

Polkadot NFT Standards

How Kodadot fits them under one roof.

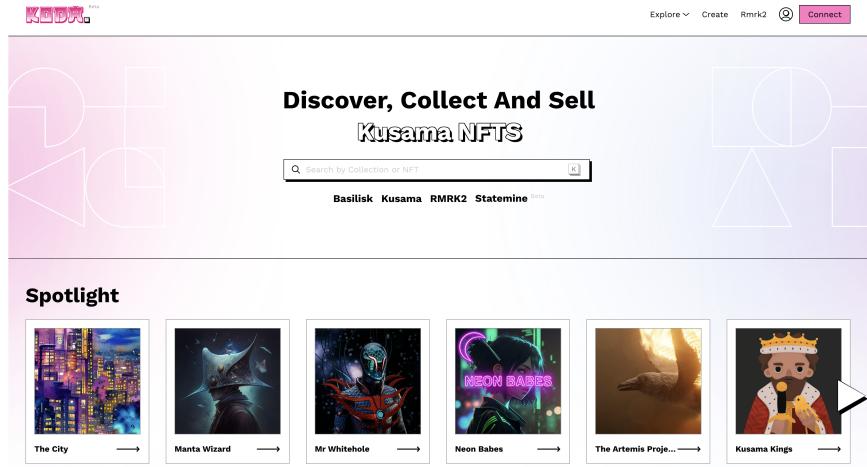
Hey, I am Viki 🙌

- co-founder of KodaDot
- technical wizard
- bleeding edge implementations in KodaDot
- Github / Twitter: @vikiival
- Discord: vikiival|KodaDot#0001
- Web: vik.ink



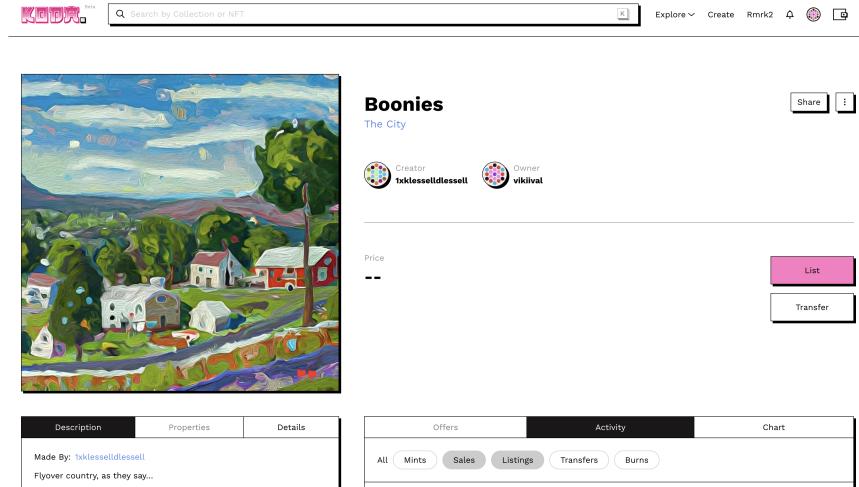
What is KodaDot?

- Open-source NFT marketplace in the Polkadot ecosystem
- Multichain powered - Polkadot, Kusama, Basilisk, Moonriver, Astar
- Technology agnostic - 6 standards on 9 chains
- Bounty based - bringing dev talent to the ecosystem (@yangwao @ 18:30)
- **450+ stars, ~260 forks, 100+ contributors**



What are NFTs?

- Pricy pictures stored on the blockchain
- **Bytes** that should represent unique item.
- Often comes with **metadata** in the JSON format
- Metadata has various properties: name, image, description
- **OpenSea** metadata standard is most used one



What are the modern approaches?

- PFPs - artworks, collectibles
- De-Fi - LP positions, liquidity mining
- Utility - claimables, token gating, etc
- What is missing?
- In one sentence - **understanding standards**



The NFTs we used to know

- Really simple and basic standard
- Mostly used for PFPs, arts
- Easy to build anything - lending, swaps
- We just need to define: name, symbol and link to metadata
- Ineffective for transactions (high gas fees)



Can we make ERC-721 more efficient?

