

DefPunks Whitepaper

Deflationary Punks

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DefPunks

The first NFT with deflationary and evolving mechanics
December, 2021

Disclaimer

Investing in NFTs involves a tremendous amount of risk.

This paper contains the economic, engineering, and financial insights that went behind the creation of DefPunks. Nothing here should be considered financial advice. The DefPunks team and community are not liable for any losses incurred by any participant in this market. Do your own research and do not invest more than you could afford to lose.

DefPunks Team

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Introduction

1.1 What is DefPunks

DefPunks is an evolutionary NFT game built on the Ethereum blockchain. It is deflationary in nature, starting with 100k ERC-721 NFTs that can be merged to reduce the supply and create increasingly rare DefPunks. It's inspired by the classics - CryptoPunks, but created with a deep knowledge of the current state of crypto industry and the vision in what way the NFT sector will evolve in the future.

1.2 Tokenomics

Contract address: To be disclosed

Token: ERC-721, Ethereum blockchain

Total initial supply: 100,000 unique DefPunks

Type of the content: evolving image, 48x48px, pixel art

Number of traits: up to 10 types, 290 total traits

Circulating supply: deflationary model

The contract feature: evolving mechanics

Possible number of variations: 9,326,016,000 (only 0.00214% will ever exist)

1.3 Types of DefPunks' traits

- Sex
- Skin type
- Neck
- Mouth
- Nose
- Eyes
- Hair
- Ear accessories
- Mouth accessories
- Background

* Some traits have the ability to age, and can be triggered during the fusing process, more on this below.

The NFT Market Overview and Trends

2.1 The NFT market overview

The vast majority of NFTs belong to the first generation of tokens - people can hold them but there is not much more they can do to interact with them. On the contrary, we're seeing the beginning of the second generation of NFTs can add more utility to the holder and even evolve or change in certain ways. These NFTs still represent a small percent of the market but we believe they will make up a majority of the market in the future.

The nature of **non-fungible tokens (NFTs)** is that every token is unique and has some unique characteristics compared to other tokens which belong to their parent contract. As has been stated above, the majority of characteristics are represented by unique visual data - pictures mainly. The team behind DefPunks believes that NFTs are much more than that and that people will interact with NFTs in totally new ways in the near future. That is why we added several features to our collection: fusion and self-balancing evolving rarity.

These features gave us the possibility of adding numerous utilities (such as the evolving game, and shared DAO voting) to DefPunks, which we will cover in this document.

2.2 The main trends in the NFT market

There are several hallmarks of collections in the current market:

- Limited supply with 10k NFT projects
- Singular focus on aesthetics - owners can't interact with their NFTs by any means (utility is lacking)
- Almost every NFT presented in the market by its nature is pre-minted and the art does not change after minting
- Oftentimes the minting price is high, making participation in the NFT sector difficult or impossible for many crypto enthusiasts

Vision and Introduction to the DefPunks Mechanics

3.1 Our vision of the DefPunks mechanics

As a team of experienced crypto and NFT believers, we are excited to push the boundaries of what is possible and usher in the next phase of development for the NFT space.

Here's a bit more about the vision that we have for DefPunks:

- the original number of DefPunks could reach as high as 100,000 and be capped at that number
- this number will decrease constantly because of the deflationary mechanics - owners will have a chance to interact with their DefPunks, to evolve them - to make them look beautiful or rare (not always the same thing, we know). In order to evolve any DefPunk, the owner should fuse two DefPunks, effectively eliminating one from circulation
- DefPunks do not exist before you mint them - this means that no one knows what the next DefPunk will look like
- the initial mint price for DefPunks will be 0.01 ETH, so every NFT collector will have a chance to own several
- free-of-fee fusion mechanics
- the rarity of DefPunks is highly dependent on the number of fusion events which took place to create them
- the extent to which population decreases is determined by the public entirely - it's up to every interested buyer, or long-time holder, to decide how many times more a DefPunk fusion event will take place

The DefPunks Mechanics

4.1 Introduction into fusion and rarity mechanics

Well-designed and balanced mechanics are critical for DefPunks. There are two components: fusion and rarity

- **Fusion** - this mechanic is responsible for the way two of your DefPunks interact with each other
- **Rarity** - this mechanic is responsible for the way the rarity of your DefPunks is calculated

4.2 Fusion mechanics and formula

Fusion - is a crucial process for DefPunks. Due to the deflationary nature of the DefPunks, the rarity is a liquid thing in this project. Fusion is only the way to increase the rarity of your DefPunks compared to other NFTs in this collection.

The NFT you want to improve has a 60% chance of carrying its traits through the process of fusion.

