Joint NFT White-paper

Introduction

NFT projects have seen a lot of chatter and interest the last year. Many NFT items, are notoriously costly, surpassing most of the general public's target amount for retirement. We explore the current ecosystem for pooled ownership to NFTs and their features. We then explore the concept of pooled investment into cross-project NFT funds, their benefits to the whole community and a marketplace for such funds.

Current EcoSystem

Market Participants

SMEs

Despite the actively-growing participations of celebrities, public-figures and common-folks in creation and ownership of NFTs, a fraction actually are confident about their knowledge of the ecosystem and have the ability to judge various projects fairly.

While a few of these SMEs start giving tips on social media, most only keep the knowledge to themselves or at max share with their close circle.

Recently a few fund management options have also emerged:

1. whale.me - The famous anonymous whale shark, where the vault token went from 1$ to 21$ in less than 2 years.
2. meta4.capital - A more recent fund which claims to have 6 figure capital pool and many of the blue-chip as well as upcoming project's NFTs.
3. metapurse.fund - Metapurse is a crypto-exclusive fund that specializes in identifying early-stage projects across blockchain infrastructure, finance, art, unique collectibles, and virtual estate.

Investors

Many people are actively investing in the top NFT collections, often worth couple of hundred thousand dollars. By locking such funds, many feel they are not able to invest in other top projects and need to choose amongst many.

Most of these investors make purchase decision by seeing the activity or Twitter chatter and not themselves possessing the ability to decide when to enter/exit specific assets.

Problem Description

As the price and volume of NFTs is reaching new highs, investors are facing a dilemma here.

1) In the case of shortage of funds, one's exposure is limited to only a certain NFT from a particular edition or collection. You are unable to capitalise from the gains of different projects.

2) Inability to de-risk your investments across different projects (or having all eggs in one basket)

More importantly, high-net worth individuals getting into NFTs are rarely the experts themselves, and usually following the trend or other influencers advice. Drawing parallel to the world of securities, smart money can only be investment in an unregulated fashion in NFTs.

These give rise to concepts of funds, where money can be invested together in projects, simultaneously increasing exposure and de-risking one's investment, while giving opportunities to directly incentivise field experts.

NFT Fund Marketplace

NFT Fund

Concept

A Fund (or vault) is a smart contract managing the complete interaction for an investor and those making the purchase/sell decisions. It would allow interested participants to deposit coins in exchange for fund tokens as well as sell tokens as per the current token price to realise gains.

And purchase or sale of NFTs will be tied to the fund's address and not to any individual fund manager or investor.

Fund SmartContract

Contract managing an individual Index Fund of NFT, keeping track of investors, the ZIL pooled, NFT assets owned and controls change in any of these.

Interaction LifeCycle

Creation of Fund

> A fund manager or dao needs to mint a fund initially by staking a minimum amount to get the fund started. These fund tokens can only be taken out incase of fund closure. The fund managers will make money from commission on profitable NFT trades. This is to ensure the decision making party always has a skin in the game.
>
> In case of DAO managed funds, this restriction and be removed after a certain time period.
>
> At the time of minting, current token buy and sell price and an optional maximum amount of fund tokens can be set.

Investor Participation or Minting Fund Tokens

Once a fund is minted, interested investors can participate by transferring the amount to the contract in exchange for fund tokens. This gives them exposure to all the NFTs currently owned by the fund, thus the token price should be updated frequently to reflect the current value of the NFT collection to keep things fair for early investors of the fund.

Procurement and Sale of NFT

The Fund Manager or DAO will bid on NFT marketplaces/exchanges using the API integrations enabled on the platform. The NFT, if successfully purchased, will be owned by the fund smart contract. Only the fund manger or DAO will have access to trigger this action.

Similarly, when a decision to sell an NFT owned by the fund is reached, the NFT can be sold on their respective exchange/marketplace.

Reporting Period and Token Exit Period

Typically, liquidating a fund's token is available only in certain times and the assets should get liquidated to support purchase of tokens (leading to destruction of the tokens).

Invite Only Funds

Funds can also be made invite only by entering public keys of invited participants.

Fund Profile

For each fund, certain metrics will be shown to allow a user to judge the past performance and trust in the fund manager/DAO. For eg: net trades, net profit, age of fund, number of participants, average holding period for a NFT asset, etc.

Fund Management Fee

During creation of a specific fund contract, fund manager/owner sets the percentage of profit for each NFT sold back as their earning. Currently during a loss, no fee is paid to the fund manager, neither is any penalty mechanism in place currently.

Marketplace

The Marketplace smart contract will keep track of all the NFT funds created and support creation of new funds. It is also the smart contract which will receive the fees charged from funds for certain actions as the revenue.

Marketplace Tokens

Marketplace Tokens will represent the value stored in the marketplace contract. All the fee collected from the fund is stored here.

