

UnUniFi

~Layer1 blockchain protocol for providing efficient NFT lending through an internal NFT marketplace on the Cosmos ecosystem ~

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December 2021

updated: September 2022

Abstract

UnUniFi is a Layer1 blockchain protocol for providing efficient NFT lending through an internal NFT marketplace on the Cosmos ecosystem. UnUniFi creates solutions to problems such as a “Lack of liquidity for NFTs, forcing the NFT holders to wait for capital gains” and “Other NFTFi services not giving users an accurate valuation based on solid demand for the NFTs that the users own.” The value proposition of UnUniFi is to provide efficient NFT lending services by offering NFT valuations based on solid demand using an internal NFT marketplace and maximizing the benefits of NFT assets.

UnUniFi aims to be a dApps platform with NFT price information at its core, with the internal NFT marketplace serving as the NFT price discovery function.

Our mission is to “Give all NFTs the opportunity to DeFi”.

1. Introduction

1.1. Problems faced by NFTs

Once regarded as a fad (for some, it still is), NFTs, digital assets that depict real-world objects, are becoming increasingly popular within and outside the crypto world.

But with large amounts of capital locked into illiquid NFTs, more people are looking for ways to unlock liquidity without selling their NFTs.

1.2. Problems faced by stablecoins designed to achieve the current stable price

A stablecoin is a cryptocurrency token which has its value pegged to a stable asset at a 1:1 ratio. Usually, they are pegged to an asset such as gold or a fiat currency like the US dollar. The fundamental concept of a stablecoin is to hold the stability of its pegged value while maintaining its reputation as a cryptocurrency. It holds the best aspects of the cryptocurrency market but leaves the volatility behind.

There are three main types of stablecoins designed to achieve stable prices on the blockchain: (i) fiat-backed stablecoins, (ii) crypto-backed stablecoins which are backed by cryptocurrencies such as ETH, and (iii) non-collateralized stablecoins. Many legal fiat-backed stablecoins are coming to market, but they have some problems. USDT, issued by the U.S. company Tether, is a typical example of a legal tender-backed stablecoin, but there is a risk that the issuing company may misuse the assets (such as dollars) that serve as collateral. In addition, fiat-backed stablecoins are susceptible to regulation by various countries. Non-collateralized stablecoins will only work if the demand for stablecoins increases in the long term. The stablecoins most reasonably likely to scale at this point are crypto-backed stablecoins.

1.3. The rise of NFT + Decentralized Finance (DeFi)

DeFi is short for “Decentralized Finance”, a generalized umbrella term used to describe a variety of cryptocurrency and blockchain-based financial applications geared towards disrupting legacy financial institutions. DeFi is not reliant on central financial intermediaries such as brokerages, exchanges, or banks to offer users access to traditional financial instruments, and instead utilizes smart contract-based applications that are built on top of existing blockchain-based platforms. In regard to DeFi, there is a growing movement to make finance more efficient with ideas not only limited to exchanging tokens, but also realizing existing financial products (such as corporate stocks) on the blockchain.

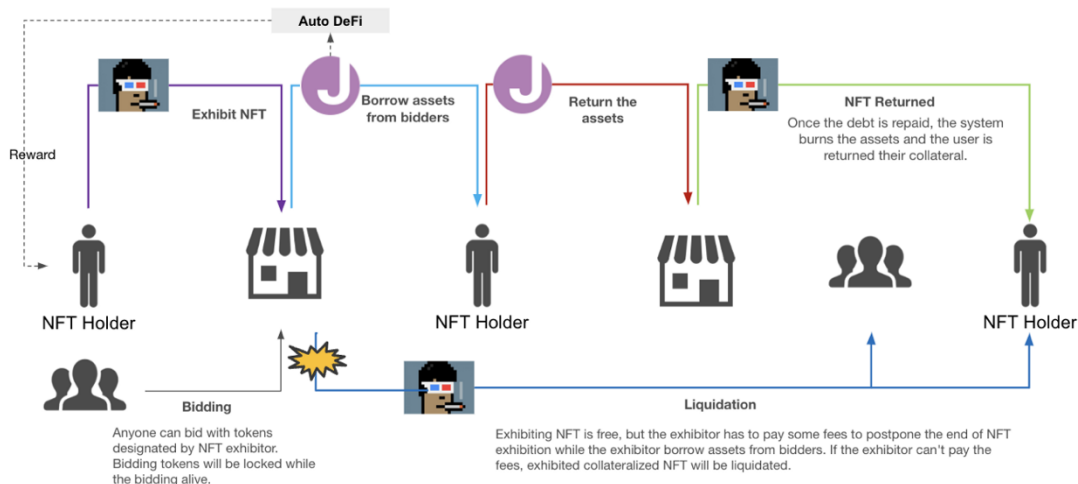
“NFTs are undoubtedly becoming a gateway into the DeFi space for mainstream audiences,” said Lauren Stephanian, a principal at Pantera Capital. “As new collectors become more active in the NFT market, they’ll seek new ways to leverage their assets through DeFi mechanisms like collateralized lending, fractionalized assets, staking and much more.”

