Navcoin-js Hackathon Day 3

https://github.com/aguycalled/navcoin-js-hackathon

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Hello everyone!!

Today…

- Call is public, link has been shared public on Discord/Twitter/etc.
- Projects’ presentations.
- Questions.
- Private Tokens and NFTs.
- Latest changes in Navcoin-js.
- Demo of Private Tokens/NFTs.

Personal projects.

- Remember, deadline to submit is December,17th. Up to 25,000NAV in prizes.
- Now, let's see what you have to show!

- Any question from the community? Any technical question from the participants?

Private Tokens

- Private Tokens (and NFTs) will be enabled in the Navcoin mainnet in Q1 2022. Already active in the testnet.
- Anyone can create a token.
- Tokens hide sender, receiver and amount, using the same protocol as xNAV.
- Possible uses of private tokens: pegged tokens backed by other currencies (BTC; ETH; USD; GOLD; etc.), tokenised assets like real estate, in-game items or collectibles.

Private Tokens

- They can be:
  - Created
  - Minted
  - Transferred

Private Tokens. Creation

- The creator of a private token becomes its owner. At time of creation the following parameters are defined:
  - Name, for example “Private Bitcoin”
  - Currency code, for example “pBTC”
  - Max supply, for example “21,000,000”
- The previous parameters can not be changed after creation.
- The hash of the public key of the owner, becomes the token identifier. Because two different private tokens can share a name, the identifier is the only way to discern legit tokens from malicious copies (very important!).

Private Tokens. Minting

- A private token starts with 0 supply.
- The mint operation creates new tokens, sends them to a specified destination, and adds the amount to the supply.
- Only the owner can mint.
- Minting can happen until the supply equals the max amount.
- Tokens can be burned to be removed from the supply.

Private Tokens. Transfer

- Same procedure as with normal xNAV transactions (only difference they have attached a tokenId tag).
- Sender, receiver and amount are hidden.
- Fees are paid with xNAV.

Private NFTs

- NFTs are Non Fungible Tokens. Our implementation benefits from the blsCT protocol used for xNAV and Private Tokens to hide the identities of the owner, and sender and receiver when they are transferred.
- NFTs are atomic, they can’t be divided in smaller amounts and they are minted one by one.
- They are non fungible because each token has specific properties attached.
- NFTs are identified by a hash and an integer. Hash references a collection of NFTs and the integer a concrete NFT inside of the collection.

Private NFTs. Creation

- The creator of a NFT becomes its owner. At time of creation the following parameters are defined:
  - Name, for example “Fine ART”
  - Scheme, information about the format of the metadata. Can be a string indicating a standard, for example.
  - Max supply, for example “1,000”
- The previous parameters can not be changed after creation.
- The hash of the public key of the owner, becomes the NFT identifier. Because two different private NFTs can share a name, the identifier is the only way to discern legit NFTs from malicious copies (very important!).

Private NFTs. Minting

- A private NFTs starts with 0 supply.
- The mint operation creates new elements inside of the collection, sends them to a specified destination. When an element is minted it is assigned a specific index and metadata. NFTs do not need to be minted in a specific order.
- Only the owner can mint.
- Minting can happen until all the elements have been minted.
- NFTs can’t be burned.

Private NFTs. Transfer

- Same procedure as with normal xNAV/Private Token transactions (only difference they have attached a tokenId and nftId tag).
- Sender and receiver are hidden. Metadata is public.
- Fees are paid with xNAV.

Latest Navcoin-js changes

- Current version is v0.1.72
- Remember, Nodejs v15 and npm v7.
- https://github.com/aguycalled/navcoin-js/blob/main/README.md
- New methods:
  - xNavCreateTransactionMultiple
  - CreateToken, MintToken, CreateNft, MintNft
  - tokenCreateTransaction

Private Tokens and NFTs in Navcoin-js

- Today we will use the beta of NavCash as the base. You can reuse it for your projects ;)
- https://github.com/aguycalled/nav-react
- Trick for making your life easier: exposing library and wallet in the browser.
- Let’s code…

That’s all for today!

- Updated repository with todays’ slides: https://github.com/aguycalled/navcoin-js-hackathon
- Questions?

- Looking forward to see your final submissions next week. Happy hacking and good luck!