X7

Whitepaper

Ethos

X7's founding team believes that capital should be available to those with great ideas and that the unflinching reliability of code and distributed consensus can provide capital while eliminating significant downside risk.
- X7DAO Founding Team

Trust no one. Trust code. Long live Defi.

Executive Summary

X7 is an ecosystem of innovative smart contracts that provide those with visionary ideas access to leveraged seed capital without lenders incurring the risk of losing the principal.

At the heart of X7 is a peer-to-peer Automated Market Making (AMM) Decentralized Exchange (DEX) integrated with a novel trustless, permissionless on-chain undercollateralized loan origination and servicing system known as the Lending Pool. Functioning similar to a bank, the Lending Pool takes deposits, converts them to loanable assets, manages the lifecycle of a loan issued to X7's DEX, and distributes the loan profits to the ecosystem.

This product white paper will lay out the core components and utility that each part provides and explain the ecosystem.

Problem Summary

From the beginning of human civilization, lenders have sought ways to mitigate the risk of losing their loaned principal. Several mechanisms have helped to reduce risk, the most common among them are "over-collateralization", the process of having the underlying asset be more valuable than the loan amount (for example a house should be worth more than the mortgage), "know-your-customer", the process of collecting personal data, income, credit scores and other information to compute the ability and likelihood of loan repayment and "default recovery", the process of recovering the loan value through force or default (banks use the legal system and repossession agents).

Cryptocurrency's immutability and security models make all of the traditional risks even greater. X7 solves all of these difficult problems by implementing a stop to liquidity events through the Xchange and Lending Pool architecture. This paper will explain the product functionality and architecture that enables X7 to operate.

Total Addressable Market

Ethereum and ERC20 tokens have 24hr trading volume in the 100s of billions. We will consider X7 a success if 1% of all trading volume takes place on Xchange.

Multi-chain Rollout

The initial release of X7 Finance's innovative token ecosystem and Xchange will be focused on the Ethereum blockchain. Our architecture and contracts will be able to run on all Ethereum Virtual Machine-compliant blockchains such as Binance Smart Chain (BSC), and Polygon, but to deliver a refined and polished experience we are taking a sequential blockchain release approach.

Customers And Use Cases

Understanding who our customers are, and what their needs and use cases are, is fundamental to finding product-market fit. We have identified 4 primary user personas that have distinct needs and have optimized the system to meet their requirements.

Project Launchers - Seeking Capital
The whole reason to build a Leveraged DEX is to enable those without large capital to access institutional scale capital. These users' activity is the core business value that is being created.

Capital Providers - Seeking Passive Returns
From individuals to institutions, our platform is built with insurance for safe returns. X7 Finance's architecture does not allow for over-capitalization or an under-reserve.

System Governors - Seeking Leadership
X7 Finance provides a limitless opportunity for market participants to bring positive change within the ecosystem with on-chain governance.

Traders - Seeking Active Returns
All tradable pairs are designed to influence price appreciation between each moving part of the ecosystem. The X7 Finance ecosystem tokens' built-in synergetic mechanisms feed each token's trading market and provide limitless arbitrage opportunities and advanced trading strategies.

Team

X7 is a globally distributed collective of developers. We strongly believe that who we are is irrelevant.

Our expectation is that all actors, ourselves included, will act in a self-interested manner while building and operating the X7 ecosystem.

The smart contract interactions and the DAO governance will express a system design built on this core thesis. The game theory driving actor behavior will enable the system to iterate to a globally optimal system state free from intervention by any one individual or state actor.

Trust no one. Trust code.

Community Stealth Launch

No plan of operations extends with any certainty beyond the first encounter with the main enemy forces.
            -As Helmuth von Moltke

In a DeFi world filled with meme tokens, larps, and "speculative" projects, X7 was stealth launched to bootstrap a community and be a test bed for the technology and ideas that the teams have been thinking about and working on in the background. Overwhelmingly positive community reception for the project and the hunger of the community for our product has accelerated our timetables. As the full ecosystem comes to fruition it should be known that these ideas have been refined and improved upon by the community's amazing outpouring of ideas and behaviors. We thank everyone, members of the community, we are building this for you!

X7 System Design Philosophy

Permissionless, trustless, censorship-resistant, decentralized architecture, decentralized governance.

In recent years, exchanges across the globe have been shutting their doors to customers simply because a sovereign state has decreed it. X7 is designed to overcome those shortcomings and give power back to the people. A quick definition of terms is in order to ensure the message is consistent and the community is able to understand what each term means.

Permissionless - No individual, organization, or sovereign state actor shall infringe on the functionality and usability of X7's system. We believe the world is better with free speech and freedom and our system is designed to prevent asking permission to interact with the system.

Trustless - Exemplified by the "Problem Statement" section, traditional loan systems have a problem with trust. Principle among them, is the trust that your loan will be repaid. X7's DEX is able to allow trustless loans between the Lending Pool and the Initial Liquidity Loan Requestor, leading to higher market capitalization and access to capital.

Censorship Resistant - Multinational corporations exert massive control over the finances of everyday people and recent stories of Visa, Mastercard, and PayPal blacklisting ordinary citizens from transacting on their networks highlight the need for a system to be resilient and resistant to those forms of censorship.

Decentralized Architecture - Engineering a system to not have single points of failure is a difficult task. X7 will run all parts of the system in multiple locations and open-source the final product so anyone can run the source code anywhere.

