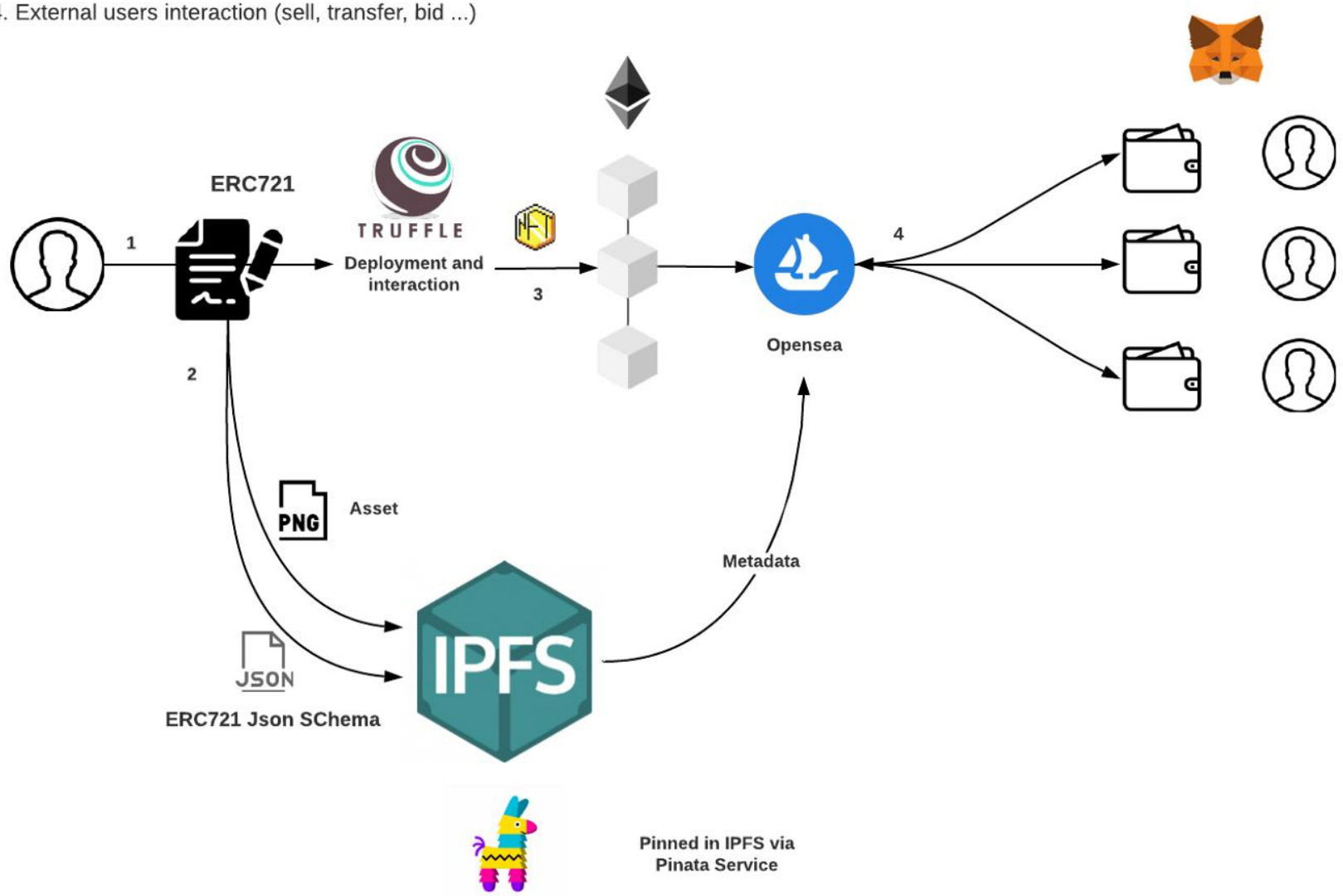
Homework-4: Programming an ERC721 Token Contract

- Ref. Creating your own NFT from scratch and listing it on OpenSea
- Using Truffle, OpenZepplin, Pinata, Testnet (Sepolia), and OpenSea

1. Setting up the contracts
2. Upload and set metadata (Pinata/IPFS).
3. Deployment and interaction (mint, burn, pause ...)
4. External users interaction (sell, transfer, bid ...)



