OpenZeppelin

OpenZeppelin Contracts

- **library for secure smart contract development**

Openzeppelin Contracts

- **Implementations of token standards**

- **Reusable Solidity components**

    - build custom contracts

    - complex decentralized systems

Openzeppelin Contracts

- **https://github.com/OpenZeppelin/openzeppelin-contracts**

- **https://openzeppelin.com/contracts/**

NFT token standards

- *ensure smart contracts remain composable*

- when a new project issues a token, it remains

  compatible with decentralized exchanges

Popular token standards

on Ethereum

ERC-20

- *A standard interface for fungible (interchangeable) tokens*

  - voting tokens, staking tokens or virtual currencies

ERC-721

- *A standard interface for non-fungible tokens*

ERC-777

- *build extra functionality on top of tokens*

  - eg) improved transaction privacy

NFT token standard

- Ethereum Request for Comments 721

NFT token standard

- implements an API for tokens within Smart Contracts

NFT token standard

- can have different value than another Token

  from the same contract

  - *age, rarity, visual ...*

NFT Standard Functionality

- Transfer tokens from one account to another

- Get the current token balance of an account

- Get the owner of a specific token

- Get the total supply of the token available on the network

- …

Read more

https://ethereum.org/en/developers/docs/standards/tokens/

Solidity

- High level programming language

- For writing smart contracts on Ethereum

- Compile code for the Ethereum Virtual Machine

- Syntax like JavaScript

Solidity

- **https://docs.soliditylang.org**

- **https://github.com/ethereum/solidity**