Decentralized Governance - Designing management processes to be handled by a group is also a difficult task, but X7's governance strategy is optimized to aggregate large groups' opinions into smaller decisions to vote on. In time, X7 will delegate that 51% of profits generated to community marketing multi sig wallet and community development multi sig and hand over all system controls to the DAO.

X7 Functionality Summary

Below follows a quick high-level summary of each component of the system and its role in the system.

Xchange

- Permissionless, trustless peer-to-peer AMM platform for swapping of ERC-20 tokens, seamless integration with Ethereum for swapping of ERC20-to-ERC20 and ETH-to-ERC20.
- Add Initial Liquidity to any ETH-based pair with our permissionless, trustless Initial Liquidity Loan (ILL) functionality, increasing liquidity and market capitalization.
- First among peers, X7's DEX's front-end dApp will connect and function with all top Uniswap Interface-compliant DEX's.

Initial Liquidity Loan

- Defined loan term created in a permissionless, trustless fashion to be funded and originated by the Lending Pool.

Lending Pool

- Manage loan terms availability, respond to loan origination requests, and balance reserves ratios.
- Manages deposits through a permissionless, trustless fully collateralized mintable deposit token, with a 1-to-1 face value of ETH, that can be staked for a share of the profits.

Constellation Token

- Collateralized reserves for Lending Pool's X7 Deposit tokens, with the functionality to accumulate token value and act as lender of last resort against X7Deposit token issuance.

DAO

- Manage operations of a system with a democratic decentralized governance model among self-interested on-chain actors.
- Balance of power provided by a team mint and future high-cost mint NFTs to balance power and interests in the system.

Xchange: A Leveraged Initial Liquidity Decentralized Exchange

X7's Decentralized Exchange is a peer-to-peer Automated Market Making (AMM) platform integrated with a novel trustless, permissionless on-chain undercollateralized loan origination and servicing system known as the Lending Pool. This section will describe the core functionality of the operations of DEX.

Technical Abstract

Xchange is built on a forked version of the Uniswap V2 Factory, Liquidity Pair, and Router contracts. There are two notable changes:

- The Liquidity Pair contract has added safeguards to allow it to support leveraged liquidity additions that ensure the leverage remains collateralized and can be liquidated in the event of loan default and appropriately manage Liquidity Tokens during an active Initial Liquidity Loan.
- The liquidity provider fee has been reduced from 0.3% to 0.2%. This reflects the reality that in many cases the liquidity providers for tokens are actually the token creators and the benefit they receive is more often via token price appreciation or token fees, not liquidity provision.

Additionally, the User Interface will allow a seamless experience trading across other Uniswap V2 style decentralized exchange pairs (such as Uniswap or sushiswap).

Understanding Swap Creation

A quick overview of how a user creates the ability to Swap tokens. The contract that actually allows swapping is called a Liquidity Pair.

In Uniswap, a user has 100M TokenA and & 10 ETH and wants to launch a Swap: calls TokenA#approve, then calls the Uniswap#AddLiquidityETH function sending 100M TokenA and 10Eth. A successful result yields a newly launched Liquidity Pair contract with 100M TokenA and 10Eth of liquidity.

In Xchange, a user has 100M TokenA and & 1 ETH and wants to launch a Swap with 10 ETH of Liquidity: calls TokenA#approve, then calls the Xchange#AddLoanedLiqudiity function sending 100M TokenA and 1Eth and a selected Initial Liquidity Loan. A successful result yields a newly launched contract with 100M TokenA and 10Eth of liquidity.

Creating an Swap for ERC20 token

Uniswap flow for setting up a Liquidity Pair

| User: 100M TokenA
User: 10 Eth | → | Uniswap: Add Liquidity | → | WETH/TokenA Liquidity Pair
Ready to Swap
Pair: 100M TokenA
Pair: 10 Eth |
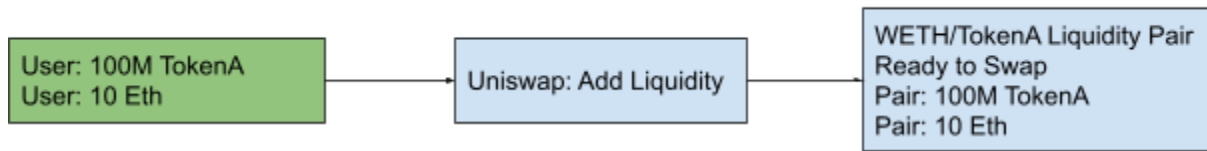
Xchange flow for setting up a Liquidity Pair

User: 100M TokenA

Origination Fee

X7 Lending Pool: 10 Eth

Xchange: Add Loaned Liquidity

Initial Liquidity Loan: 10Eth

WETH/TokenA Liquidity Pair
Ready to Swap
Pair: 100M TokenA
Pair: 10 Eth
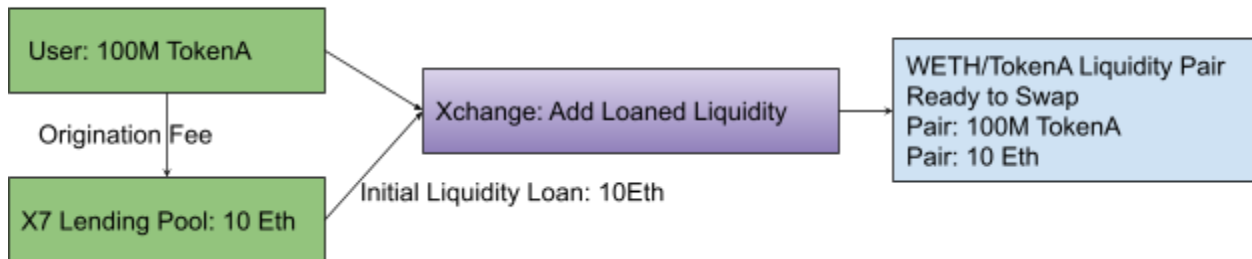
Trading Functionality

Swap

Similar to Uniswap, token swaps in Xchange are a simple way to trade one ERC-20 token for another.

