



Authenticated digital collectible Marketplace

White Paper

2022 Revision

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Introduction

Notable Figures, Rights, Licenses, and IPs as Digital Art and Collectibles

Art collectibles have been around for centuries, typically inspired by an artist's unique perspective on the world. However, in recent years, we've seen a growing trend of artworks inspired by **notable and public figures, rights, licenses, and IPs**:

- **Athletes:** Usain Bolt unlimited prints [can be bought for \\$350](#)
- **Movie, TV and Internet stars:** Leonardo DiCaprio's original pencil drawing can be found on eBay
- **Musicians:** Taylor Swift portraits can be seen everywhere in [Devianart](#)

While these art collectibles are typically physical items, like sketches, paintings, posters, or sculptures, collectors buy and trade them to feel connected to their favorite public figures. An artwork's value is usually determined by the public figure it portrays.

However, since these artworks are created by artists, the public figure doesn't endorse them and can't claim any royalty fees. If the artworks are backed by notable and public figures themselves, their value can increase, making them even more interesting for both public figures and collectors.

Collectible Royalties

Currently, the benefits for the rights holder and artists end after the first sale. However, it is possible to create a system that allows all parties involved to receive a percentage of the proceeds from every sale made in the secondary market, not just the first one.

To achieve this, certain logistics need to be put in place:

- **Brokers:** to mediate transactions between the seller and buyer
- **Promoters:** to involve as many bidders as possible and maximize benefits for the charity
- **Proxies:** to hold the transaction proceeds while the sale is being completed
- **Regulatory entities:** to verify market price and make sure the proceeds go to charity
- **Appraisers:** to verify the piece of art's authenticity

In addition to these logistical hurdles, there is the challenge of global transactions. For example, if an artist from Los Angeles creates a poster of Taylor Swift and the buyer is in Singapore, the artist would need to ship the poster, which would add courier and insurance fees, increasing overall sale costs.

Therefore, it is essential to have a user-friendly, cost-efficient, and self-regulated platform to overcome these challenges. This would help to ensure that potential buyers and sellers are not inhibited from engagement and make it easier to access and transact with digital art on the blockchain. With the right system in place, all parties involved can benefit from the perpetual revenue stream created by the secondary market.

A Blockchain-based Platform for Digital Collectibles

Ethernity provides a revolutionary platform where artists, athletes, celebrities, musicians, and other public figures can receive the proceeds from the first sales of their artwork as well as a share of the profits from subsequent resales, perpetually. The platform is designed to be user-friendly, self-regulated, and cost-efficient, providing buyers with peace of mind regarding the authenticity and ownership of their purchased artwork.

Ethernity's unique approach involves a team of talented artists who create stunning artwork inspired and supported by public figures, licensors, rights holders, and IP owners. By utilizing blockchain technology to digitize and store the artwork, Ethernity offers a wide range of benefits, including:

- **Proof of authenticity:** Each digital artwork on the blockchain has a unique cryptographic code that can be used to verify its authenticity. This gives buyers and collectors greater confidence in their purchases.
- **Ownership chain tracking:** Each transaction involving the artwork is recorded on the blockchain, creating an immutable and transparent record of ownership history. This helps buyers to verify authenticity and ownership and prevent disputes and fraud.
- **Secure and fast transactions:** Blockchain enables secure and fast transactions without intermediaries or centralized authorities. Cryptographic techniques provide a high degree of security.
- **Decentralization:** Storing digital art on a blockchain eliminates the need for a centralized authority, reducing the risk of censorship, corruption, and manipulation.
- **Accessibility:** Digital art stored on a blockchain can be accessed 24/7 by anyone with an internet connection. This makes it possible for artists to reach a global audience and for art enthusiasts to discover and purchase artwork at any time, from anywhere in the world. This convenience and accessibility can help to increase the exposure and sales of digital art, benefiting both artists and buyers.
- **Transparency:** Blockchain enables transparent record-keeping, where transactions are recorded and can be easily accessed and verified by anyone. This reduces the risk of fraudulent activity.

