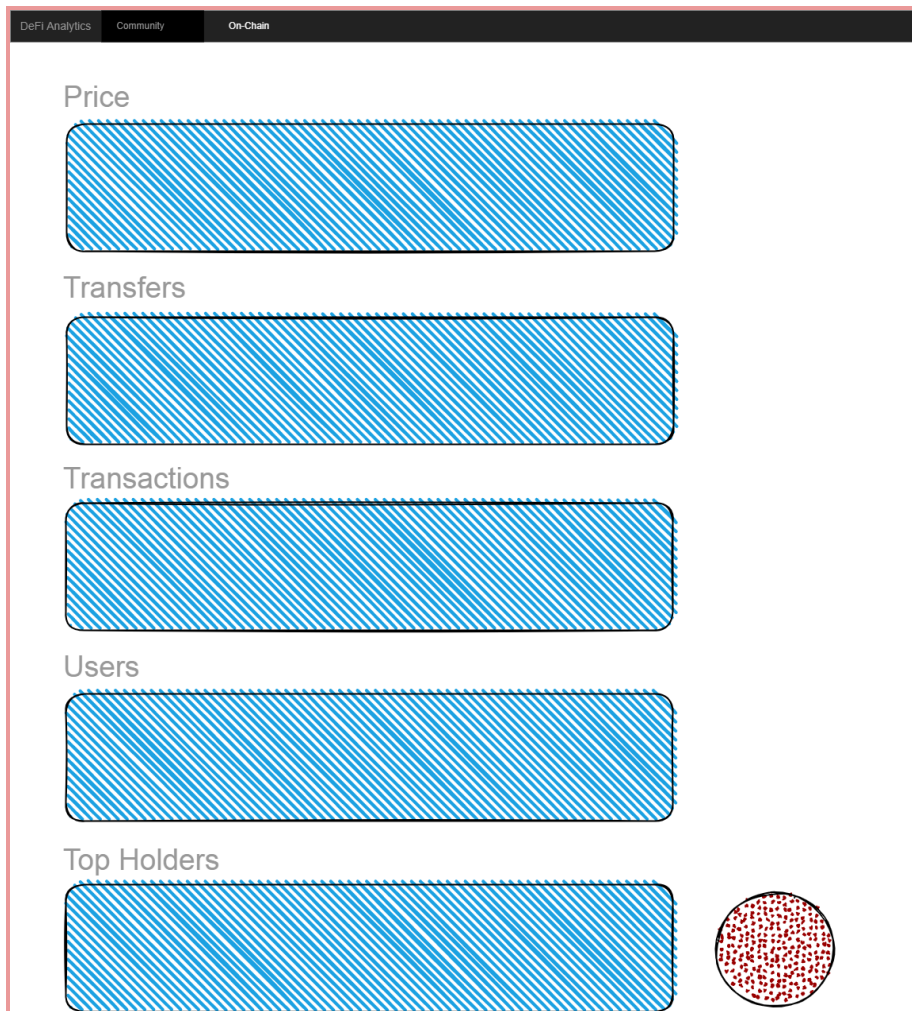The following indicators are given on the charts:

Price. Shows price dynamics chart for the given range.

Transfers. Shows amount of transfers for the given time span.

Transactions. Shows DEX transactions count.

Users. Shows amount of users initiating transactions.

Top Holders. Shows a report about major token owners and token distribution by-owners.

Getting Supported by the Community

Using cryptos can be hard for novices. While DEX maybe even more hard.

Our community support team is always able to guide you through the DeFi process.

And for more technical users - we have a team of professional BlockChain engineers who will help launching your project in the LOVELY Ecosystem.

Just contact the LOVELY Support Team through the technical support plugin which is available on each Website page.

Perpetuum Mobile - Maximizing DEX Yield

DEXes provide more complex investment tools than just buying low and selling high. Here we just briefly give you an overview of which tools to follow to become a successful DeFi trader.

