DX25

ADVANCED LIQUIDITY MANAGEMENT DEX

LITEPAPER V1.0

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INTRODUCTION

Following the FTX-Celsius-Three Arrows Capital debacle of 2022, trust in centralized institutions is at an all-time low. Decentralized exchanges (DEX) are on-chain and transparent alternatives to centralized exchanges (CEXes). However, DEXes can be overly complex and offers a hugely fragmented user experience.

The original DEXes followed the Automated Market Maker (AMM) model, which evolved into complex models, driving away non-professional liquidity providers from the market. Plus, on-chain derivatives still need to be expanded and unsophisticated.

At DX25, our goal is to offer a robust DEX solution that believes in the original democratic spirit of DeFi. DX25 provides a roadmap to build a solid DEX solving the issues in providing liquidity to CLMMs and uses this as a base to build a cross-chain DEX that supports derivatives trading.

PROBLEMS OF CURRENT DEXES

Problem #1: AMM / CLMM liquidity provision issues

Concentrated Liquidity Market Makers (CLMMs) have been recently adopted by several leading DEXes, like Uniswap V3. Originally, AMMs were devised to reduce on-chain processing versus Orderbook style markets.

The first generation of AMMs (x*y=k) provided an admirable solution but had poor ROI for all committed liquidity. The liquidity return in these pools is proportional to the amount of liquidity committed. Since the liquidity in first gen AMMs is distributed over a wide range, that typically translates to a proportional poorer return.

The second generation of DEX sees the introduction of concentrated liquidity.

Concentrated liquidity is an AMM (automated market maker) model that was popularized by Uniswap v3. In this model, liquidity is allocated within a custom price range. In the x*y=k model, the liquidity was distributed uniformly through the entire price range. In this new model, you can choose the price range where you want your tokens to be allocated.

This approach has several advantages:

- Allocates liquidity more efficiently
- LPs can earn more fees for fewer tokens deposited.
- Traders can experience less slippage due to liquidity differences.
- Trade execution is faster since a large amount of capital is provided by fewer LPs.

The CLMM model has become the dominant methodology for DEXes worldwide. It allows liquidity providers a significantly higher level of control to deploy capital closer to the methodology of an order book DEX but with a processing capability more like that of an AMM DEX.

However, the CLMM model has a drawback – increased complexity. In CLMMs, the workload on the investor is substantially higher. The liquidity provider is required to constantly maintain their liquidity provision ranges to make sure that their offering contains the current swap rate and is therefore earning fees.

Since LPs have previously acted relatively passively, they are not prepared to take a more active role, which has driven away a lot of casual investors. So, the next generation of DEXes should aim to provide tooling for these casual investors while retaining the high fee-to-committed liquidity ratio.

Problem #2: The fee problem

There is another issue that's plaguing the DEXes – fee rates. In most cases, the fee rate is fixed at pool inception, or each position has multiple pools with specific fee levels. Both of these approaches have flaws:

• A fixed fee rate is inflexible and non-optimal for LPs regarding profit generation.

• Having multiple pools with specific fees divides liquidity, making LPing inefficient.

The next-gen DEX must fix this issue for the sake of both LPs and projects.

LPs are making money on most pools from alternative sources, such as being paid in tokens at too high a rate to keep these markets running. This is not sustainable, LPs need to be paid for their market contributions, and projects shouldn't pay disproportionately for this privilege.

• Paying LPs disproportionately depletes projects of their funds.

• LPs waste a lot of time and energy negotiating for something that is not core to their business.

Problem #3: Infeasible to calculate returns

Another major issue that has formed around the growth of DEXes is the lack of clarity on where returns are to be made. Simple volatility/return ratios are difficult to determine. Data on historical returns from pools is not published. Analytics around DEXes are in their infancy. For a passive investor without the original AMMs making a determination of how and where to place assets is difficult to determine. They solved this issue in traditional financial markets by creating the fund management industry.

Problem #4: Long-tail tokens and the liquidity problem

Some tokens will simply attract more liquidity than others. While that's very logical, this leads to a concentration of high liquidity in a smaller number of tokens. Unfortunately, this leads to a lot of illiquid tokens (long-tail tokens), where a malicious whale could easily manipulate the prices with sudden injection and withdrawal of liquidity.