The NFT you want to burn in order to improve another NFT, has a 30% chance of giving its traits to the improved NFT.

Also, there is a 10% chance of inheriting a totally new trait which both ancestors didn't have.

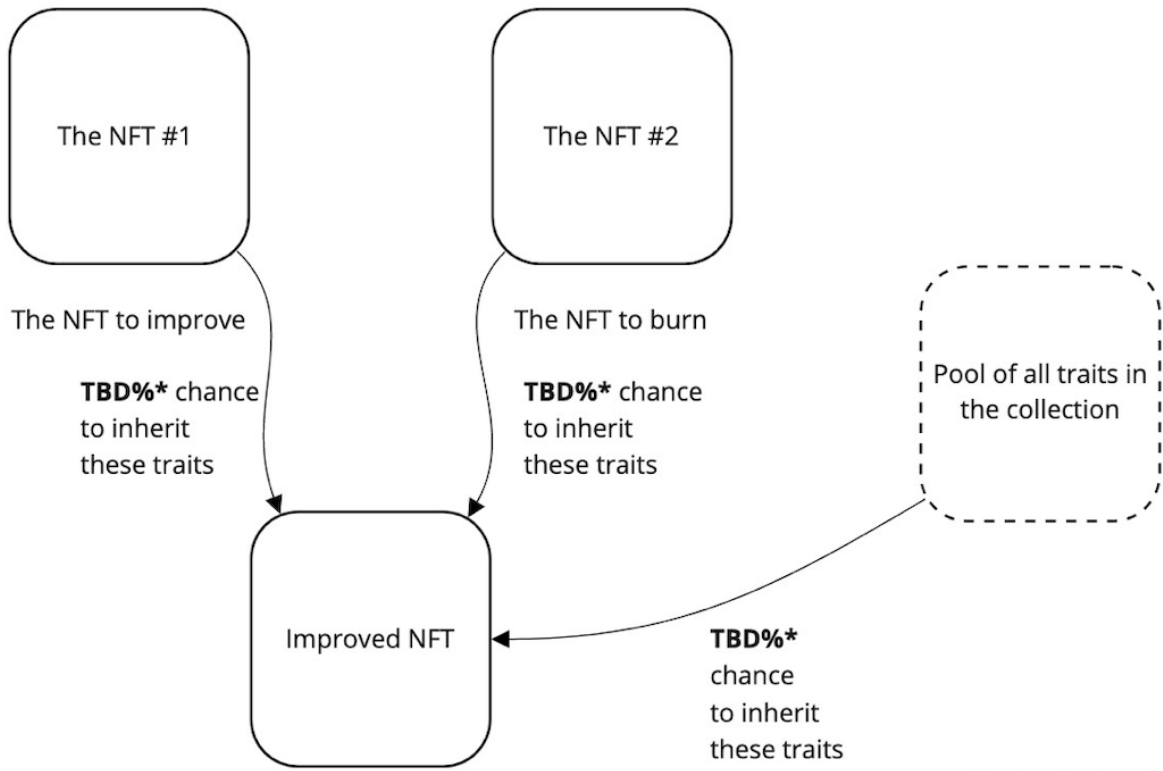
For additional info see Schematic Model 1 below.

There are traits which have a possibility of ageing during the fusion process. The initial chance of ageing is 1% and is increased by 1% with every fusion. However, this percentage is capped at 30%.

Every aged trait has a 1.5 multiplier compared to the non-aged trait.

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Schematic Model 1



*to be disclosed

4.3 Rarity mechanics:

Due to the nature of fusing two NFTs together, certain traits will not be carried forward and inherited by the newly merged NFT. To increase the odds that the new NFT will have increasingly rare traits, the rarity formula has been designed to increase the rarity exponentially for each new fusion event.

Altogether, with a chance of getting very rare aged elements that are only available through the fusion process, there is an increasing incentive with each subsequent fusion that occurs.

4.4 Rarity formula:

$$R_A = R_c * \sqrt[3]{f + 1}^{f+1}$$

R_A - Actual Rarity, the rarity which some particular attribute has, considering fusion

R_c - Calculated Rarity, rarity which some particular attribute has at the moment, considering the deviation in numbers because of burns

f - Fusion index, the number of fusion events which took place with this particular DefPunk

$$R_c = R_B - (((1 - S_s/(S_A/S_T)) * 100\%) * R_B)$$

R_B - Base Rarity, predetermined rarity which some particular attribute had initially

S_A - Actual Supply of some particular attribute

S_T - Total Supply of the NFTs in the collection (at the moment, considering burns)

S_s - Share of the Total initial Supply, predetermined supply which some particular attribute had initially

