

# Cornell Payments Hackathon

# Introduction



**HazardCookie**

Developer Advocate, Ripple

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# Our Company

~1000 employees in 15 global offices  
working to achieve our vision of  
enabling the world to move value like  
information moves today:

**the Internet of Value**

We're on a **mission** to build  
breakthrough blockchain and crypto  
solutions for a world without  
economic borders



# Ripple's Lines of Business

## Ripple Payments

Enable secure, transparent, cost-effective cross-border payments that settle in real-time

## Metaco Custody

Enable the regulated financial industry to scale their adoption of distributed ledger technology and introduce blockchain-enabled products and services to their customers.

## RippleX

An “innovation arm” of Ripple that contributes to the XRP Ledger and developer community

# The differences between XRP Ledger, XRP, and Ripple



## Layer-1 Blockchain

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The XRP Ledger is a decentralized public blockchain that is open-source and powered by a global developer community.

Companies, institutions, developers and individuals around the world use the XRP Ledger for use cases across, tokenization, payments, stablecoins, CBDCs, and more.



## Native Digital Asset

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XRP is the native digital asset (token) of XRPL, similar to ETH for Ethereum or BTC for Bitcoin.

The primary utility of XRP is to facilitate transactions on the network.

XRP also serves to protect the ledger from spam, and to bridge currencies in the XRP Ledger's DEX.



## Technology Company

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Ripple is a technology company that builds blockchain and crypto solutions for businesses. Ripple's solutions use XRP and XRPL because they are fast, efficient, and reliable, making them the ideal duo for financial services use cases like payments. Ripple is also a holder of XRP.

Ripple is one of many developers building on and contributing to the XRP Ledger.

**XRP Ledger (XRPL) launched in 2012 to address limitations of crypto and fiat currencies for financial use cases, specifically payments**



# Over a decade, XRPL has matured into one of the most robust layer-1 blockchains

**100%**

decentralized blockchain with 600+ nodes processing transactions and maintaining the ledger

**1750+**

unique apps and exchanges on mainnet built by a diverse set of global developers

**5M+**

active XRP wallet holders around the world

**100+**

Proof-of-Association validators operated by universities, exchanges, businesses, & individuals

**2.8B+**

transactions processed representing over \$1T in value moved between counterparties

**\$30B+**

market capitalization of XRP, making it the ~6th largest cryptocurrency

# XRPL is intentionally designed to enable financial use cases

## Fast, Cheap, Green

Carbon neutral blockchain settling transactions every **3-5 seconds** at fractions of a cent per transaction for mass market adoption

## Institutional-Grade Functionality

Access complete blockchain functionality purposefully built for XRPL to **tokenize, trade, escrow, and move** financial assets

## Aggregated Liquidity

Capital in AMM pools or order books is **aggregated at the core blockchain layer**, not fragmented across competing applications

## Best-in-Class DEX Experience

Fully on-chain order books combined with AMM functionality create a **traditional finance trading experience built on decentralized technology**

## Built-in Compliance

Asset control features maintain uniform standards at the protocol layer and enable issuers to effectively control user access and safety

## Interoperability

A secure cross-chain bridge and infrastructure partnerships facilitate liquidity and positive user experience extending beyond XRPL Mainnet



# Some Upcoming Anticipated Protocols

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## Automated Market Maker

Designed to reduce impermanent loss and enable single-sided LP



## Decentralized Identity

A protocol using a global standard to enable user identity management



## EVM Sidechain

Designed to bring full programmability to the Ledger in familiar EVM environments



## Money Market

Designed to enable protocol native lend/borrow functionality

# XRPL AMM



## Protocol Native Build

- Aggregated Liquidity Pools - One protocol that shares liquidity regardless of how many user facing applications are built on top of it.
- Secure - All protocols undergo extensive testing and review, and must be approved by >80% of UNL Validators that secure the underlying XRPL.



## Limit Order Book Integration

- The AMM integrates with existing order books to form a unified DEX. The matching engine optimizes for best price across liquidity pools and order books and executes accordingly.



## Continuous Auction Mechanism

- Reduces impermanent loss by allowing arbs to bid for the right to trade at a reduced fee. LP tokens are burned in the process, creating more value for existing pool owners (LPs).



## Streamlined UX for Liquidity Providers

- Single-sided liquidity provision enables anyone to easily participate as an LP by contributing a single asset to a pool.
- A built-in voting mechanism provides LPs the opportunity to exercise control over pool trading fees.

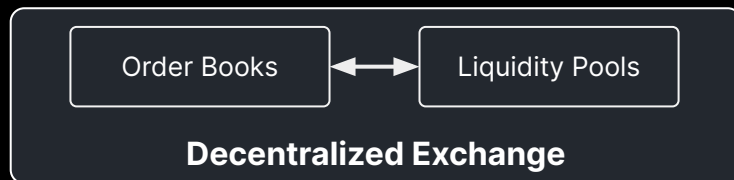
# The XLS-30 AMM is a novel DeFi innovation

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- **AMM-specific**
  - Continuous Auction Mechanism (*AMMBid*)
  - Protocol-level Governance (*AMMVote*)
  - Bi-directional CLOB integration
  - Single-sided LP (not entirely unique, nice-to-have)
- **XRPL-wide**
  - Low fees (less than 0.01 USD)
  - Fast transactions (3-5 seconds)
  - Liquidity aggregated at chain level
  - No gas wars - front-running protection