For end-users, swapping is intuitive: a user picks an input token and an output token. They specify an input amount, and the protocol calculates how much of the output token they'll receive. They then execute the swap with one click, receiving the output token in their wallet immediately.

Swaps in Xchange are different from trades on traditional centralized exchange platforms. Xchange does not use an order book to represent liquidity or determine prices. Xchange uses a constant product automated market maker mechanism to provide instant feedback on rates and slippage.

Lending Pool

Lending Pool Overview

To provide leverage to the system, the Lending Pool acts as the manager of both funds and loans. This contract will be interacted with by Xchange.

Lending Pool Funding

To fund the Lending Pool, ETH from the X7 token ecosystem has been accumulating in the Ecosystem Splitter and will be the first liquidity deposited into the Lending Pool. This ETH will be locked forever and will grow over time. Users are also able to contribute to the Lending Pool via Deposits.

Deposits

Users will be able to deposit ETH and receive an X7 deposit token.

When X7Deposit is minted, it is a face value equivalent to ETH.

      1 X7D = 1 ETH

When deposited, the ETH will enter the lending pool and be available for automated lending.

The lending pool will maintain a reserve of constellation tokens sufficient to back any externally funded lending pool liquidity.

X7D tokens can be wrapped in an NFT and staked. At maturity, this NFT will pay returns based on the rising constellation token floor.

Lending Functionality

Lending is a fully automatic process managed fully by Xchange's interfacing with the Lending Pool via Initial Liquidity Loans.

For end-users, wanting to participate in lending: a user selects the amount of Ether to deposit or withdraw from the Lending Pool. Receipts for deposit are issued in X7 deposit, redeemable 1-to-1 with Eth, and may be staked for a portion of the loan fees.

Initial Liquidity Loan

An initial liquidity loan provides a mechanism to add initial liquidity to an automated market making trading pair with borrowed capital. The terms and conditions for borrowing this capital and returning it to the lender provide for the lender and the borrower to manage their cost of capital and repayment schedules in a way that supports the nature of the offering and the size and duration of the loan.

Initial Liquidity Loan Terms

Loan terms are defined by standalone smart contracts that provide the following:

1. Loan origination fee
2. Loan retention premium fee schedule
3. Principal repayment condition/maximum loan duration
4. Liquidation conditions and Reward
5. Loan duration

The reference implementations that will be active at launch will have the following terms:

Simple Loan

Loan Name	Simple Loan
Loan Origination Fee	25% of borrowed capital, payable within the transaction for adding initial liquidity
Loan Retention Premium Fee Schedule	No interest payment
Principal Repayment Condition	100% principal must be returned by the end of the loan term.
Liquidation conditions and Reward	Failure of full repayment of principal by the end of the loan term will make the loan eligible for liquidation. 5% of the loan origination fee will be reserved for a liquidation bounty.

Amortizing Loan with interest

Loan Name	Amortizing Loan with interest
Loan Origination Fee	10% of borrowed capital, payable within the transaction for adding initial liquidity
Loan Retention Premium Fee Schedule	6.25% of borrowed capital payable by the end of each quarter of the loan term for a total retention premium fee of 25% of borrowed capital
Principal Repayment Condition	25% of the capital must be repaid on each quarter
Liquidation conditions and Reward	Failure to pay a premium + principal payment by its due date or repay the principal by the end of the loan term will make the loan eligible for liquidation. 10% of the loan origination fee will be reserved for a liquidation bounty.

Interest Only Loan

Loan Name	Interest Only Loan
Loan Origination Fee	15% of borrowed capital, payable within the transaction for adding initial liquidity
Loan Retention Premium Fee Schedule	6.25% of borrowed capital payable by the end of each quarter of the loan term for a total retention premium fee of 25% of borrowed capital
Principal Repayment Condition	100% principal must be returned by the end of the loan term.
Liquidation conditions and Reward	Failure to pay a premium payment by its due date or repay the principal by the end of the loan term will make the loan eligible for liquidation. 10% of the loan origination fee will be reserved for a liquidation bounty.

Loan Duration

Due to capital management considerations and to be agile in dialing in product-market fit, initial loan durations will be limited to 10 to 90 Days.

These initial durations reflect the expected initial product market of DeFi token launches. As the market expands to longer and more well-defined projects, the durations are expected to be longer and the origination and premium fee structures may become more competitive with other forms of financing.

Loan Liquidation

Anyone may liquidate eligible loans through a transaction. Doing so will result in the borrowed capital being returned to the lender (lending pool or third-party lender) and the liquidator will receive the liquidation bounty.

