



(A way to earn passive income on the XRPL!)

[illegible]

XRPL has a Central limit order book based DeX since 2012. A CLOB based DeX is similar to, in many ways, traditional exchanges. They typically maintain an aggregated list of bid and ask offers and trades are executed by matching the incoming offers with those in the order book. Market makers in CLOBs profit from bid-ask spread.

These DeXs are ideal for highly liquid markets because the spread is small and the depth of demand and supply is high.



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However, they are not great for illiquid markets, where users might have to wait for long periods to get their orders fulfilled if there does not exist one in the order book that matches their order.



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And more importantly CLOB based DeXes are not scalable on public blockchains because of expensive transaction cost and limited storage capabilities.



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These are some of the reasons that gave rise to Automated Market Maker (AMM) - based DeXs. An AMM, on the other hand is a type of DEX protocol that pools liquidity from users.

For trade execution, the protocol uses a mathematical formula that takes into account the current liquidity of a trading pair and provides an instant quote

In other words, instead of referring to an order book to get a price, you'll get it as a result of a pre-defined algorithm.

AMM market makers make profits from trading fee that is charged to the traders for trading against the AMM instance.

Compared to CLOBs, they "always" provide a quote even for illiquid assets and provide better user-experience.



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In short, AMMs target a different segment of traders and LPs and use-cases with its unique trade execution and incentives model among other advantages.

XRPL has some natural advantages - fast finality, lower transaction costs and fair transaction ordering - that makes it well suited to support an AMM based DeX.

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Elaborating more - key differentiators

1. Protocol native - Allows developers to utilize AMM functionality without having to create their own smart contracts and face associated risks. So it's more secure.

2. No front-running or MEV - Inherited benefit from the XRPL's federated consensus - there are no miners to prioritize only higher gas fee orders

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3. DEX Integration - The proposal allows for the integration of CLOB and AMM on XRP Ledger. This enables price optimization to determine whether swapping within a liquidity pool or through the order book provides the best price and executes accordingly

4. Single-sided Liquidity Provision - Anyone can easily participate as a Liquidity Provider. Only a single asset is required to contribute to a pool. The protocol swaps on an LP's behalf to maintain 1:1 ratio, thus decreasing the number of steps for users and improves UX.

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5. Continuous Auction Mechanism - This is an absolute novel feature. We propose a unique mechanism where the AMM instance continuously auctions off trading advantages to arbitrageurs, charging them and giving these earnings to its liquidity providers. This allows liquidity providers to take a large share of the profits that would normally be taken by arbitrageurs.

Sure. There are:

1. **Liquidity Providers** who add liquidity to the AMM pools.

2. **Traders** who swap one asset for another for a fixed fee. e.g. speculators, arbitrageurs, App users, etc.

3. **Developers** who can integrate directly with AMM DEX pools to power exciting interactions with tokens, trading interfaces, retail experiences, etc. e.g. Wallets, DEX aggregators, etc.

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Each participant plays a significant role to build a thriving AMM ecosystem. While designing the protocol we have made sure to take into account the motivation for each participant and to optimize it for all.

Yes, we call it the "secret sauce" 😊

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Let me start by defining the problem/friction point that we try to solve through Continuous Auction Mechanism (CAM).

- Impermanent Loss - an inherent problem with AMMs. It happens when volatility or asymmetric trading cause relative price of assets in AMM pools go out-of-sync with that of external markets. And an AMM does not adjust the prices automatically due to lack of external market information.

As a result, arbitrageurs intervene. But, they have to

- Wait until the profit from the transaction (and thus the pool's expected loss) exceeds the trading fees
- Race/Compete against others who are also trying to arbitrage (Reduces success probability!)

This results in decreased trading volumes and hence a loss to pool and the liquidity providers because of low trading activity.

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And second, when arbitrageurs trade to balance the two markets, they make profits at the expense of the pool.

With CAM, we try to create a mechanism that is profitable for both the arbitrageurs and LPs, i.e.

- AMM continuously sells-off trading advantages for 24-hour periods at near zero trading fee!
- Proceeds from the auction are divided between:
  - Previous slot-holder (computed pro-rata), and
  - AMM pool

As a result,

- This eliminates wait time & race condition for auction slot holder (arbitrageur), thus reducing the periods of reduced trading activity
- Reduces the impact of Impermanent Loss for liquidity providers (LPs)
- Liquidity providers reap a share of profits that would otherwise go JUST to arbitrageurs

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Win-Win for all!