4.5 Rarity mechanics, modeling

Model:

One trait with Calculated Rarity = 2

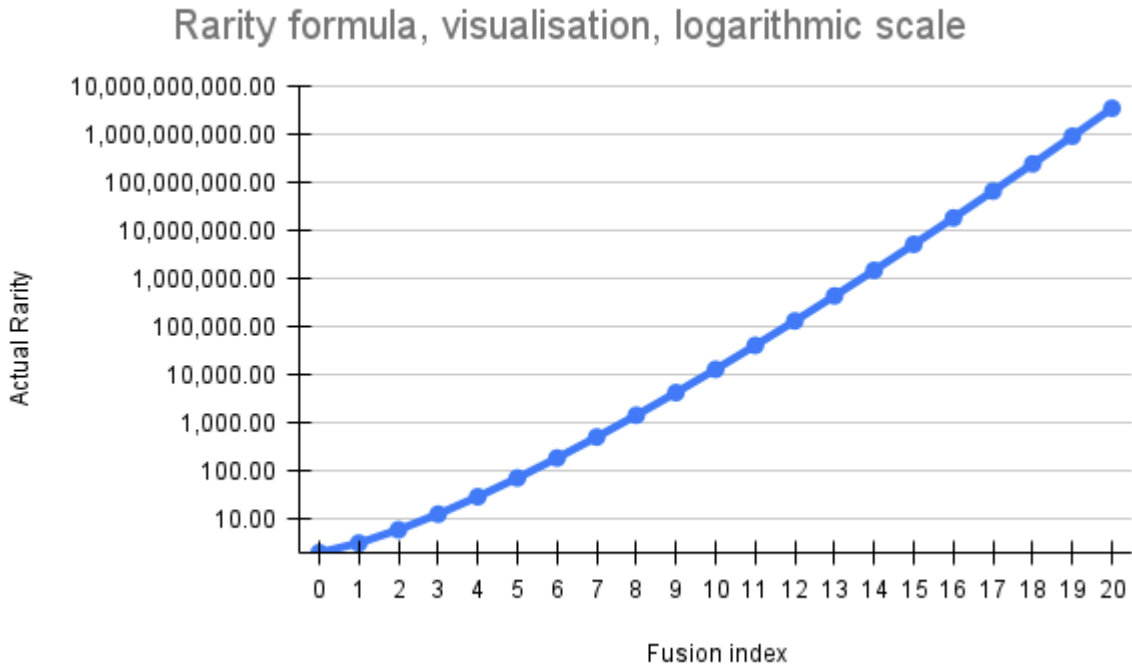
Series of fusions = 20

Table 1

Calculated Rarity	Fusion Index	Actual Rarity	Change	% change
2	0	2.00	0.00	0%
2	1	3.17	1.17	37.00%
2	2	6.00	2.83	47.09%
2	3	12.70	6.70	52.75%
2	4	29.24	16.54	56.57%
2	5	72.00	42.76	59.39%
2	6	187.47	115.47	61.59%
2	7	512.00	324.53	63.39%
2	8	1,458.00	946.00	64.88%
2	9	4,308.87	2,850.87	66.16%
2	10	13,166.48	8,857.62	67.27%
2	11	41,472.00	28,305.52	68.25%
2	12	134,312.94	92,840.94	69.12%
2	13	446,300.63	311,987.69	69.91%
2	14	1,518,750.00	1,072,449.37	70.61%
2	15	5,284,491.90	3,765,741.90	71.26%
2	16	18,774,737.93	13,490,246.03	71.85%
2	17	68,024,448.00	49,249,710.07	72.40%
2	18	251,074,612.85	183,050,164.85	72.91%
2	19	943,112,063.65	692,037,450.80	73.38%
2	20	3,602,177,082.00	2,659,065,018.35	73.82%

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Chart 1



Explanation

As we can see in the chart, the rarity value rises exponentially. Starting with 2, it reaches 3.6 billion after 20 fusion events

Immediate Usecase, Utilities, and Long-term Plans

5.1 Vision

There are several targets we're striving to achieve in the near-term and long-term for this project. In this chapter we will cover our vision on DefPunks' usecase.

5.2 Immediate usecase

The DefPunks is being developed as a blockchain game, and we have implemented many features to make it popular, such as:

- Deflation - this feature helps to maintain the rarity of DefPunks collection over time since the number of DefPunks decreases as long as people are playing the game and fusing their DefPunks;
- Fusion - this feature gives the possibility (but not a rule) to create a DefPunk with a rarer attribute by fusing 2 DefPunks;
- Rarity - this feature maintains the balance between risk which has fusion mechanics and profit which brings a fusion result. Also, the rarity formula makes sure that in the long-term it's more valuable to fuse vs taking no action;
- Free-of-fee fusion mechanics - this feature helps to incentivise fusing rather than selling;
- Affordable minting price - this feature helps to appeal to every NFT collector.