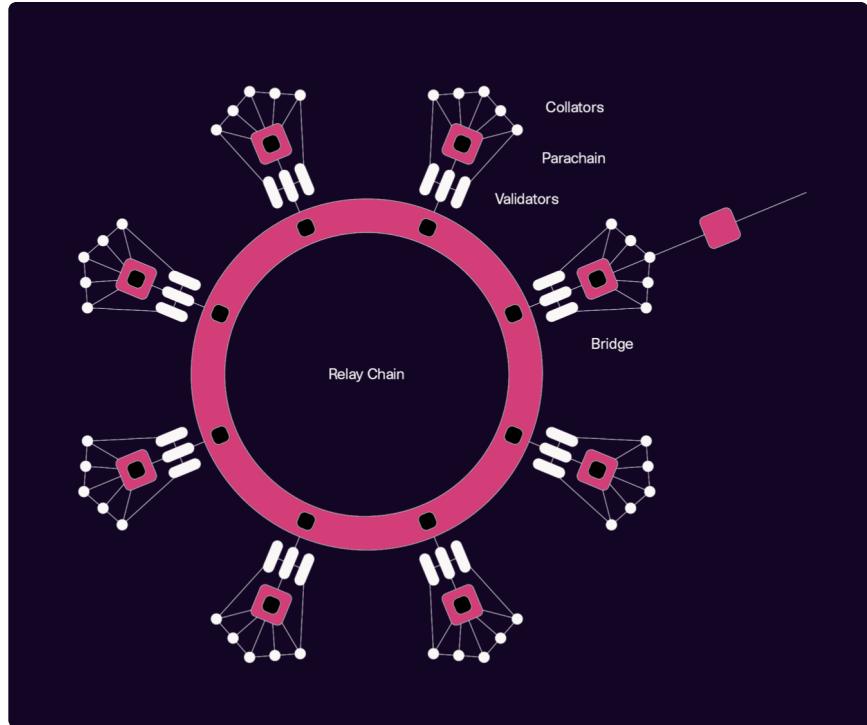
- Multi-token standard - multiple "collections" under one roof
- Support for both fungible and non-fungible tokens
- **Batch transfers** - send as many tokens in one transaction
- Thanks to efficiency: De-Fi, On-chain games



So are there any NFTs in Polkadot?

So what is unique about Polkadot's architecture?

- We have a **main relay chain** that is responsible for **consensus** and **security** of the network
- We have **parachains** that are responsible for **computations** and **storage** of the network
- Parachains are **connected** to the main relay chain
- Parachains can **communicate** with each other via **XCM^P** protocol



Let's make ground for NFTs

- Each parachain has its **own implementation of NFTs**
- Some use smart contracts, some use built-in blockchain functionality
- Everything is running as plug-n-play modules, called **pallets**
- Adding pallet to blockchain node is done without hard fork



On-chain graffiti (RMRK)

- Similar to NFTs on Bitcoin
- Literally, strings on the Kusama Network
- Really hard to track and ensure compatibility
- First Standard that we implemented



Breakfast in SubWork

2 cents



Share



Creator

Fksmad...xQhe98

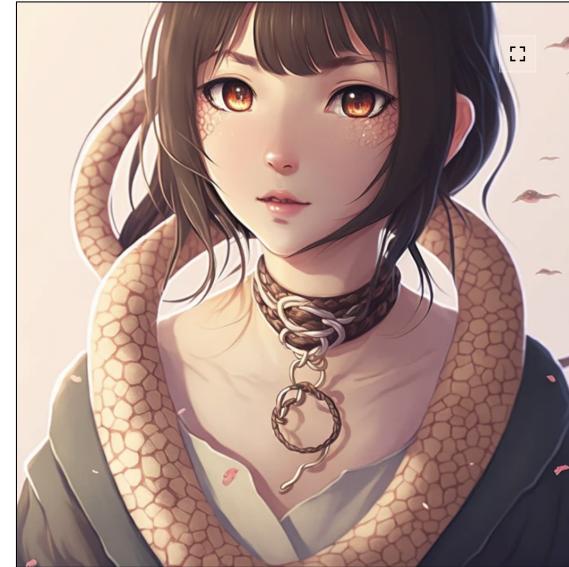


Owner

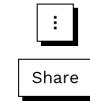
CuHWHN...ovoedSd

Basilisk as the first chain with NFTs

- Enable creators to cheaply and effectively create art
- Marketplace features with offers
- Liquidity mining possible via NFTs