Initial Liquidity Loan Origination

Initial Liquidity Loans can be funded in two ways.

Lending Pool Origination

If the lending pool has sufficient liquidity to fund a loan, the loan will immediately be funded and the AMM liquidity pair will be created. Loan origination fees will be collected and proceeds will be distributed throughout the X7 ecosystem. A portion of the origination fee will feed back into the lending pool to grow the capital available for automatic lending.

Tokenized Loans

When a leveraged pair loan is requested that cannot be serviced due to insufficient liquidity within the lending pool, the request will cause an NFT to be minted. This NFT can be claimed by funding the loan, and results in an instantaneous return to the claimer of part of the loan origination fee. Possession of the NFT grants the holder a portion of the premium returns in the future as well as rights to claim the initial lent principal.

This mechanism will allow for a more effective bootstrapping period during which the lending pool may not have the proper liquidity to meet loan demand.

It will also provide a means for the lending platform to meet truly extraordinary lending requirements where third party liquidity providers can provide massive initial liquidity for an immediate return.

Since these loans will be represented by ownership of an NFT and the benefits accrue to the owner of the NFT, the NFT itself may be transferred, auctioned, bought, sold, or held by smart contract to create a variety of ways that a lender may attempt to maximize their profit, limit their short term exposure, or otherwise draw upon their lent capital before the loan term concludes.

DeFi participants are encouraged to create private "lending pools" that will attempt to fund loans (a riskless activity) and pay returns to liquidity providers. The X7 ecosystem will not provide this particular capability.

Lending Terms Governance

The lending process delegates the loan terms to standalone smart contracts (see above and below for more details). These loan terms contracts must be deployed, and then "added" or "removed" from the lending pool as "available" loan terms for new loans. The DAO will be able to add or remove these term contracts.

Loan term contracts may be created by any interested third party, enabling a market process by which new loan terms may be invented, provided they implement the proper interface.

Borrowing

Much in the same way an IPO is underwritten by a bank as a market maker, the X7 borrowing capability provides this capacity within the context of the Uniswap V2 automated market maker technology.

The core borrowing functionality within X7 applies to Initial Liquidity Offerings.

This capability allows for new liquidity pairs to be created with borrowed ETH. This lowers cost to launch a project, increase liquidity, and reduces the amount of capital locked to a pair.

Xchange's intuitive UI will allow an easy selection of terms. Simply select the amount you wish to borrow and the Initial Liquidity Loan term you want to use, and the number of tokens you wish you include in the pair.

Governance

Charter

All dynamic aspects of the X7 ecosystem will ultimately rest with the DAO to decide upon.

The DAO will be responsible for modifying tokenomics, changing profit allocation, upgrading the upgradeable components, and determining the long-term fate of locked liquidity.

The X7DAO token is the voting token within the DAO, and a portion of project revenue will flow into the DAO token in the form of liquidity injections.

The expected outcome is that DAO holders will maximize the medium and long-term gain of the DAO token. The ecosystem properly aligns this selfish profit motive with the efficient and healthy operation of the ecosystem.

Control Structure

The DAO shall operate through central governance contracts.

For all functions the DAO may control, there will be two options:

1. Make the relevant change
2. Delegate the authority to make those kinds of changes to an address.

The expected way that this will work is that multi-signature wallets will be deployed to form "committees" which can self-govern in terms of membership in the committee and the operations the committee executes.

At any time a DAO vote can be undertaken to revoke authority from a committee if it is not performing as needed

For example, one feature that will exist is the addition of new loan term contracts. In order to efficiently respond to the market, the DAO could vote to allow a developer or a multi-signature wallet controlled by a number of known parties the ability to add and remove loan term contracts. This group could also be funded by the treasury to pay for the development and audits of new loan term contracts. This group could do market research and rapidly iterate to find profit-maximizing terms. If this group begins to operate maliciously or ineffectively, their control of the loan term change capability can be revoked.

DAO configuration

The core quorum and proposal thresholds are not configurable.

However, it is not known a-priori how rapid voting phases should be. There is a tradeoff between speed of execution and time for deliberation that must be balanced. The initial durations for each proposal phase will be set as a starting point. However, these durations may be changed (within hard-coded limits) to meet future governance needs.

Proposals and Voting

Voting will occur in multiple phases, each of which has either a minimum or maximum time phase duration.

Phase 1: Quorum-seeking

X7DAO token holders will be able to stake their tokens as X7sDAO, a non-transferrable staked version of X7DAO.

A quorum is reached when more than 50% of circulating X7DAO has been staked as X7sDAO.

Once a quorum is reached and a minimum quorum-seeking time period has passed, the X7sDAO tokens are temporarily locked (and no more X7DAO tokens may be staked until the next Quorum seeking period) and the governance process moves to the next phase

Phase 2: Proposal creation

A proposal is created by running a transaction on the governance contract which specifies a specific transaction on a specific contract (e.g. setFeeNumerator(0) on the X7R token contract).

Proposals are ordered, and any proposals that are passed/adopted must be run in the order that they were created.

For example, if there were two proposals, the first to setFeeNumerator(0) and the second to setFeeNumerator(500), that both passed, the first setFeeNumerator(0) would be run, and then setFeeNumerator(500) would be run, resulting in the feeNumerator being 500. This can be used strategically by proposers to create "nullifying" proposals to maximize the time they have to advocate for their position of non-action in the event the original change should pass.