5.3 DefPunks DAO and Long-term Plans

While developing the DefPunks idea, our goal was to make this project long-lasting and community-driven. Here are a few of the details:

We will establish the DefPunks DAO where every DefPunks holder has a vote based on the cumulative rarity of their DefPunks in a wallet.

That means that every DefPunks holder will have a vote in the future of the project, including how to allocate and distribute profits generated from the funds held by the DAO.

As the minting process progresses, we will be allocating 75 ETH and 2500 DefPunks NFTs to the DAO treasury. DefPunks NFTs will be locked for sale for 1 year.

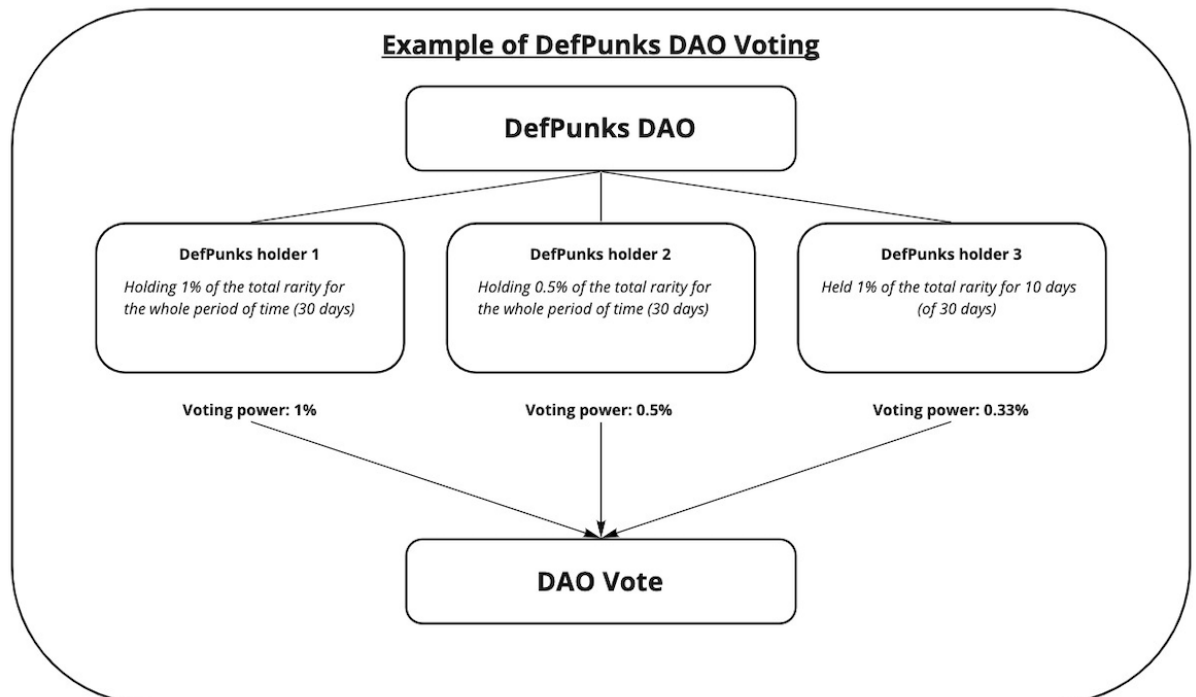
More about the mechanics:

We will conduct the snapshots on a daily basis - holders and rarity of their DefPunks.

Based on these snapshots people are able to vote in the future of the DAO.

More about this in the Schematic Model 2 below.

Schematic Model 2



Closing thoughts

As we have already stated in this document, we are here to add value and to change the existing NFT space for good. NFTs are not “just a jpeg”, but it’s a proof of ownership, which grants people the right to own some part of the digital world.

Our team is striving to develop an NFT project where people not only are able to own some part of a project (by owning the NFTs), but also they have a chance to interact with their NFT. We are going to prove that NFTs are not “just a jpeg” that you can right-click save once and for all.

Moreover, with every interaction, owners add value to their NFT, hence, to the whole project. So, there is an organic rise of value for every DefPunks owner in general.

Of course, some part of this value is based on beliefs, the same as many things in our lives are: currency exchange rate, high-end products, precious materials, works of art, etc. With this game we add legitimacy to the NFT world - building the bridge between the assets people can own as art and the things people can interact with.

The DefPunks team,
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<https://defpunks.com>