5% of the token will be given to monetise early adopters.

10% of the token supply will be reserved for Additional Marketing and Growth Campaigns.

35% of the token supply will be reserved for the creators and team members.

15% of the token supply will be allocated to raise initial funds.

35% of the token supply will be reserved for future fund raising rounds.

Incentivising Early Adopters

Considering NFT can be high value assets which are not frequently sold and could be held for longer periods of time, we use cumulative prices of NFT purchases done through the marketplace to incentivise early adopters. The formula for determining amount of new tokens to be granted to a fund on purchasing NFT is: Pb/(Pc + k) Here:

- Pb: Price for the current purchase of NFT
- Pc: Sum of prices for all NFTs purchased till date (including Pb)
- k: Damping Factor. To ensure a smooth gradual drop in token reward over time.

This ensures early adopters getter rewarded more tokens. The tokens awarded will be tracked on marketplace contract and can be redeemed on secondary exchange or to pay for the fund operations directly.

Potential Problems

Trust in a Fund Manager

Each user needs to do their due diligence for a fund manager. A part of this could be seen by historical performance of the fund and the stake fund manager themselves have in the fund.

Liquidity Concerns

According to long-term investors, certain assets are never sold as they always increase in value. Holding such assets will always cause an issue when only a fraction of the investors want to liquidate. To support this, every fund could keep a small percentage liquid funds always available. Ideally such token of funds owning such assets should always be in demand and the token owner needing to liquidate should be able to do so on secondary exchanges.

Fair Value Entry

Determining the real time value of NFT is still being explored. While many use floor-perps, there are ample down-sides to using it for collections with certain pieces multiple times the floor. An appreciation or depreciation in an asset owned by the fund should be appropriately reflected in the fund token price. This requires frequent update of the token price. While automated strategies are still being explored, setting an explicit token price for the fund still sounds like the best option. Also, incase a fund doesn't require funds in near future, they can disable issuing more fund tokens altogether for that period.

Majority Abuse in DAO

Incase of DAO managed funds, any investor holding more than 50% of the tokens can basically overrule every investor and lead to abuse, especially if they disable the issuing of more tokens, since now no one can invest more to increase their share and stop abuse.

One way for this stop is allowing existing users to always increase their exposure in the fund, even if the fund is no longer accepting tokens from outside investors.

Another way to prevent could be to use maybe fibonacci weighted governance rights, where the rights gained from owning each additional token reduces exponentially. This could again lead to reverse abuse where many small , but noisy investors could lead to bad decisions for the fund.

Any fund creator will have the option to choose the desired options while minting the fund and investors can review and choose funds accordingly.

Future Scope

Fund Governance

Protocols for DAO based governance is evolving and we believe many experimentations are yet to be seen.

Token Delegation

A possibility in DAO based management could be the ability to delegate governance token a specific person. A Fund Manager could become a specific use-case of this where all the governance token is owned by a person.

The inactive members can transfer their decision right to a trust member instead of not voting and increase chance of abuse.

The delegated member could be incentivised by a small fee for taking up this responsibility.

Murmur

We have seen some people not supporting vote based decision making, yet interested in collective decision making. Here a chair is setup which tactfully can understand the concerns everyone has, if a single person does. Then judge the seriousness of concern against each possible action and if they can be addressed or not. The action is then decided.

This requires a more complex management setup, or might be just handled in discord seamlessly incase of a mature community.

Secondary Marketplace

Ideal scenario for a fund should involve selling of assets only when the market supports the sale rather than due to liquidation concerns. And all investors should be willing to participate by not withdrawing their funds so that they are part of the future gains.

A secondary marketplace where current fund owners and sell their tokens to an interested investor would solve this problem and lead to a better price discovery of each fund. This could also lead to arbitrage between minting a token from fund and secondary exchange, though mechanisms to circumvent this can be implemented in future work.

Renting & Collateralisation

There's an active interest in exploring innovative use-cases for NFT owners. Out of these two renting and using NFT as a collateral sound very desirable, if done right. Fund Owners can technically rent out NFT over to interested parties for their utility value, while retaining ownership, thus being able to book profits. At the same time using NFT as for collateral to obtain currency for a short-period could also help liquidity issues for an asset management fund.

Granting Benefits in a Shared Model

Most of the recent NFTs have an intrinsic utility driving its value. For eg: using it in a game, or being invited to events, or gaining access to a community. With multiple people owning the NFTs, different solutions will be explored to grant complete utility access to a person.

For eg: taking turns in a round-robbin manner for each token owned. Though this itself could lead to many complications sounding unfair.

Another solution could be to allow any one owner to request for the benefits by paying the fractional owner a fees proportional to the period benefits were available. This could also be linked to the renting of NFT model.