Proposals can be made by X7sDAO stakes of 500,000 tokens or more. Additionally, holders of Magister tokens may make proposals. Proposals may require a refundable proposal fee to prevent process griefing.

Phase 3: Proposal voting

Each proposal may be voted on once by each address. The voter may specify the weight of their vote between 0 and the total amount of X7sDAO they have staked.

Proposals pass by a majority vote of the quorum of X7sDAO tokens.

A parallel voting process will occur with Magister tokens, where each Magister token carries one vote.

If a majority of magister token holders vote against a proposal, the proposal must reach an X7sDAO vote of 75% of the quorum of X7sDAO tokens.

Phase 4: Proposal adoption

During this phase, proposals that have passed will be enqueued for execution. This step ensures proper ordering and is a guard against various forms of process griefing.

Phase 5: Proposal execution

After proposal adoption, all passed proposals must be executed before a new Quorum Seeking phase may commence.

Process Adaptation

Since any change that the core DAO governance process can control may be delegated, novel other mechanisms for voting may be created and changes can be delegated to that new process.

For example, a trusted group of individuals could be delegated control, and that trusted group could run an off-chain trustful process of voting.

If this process was ever corrupted, the DAO could regain trustless on-chain control through a majority vote.

The X7 developers believe this governance structure will enable novel future governance innovation while never permanently relinquishing control to any external authority.

Tokenized Governance

The X7 DAO structure is highly codified and provides almost no direct latitude for human intervention. This is by design and is one of the greatest strengths of the X7 DAO governance structure.

There is however a chance that through collusion and the inaction of DAO holders a large DAO holder could submit a proposal that was in their best interest and and not the best interest of the project.

To help provide a check and balance, a maximum of 49 Magister tokens can be minted. Seven of these tokens were minted and given to the X7 development team. The other 42 may be minted for a fee.

Any proposal may be vetoed by a majority of minted Magister tokens. It will require a ¾ supermajority DAO vote to overturn a Magister veto.

An additional side effect of this governance feature is that the original ecosystem developers will retain a level of authority at the beginning of DAO control handover, but this authority can and will be diluted as Magister tokens are minted. The final governance influence of the original developers will become minimal once all Magister tokens have been minted, and once 8 additional Magister tokens are minted the original developers will no longer maintain a controlling voting block on Magister votes.

X7 ecosystem token Liquidity Provider Tokens (LP)

The original stealth launched tokens had their liquidity tokens sent to the burn wallet. This was to instill confidence in investors of a stealth launch that there was no intention or ability to withdraw the capital in the liquidity pairs.

While the X7 ecosystem of smart contracts is being built with the flexibility and resilience to last, it is possible that eventually a systemic upgrade will need to take place. All X7 ecosystem tokens LP tokens (initial + auto liquidity) are being locked in a time-lock contract. The default destination for this LP will be the burn wallet and the starting lock time will be 2 years. The DAO will be able to perform any of the following actions on the time lock contract:

1. Extend the time lock
2. Change the receiver

When the time lock expires, the receiver address will be able to withdraw any of the tokens in any amount. This will allow trustless, contract driven migrations from the old tokens to new

uses for that LP. If no action is taken the LP will remain locked as no transactions will ever be received from the dead address.

Tokenomics

A typical structure for funding project operations from tokens is to collect a percentage of traded tokens and periodically swap those tokens in the ETH pair.

1. The variables associated with this activity are:
2. Percent of swap transaction tokens collected on buys and sells
3. The token balance threshold at which to swap tokens into ETH
4. The maximum swap transaction size (to limit extreme downward price action and maximize token return).
5. Allocation of swapped ETH:
    a. Collected for operations
    b. Buy back and burn
    c. Buy back and add liquidity

All of these settings will be dynamic and modifiable to affect the allocations of capital throughout the ecosystem.

Advanced Trading and Revenues

There will be a complex interplay between the transfer of funds between:

- The lending pool
- The staked (pegged) ETH token
- The "constellation" token liquidity sink
- The reward token
- The dao token

At various moments money will flow between the lending pool, the constellation tokens, and the staked ETH token, and opportunistic traders may find swing trading or arbitrage trading profitable. This swing trading will drive tokens and fees back into the rest of the ecosystem and provide a solid financial vehicle for speculation on future growth.

This kind of trading is intended for advanced traders. The full breadth of strategies this ecosystem will support are not known apriori and will be discovered.