# XRPL DEX aggregates all liquidity into one protocol

*Breaking down walls of liquidity: One DEX that interconnects order books and liquidity pools for best price execution*



Fully on-chain order books operate 24/7 with liquidity provided by market makers



All transactions settle atomically in 3-5 seconds and cost fractions of a cent in network fees



Matching engine employs XRP as a bridge currency and routes transactions across multiple currencies to ensure optimal price execution



Automated Market Maker (AMM) enhances liquidity for tokenized assets and provide yield generating opportunities

# New XRPL Transactors

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Translator	Function
AMMBid	Manages the bidding for zero-fee trading slots.
AMMCreate	Facilitates the creation of new liquidity pools.
AMMDelete	Delete an Automated Market Maker instance with an empty asset pool.
AMMDeposit	Handles the deposit of assets into liquidity pools.
AMMWithdraw	Manages the withdrawal of assets from liquidity pools.
AMMVote	Enables voting on trading fees and other protocol changes.

# Votable Trading Fee

## Trading fee voting

Liquidity providers drive fee optimization, creating a dynamic and competitive environment that benefits all users on the platform.

XRP/BTC



Current fee  
Calculated from weighted votes

0.701%



Propose new fee  
Your desired fee

0



Smart vote



Your weight: 0%



Enter proposed fee

## Vote slots

% Fee

⌚ Weight

👤 Voter

1%

41.487%

rpWFO...VtJc

0.2%

24.321%

r3xoa...YXC7

0.5%

1.857%

rhYNG...cc9A

1%

1.474%

rNxAR...IqKc

0.407%

1.024%

r9HDV...kvHS

1%

0.35%

rJFE9...cSMY

0.333%

0.166%

rLtMD...HhGC

0.19%

0.023%

rK8ji...Qwex



# Continuous Auction

## Continuous Auction

Participate in ongoing auctions for a chance to trade with discounted fees, unlocking profitable arbitrage opportunities on the platform.  
Currently the discount for auction winner is 90%



XRP/USDT



Success

The auction slot is now yours

TX hash: 7A0A2...D2BD



### Auction info

Auction Slot Holder

rBPSb...DHw8 (You)

Price paid ⓘ

50,000

XRP-USDT LP tokens

Refund ⓘ

50,000

XRP-USDT LP tokens

Expires in

23 : 59 : 40

Hrs

Min

Sec



## XRPL Cheat Sheet



<https://github.com/radynamics/xrpl-cheat-sheet>

## XRPL Transactions Demo



<https://github.com/jiveyTO/xrpl-transactions-workshop>



## EVM Slidechain Demo + Resources

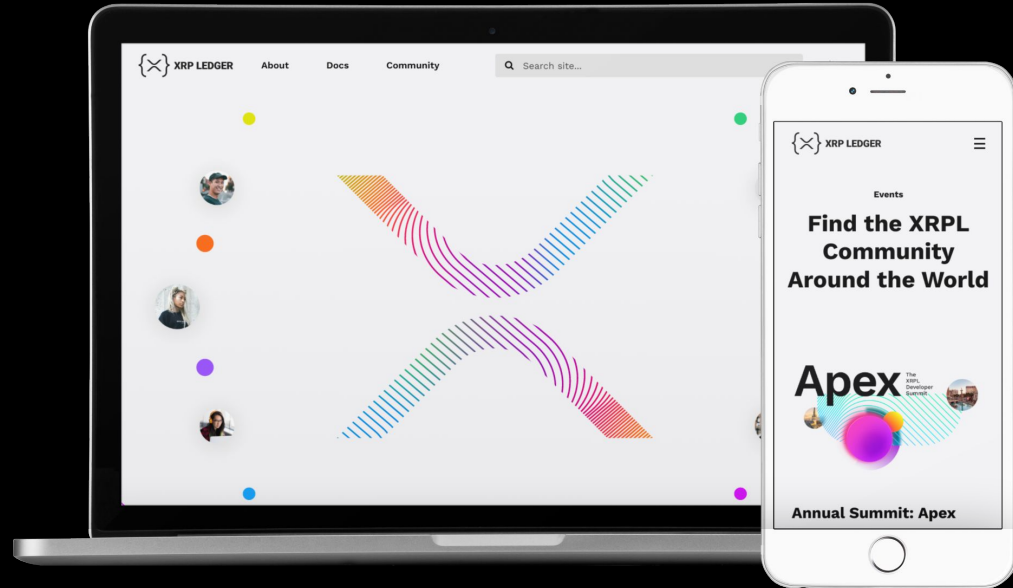


<https://github.com/hazardcookie/cornell-evm>

# XRPL.org



Explore the XRP ledger  
developer community,  
tutorials, and docs



# Win a Free Trip to XRP Ledger Apex 2024!

XRP Ledger Apex is the official global community summit that unites developers, innovators, businesses, and investors who are building the future of finance on the XRP Ledger blockchain.

Get ready for XRP Ledger Apex 2024! Finish the course for a chance to win a free trip to the conference in Amsterdam! Once you've completed the final lesson, fill out the form to be eligible!



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