2. The tokens of UnUniFi

GUU (Governance token of UnUniFi) is a utility token for governance or commission used in the UnUniFi Protocol.

JPU, EUU or USU is a digital asset drawn from the UnUniFi Protocol on Cosmos Network. The price of JPU, EUU or USU are nearly equal to that of JPY, EUR, or USD. A user can supply NFTs and cryptocurrencies to UnUniFi Protocol, borrow JPU, EUU or USU, and through leveraging those stablecoins, UnUniFi automatically integrates DeFi operations, benefitting its users.

3. NFT Lending Service on UnUniFi Protocol



3.1. Borrow crypto assets with NFTs as collateral

When NFT Holders create CDP (Collateralized Deposit Position) with NFTs as collateral, the NFTs will be exhibited on the UnUniFi marketplace.

The seller(exhibitor) can choose one of the following two options:

- A method that allows the buyers to make a bid with any token
- A method in which the buyers need to make a bid with a particular token (ETH, BTC, etc.)

If seller (exhibitor) chooses the former option, seller (exhibitor) can borrow any newly minted stablecoin on UnUniFi, such as JPU or USU. As the average bid price q up to n th place, $q \times r\%$ of the synthetic asset can be borrowed.

r is the collateral ratio. Assumed to be 50% at first.

If the seller (exhibitor) chooses the latter, the seller (exhibitor) can borrow the tokens selected for the bid. Additionally, seller (exhibitor) can borrow 100% of q as the average bid price up to n th place.

Why “ q ” is the collateral & settlement price:

The i th highest bid price is denoted as p_i .

n is a parameter determined by the NFT exhibitor. The default value is $n = 10$. In this system, bidders have to deposit their balance in proportion to the bidding price. The deposit amount of the bidder of the i th highest bid price is denoted as d_i .

We define that:

$$d_i = \frac{1}{n} p_i$$

The maximum value of using a NFT as a collateral will be denoted as q . In this system, we define that:

$$q = \sum_{i=1}^n d_i = d_1 + \dots + d_n = \frac{1}{n} \sum_{i=1}^n p_i$$

It means that, the maximum value of using a NFT as a collateral is, an average of top n highest bid prices.

Exhibiting a NFT is free, but if the exhibitor is already borrowing assets from bidders, then the exhibitor will have to pay fees to continue exhibiting the NFT. These extended listing fees (minus protocol fees) are distributed to bidders. If the exhibitor can't pay the fees, the exhibited collateralized NFT will be liquidated.

The NFT seller (exhibitor) can also use the borrowed assets for staking. To facilitate this we are developing an Interchain Yield Aggregator module, which we envision as a mechanism for automatic income gain. The Interchain Yield Aggregator allows users to find high-yielding opportunities by staking in a separate chain that supports IBC.

EXAMPLE for JPU minting:

- NFT exhibitor: put NFT into collateral vault.
- bidder: put any token into bidding vault.
- NFT exhibitor: mint JPU by using the bid funds as a collateral. If he wants to extend the end of the exhibition, he has to pay the fee in JPU.
- NFT exhibitor: mint JPU by using bid funds as a collateral, and earn interest.