Ecosystem Overview
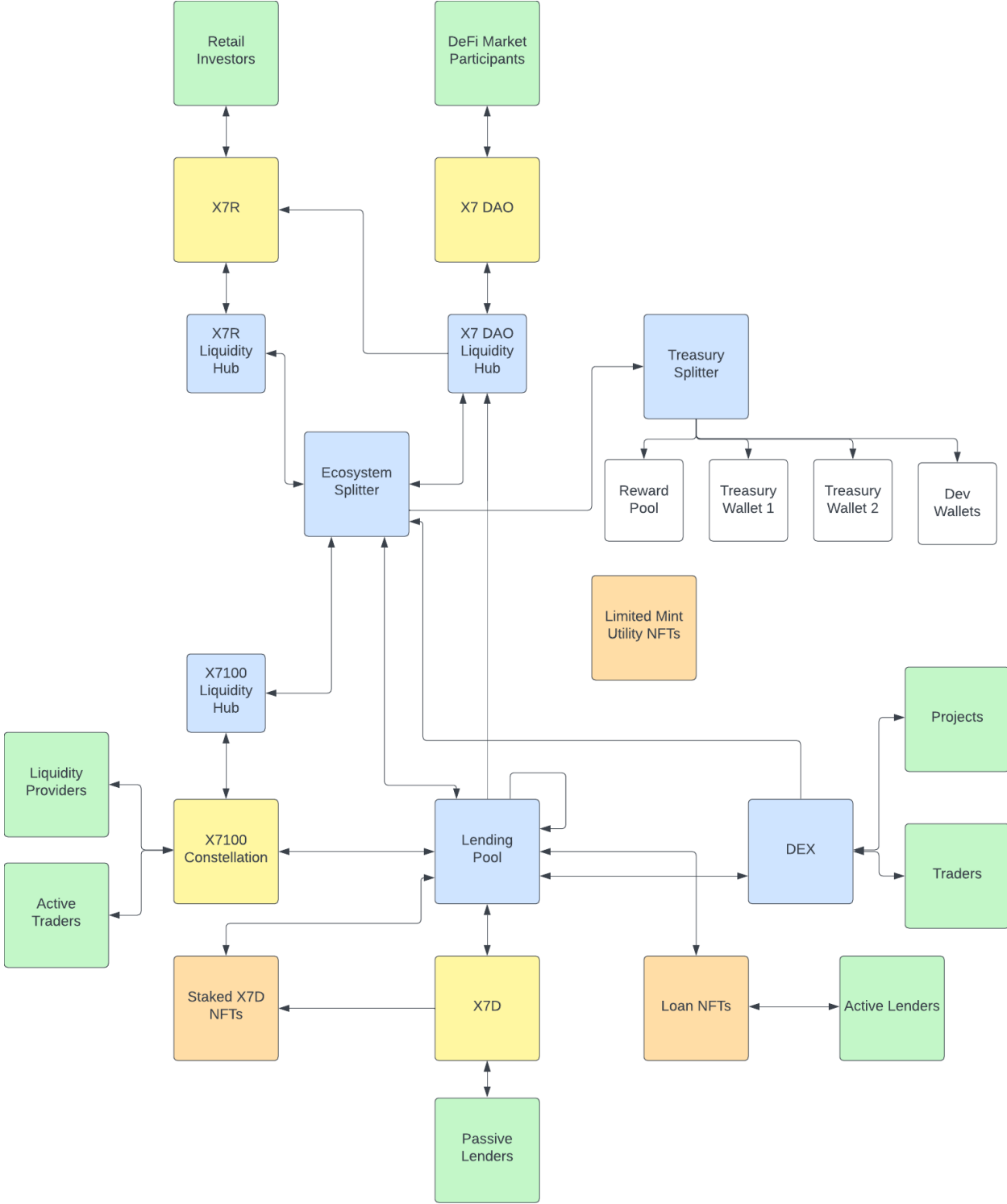
X7R

In order to attract as many interested parties into the ecosystem and ensure that the number of people that can benefit from this decentralized system is maximized, a deflationary "benefit" or "reward" token will exist that will receive buybacks, burns, and liquidity additions.

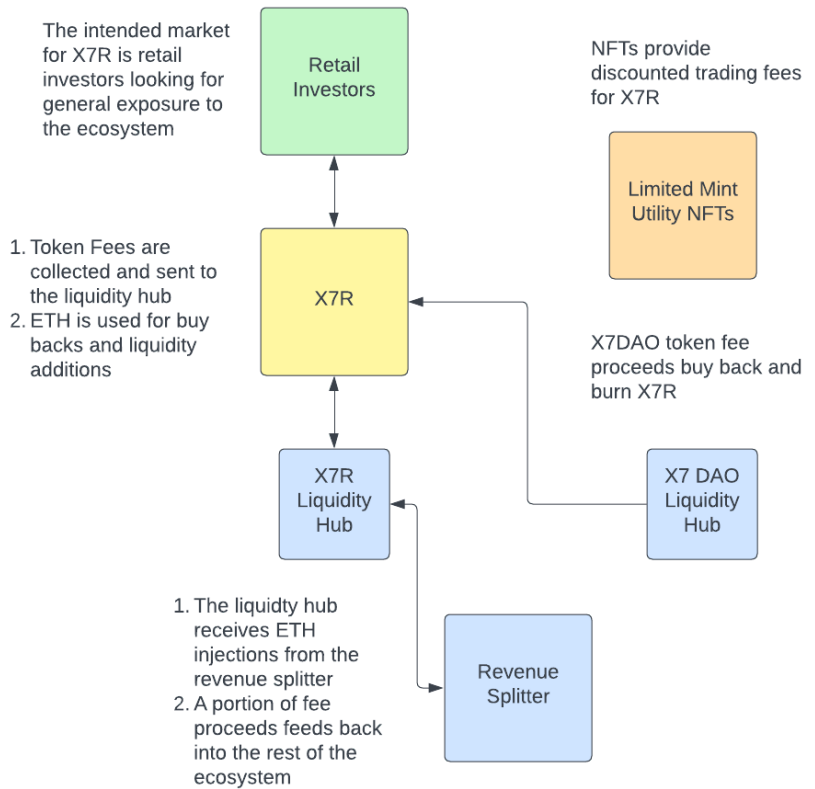This token will be most interesting to retail investors that want to be exposed to the overall upside without significant effort on their part.

