Making NFTs first class citizens in the defi space.

by Benjamin Scherrey February 3rd, 2022 version 1.15 revised May 25th, 2022

OVERVIEW

NFT SPA@ BACKGROUNDER

Non-Fungible Tokens (NFTs) are the next generation of remarkable capabilities enabled by decentralized

trustless cryptoledgers ¹ and their revolutionary impact on our lives. Rather than the common fungible currency-like tokens that have initially pervaded cryptoledgers and Decentralized Finance (defi), NFTs offer universally unique irrefutable proof of ownership of and access to both material-world and digital assets as well as the capabilities they impart. NFTs also provide the solution path to a primary challenge of decentralized commerce and governance which is the ability to balance proof of identification with privacy protection.

Even as a nascent technology, on the Ethereum network alone there have been over 15 million individual sales composing \$12.7 billion dollars of transactions since the original "CryptoKitties" project

launched in 2017. New categories of NFTs show up frequently, such as Art, Game, Defi, and now Metaverse, each introducing new use case workflows for which standards must be discovered and evolve. The present mechanisms by which NFTs are minted, sold/distributed, and then utilized are incredibly primitive, driving strong demand for better platforms to enable capabilities and commerce in the NFT space. Messari.io, a leading crypto market analysis firm, has released their treatise for the opportunities in 2022, which places NFT infrastructure as the key focus for investment:

"We're witnessing a Cambrian explosion of innovation within the NFT space that is just getting started. I'm not sure how much longer the market for individual NFTs can bubble up, but I do know that reliable and ubiquitous NFT tooling is still largely missing. Marketplaces, financialization primitives, creator tools, community-oriented business models, and decentralized identity management / reputation management systems are all in their infancy. That core infrastructure will be one of the hottest areas of investment in 2022."3

LIMITATIONS OF THE NFT SPACE TODAY

The focus thus far for NFTs has been on the creators, collectors, and launch platforms – all roles that require significant time investment to keep track of the rapidly changing mechanics and community of NFT technologies and their markets. Moreover, the limits of these platforms in use today significantly inhibit participants in each role from fully realizing the financial and utility value of these digital tokens and the real-world assets they may represent.

Because of both inadequate infrastructure and the difficulty in classifying and pricing NFT opportunities, defi participants, who make up the vast majority of the overall crypto market, have had a difficult time participating in the highly desirable NFT space.

- 1. Cryptoledgers are public, decentralized, ledgers secured by crytographic mechanisms and distributed consensus. Block chains are the most common method of implementing cryptoledgers with Bitcoin being the first well known example.
- 2. https://nonfungible.com/market/history
- 3. Page 10 of https://messari.io/pdf/messari- report-crypto-theses-for-2022.pdf

IMPACT OF OUR PLATFORM

Our platform provides new capabilities and workflows that bring full defi into the NFT space by aligning the interests of those in the defi role with those of all the other roles in the NFT space. By doing so, our platform positively impacts the value for all participants via a positive price action feedback loop. We also formalize capabilities using

trustless DAO⁴ contracts that allow for advanced new use cases implied by activities taking place today but presently limited to in- person hi-trust/hirisk dealings which cannot yet realize their potential

as "true" crypto ⁵. The availability of these capabilities with full crypto autonomy drives the value proposition of owning, trading, and using NFT assets to even higher levels than are possible today.

This platform can be operated as a universal public service across all supported NFT platforms. It can be white-labeled and tailored to support the unique branding and workflows for a particular NFT project family. As a whole, the platform's components work together as orchestrated loosely coupled cooperative services whose emergent behavior ultimately evolves to a DAO operating as an NFT ↔ Community ↔ DeFi Bridge.

COMPONENTS OF THE NFT OPERATIONS PLATFORM

The NFT Operations Platform & Defi Bridge consists of several systems which may operate individually or in an orchestrated manner. All of these are designed to drive the operations of NFTs and their management to true decentralized DAO-style contracts and away from the opaque and questionable centralized systems that often encumber NFT transactions today.