EXAMPLE for ETH borrowing:

- NFT exhibitor: put NFT into collateral vault.
- bidder: put ETH into bidding vault.
- NFT exhibitor: borrow ETH. If he wants to extend the end of the exhibition, he has to pay the fee in ETH.
- NFT exhibitor: interest is earned directly.

3.2. Bidding

Anyone can bid with tokens designated by the NFT exhibitors. Buyers can make a bid for the NFT they wish to buy, and can cancel their bid as needed. Buyers can make a bid anytime by adding the purchasing assets for bidding in advance. The deposited bidding tokens will be locked while the bid is live.

Instead of getting prices in a normal pricefeed, the auction pre-bid prices, bid prices, and cancellations of those bids become price change information.

The deposit of tokens for bidding will be locked while the bid is live, but bidders can stake the locked tokens for earnings and get the extension fee from the seller (exhibitor). This means that even though crypto assets will be locked for bidding, there will be no reduction in capital efficiency as a result.

Bid cancellation fee

If the bidder wants to cancel his bid, a fee may occur. The borrowed value by the NFT exhibitor is denoted as b . The cancellation fee of the bidder of the i th highest bid price is

$$\{d_i - (q - b), 0\} \quad 0 \text{ if } i \leq n \text{ if } i > n$$

It means that, if the bidder is in bidders of top n highest bid price, their deposit may be forfeited.

This bidding mechanism can be visualized as ***Purchasing an European Call option for the NFT bid***. And when the bid falls out of the active bid rank (n or higher) or when someone else wins the bid, the deposit comes back. Therefore the bidding mechanism is forced redemption with option principal guaranteed.

3.3. Settlement with the exhibitor's decision.

Naturally, the highest bidder can buy the NFTs if the seller wants to sell. The 1st highest bidder will have to pay $p_1 - d_1$ during the period of payment. If he fails to do so, his deposit d_1 will be forfeited and he will be removed from the bidders.

3.4. Liquidation

In the case of the exhibition method where potential buyers need to make a bid with a particular token, note the marketplace is not affected by market fluctuations and settlement will occur only when the extension fee cannot be paid. In the case of the exhibition method that allows the potential buyers to make a bid with any token, note that when the price of the crypto asset that serves as collateral for the stables (= crypto asset used for bidding) declines, the collateral value declines and a settlement may occur.

※ If the seller does not want to lose the NFT with a time limit, he/she can buy it back at a higher price than the auction's existing maximum bid.

In the case of liquidation, the procedure below will be iterated from the settlement by p_j at j where $p_j > q$, in order of $p_j, p_{j-1}, p_{j-2}, \dots, p_1$.

The reason for this is that for the p_j bidder, the amount of $p_1 - p_j$ is the expected profit that can be realized by the option (which can be realized by selling to the p_1 bidder at p_1 in a relative transaction later), which justifies paying d_j similar to a European Call option, thus ensuring a bidding incentive.

In the i th iteration, the i th highest bidder have to pay $p_i - d_i$ during the period of payment. If he does so, he will receive the NFT and the iteration will be stopped.

On the above mechanism, if liquidity (i.e., bid) exists as the intrinsic demand for the NFT as far as p_1 is concerned, liquidity for the European Call option is sufficient, even if liquidity for the NFT is not the intrinsic demand for the NFT from p_2 onward. In addition to the liquidity of intrinsic demand for NFTs, liquidity for European Call options can be combined to increase available liquidity from nothing.

4. How to stabilize JPU, EUU, USU

※ The following is an only description of JPU, but EUU and USU are also issued on the same protocol, so the mechanism is same.

There is nothing in the JPU digital asset design that in and of itself guarantees trading in a market around 1 JPY, or in a stable range. The price and volatility of a market is a function of the ratio of supply and demand for an asset in that market; the JPU asset design can influence the price in the market by adjusting the ratio of supply and demand for that asset, but only indirectly.

JPU stability in markets is not a strictly necessary condition for a moderate level of success in terms of market engagement. Indeed, there are assets on the market today with supposed stability mechanisms whose price action is anything but stable, yet still drive high levels of engagement.