This problem is well known in financial markets, where liquidity is often concentrated within major futures or benchmark contracts, be those on the run bonds or commodities like frontline Brent. There are mechanisms to allow price formation in illiquid markets that don't have the inefficiencies and risk overheads that a 24/7 AMM does.

Problem #5: DeFi derivatives are still lacking

Derivatives in DeFi has been a tentative endeavor, to say the least. There are a few perpetual supporting DEXes that offer highly simplistic derivatives mechanisms, such as creating credit from one pool to another to allow basic optimization of P&L. However, we don't have anything complex like futures or options markets.

The Celsius and FTX debacles of 2022 showed why we desperately need proper on-chain derivatives solutions. These centralized institutions lack transparency and don't know how to correctly price derivatives risk.

Unfortunately, the mechanisms currently prevalent in perpetual DEXes won't scale for mainstream derivatives:

• Options risk doesn't have the same exposure as outright contracts.

• In perpetual contracts, the relative risk of different contracts is not 100% correlated.

While real-time P&L can act as credit, leverage should not be linear. Leverage should operate in the same way as the futures market, and the relative risk of the portfolio should be offset.

The DeFi market is desperate to see an alternative to CEX on-chain that offers proper portfolio risk with a clear process.

HOW DX25 SOLVES THESE PROBLEMS

Solution #1: Adaptable Liquidity Pools

Adaptable liquidity pools are at the heart of DX25's innovations. DX25 changes the structure of liquidity contribution. In other DEXes, the mode of liquidity contribution is hard coded at the point of smart contract creation. In DX25, the smart contract is created flexibly around the form of chosen liquidity contribution.

So, what do we mean by "liquidity contribution?" It includes order contributions like ranged orders, single-sided liquidity, and even limit orders. It also includes the ability to set the fee for each individual contribution.

All these factors greatly reduce the impact of fee/volatility problems in the DEX for liquidity providers. By empowering LPs to set their fee rates with each contribution, they get suitably rewarded for their efforts and are in a position to strike better deals with projects.

Plus, DX25 allows each liquidity pool to have multiple fee levels instead of fragmenting liquidity across multiple pools with specific fee rates. This approach allows liquidity to not get fragmented. When a swapper comes looking for the rate to conduct a swap, we have the single source of liquidity for that swap as the basis.

Solution #2: Reducing complexity

DX25's second major innovation is to reduce operational complexity for non-professional investors. DX25 allows LPs to submit their tokens into a liquidity management pool so that this pool will perform the actions that they would perform. Essentially, this provides the DeFi equivalent of a funds management layer in TradFi. DX25's liquidity management takes care of the activities such as:

- The tokens pair where the traded tokens will be submitted.
- The ranges that these orders should be placed in.
- The fees that should be applied.

We will offer simple algorithms and heuristics that act as index trackers for the distribution of tokens. There are several advantages to this approach:

- Effective distribution of assets into the adaptable liquidity pools.

- Uses a rebalancing mechanism to compensate for changes in volatility or price, to adjust the range or the distribution.

- Significantly reduces the overhead for non-professional investors and allows them to actively participate in the DeFi market.

Plus, DX25 will allow for community-created heuristics to be used in operation simplification. The creator of the mechanism will get a share in the accruals.

