

White Paper

NFTs for Nature Photography of Butterflies

version : initial draft (21 August'2021)

Abstract :

NFT trend has boomed up tremendously since the previous year, and is the next application after de-fi on blockchain currently. We see NFT items across various domains like art, music, design, photos, stamps, etc., and collectibles like cryptopunk, cryptocities, etc., with limited supply. These NFTs have market place for investors, collectors and traders with features like targeted buy/sell, and auctions conducted. There is no dedicated NFT currently for nature lovers who have a passion for photography. We propose a NFT marketplace for one such natures creation => "Butterflies". We further propose an ecosystem with a DAO which governs certain aspects of the NFT. We also propose a unique reward distribution from the sales of the NFT which should attract a large participation.

Introduction :

We propose a novel collection of NFTs for nature photography targeted at the Butterfly species. There are over 18,000 species of butterflies in the world [1] and have only a documented collection of about 2000 species from across allover the world. Nature lovers can photograph the various species and upload them on the NFT portal. Curators can classify and add more metadata characteristics to the item. We propose multiple market places (galleries) based on the classification status and uniqueness.

NFT Architecture :

Webserver : Hosts the dApp for the frontend, NFT Portal.

Blockchain : Tezos mainnet (florenccenet for the hackathon) which hosts the smartcontract with storage.

IPFS : Decentralised storage to host the photographs and metadata.

Roles :

There are various roles defined based on the activity and responsibilities.

Creator : The Nature lover who photographs any butterfly in their natural habitat and uploads to the NFT portal.

Curator : Qualified scientific personnel like zoologist who classifies the photograph to a particular species.

Collector : Anyone currently holding any NFT items in any of the garden gallery.

Buyer : Anyone interested in buying one of the NFT items put on sale/auction.

Seller : Holder of any NFT item who has put up for sale/auction.

DOA member : Anyone of the Creator, Curator and Collector role.

Garden Gallery :

We have defined a set of gallery garden based on the status of the NFT.

Public Garden : Once creator uploads the NFT it will be displayed and available on the public gallery.

Exclusive Garden : This gallery will have collection of NFTs from various species, such that only 10 of each of the species will qualify. The top 10 is based on their last selling price. Since we have a cap of 10 for each species, we will always have a fixed supply in this garden.

Workflow :

1. Creator uploads the photograph with some metadata, like location, time, etc., to the NFT Portal.
2. Curator classifies and votes/stakes with CTK tokens on the NFT item.
3. Once minimum threshold votes (10) is reached the status/property of the item is changed from initial to curated, and the CTK tokens are redeemed/returned to the Curators.
4. Once the status of item is curated, the Creator can put up the item for Sale/Auction.
5. Interested Buyers and Collectors now have a marketplace to buy the NFT.

Distribution of Incentives :

For the Creator : On the first sale of the NFT item, the creator will get 90% of the proceeds, and on subsequent sale a royalty of 1% of the proceeds.

For the Curator : Once the threshold limit of 10 votes is reached for an NFT item, 1% of the proceeds of the 1st sale is given as incentive to each of the curators totalling upto 10% from the 1st sale.

Subsequent sale : Any item which is sold subsequent to 1st sale is termed as subsequent sale, and a max 5% reward is distributed from the sale proceeds as below.

1% - Creator

1% - Treasury

2% - Each of last 2 holders of the NFT item will be rewarded with 1%

1% - One winner from Random lottery drawn from list of all current owners of the NFTs.

In the event where we have less number of last 5 holders, the remaining % amount will be distributed as random lottery from the members of the curator's list who voted for the NFT item.

DAO :

Governance Token (BTF) is minted as below

- On every sale of NFT item, the buyer and seller will get one BTF token each

The BTF tokens will be used for voting during the proposals put forth by the DAO members. The BTF tokens will have economic value and may be bought and sold on exchanges.

Curator Token (CTK) is issued for voting purpose as below

- During the onboarding of a curator, a limited amount of 1000 CTK is minted and issued to curator. The CTK tokens do not have any economic value and cannot be transferred to anyone.

Treasury :

On sale of each NFT item, 1% of the proceeds is towards the Treasury. The funds of the treasury will be utilised as per below

50% - for maintenance, upkeep and new development efforts of the NFT DAO

50% - for charity to promote conservation of nature. Every quarter, DAO members can put proposals for any initiative which require funding, and it will be voted by the DAO community.

Challenges :

Though we have proposed a framework which tries to address all aspects for a successful and long running of the NFT and DAO, certain aspects may need consideration.

1. Creators are responsible for uploading their original content and not copy paste from other sources which may call in for copyright violations.
2. Curators can have a conflict amongst themselves in properly classifying/tagging certain photographs to a particular butterfly species.

Implementation :

The full features as proposed in this white paper are being worked out in phases.

Currently as part of the Tezos hackathon, the NFT contracts are developed using ligo and hosted on 'Florencenet'. It has the feature of uploading and creation/minting of the NFTs. A simple workflow for marketplace has been provided for sell and buy. Curation and DAO Token contracts will follow in subsequent development phases.

Conclusion :

We have proposed a novel NFT and DAO which will hopefully generate interest from various stakeholders. The uniqueness is as follows.

- first NFT which will promote exploration and documentation of unknown species
- reward distribution is generous and aims to benefit overall NFT DAO members
- 50% treasury will be used for funding initiatives to conserve nature

We currently propose galleries for Butterflies, but this initiative can be extended to more galleries in future catering to different animal/bird species which require more attention.

References :

1. <https://www.learnaboutbutterflies.com/Species%20index.htm>
2. <https://butterfly-conservation.org/uk-butterflies/a-to-z>

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