As a starting point, a primary NFT Initial Minting, Sales, & Secondary Market Platform is necessary to participate in the NFT space. Through this component, the initial creation of (minting) NFTs, the portfolios of available NFTs, the initial auction or

fixed price sales, and the secondary auction or fixed price sales are all managed here.

Holders of NFTs from our platform enjoy additional revenue streams for utility-style NFTs through our "Scholarship" NFT Asset Rental. Presently, a person can lend an NFT to someone they know who wants to get access to its utility features temporarily (like to have access to a game feature). Still, there is no guaranteed return of the NFT without some complex logic. Our platform provides the kind of trustless guarantees that can make this a wide-scale market phenomenon and significantly increase value for NFTs and their backers.

Supporting the initial sale of NFTs, we have a unique "Top Value Auction" DAO contract that can operate entirely on the blockchain for Ethereum model (ERC-721 style) assets or a centralized system targeting UTXO-style NFTs such as BCH/SLP tokens. The properties of this novel style of an auction are that it naturally helps capture the maximum value for an entire category of multiple NFTs in a single auction rather than necessitate one auction per individual NFT. It may also be used in individual NFT sales, as will be the case in our secondary sales market system.

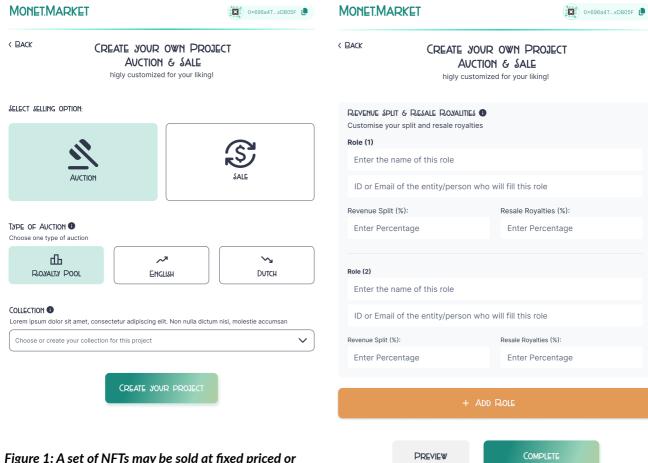
To augment the "Top Value Auction" by supporting higher overall price action and enable a host of deficapabilities heretofore unavailable for NFTs, we have the "NFT Royalty Pool" system. This system provides a novel investment opportunity to defi investors who do not care about the minutia of individual NFTs but want investment exposure to this new crypto asset class. By finally providing defi investors a first-class role in the NFT space, we provide access to vast amounts of new liquidity and make NFTs first-class citizens in the defi space. In addition, the mechanics of this pool introduce a mutually supporting incentive structure across the roles of seller/ issuer ↔ artist (as appropriate) ↔ buyer ↔ pool investor.

^{4.} DAO = Distributed Autonomous Organization meaning it operates entirely according to its code as executed on the cryptoledger it is deployed and its behavior cannot be overridden or censored by outside influences.

^{5. &}quot;True" or "Legit" Crypto refers to a product or system that derives the full benefit of the decentralized, permissionless, immutable, cryptographically secure, censorship resistant attributes of cryptoledgers as distinguished from those that "cheat" on one or more of these aspects but still advertise themselves as "crypto".

Launch a project, Launch a DAO

Minting NFTs thus far has been a simple task requiring even less effort than putting a new item up for sale on an e-commerce site because there is nothing "material" or natural about most NFTs. However, those days are gone now. This new generation of NFTs is a highly dynamic object with complex behaviors. Establishing these behaviors and who benefits is beyond the capabilities of any current NFT infrastructure. For any advanced project, minting and distributing these new NFTs is tantamount to launching a complete new DAO.



considerably.

Figure 1: A set of NFTs may be sold at fixed priced or auction.

Figure 1 shows the initiation of a new project for a set of NFTs. First, the creator can elect to sell these NFTs at auction or fixed price. Next, the definition of the roles and who will fill them is established.

Figure 2: Establishing initial revenue and subsequent resale royalties for each role.