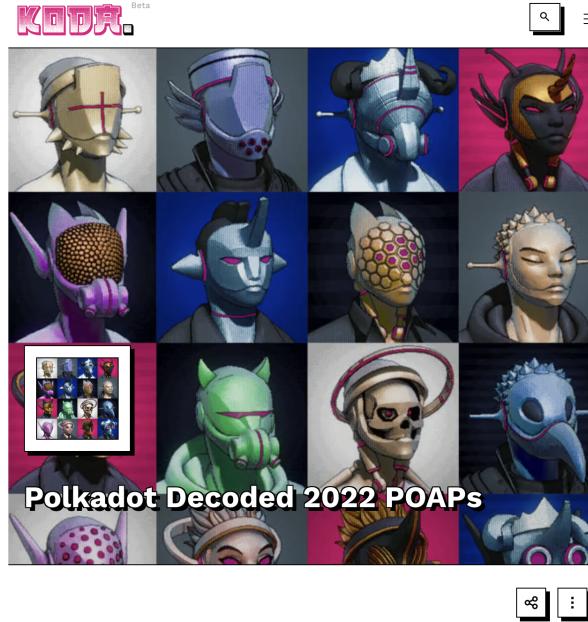


Liquidity Mining 🐍❤️
Liquidity Mining 🐍❤️



Native Polkadot NFTs

- Special common good parachain - Statemint
- Soon renamed to Asset Hub
- Peer-to-peer swaps
- Drops, whitelists, other general utility



Creator [FezDtF...oMsoAZ](#)

The Polkadot Decoded NFTs were minted and distributed as POAPs for Polkadot Decoded v3 that was held on June 29th and 30th, 2022, with a fully hybrid experience of online and in-person events. All those who reg

[Show More](#)

Network:

Statemine [Beta]

Items:

25000

Owners:

24327

Smart contract standards

- Apart from funtime pallets, we also support NFTs on smart contracts
- Namely Solidity on MoonBeam and WebAssembly in Astar
- Smart contracts in WebAssembly can run much faster than Solidity one
- Marketplace coming soon

KODA Beta



=



Moonpets #4975

MOONPETS



Share

Why not simply agree on a single standard?

HOW STANDARDS PROLIFERATE:

(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

SITUATION:
THERE ARE
14 COMPETING
STANDARDS.

14?! RIDICULOUS!
WE NEED TO DEVELOP
ONE UNIVERSAL STANDARD
THAT COVERS EVERYONE'S
USE CASES.



SOON:

SITUATION:
THERE ARE
15 COMPETING
STANDARDS.

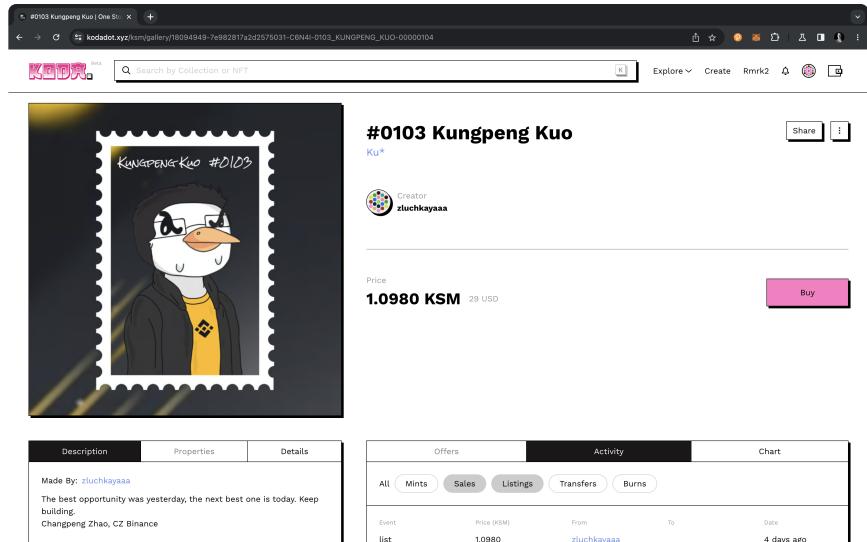
The thesis of KodaDot

- We want to fit various NFT Standards under one roof
- User mostly does not care "what" technology is under the hood
- Bring stable and unified UI, without too-much blockchain lingo
- Make it easy, fun and seamless to mint on KodaDot



How is that possible?