These digital artworks on the blockchain are also called digital collectibles. Ethernity is at the forefront of this exciting new frontier in the art world.

Ethernity Marketplace

What is Ethernity?

Ethernity is a decentralized application (DApp) that operates as a digital collectible marketplace on the blockchain. The platform enables the creation, purchase, sale, and trade of digital collectibles inspired by and backed by notable public figures, celebrities, musicians, and entities. This concept is advantageous for everyone involved:

- **Notable/Public Figure/IPs:** by simplifying the process of storing, endorsing, and selling digital collectibles.
- **Artists:** by offering them opportunities to design digital collectibles for notable public figures.
- **Collector:** by providing an accessible, fair platform for buying and selling digital collectibles.

The platform is secured and transparent through the use of open-sourced smart contracts on the Ethereum blockchain. Some companies have already introduced and tested this concept:

- [Cryptograph](#): This company launched in June 2020 and had around 60 iconic artworks created by celebrities such as Vitalik Buterin and Ashton Kutcher, with values of 20 ETH or more as of August 2020.
- [Panini](#): This company was the first to introduce autographed trading cards on the blockchain.

How does Ethernity work?

Ethernity is a platform that allows public figures to license artwork by a select group of artists and sell it as digital collectibles on a proprietary marketplace. The public figure or rights holder is the first seller and sets the sale or "drop" for a predetermined period, during which collectors can purchase the digital collectibles.

During the initial sale, the distribution of proceeds is agreed upon by the public figure and the artist. For example, in a sample scenario:

- **Public figure:** 40%
- **Marketplace** (Ethernity): 40%
- **Artist:** 20%

For sales in the secondary market (e.g. when a collector resells the artwork):

- **Seller:** 90%
- **Public Figure:** 4%
- **Ethernity:** 4%
- **Artist:** 2%

Transaction Flow

To better understand how this all works, let's walk through an example with Marilyn Monroe:

Initial Sale

- The Marilyn Monroe estate decides to sell pop artworks on the Ethernity marketplace.
- A selected artist creates the artwork "Bombshell," which is certified authentic by the Marilyn Monroe estate through public announcements on social media and other outlets.
- "Bombshell" digital collectibles are created with 50 editions at a price of \$1,000 each.
- Collectors buy all 50 editions for a total of \$50,000.
- Out of the total sales, the distribution is as follows:
 - 40% (\$20,000) goes to the Marilyn Monroe estate.
 - 40% (\$20,000) goes to Ethernity.
 - 20% (\$10,000) goes to the artist.

Secondary Market Sale

- The 50 buyers of "Bombshell" decide to sell their digital collectibles.
- All 50 "Bombshell" issues resell for \$1,000 each, for a total of \$50,000.
- Out of the \$50,000 in sales, the distribution is as follows:
 - 90% (\$45,000) goes to the sellers (the initial sale buyers who resold the digital collectibles).
 - 4% (\$2,000) goes to the Marilyn Monroe estate.
 - 4% (\$2,000) goes to Ethernity.
 - 2% (\$1,000) goes to the artist.

This process repeats itself for every sale in the secondary market. The greater the resale value of the digital collectibles, the higher the residual income earned by all parties involved.

Ethernity's Smart Contract Infrastructure

Ethernity utilizes Ethereum smart contracts to facilitate various functions on the marketplace, including:

- **Broker the transaction:** Serving as an automated intermediary between buyer and seller, as well as a proxy for funds to be transferred from the buyer to the seller, public figure/rights/license holder, artist, and Ethernity
- **Regulate the sale:** Regulating transactions to ensure trust and transparency
- **Guarantee:** Ensuring the authenticity of digital collectibles

After the sale, the digital collectible is transferred to the buyer's crypto wallet and stored along with metadata in a decentralized storage network. Further details on the token infrastructure are provided in the technical design section of this white paper.