Figure 2 shows how we can establish the revenue splits from the initial sale/auction and subsequent royalties from secondary market sales. Once project details are completed, the project is considered "proposed" and awaits approval as seen in Figure 3.

PERPETUAL BENEFIT FOR PLATFORMS &

Most platforms now offer the concept of royalties

for resale on their secondary market. Our system can

mint NFTs that generate royalties for any asset sale

regardless of which platform is used or even for

private peer-to-peer sales. Revenue can also be split

up across several roles and apportioned as desired

for the initial sale/auction and subsequent

secondary market sales. The following mockups show

how some of these workflows can establish these

parameters. Note that these are still early drafts of the UX, and anticipate they will be revised

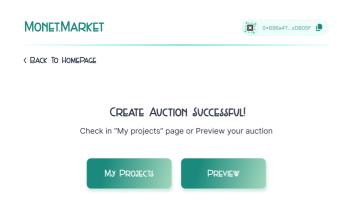


Figure 3: Create RP Auction was a success, awaiting for publish approval

SCHOLARSHIP NFT ASSET RENTAL

RENT VS OWN VALUABLE OPTIONS EITHER WAY

As success from operating our DAO platform sets prices ever higher, it introduces the challenge of asset inflation and reduced affordability for the game or system, which provides the practical utility for the NFTs. There will inevitably be NFT collectors or investors who own multiple NFTs, so they could not, as individuals, take advantage of all the utility features of their collection, or they may have no use for the utility features. By making such NFTs available for temporary rental, an entirely new market and source of revenue for NFTs becomes available. Historical data on such rental pricing also helps provide additional data for price discovery for NFTs that helps in their participation as general defi assets. The term "scholarship" comes from the concept of "wealthy" NFT owners subsidizing access to their utility. NFT owners could certainly choose to offer their usage based on some merit model rather than for a fee, but it is common to use the term "scholarship" even when it is a commercial transaction.

PLATFORM NEUTRAL RENTAL

The simplest rental model is just a negotiated fixed fee (in some ERC-20 style currency) for a fixed-time rental. The critical consideration is that the NFT effectively is owned by the renting party during the rental period. Still, once the rental period has expired, the original owner can recover his NFT on demand, it cannot be stolen.

^{6.} More exciting scenarios, such as who gets the dividend paid out during the rental period? A simple solution is that the NFT behaves as though the renter is the owner and receives full benefits. Such a solution would make it attractive to design NFTs composed of multiple NFTs, such as separating the occupation of a property from its mineral rights for independent leasing. Alternatively, NFT contracts could be made that are aware of specific attributes/capabilities of the NFT, and only specific ones are checked off as included in terms of the rental agreement.

ENHANED PLATFORM RENTAL

In addition to the simple rental model, more platform-specific integrations enable advanced options for "scholarship" rentals. For example, a game has characters as NFTs and represents certain assets in the game as fungible and non-fungible tokens. The scholarship agreement may assign some percentage of the player's rewards while using the NFT towards the actual NFT owner. Of course, such a mechanism requires explicit support by the game and awareness of the "contract" to implement such capabilities. We expect to help institute new NFT/ platform integration standards to enable these dynamic interactions, especially for "Metaverse" style environments and games.

TOP VALUE AUCTION MODEL FOR NETS

PRESENT AUCTION MODELS LEAK CONSIDERABLE VALUE FOR THE SELLER/PROJECT

NFTs are unique assets with potentially high price variability even within the same collection; auctions have historically been handled on an individual peritem basis, sometimes with an optional "buy now" price to preempt the full auction schedule. Such auctions result in an ungainly experience for buyers and sellers when large numbers of NFTs go up for sale simultaneously, especially when the auction duration is minimal. In addition, just tracking all of the items a buyer is interested in and the status of their individual bids is an onerous endeavor.

Often, however, a category of NFTs may be effectively commodities but only differ in terms of a single attribute or rarity and therefore can be objectively placed in order by value. Where a circumstance arises that bidders want to acquire items of a particular category and know that paying the highest price will ensure getting the desired item, an opportunity for a new style of auction arises that benefits buyers. Such a new style of the auction also enables the seller to capture the maximum value possible across this category of NFT. That is the mission of our platform's Top Value Auction model.