1. Stake your purchased tokens to get a liquidity token and start getting fees. And then farm the liquidity token to get even more fees.
2. Win the trading competition to gather additional prizes.
3. Think about either listing your custom token or creating a Launchpad Project and making the ILO.
4. Never forget to use LOVELY Analytics to get the right market insights.
5. Contact the LOVELY Team to get help in your BlockChain startup ideas.
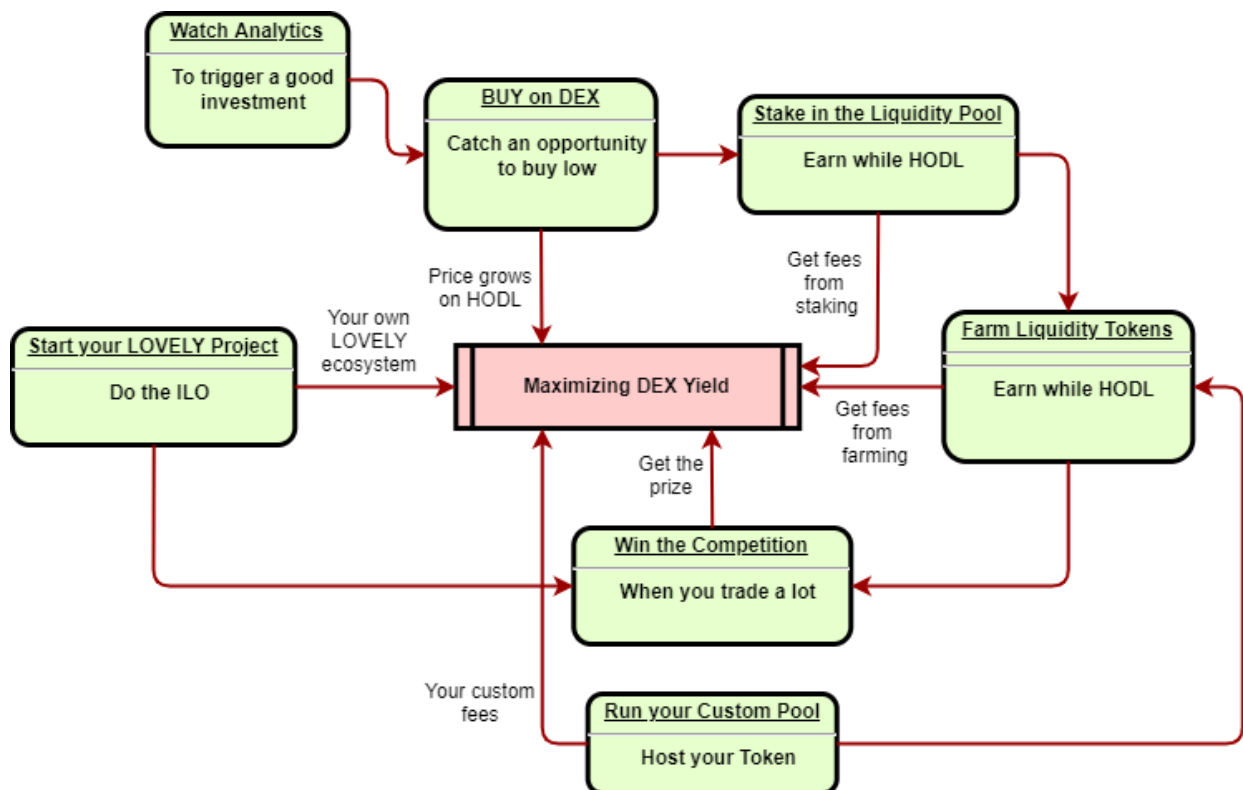
Branding, Legal & Copyrights

Is LOVELY a Meme Token?

LOVELY FINANCE is a registered trademark owned by the LOVELY FINANCE company. Our company provides a wide range of Block-chain services around but not limited to the DEX functionality.

LOVELY INU FINANCE is also used as a part of the branding. Being named like the meme token is part of the company branding which is loved by the project community. But the activities provided by the company and the LOVELY token are not limited to the meme token functionality.

Glossary

[1] Uniswap Swap percentage.
https://docs.uniswap.org/protocol/V2/concepts/advanced-topics/fees