Collectively these innovations bring the community full circle and empowers non-professional investors to participate in DeFi again.
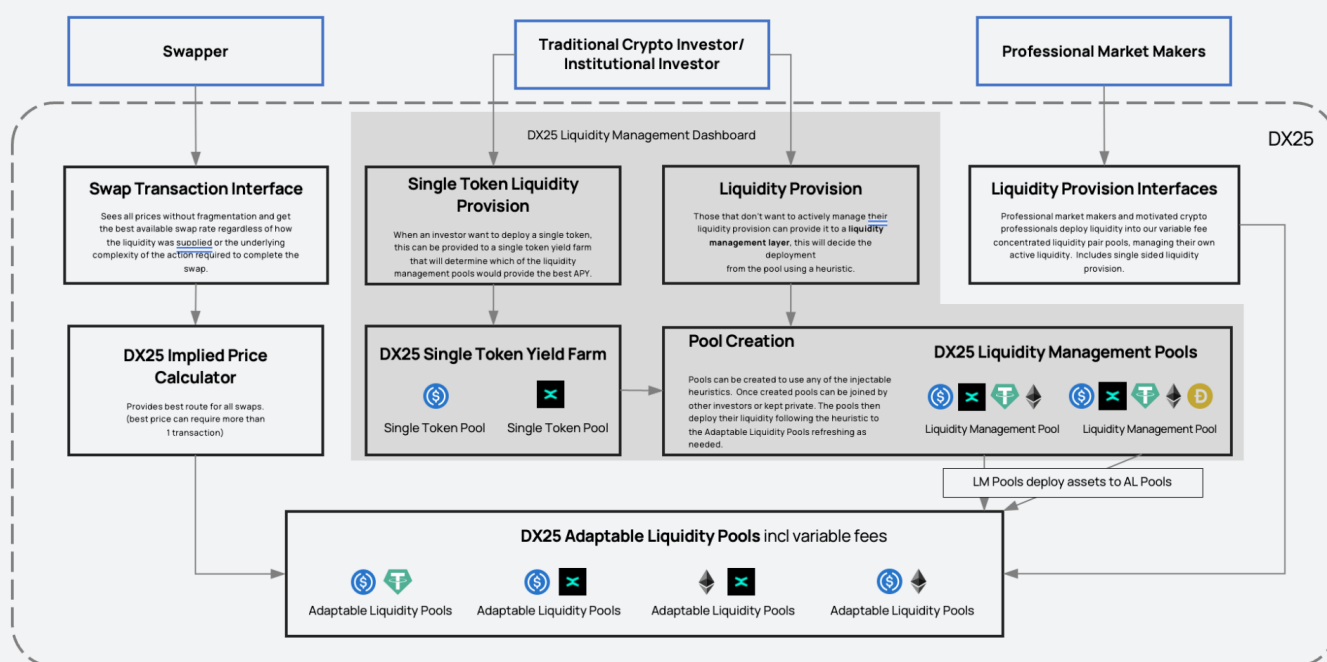
Solution #3: Auctions

DX25's auction mechanism will help address illiquid assets. Auctions have been designed to remove the burden on a project to provide 24/7 liquidity via an AMM. It is a regular process that allows price formation and exchange of assets. These auctions will be structured as one asset vs a stablecoin and can be called on an asset periodically.

Here are the steps involved in the auction process:

- At the time of calling, the auction orders can be placed in a limit order fashion for the asset, denominated in stablecoins. Orders can be placed at any point up to the auction time.

- An "Indicative clearing price" shows where the auction will settle should it be executed.

- At the allotted time, the auction processes and swaps are settled at the auction rate.   This allows the project to have liquidity without any significant contributions from a liquidity provider. Token holders and the project can get a clear price determination and exchange assets at a fair rate.

- Further, once the auction is done, DX25 will allow a "follow-on trading," wherein the assets could be traded at the auction rate. The market can be assured that the rate was set in an open and robust manner and offers to swap assets are happening at a fair rate.

- Lastly, these auction processes will be used in significantly more liquid markets to set a rate.

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DX25 believes that the Auctions features will be adopted by the community and give illiquid tokens an effective AMM market. This is something that the DeFi market desperately needs.

Solution #4: Proper derivatives implementation

Our derivatives markets will be launched on-chain. Derivatives are primarily about managing collateral. Positions taken in the market must be managed with calculated margins so the clearing pool has enough collateral. Such leverage comes with risks that require proper governance and oversight to be managed. We will deliver this "management" in two phases, an initial phase would function like existing perpetual DEXes. This would allow the offsetting of positions between different DEXes through a semi-fungible token to better manage how collateral is used. P&L gains will credit the pool, while P&L losses will debit the pool. However, users can exit the position at any time against the liquidity in the pools. Liquidity in the pools remains locked if their outstanding open interest is equal to the liquidity in the pools. This ensures that liquidation can always occur and allows simple perpetual contracts to be bought quickly and directly on-chain. Auctions at regular intervals can also be used to anchor these.