MUSIC PERFORMANE TICKET NFT EXAMPLE

For example, suppose the NFT represents a ticket for a music performance with the most valuable tickets being those closest to the stage. Buyers are primarily interested in being at the performance and then can impact their relative location by bidding higher or lower than others. Hence, they get the best value based on their desires and what they can afford. For example, if there are 1000 tickets, the first 20 get the front row, and subsequent buyers get the following rows further away from the stage.

The auction is for 1000 tickets; each bidder may manage as many bids as they desire tickets, and when the auction is over, the highest bidders get the most desirable tickets. Anyone who is in the top 1000 bids will get a ticket. Those whose bids are not in the top 1000 are considered "Out of the Money" and refunded their bids. Bidders may, during the auction, add new bids or increase the amount of a current bid as the auction progresses. Bidders may not take back a bid unless it has already moved "Out of the Money."

ANTI-S@LPER ATTRIBUTES OF OUR AUCTION

This innovative mechanic eliminates the ability for "scalpers" to steal significant value from the seller and allows for true market value price discovery for tickets/NFTs. Another classic perverse incentive of auctions is to wait until the auction is about to end to snipe items at the last moment for the lowest cost. We have two additional optional mechanics to eliminate this problem and ensure the seller gets the maximum value possible from the auction.

<u>SUDDEN DEATH BIDDING DRIVES UP TOTAL</u> AUCTION VAILE

First, a concept known as "sudden death," where at some time during the auction, say the last 25% of its scheduled time, any new bids or bid increases must now be higher than the average bid value rather than just higher than the 1000th bid. Such sudden death incentivizes bidders who want a ticket at the best value to bid early. As a result, minimum bids during the sudden death period are now significantly more expensive and target the highest value NFTs, providing better returns for the auction.

<u>AUTOMATIC AUCTION TIME EXTENSION FOR</u> <u>LATE BIDS</u>

Secondly, automatic auction time extension can be enabled. Say if a bid is placed within the last two minutes of the auction, the auction will automatically extend it to two minutes past the time of that new bid. In this way, no one can snipe a cheap NFT at the last moment without other bidders having a fair opportunity to increase their bid as well. Such extension also occurs during the "sudden death" period, so these last-second extending bids

are increasingly expensive. Therefore, they are much more profitable to the seller rather than cheaper for the bidder. Once two full minutes go by with no new bids, the auction automatically winds down. Should bid extension keep going, however, and the seller determines the auction needs to be completed, the auction operator can cause the auction to wind down manually so long as the entire original scheduled period has been completed.

<u>ADDING VAIUE TO INDIVIDUAL NFTS BENEFITS</u> THE ENTIRE AUCTION VAIUE

Other value-added strategies may be employed to help gain the maximum value for the auction. For example, it could be that the ticket NFT has a standard artwork, but the top ten NFTs will have unique artwork making them more desirable. The above processes will drive the most competitive bidders to keep increasing their bids to ensure they end up with a top ten bid by the end of the auction. Any additional property or utility may be added to the highest value NFTs to drive competition to higher levels, which due to the unique properties of this style of auction, ALL of the value of these higher bids are captured because they will convert to lower value NFTs, and push up the overall value. Comparing this to individual NFT auctions, if one NFT gets 10x more action than the next most desirable NFT, the seller loses the value from all the other "losing" bids on the most valuable NFT, even though significantly higher than the "winning" bid on the next most expensive NFT. Whenever possible, designing NFTs as "near commodity" items is objectively more valuable than the following yet otherwise equivalent. Therefore, the seller stands to gain a lot more value from the sale of that NFT category than would be possible handling these as individual per-NFT auctions.

NOVEL PROPERTIES FOR OPTIONAL BUY NOW

Finally, another common sales tactic for NFT auctions is to allow a "buy now" mechanic enabling the bidder to short circuit the competitive auction by committing to a value set by the seller in advance. For our auction-style, the mechanic takes on some interesting properties.