- To deliver best UX, we index the blockchain events into the DB
- Blockchain indexer with almost same database schema
- Therefore 80% UI can stay the same
- thanks to the url prefix we know what to do with the NFT



How to scale-up NFT creation?

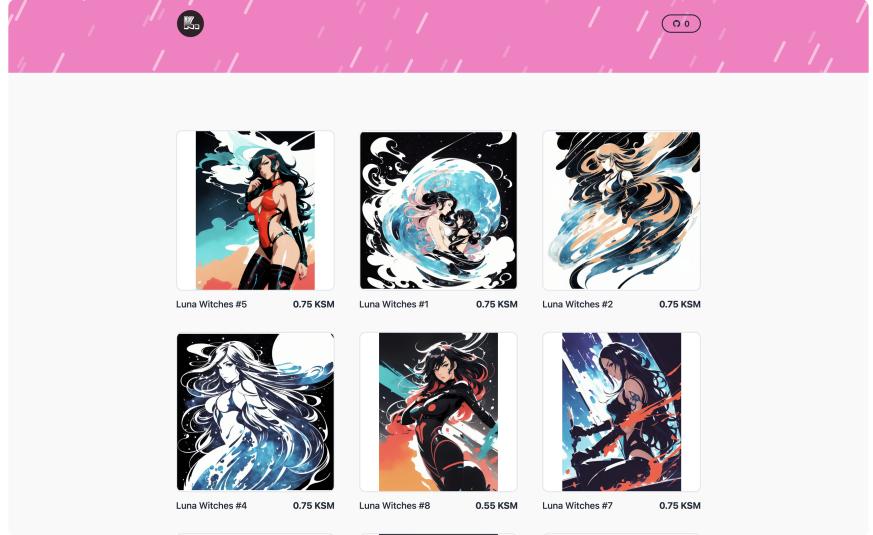
- Minting tokens one-by-one is a very slow and boring process
- Idea: let's make a drop to mint UI
- Streamline the process of minting NFTs by automating repetitive tasks, such as generating metadata and uploading files
- Efficiently mint a batch of artworks for a special event

The screenshot shows a user interface for NFT creation. At the top, there is a section titled "Upload Pictures" with a green checkmark icon and the message "Three.Jpegs.zip uploaded". Below this is a placeholder text "Drop your file here or click to select.". The main area features an "Upload Description File (Optional)" button and an "Overview Table". The table has columns: #, Image, Name, Description, Price, Status, and Operation. It contains three rows of data:

#	Image	Name	Description	Price	Status	Operation
1		gg	Description Missing	Price Missing	<button>Description</button>	<input type="checkbox"/> trash
2		monk	baby monk	3.2500 KSM	<button>OK</button>	<input type="checkbox"/> trash
3		*Name Required	Description Missing	Price Missing	Incomplete	<input type="checkbox"/> trash

Making our collection special

- Neobrutalism is awesome but sometimes we want to make something different
- Custom storefront is a great way to do that
- Giving a unique look/vibe to our collection
- Ultra-fast (thanks to Deno & KodaDot API)
- Super easy to customize



Can AI art support us in that mission?

- making prompts for them is hard
- pre-made prompts can deliver really nice results
- Generative models: DALL-E, Midjourney, StableDiffusion can help us with images
- ChatGPT and others: generate creative texts for NFTs
- Waifu minter as the use-case in KodaDot



Select your 1 waifu

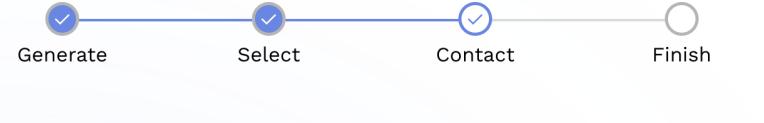
🎉 loaded 2 predictions

2 prediction(s) was marked as NFSW 18+



Custodial experience vs onboarding

- we want to make it easy to onboard
- first iteration - custodial experience (via email)
 - very easy to use
 - no need to install anything
 - many people won't share their email
 - on-boarding is just postponed
- second iteration - onboarding via Nova Wallet
 - on-site experience
 - direct access to platform
 - privacy is respected