Ethernity's digital collectibles are primarily sold using its native cryptocurrency, the \$ERN token. However, we acknowledge the significance of the Ethereum ecosystem and its native token, \$ETH, and thus also accept it as a method of payment for sales on our marketplace.

Ethernity native token (\$ERN)

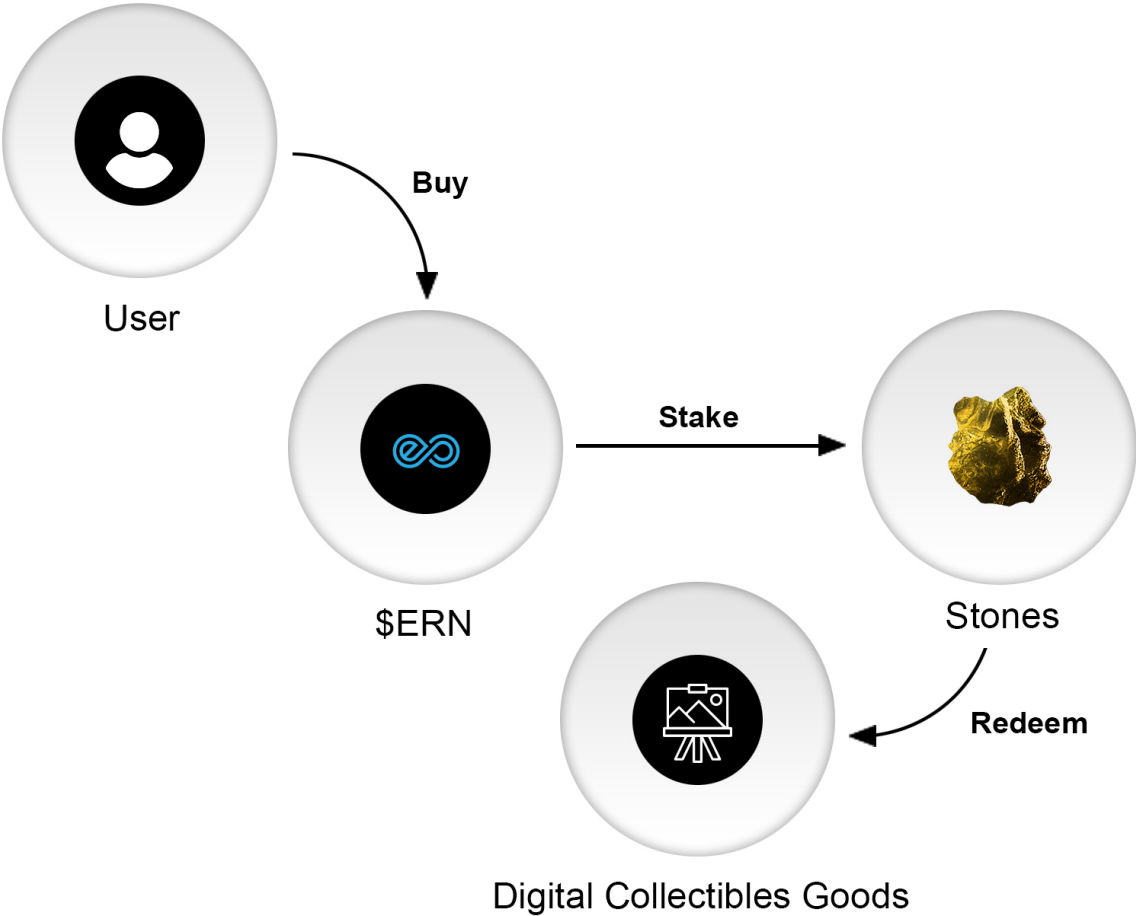
To support the development and operations of the Ethernity marketplace, the Ethernity token (\$ERN) was created. \$ERN is an ERC20 standard token on the Ethereum blockchain, with L2 integration on Polygon. Its primary utility is for buying digital collectibles, but it also allows users to participate in various decentralized finance products such as LP Staking, Fixed Staking, Stones Farming, and others. Additionally, \$ERN holders have voting rights in Ethernity's Decentralized Autonomous Organization (DAO), enabling them to help shape the future of the project.