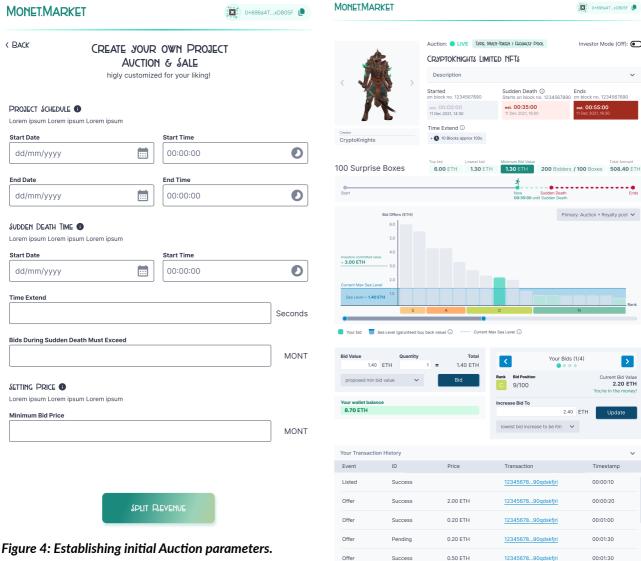
Say our music performance with 1000 NFT tickets wants to provide a "buy now" option for 100 tickets at \$100 each. So when the auction kicks off, it will show 1000 tickets and 100 "buy now" tickets. However, when the first bidder decides to take a "buy now" ticket, the auction will be updated to reflect 999 tickets for auction and 99 "buy now"

tickets available. However, the "buy now" bid remains in the auction and order of value against all the other bids. The only difference is "buy now" bid never goes "out of the money," thus guaranteeing the owner of that bid his bid will receive a ticket assignment at the end of the auction even if the 1000th bid is higher than his "buy now" price.

Presumably, the "buy now" price is set at a level that the seller believes will be one of the higher-priced tickets/bids. Therefore, in most cases, this should result in acquiring a highly valued NFT, but this is not guaranteed should the overall auction value go significantly higher than anticipated. Should the "buy now" bidder want to get a higher value ticket with his bid, he is welcome to increase the price of his bid to improve its position against the other bids. The above procedure will improve his place when the tickets get assigned to the bids. However, no matter how the auction goes, the "buy now" bid will get assigned a ticket and never be pushed "out of the money" even by higher bids.

Other options can be considered, such as "buy now" bids at fixed positions that do not move, so the item/position on which the "buy now" option is executed is precisely the one the buyer gets. However, this increases the complexity of the platform and makes for a confusing auction experience. A better available option would likely be to issue some choice fixed-price or individual auctions for a set of pre-allocated tickets. These examples demonstrate that the possibilities are endless and depend primarily on what use cases are appropriate for the platform and the type of NFT offered for sale/auction.

AUCTION UX CONCPTS



Once the auction parameters are established and the auction is launched, bidding is started, and people can start bidding on the NFTs or groups of NFTs they want.

Figure 5: Bidders can manage active bids and track



ROYALTY POOLS FOR DEFI

FINALLY NFTS GO FULL-DEFI

NFTs are hot, but NFTs are confusing and difficult to price because of the vast discrepancies of value that individual NFTs within the same project or sale have. The common option the space seems to want to pursue is fractional ownership tokens for NFTs, which can be traded as defi instruments. However, this solution is unsatisfactory because it still requires purchasers to have intimate knowledge about the individual NFTs during their initial sale or restrict their participation to NFTs that have already demonstrated reasonably stable value appreciation. How can defi investors, who drive the majority of value in the crypto space, participate in the NFT space without learning about the details of each NFT in each project? Fractional ownership of utility NFTs is impractical because controlling the individual NFT to use its utility just became a lot more complex. Royalty Pools provide an elegant solution to these issues while increasing the overall viability of the NFT project.

The Royalty Pool concept depends on the common NFT phenomenon of a percentage of every sale or rental of an NFT, both initially and on the secondary market, will allocate a percentage of the price to one or more parties such as the original artist, the game platform, or any other role appropriate for the type of NFT. 3-6% are common figures for resale. Initial sales entirely depend on the nature of the NFT and the project to which it belongs.