Ref. How to Write & Deploy an NFT

- https://ethereum.org/en/developers/tutorials/how-to-write-and-deploy-an-nft/
- Creating and deploying an ERC-721 smart contract on the Sepolia test network using MetaMask, Solidity, OpenZeppelin, (Hardhat), Pinata and (Alchemy).
  - Hardhat is a development environment to compile, deploy, test, and debug your Ethereum software.
  - Alchemy is a blockchain developer platform and API that allows us to communicate with the Ethereum chain without having to run our own nodes.
  - Interplanetary File System (IPFS) is a decentralized protocol and peer-to-peer network for storing and sharing data in a distributed file system.
  - Pinata is a convenient IPFS API and toolkit, to store our NFT asset and metadata to ensure our NFT is truly decentralized.

Development Tools & Blockchain Node Providers

Truffle

VS

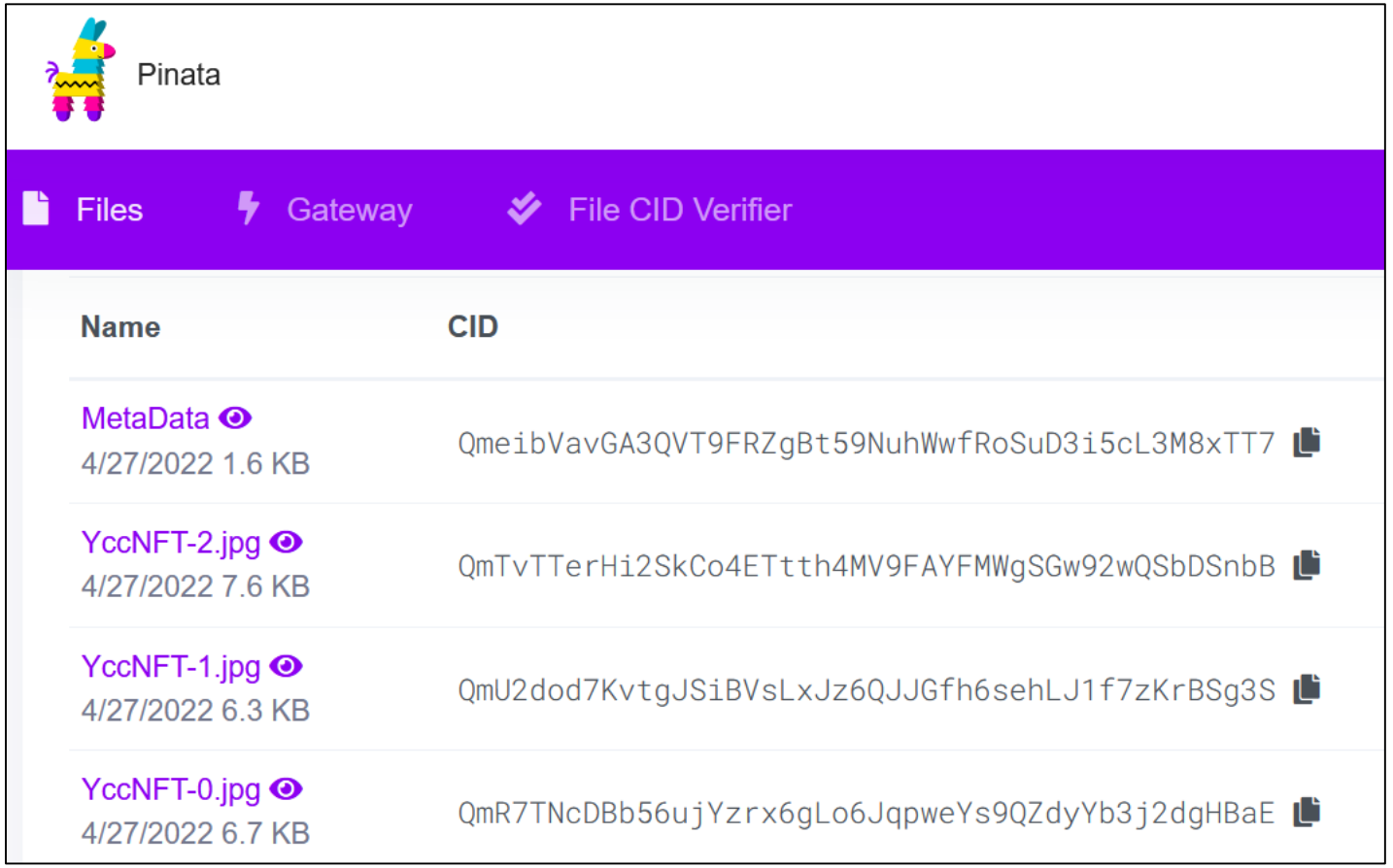
Hardhat

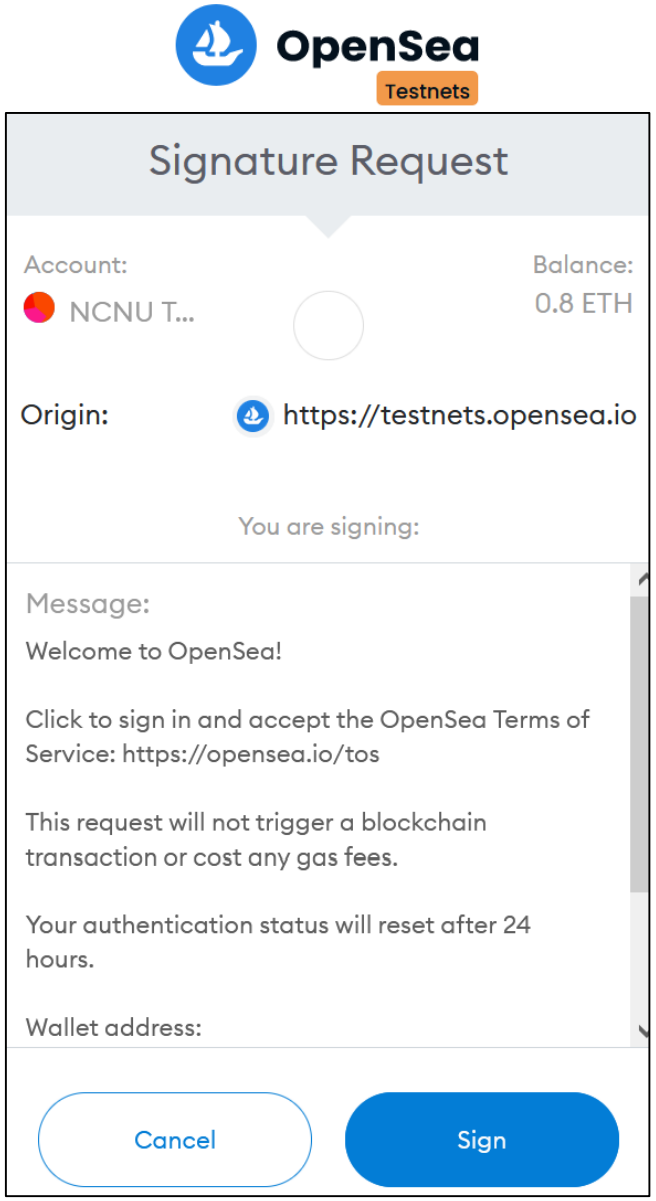
moralis

alchemy

INFURA

E.g. YCC NFTs (1/2)





E.g. YCC NFTs (2/2)