At the start, this token will have a token fee associated with trading it, but it is expected that the DAO will lower that fee to zero once there is less need for ad-hoc manual capital injection.

This token is expected to eventually be traded on every major centralized exchange.

The intended market for X7R is retail investors looking for general exposure to the ecosystem

Retail Investors

1. Token Fees are collected and sent to the liquidity hub
2. ETH is used for buy backs and liquidity additions

X7R

NFTs provide discounted trading fees for X7R

Limited Mint Utility NFTs

X7DAO token fee proceeds buy back and burn X7R

X7R Liquidity Hub

X7 DAO Liquidity Hub

1. The liquidty hub receives ETH injections from the revenue splitter
2. A portion of fee proceeds feeds back into the rest of the ecosystem

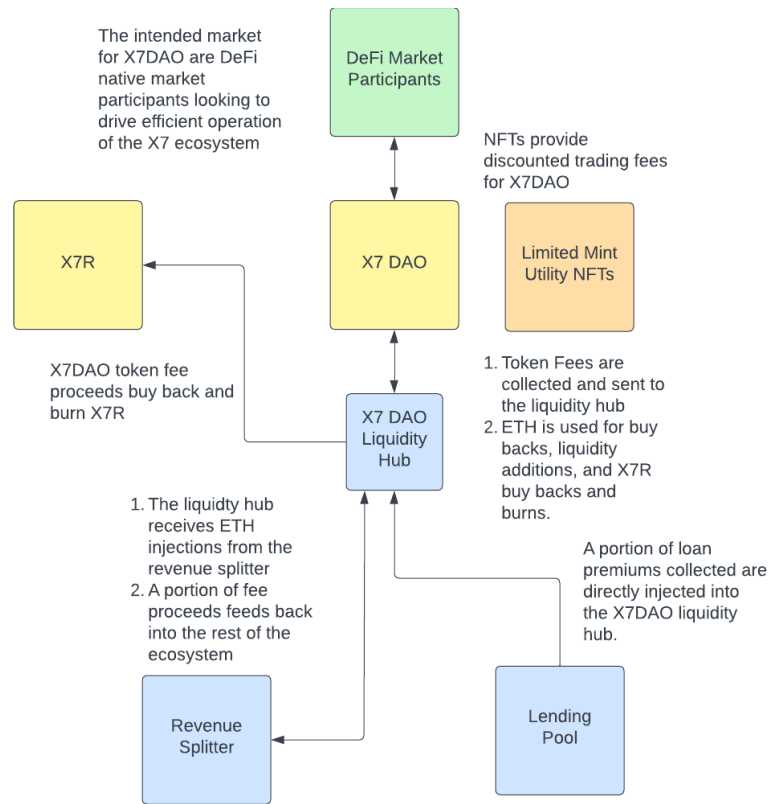**Revenue Splitter**

Supply	100,000,000
Decimals	18
Trading Fee (Buy/Sell)	6%
Fee Allocation	30% ecosystem splitter 40% auto liquidity 30% treasury
Excess Allocation	Liquidity

X7DAO

An ERC20 governance token which allows holders to vote on fee rates, loan terms, funding terms, tradable token tax terms, distribution of capital flows and any additional settings on and off chain. This includes the establishment of committees and other foundational efforts off chain.

There is a complex interplay between the various tokens and contracts within the X7 ecosystem. While the X7 development team will seed these contracts with reasonable percentages, rates, terms, etc. the optimal values are not known apriori.

Holders of X7DAO tokens will be able to participate in proposals to modify various settings across the ecosystem.

The intended market for X7DAO are DeFi native market participants looking to drive efficient operation of the X7 ecosystem

NFTs provide discounted trading fees for X7DAO

X7DAO token fee proceeds buy back and burn X7R

1. Token Fees are collected and sent to the liquidity hub
2. ETH is used for buy backs, liquidity additions, and X7R buy backs and burns.

A portion of loan premiums collected are directly injected into the X7DAO liquidity hub.

1. The liquidty hub receives ETH injections from the revenue splitter
2. A portion of fee proceeds feeds back into the rest of the ecosystem

DeFi Market Participants

X7R

X7 DAO

Limited Mint Utility NFTs

X7 DAO Liquidity Hub

Revenue Splitter

Lending Pool

A portion of lending and DEX revenue will flow into the X7DAO liquidity pair as buybacks and liquidity additions as well as direct rewards to X7DAO voters.

See the Governance section below for more details on the DAO governance system.

Supply	100,000,000
Decimals	18
Trading Fee (Buy/Sell)	6%
Fee Allocation	30% ecosystem splitter 20% auto liquidity 25% X7R Buyback and burn 25% treasury
Excess Allocation	Liquidity

X7Deposit (X7D)

A wrapped ETH token will exist to encourage capital injection into the lending pool. Users will mint these X7Deposit tokens at a 1:1 face value of ETH.

In the beginning of the X7 ecosystem, this will be similar to holding ETH, and there will be zero risk to adding ETH to the lending pool.

X7Deposit tokens may be staked for rewards in the form of a perpetual annuity that performs against the growth of liquidity within the system.