The second phase will facilitate the development of a completely on-chain derivatives market, ensuring complete transparency over assets. To facilitate this, we will be operating a separate collateral pool. Participants wishing to be part of the on-chain DEX must provide collateral into their own pool. The collateral in these pools is exchanged for a semi-fungible token (SFT) pool. Furthermore, only select assets and stablecoins will be accepted as collateral.

All trades will be conducted against this SFT pool, denominated in stablecoin. We will also offer users futures and options pools for any asset. SFT to be utilized by a particular position will be determined by risk ratio, set at the governance level, and determined by a VaR calculation on the asset in question. Any asset without history will have its risk ratio set by correlation or a conservative evaluation. The DAO will operate all risk controls through an oracle, giving leverage that will be enabled on a pool-by-pool basis.

Another critical aspect to consider is that pool utilization will vary by the portfolio risk of a particular position. For example, a Call and a Put at the same strike would offset the risk against each other. A broader portfolio consisting of futures positions spanning different expiry dates and strikes buys and sells, futures, and related assets together produce a collective risk to the portfolio, with each position affecting pool utilization. All derivatives positions are settled against external price sources, whether oracle-based or auction-based.

These steps take us a long way ahead. However, for us, this is just the beginning. Initially, our risk protocol will be more conservative with historical volatility and correlation. To improve this, we will utilize a reserve pool, which will be created over time with fee contributions.

Furthermore, we will also offer entities to become sponsor entities by giving a contribution. Scaled by the amount contributed, these entities can then underwrite other entities wishing to trade and bring their client base to the DeFi derivatives protocol for a small share in the fee. This is how we plan on scaling DeFi derivatives.

Now, about asset lending. Many investors have, at their disposal, collateral that is not applicable because it is either not a stablecoin or simply does not qualify. We will offer these investors collateral lending pools where they can upgrade their assets accordingly and access the derivatives market.

Solution #5: Cross-chain DEX

We also aim to make our platform a cross-chain platform and bring the features we offer to a broader audience. Our first chain, MultiversX, gives users a solid technical choice and access to a robust and vibrant community. However, the DeFi aspect of MulteversX has yet to be developed to its full potential, and is looking for solutions to unleash that potential. For MultiversX to be successful, it needs the type of innovation we provide, and we expect strong support from an eager MultiversX community.
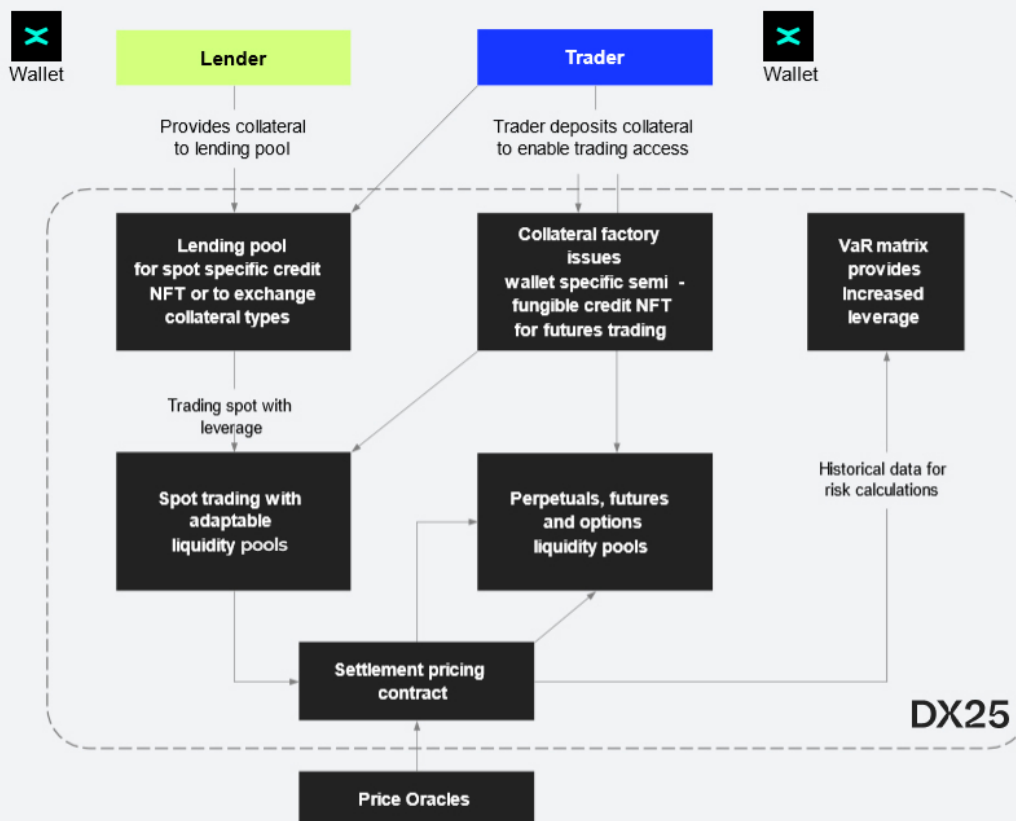
Solution #6: Governance