POOLS SUPPORT & ESTABLISH NFT FLOOR PRIES

The Royalty pool provides price support (and thus a suitable price discovery mechanism) for an entire group of NFTs by guaranteeing some minimum value for each NFT in the pool. Say there are 1000 NFTs, and the pool raises ETH 200. Such a situation would provide price support of 5 ETH per NFT. Any NFT holder has the right to demand the pool purchase their NFT for the current support price via a "liquidation process," described later. Participants in the pool are allocated governance tokens in proportion to their participation.

<u>POOLS AND INITIAL AUCTIONS/SALES</u> PROVIDE MUTUAL SUPPORT

The Royalty Pool and the initial NFT Auction/Sale are kicked off simultaneously. As funds from buyers/bidders come into the NFTs (as a group), it demonstrates a demand that a defi investor can participate by funding the pool. As the pool value grows, the auction will display the supported value

for each NFT which, as it goes up, will increase demand for the NFTs. By watching the pool value during the auction, NFT buyers can see exactly how much risk they are exposed to because the pool liquidation option limits their potential losses. Action on each side increases interest in the other.

POOL PARTICIPANTS RECIVE REGRRING DIVIDENDS

The Royalty Pool is established by associating it with a group NFT auction/sale and setting a minimum periodic return that the pool is guaranteed to payout. Let us say 15% per quarter as an example. The pool is also closed when the initial NFT sale/ auction is completed. Its initial support per NFT is set by dividing the initial allocated pool balance by the total number of NFTs in the auction. Some portion of the initial sale value for all NFTs will also be credited to the pool to have more value than its total liabilities. Any time an NFT is sold (and, depending on the type of NFT, there may be additional royalty income streams), a portion of the royalties is allocated into the pool. Such a process is how the pool stays solvent while paying out periodic returns to holders of the governance token.

As each quarter comes up, the pool dividends are paid out to holders of the governance tokens. So long as the average revenue from royalties over each quarter stays above the minimum periodic return, the pool guarantees the initial support per NFT, and the price support for the NFTs remains perpetual. If the funds remaining in the pool are not enough to support the initial support value across all tokens over time, the price support for the tokens will be reduced to whatever level the pool now supports. Ultimately the pool may reach a level of liquidation, so meaningful price support for the NFTs goes away, then the pool can be disbanded by the holders of the governance tokens.

The natural behavior for NFTs is that some will rise in value dramatically while others will stay flat and call in their support. So long as the average total value and sales volume of all the NFTs covered by the pool goes up, the pool stays solvent and profitable.

CLAIMING AN NFTS PRICE SUPPORT

Inevitably the lowest value NFTs will want to claim their price guarantees. This type of event works because the NFT owner will offer their NFT for auction/sale on the secondary market platform. Our primary model is that it will be offered at a Dutch Auction sale which will start at some price that is at least as high as its last sale and higher than the support price, then gradually the price will fall until someone acquires it or reaches the support price, at which point the pool automatically buys it.

The rate at which the price drops (the time of the auction and how long the NFT owner waits to liquidate his NFT) can be varied from some fixed initial value (say five days). Or, the NFT owner can accelerate the liquidation by accepting a discounted price support. Assuming no one buys the NFT above the support price, the owner is paid from the pool, and the NFT ownership now belongs to the pool.

This mechanism helps the NFT owner get the best available market price for his NFT and gives the pool advance notice as to the active claims pending at any point in time.