Tokenized X7D Deposits

When X7Deposit is staked an NFT is generated which records the following:

1. Amount of X7D it is redeemable for
2. The locked liquidity floor price of the constellation tokens
3. The X7D Token lockup period

After the maturity date, the holder of the NFT will be able to withdraw profit and restake or withdraw their X7Deposit.

Profits are determined by comparing the locked liquidity floor price of the constellation tokens at staking time to the current locked liquidity floor price. A large portion of the lending proceeds will go towards buying back and adding locked liquidity to the constellation tokens. This activity provides a mechanism for calculating an actual return that reflects the profit from lending.

Staked X7D NFTs will have an intrinsic value above the X7D/ETH redemption face value and may be traded on NFT markets as a form of a future on the lending pool returns.

Supply	Mintable against deposited ETH and collateralized by the X7100 constellation
Decimals	18
Trading Fee (Buy/Sell)	0%
Fee Allocation	n/a
Excess Allocation	n/a

Non-Fungible Tokens

Over the last few years there have been plenty of examples of NFTs selling jpegs. But NFTs within the X7 ecosystem will be pure utility.

Non-Fungible Mint Pricing and Capability

The mint price and NFT capabilities may be controlled by the DAO to ensure that any benefits are net-neutral or net-positive to the X7 ecosystem.

Tokenized Discounts and Benefits

Within the X7 ecosystem, various parts of the system incur fees. LP trading fees on the decentralized exchange, loan origination fees, loan interest, and token swap fees. Providing a limited set of NFTs that provide discounts and other benefits will enable power users and community members to significantly reduce their cost of use and encourage adoption.

There are four flavors with different benefits, outlined below.

Kind	Benefits	Maximum Mints	Initial Mint Price
Ecosystem Maxi	25% fee discount on X7100 10% fee discount on X7DAO and X7R	500	0.1 ETH
Liquidity Maxi	50% fee discount on X7100 25% fee discount on X7R 15% fee discount on X7DAO	250	0.5 ETH
Dex Maxi	50% discount on DEX LP fee	150	0.5 ETH
Borrowing Maxi	10% loan origination fee reduction 20% loan premium discount	100	1.0 ETH

Pioneer Commemorative NFT

Any wallet address that bought at least 1000 v1 tokens (the sum of any combination) will be able to mint a Pioneer NFT. The Pioneer NFT will have unique generative art as a commemorative item. The Pioneer NFT will also grant the holder a perpetual right to periodically draw native token rewards from a reward pool funded by the treasury splitter, giving it intrinsic future value in the form of redeemable rewards.

Magister NFT

Each Magister token will cost 50 ETH to mint, and that ETH will go directly into token liquidity across the ecosystem. The Magister token also offers discounts on dex trading and loan origination.

Roadmap

At the time of publishing of this whitepaper a significant portion of the above described ecosystem has already been built and tested, however it is critical to note that software systems are best released incrementally so as to ensure each component works properly "in the wild" before considering it released and "locking it in place". The following represents the current (as of this version of the whitepaper) roadmap. These should be considered more like milestones than a calendar of events. As each is accomplished we know we are one step closer to general release of the ecosystem into the global wild.

- Pioneer NFT & Reward Pool implementation
- Xchange and Leveraged Initial Liquidity Capability
- Lending dApp
- X7D Minting
- X7D Staking NFTs
- X7D Dashboard dApp
- DAO Governance Contracts
- DAO Governance dApp

In addition to the above development milestones, the following additional deliveries can be expected:

Marketing Materials:
- Investor deck/summary
- Prettified ecosystem diagrams and explanations

Development Tooling and Documentation:
- Technical design document for all smart contracts
- Smart contract trust diagram
- Technical User Guide for DAO interactions
- Integration Guide for third party integrations
- Open sourced SDKs for smart contract interactions
- Open sourced testing and development tooling

DAO Handoff

Once the above has been completed we expect that we will be able to turn over a large portion of the ecosystem to DAO governance.

Until we are fully confident in each component's proper operation the X7 development team will retain some ability to provide emergency remedial actions. These kinds of retained privileges will not extend to custodial services of funds or liquidity, but to overall system operation and settings.

As the DAO handoff occurs, and DAO participants self-organize to maximize their profitability, we expect an increasingly rapid turnover of control until the only special control the X7 development team has is through the Magister NFTs. And so to, that level of control will diminish over time.

Future Developments

The X7 ecosystem provides mechanisms not only for individual investors and lenders to profit from the ecosystem activities but also for the flow of capital into the hands of the DAO (and its delegates).

Our expectation is that these funds will at first be focused on marketing and business development activities, but then in the future will fund other kinds of project needs, such as additional features and components to the blockchain ecosystem and the user interface.

We would find it plausible that the DAO could choose to contract out the development of novel loan term contracts or whole new sources of revenue for the project (which could in turn contribute to the ecosystem splitter).

Below is a non-exhaustive list of possible future developments.

- Launch accessory services
  - Token and Initial Liquidity Lockers
  - Launchpad services
  - Trustless consensus-driven code audit services
- Advanced Trading
  - Leveraged trading capabilities, building on learned experience from leveraged initial liquidity and capital-protecting liquidity pairs
  - Wrapped assets to expose the holder to various levels of profit exposure within the X7 ecosystem
- Liquidity pairs with configurable or alternative automated marketing making capabilities
- Non-native token (ETH, BNB, etc.) initial liquidity loans

Trust no one. Trust code. Long live Defi.