DX25's development will be managed and executed by the entity's board, established and based in Switzerland. This entity will further the growth and development of the open-source DEX, its ecosystem, and its community. The board will also appoint a governance committee of two to five members to oversee the entire governance and decentralization process, tokenomics, and the fees associated with DX25. To ensure the development of DX25 is in line with its roadmap until the release of DX25 V4, the Governance Committee will be selected by the DX25 Foundation or AG board.

Furthermore, until decision-making is fully decentralized, DX token stakers will have a crucial responsibility when it comes to suggestions for the DX25 DEX through the Governance Committee. The board will also guarantee that the DX25 principles of compliance-first and the Public Deed of the DX25 Foundation or AG are followed. The Foundation or AG Board will also retain its role as the supreme body of the Foundation even after complete decentralization. Furthermore, the governance committee will continue, with appointments to the committee voted by DC token stakers.

Until the setting up of the DX25 Foundation is completed, Tacans AG will be charged with executing, on behalf of the Foundation, items such as the sale of DX tokens or any rights for future DX token sales and using the proceeds for the development of the DX25 platform.
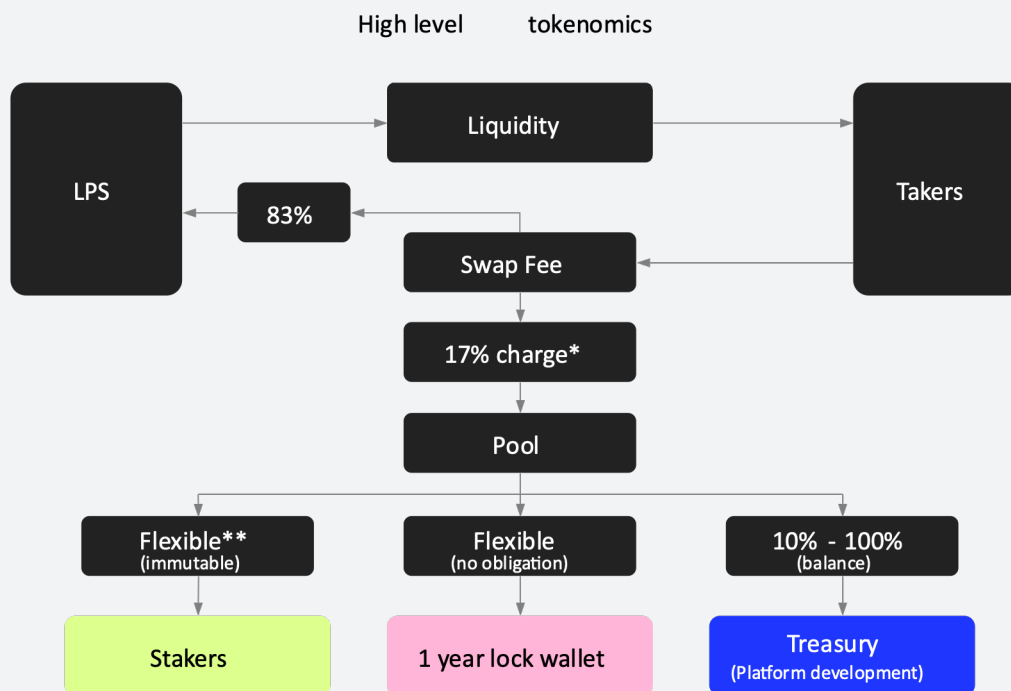
Solution #6: Swappers