Decentralized Finance Products:

Stones Farming

Ethernity offers a DeFi product called Stones Farming, which allows users to earn a digital currency known as "Stones" by locking their ERN tokens. For each token locked, 1,000 Stones are generated daily. While Stones have no monetary value and cannot be transferred or traded, they can be used in special Stones Events to redeem exclusive NFTs, physical goods, and other unique rewards. These events support the underlying Ethernity project and offer users a chance to acquire one-of-a-kind items.

Stones Farming contract: <https://ethernity.io/farm-stones>



Fixed Staking

Earn rewards by holding a portion of your ERN tokens for a specific period using Fixed Staking. The longer the staking period, the higher the rewards earned. The three Fixed Staking options offer different interest rates. The first option provides a 3% interest rate for staking ERN tokens for 90 days. The second option offers an 8% interest rate for holding them for 180 days, while the third option provides an 18.5% interest rate for staking ERN tokens for 360 days.

The Fixed Staking contract: <https://ethernity.io/fixed-staking>

LP Staking

By adding liquidity to the Uniswap V2 Pool through a process called "staking," you can earn LP tokens that represent your share of ETH and ERN tokens in the pool. These LP tokens must then be locked on the Ethernity Chain website to participate in the Liquidity Reward Program. Over a period of 30 days, participants in the program receive daily rewards that are distributed proportionally based on the number of LP tokens they have locked.

Uniswap Liquidity Pool -

<https://app.uniswap.org/#/add/0xbbc2ae13b23d715c30720f079fcd9b4a74093505/ETH>

LP Staking contract - <https://ethernity.io/lp-staking>

Satoshi Staking

Satoshi Staking is a new NFT staking protocol offered by Ethernity. The Ethernity Genesis: Satoshi NFT card can be staked for 365 days, unlocking 10 ERN tokens per day for a total of 3,650 ERN over the staking period. The Ethernity Genesis: Satoshi NFT card is the first in a series of newly developed NFT staking protocols from Ethernity Chain, offering next-generation advancements to NFT utility. Staking the Ethernity Genesis: Satoshi NFT card is an opportunity for holders to earn ERN tokens through the staking of their NFT.