Endeavoring for a specific JPU price and volatility level are not themselves a goal, they are a means.

Using the OKR framework for the project goal setting, an objective of the JPU asset may become the most used “stable asset” in the crypto industry. To achieve that level of usage and growth, minimizing JPU price volatility and deviation from ¥1 are arguably the most important key results to measure. It’s a subtle but useful point, that while JPU stability around ¥1 is likely an important part of its success, it is not strictly necessary. The price and stability of JPU or EUU does not affect your ability to repay the principal you borrow on the UnUniFi Protocol. This is because your principal is denominated in JPU and not in any other asset. For example, if you borrow ¥100 from the supplied BTC and no borrowing APY is set, you will be able to repay ¥100 and have full access to the supplied BTC, even if JPU is trading at ¥0.50 or ¥1.50. The price of JPU will be affected if there is a surplus of JPU to be raised from the valued borrowed APY, if you sell the borrowed JPU (effectively shorting it), or if you buy JPU with other assets (and are now effectively long the asset). Usage makes JPU price stability an important key result for JPU growth. Users who borrowed JPU will be more likely to sell it for what they need, with less risk, for a longer period of time if they are confident that when they buy it back to repay it, the unit price will be about the same as when they sold it. They will be more likely to sell JPU for a longer period of time. Similarly, sourcing JPU as inventory for some profit-generating strategies (purchasing liquidate assets at auction, DeFi yield staking, etc) becomes more appealing as the user’s belief in the long term stability of JPU price increases.

JPU Lending Auction Arbitrage:

JPU lending system assumes JPU is worth ¥1.00 insofar as its ability to purchase liquidated assets at auction at a rate of 1 JPU equals ¥1.00 of liquidated assets. Example, if ¥100.00 of BTC is up for auction, determined by Chainlink Price Oracle reference feeds, then you can purchase the entire ¥100.00 BTC lot for 100 JPU, whether you purchased that JPU at market for ¥0.50 or ¥1.50.

This feature presents a price arbitrage opportunity for any JPU valued at less than ¥1.00.

There are a number of factors which contribute to asset flows in a market. For the JPU digital asset here are a few categories:

Endogenous Variables:

Borrow APY: Borrow APY is the annualized rate at which a user must pay on their borrowed JPU and can be adjusted per asset. We might expect that as Borrow APY for a given asset increases, all else being equal, marginal propensity to borrow JPU from that asset will decrease, thereby increasing demand to source JPU.

JPU Savings Rate: JPU savings rate is the annualized rate at which JPU holders are compensated for sourcing and holding JPU. We might expect that as JPU Savings Rate increases, all else being equal, marginal propensity to source JPU should increase.

Exogenous Variables:

JPU Downstream Demand: JPU downstream demand is any demand source which compensates JPU holders for taking a specific action. We might expect that as JPU downstream demand increases, all else being equal, the marginal propensity to source JPU should increase.

JPU Speculative Demand: JPU speculative demand is the set of decisions made by JPU market participants to place bets on specific JPU prices, potentially at a specific time. For a given JPU price and time, we might expect that as JPU speculative demand increases, all else being equal, the volatility about that price decreases.

5. What is Cosmos Network?

Cosmos is a network of independent parallel blockchains that are each powered by classical BFT consensus algorithms like Tendermint 1.

The first blockchain in this network will be the Cosmos Hub. The Cosmos Hub connects to many other blockchains (or zones) via a novel inter-blockchain communication protocol. The Cosmos Hub tracks numerous token types and keeps record of the total number of tokens in each connected zone. Tokens can be transferred from one zone to another securely and quickly without the need for a liquid exchange between zones, because all inter-zone coin transfers go through the Cosmos Hub. This architecture solves many problems that the blockchain space faces today, such as application interoperability, scalability, and seamless upgradability. For example, zones derived from Bitcoin, Go-Ethereum, CryptoNote, ZCash, or any blockchain system can be plugged into the Cosmos Hub. These zones allow Cosmos to scale infinitely to meet global transaction demand. Zones are also a great fit for a distributed exchange, which will be supported as well.