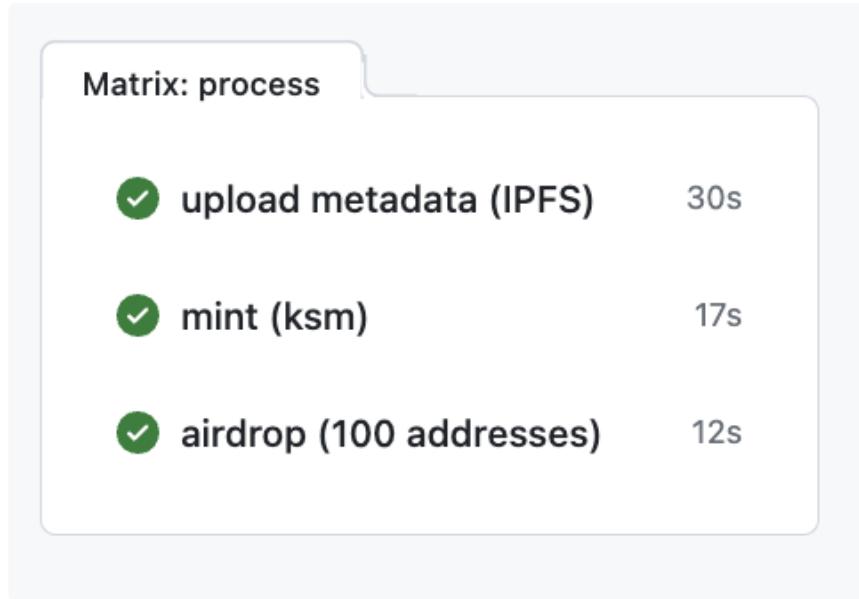
Enter your email

email

[OBJ]

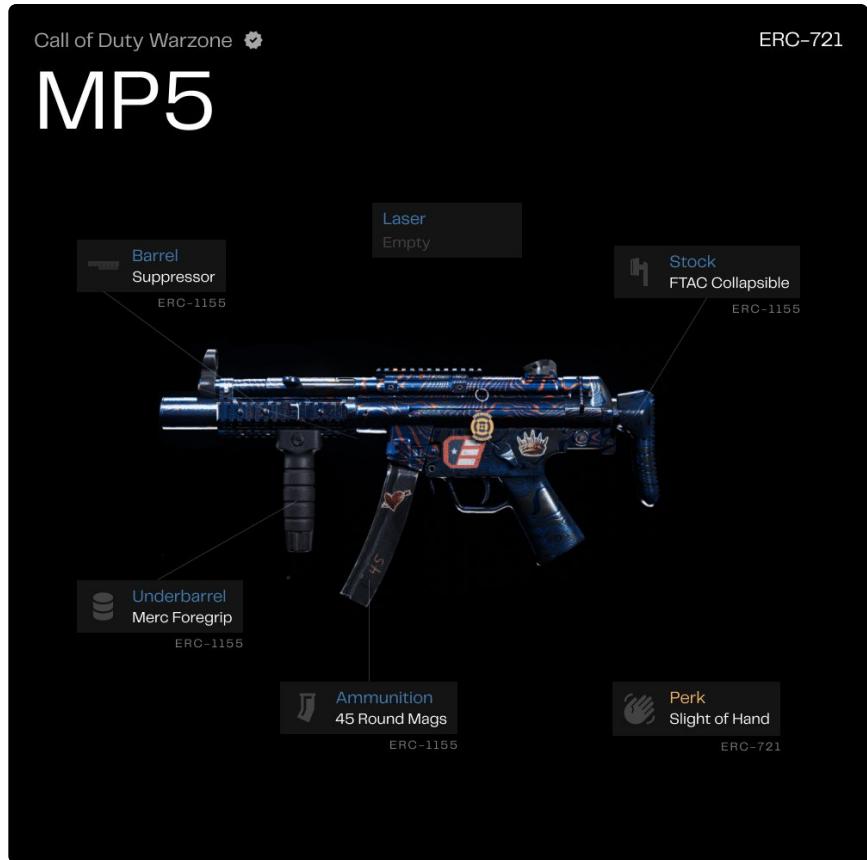
Async, no-code first

- We see that the future is async
- No-code approach to minting NFTs
- Create and share workflows
- No need to wait for the transaction to complete, we will notify you when it's done