Swappers refer to those users amongst the DX25 user base looking for the best prices. One of the primary reasons we have created our adaptable liquidity pools and liquidity management in the way that we have is so that we can prevent the fragmentation of liquidity. This allows our users to access the best prices for outright swaps. But wait, there's more! Suppose the best price for a particular contract is unavailable via outright swaps. In that case, users can use the implied price calculators we operate, with smart order routers constructing pairs or chains of trades giving swappers the best rate possible.

Solution #7: Automated Arbitrage

Arbitrage opportunities regularly arise in the world of DeFi. When it comes to the TradFi market, there are several tools users have at their disposal to take advantage of such trades. We are developing such tools for the DeFi ecosystem, where users can send gas to an automated arbitrager, which operates within defined parameters and accrues tokens. This also helps the larger market by keeping separate token markets in line with one another.

DX25 TOKENOMICS

Now, let's move on to tokenomics. Our core tokenomics ensures that those users providing liquidity are adequately compensated. Liquidity providers set a particular rate when they contribute, and when users perform any swap, the fee is redistributed, as shown below.

High level   tokenomics

LPS		Liquidity		Takers

83%

Swap Fee

17% charge*

Pool

Flexible** (immutable)	Flexible (no obligation)	10% - 100% (balance)
Stakers	1 year lock wallet	Treasury (Platform development)

The fee is split in a 45:45:10 ratio between the stakers, the lock wallet, and the treasury. Furthermore, we reserve the right to burn the lock wallet tokens instead of putting them back in circulation in the interest of the stability of the token's value. However, any such action will be controlled by the DAO.

ROADMAP

	FEATURE ROADMAP KEY DEFI FEATURES AND TIMINGS	DECENTRALIZED GOVERNANCE HOW WE TRANSITION FROM CENTRALIZED TO A FULLY FUNCTIONING DAO	FUNDRAISING TOKENS AND CASH
R&D Q4 2022	• Research and development • Publish roadmap	• Defining governance structure	Seed
V1 TESTNET Q2 2023	• Release of MVP • AMM and simple UI • Integrate MetaversX wallets • Adaptative Fees • Technical whitepaper published	• Build and publish version 1 of DX25 docs • Community building kick-off	Private placement
V2 Q2 2023	• Price ranges and concentrated liquidity • Advanced deposits and withdrawals at protocol level • Single Sided Liquidity • Limit Orders • Auction Windows • Marketing & community building kick-off		Go-live on Mainnet
V3 Q3 2023	• Off Chain Liquidity Management • Automated Arbitrage • Smart Order Routing • Trade Registration		• Public sale • Listing of token on minimum one tier1 CEX
V3 Q4 2024	• Spot Specific Credit Pools • On Chain Liquidity Management • Implied Price Engine • Single Token Liquidity Farming • Trade registration with additional chain support • Charting • Orderbook View • Collateral Pools • Perpetual Markets • Lending Pools for Spot Margin Trading	• Start roll out of governance voting – voting for features proposals • (Timing TBC)	
V5 PUBLIC GOVERNANCE Q4 2023	• Protocol governance ready for token holders • Front Running Protection • Project Tooling for incentive support • Options Markets • Futures Markets • Prime Brokerage • Collateral Swaps		
Q4 2023	• Gas fees in multichain, making the platform truly cross chain	• Q4 2023 Voting for pairs to be shown on DX25 frontend • Q4 2023 Voting for LP commission reward	
Q1 2024	Future features to be decided by public governance voting		