Satoshi Staking Contract: <https://ethernity.io/satoshi-staking>

Decentralized Autonomous Organization

DAO

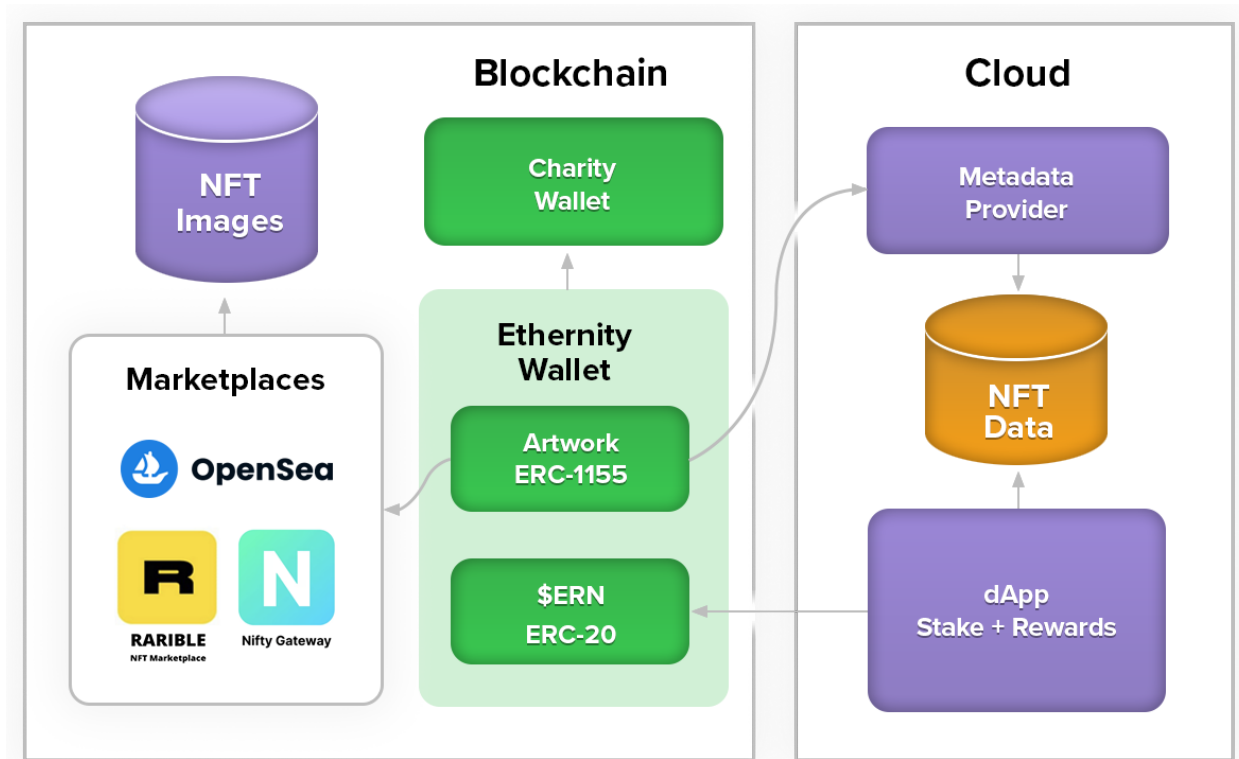
Ethernity has a Decentralized Autonomous Organization (DAO) that allows eligible individuals to vote on matters related to Ethernity and related Eternal Labs projects. To become a voting member, one needs to meet certain criteria such as having:

- 10 ERN in their wallet, or
- 10 ERN in Fixed Staking, or
- 10 ERN in Stone Farming, or
- 1 LP token staked, or
- 1 Ethernity NFT, or
- 1 Genesis Satoshi NFT.

The DAO takes a snapshot of wallets linked to Ethernity profiles 24 hours prior to each vote, and only individuals who meet the qualifications will be eligible to cast their vote. All votes by eligible participants are weighed equally, and each individual can only vote once on each issue. Once a vote is cast, it cannot be changed. The DAO structure and requirements ensure clarity and fairness for all participants.

Technical Design

Overview



- Ethernity leverages the Ethereum blockchain network, which is augmented with L2 scaling solution Polygon, to create and operate its crypto collectibles and tokens.
- The crypto collectible token representing the artwork is an ERC-1155 token.
- \$ERN token is an ERC-20 token that offers stake functions.
- The crypto collectible images are stored in a decentralized storage system on the blockchain via ipfs.io.
- Metadata provider data and endpoint is a cloud platform.
- The dApp is served to the client's browser through a cloud application.

Artwork Tokenization

The digital artworks are:

- Created as high-quality JPEG or MP4 files and stored securely
- Uploaded to [decentralized file storage](#) with a unique address

This address is stored along with the artwork metadata:

- Notable/Public figure/IP's name
- Artwork title
- Stored in an [ERC1155 standard token](#)

Ethernity mints the tokens with the number of issues decided between the public figure and the Ethernity team. The tokens are then published on Ethernity's marketplace.

Some token issues or the entire set may only be redeemable with Ethernity Stones, which can be earned by staking \$ERN tokens.

Smart Contracts

- **ERC-20:** The \$ERN token is an OpenZeppelin ERC20-based token with a stake and rewards functions
- **ERC-1155:** The artworks will be based on OpenZeppelin ERC-1155 digital collectible standard token
- **Layer 2:** Polygon Network
- **Exchange contracts:** These are the auction marketplace's contracts (Opensea, Rarible and Nifty Gateway)