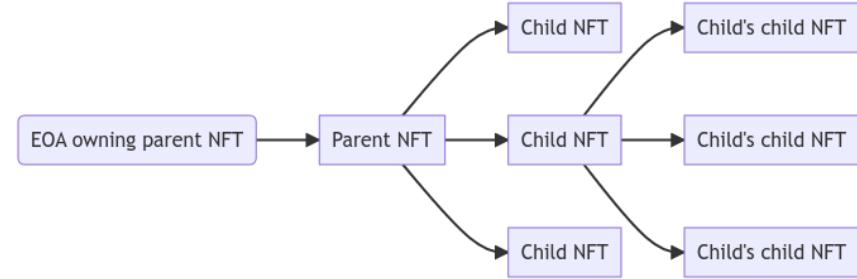
Future is about abstractions

- New EIPs are emerging: **ERC-6551**
- What if non-fungible tokens are actually accounts?
- NFT can be used to hold a portfolio basket
- Nesting is a side-effect of the abstraction
- Huge potential for on-chain gaming assets
- KodaDot as an R&D for this in Polkadot



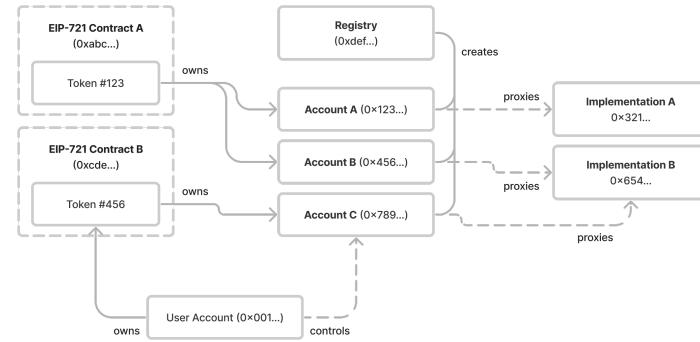
Nesting is limited to recursion

- ERC-6059 talks about nesting via parent-child relationship
- NFTs can get into the pending (non-finalized) state
- Need to propose, accept, reject and finalize
- Cannot hold other tokens



Abstraction makes it possible

- As mentioned ERC-6551, NFTs are basically accounts (smart contracts)
- Can hold other tokens (ERC-20, ERC-721, ERC-1155)
- Can participate in DAOs
- Can be used as staking
- Easy to sell on KodaDot



We are heads down trying new things

and you can do too with us

- high-speed multi-chain search (for everyone)
- abstracting NFTs from user experience
- generative art minting
- NFTs base on zero-knowledge proofs
- on-chain art without the need for off-chain code
- Graph NFTs

The image shows a mobile application interface with a dark theme. At the top is a search bar with a magnifying glass icon and a refresh button. Below it is a section titled "Trending" with a horizontal line. The main content area displays five NFT collections with their names, unit counts, owner counts, and the BSX logo. At the bottom is a "Rankings" button with a right-pointing arrow.

Collection	Units	Owners	Category
BASIME	8	4	BSX
Chaos Cards	1	1	BSX
Hooker's Urban	5	3	BSX
Collection Redesign	11	1	BSX
NAGA KADAL	16	7	BSX

Rankings →

Your contribution matters

We are looking forward for more
collaborators on

- music NFTs
- GLSL/shaders
- on-chain art
- shaping our API/SDK for games



SubWork - your best web3 retreat in the mountains

- physical space outside of the city to laser focus on your project
- based in Bled, Slovenia, in the footstep of the Julian Alps
- rated among top10 beautiful places in Europe
- up & running
- we've already had 50+ visitors over the since summer '22
- go to <https://subwork.xyz> for more
- <https://twitter.com/subworkBled>



Thanks for having us

and thank you for your contribution

- You can find us
 - <https://dsc.gg/kodadot>
 - <https://twitter.com/kodadot>
 - <https://twitter.com/vikiival>
 - <https://twitter.com/yangwao>



What are your questions?

and do not forget to give us a star