Cosmos is not just a single distributed ledger, and the Cosmos Hub isn't a walled garden or the center of its universe. Cosmos Communities are designing a protocol for an open network of distributed ledgers that can serve as a new foundation for future financial systems, based on principles of cryptography, sound economics, consensus theory, transparency, and accountability.

6. GUU token distribution

We absolutely do not do initial coin offerings or token sales. Every token will be distributed in return for your actions such as being a validator.

Usage	Percentage of usage / supply	Vesting
Ecosystem Development	30%	Vesting term depending on the situation. Minimum 1-yr linear vesting.
Assignment for validators	15%	1-yr full locked, linear 12 months
Assignment for UnUniFi team	15%	1-yr full locked, linear 36 months 1-yr full locked, linear 60 months
Assignment for UnUniFi Development Fund	5%	1-yr full locked, linear 36 months

		1-yr full locked, linear 60 months
Marketing	14%	VC(1-yr full locked, linear 36 months)
Treasury	10%	Vesting term depending on the situation. Minimum 1-yr linear vesting.
Advisor	1%	linear 6 months from the time of grant
Assignment for business partners	10%	1-yr full locked, linear 24 months

7. Tokens specifications

Name	Symbol	Denom in blockchain
GUU	GUU	uguu
JPU	JPU	ujpu
EUU	EUU	ueuu
USU	USU	uusu

8. GUU specifications

Initial supply	=1,000,000,000GUU
Inflation rate range	7%~20%

9. Governance specifications

Minimum deposit for voting	1,000,000uguu =1GUU
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10. Staking specifications

Max validators	100
Bonding denom	uguu

11. About us

The UnUniFi Protocol is owned by Botany LLP(Yu Kimura, Takeru Shimojima, Kenji Yanagisawa). The developer team of the UnUniFi Protocol is CauchyE, Inc. which is a leading technologist company of Cosmos blockchain technologies in Japan.

12. Legal Disclaimer

Please be aware of and accept the following risks before using JPU, EUU or USU. Botany LLP. and CauchyE, Inc. shall not be liable for any loss or damage arising out of or in connection with any of the following risks.

12.1 Risk of Losing JPU or EUU due to Loss of Private Key

The private key itself or a combination of private key shall be necessary for the disposal of the User's JPU, EUU or USU, and the management of the private key shall be managed under the User's own authority and responsibility. The loss of the private keys associated with the wallet in which the user's JPU is stored is the same as the loss of the JPU, EUU or USU itself. Phishing attacks against you or the JPU, EUU or USU on your device may result in loss of JPU, EUU or USU due to malware attacks, DoS attacks, consensus-based attacks, or any other form of attack.

12.2 Risks Related to the UnUniFi Protocol

Since JPU, EUU or USU is based on the UnUniFi Protocol any malfunction, failure or failure of the UnUniFi Protocol may have a material adverse effect on JPU, EUU or USU and may render JPU, EUU or USU temporarily unusable.

12.3 Risk of mining attacks

JPU, EUU or USU, like other distributed cryptographic tokens based on public chain protocols, may be subject to mining attacks during the verification of token transactions on the blockchain. These attacks may pose a risk to the recording of transactions related to JPU, EUU or USU.

12.4 Changes in Laws and Regulations and Taxation Risk

There may be future changes in laws, government ordinances, statutes, regulations, orders, notices, guidelines, or other regulations or taxation systems related to JPU, EUU or USU. You are responsible for making your own decisions regarding the taxation of the JPU, EUU or USU.

12.5 Risks Due to Input Errors and Other Factors by User

There is a risk of unintended transaction results due to input errors or any other actions by the User, failure, malfunction or operational status of the User's or a third party's communication or system equipment, natural disasters, cyber attacks or any other causes.

12.6 Relationship between Users

Any transactions, communications, disputes, etc., arising between users and other users or third parties in relation to the Company's website shall be the responsibility of the users.

Contributions

We have already made some little contributions to the Cosmos ecosystems.

<https://github.com/cosmos-client/cosmos-client-ts>

Contact

To contact us on the UnUniFi topic, please create an issue ticket in GitHub.

<https://github.com/UnUniFi>