PRIC SUPPORTS FROM THE POOL WILL PARSLY BE CALLED IN

In reality, unless an NFT project is generally failing, it will be rare for the pool to be called on to liquidate an NFT via the price support mechanism. The reason for this is that other investors will inevitably Ownership of the pool governance tokens allows one to vote on policies regarding how the pool handles liquidated NFTs and abundances in the pool's value and whether or not to expand or liquidate the entire pool once its total asset value drops below some preset number. When NFTs are sold to the pool, the pool can elect to hold them or place them back on the open market for sale. If the NFT is placed up for sale, it will have a lowered or no support price as determined by the policies set in place by the governance token holders. Every viewer of an NFT backed by a Royalty Pool can see the price support available for it at any time. Thanks to other features such as rentals for utility NFTs, the pool may elect to hold these NFT assets for itself and collect the alternative NFT projects can also be quite complex and have several auctions/sales over time. Each of these auctions might invite the creation of a new pool. With too many pools, we are back to the original problem of defi investors knowing enough about each NFT type to invest in any given project. The answer, of course, is to establish pools of pools as the following diagram describes:

purchase the NFT pending liquidation just before it hits the support price and gets acquired by the pool. Indeed if they wait for it to get too close to the support price, they will likely miss the opportunity as someone less "greedy" will pick it up before them at a higher price.

Why is this? Because if investors can buy an investment at 5.1 ETH with price support of 5 ETH, you have got access to the utility, rental income, and potential future appreciation value of the NFT worth at least 5 ETH, but investors are only risking 0.1 ETH to own it. That will be too good a deal to pass up if an NFT has any reasonable upside potential at all.

<u>POOL OWNERS MANAGE THE POOL</u> BEHAVIOR

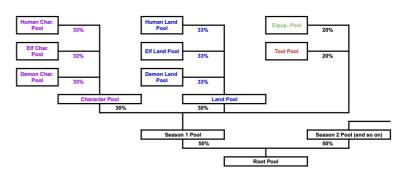


Figure 6: A Pool of Pools structure for Royalty Pools

<u>LEGIT DEFI ENABLES NEW DEFI</u> OPPORTUNITIES

The pool itself is now a solid defi financial instrument on its own. The governance token has practical utility in managing the returns from the pool and the assets the pool controls. Thanks to these price support pools, loans against individual NFTs become viable for other defi products with significantly reduced risk. Individual NFTs are now every bit as viable an asset as regular fungible tokens for purposes of defi, with the bonus of the owner retaining full access to the utility of his NFT. Defi stacks on defi which stacks on top of more defi. NFTs are now a viable liquid asset even outside the formerly restricted use cases for which they were initially designed.

The pool of pools structure allows a defi investor to place his exposure as precisely or general as he likes, given his familiarity and interest in the specific project or the NFT space as a whole.

ROYALTY POOLS NOT JUST FOR NFTS

The Royalty Pools were set up to solve the problem of fair price action for NFTs, but they provide defi opportunities for a project's fungible tokens as well. For example, an in-game currency is used to acquire the NFTs. Now the pool can offer interest-bearing loans for that currency which becomes a new revenue stream for the pool and helps drive up prices for NFTs in the same project. Ultimately, these Royalty Pools for NFTs have evolved to be a true DAO product with unlimited potential.

<u>CONCLUSION</u>

While each component of the NFT Operations & Defi Bridge is functional as independent services, they are architected in a manner intended to support a set of orchestrated true DAO contracts that maximize the upside for every stakeholder in the project. It is in the interest of the project/NFT creator to capture the maximum possible initial value of the sale and then recur revenues going forward to support continued project funding. The royalty pool provides an injection of capital from defi investors heretofore unavailable, providing higher revenue to the project owners and general appreciation of the NFT assets. NFT buyers find it easier to acquire NFTs without getting locked out due to rapid (and often pre-allocated) sales, thanks to the multi-token auction. Owners find added value for their NFT holdings thanks to the "scholarship" rental income potential. They can also get temporary access to NFTs they could not otherwise afford via the same mechanism. Royalty pool participants now have access to the NFT space exposed as a fungible asset (the governance tokens) with recurring revenues and potentially appreciating value as the project succeeds. Resale/rental royalties continue to flow into the pool. The pool's success then further drives up the value of the NFTs, making both the owners and the project more wealthy.

All of this is possible because we have been able to finally bridge the chaotic pricing action of widely disparate NFT projects with access to the capital allocations that come from defi investors in a manner that mutually benefits all stakeholders and have done so in a manner that is more decentralized than the limited NFT platforms in widespread use today.