

NFTs & Digital Assets: A Visual Introduction

Standalone Mini-Lecture

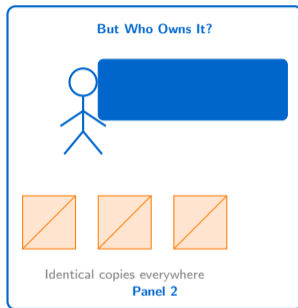
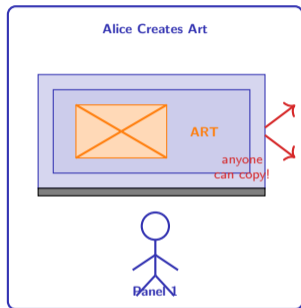
“Own the original — in a world of infinite copies”

Prof. Dr. Joerg Osterrieder

University Lecture Series

February 24, 2026

The Digital Ownership Problem



NFTs solve the digital ownership problem by creating verifiable scarcity on-chain.

What is an NFT?

Fungible Tokens

\$1 Dollar Bill

\$1 Dollar Bill

1 ETH token

1 ERC-20 token

All identical

Interchangeable:
any unit = any unit



Non-Fungible Tokens

Digital Art #0042

House Deed: 12 Oak St

Concert Ticket Row 3

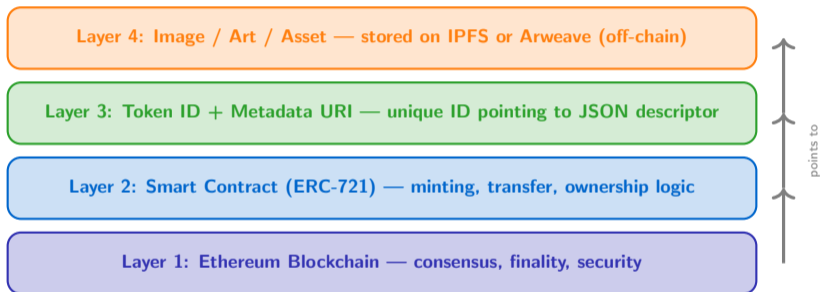
In-game Sword #7

Each unique

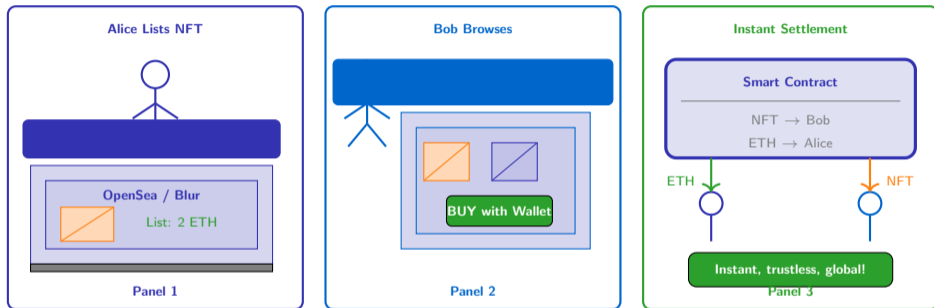
Non-interchangeable:
every token is different

Fungible = interchangeable (every dollar is the same). Non-fungible = unique (every NFT is different).

The NFT lives **on-chain**; the art usually lives **off-chain** (IPFS / Arweave). Token ID links to metadata JSON which links to the image.

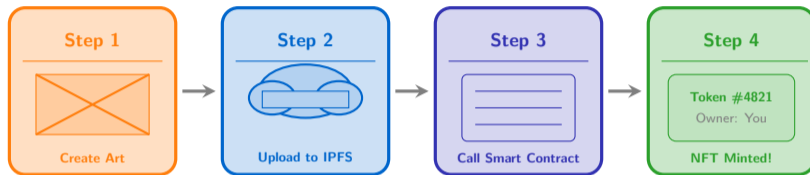


An NFT is a smart contract entry pointing to metadata – the media itself is usually stored off-chain.



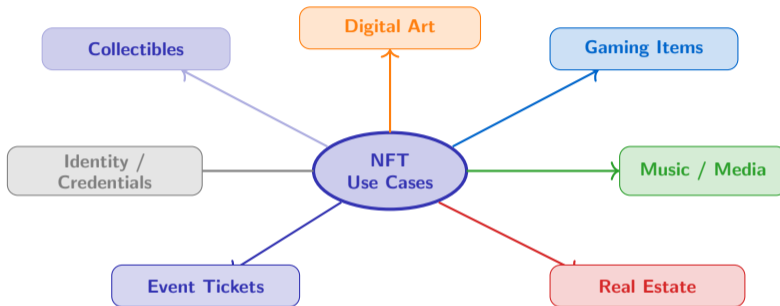
NFT marketplaces are smart contract platforms – no middleman holds the assets.

Minting Your First NFT



Minting cost = gas fee on Ethereum. ERC-721 mint() function records ownership on-chain.

Minting = creating a new NFT on the blockchain by calling a smart contract function.



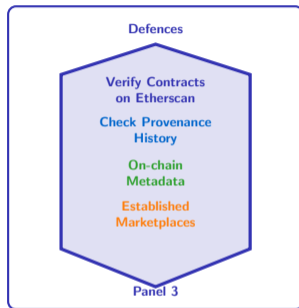
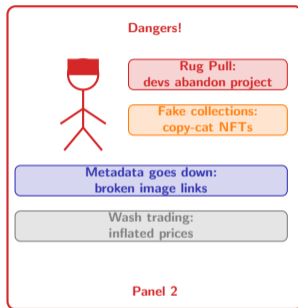
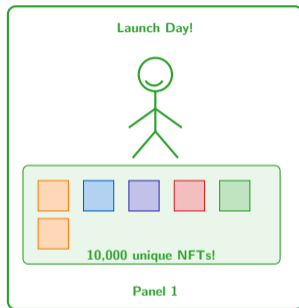
NFTs extend far beyond art – they represent any unique digital or real-world asset.

Metric	Value	Context
Total NFT Sales Volume	\$55B+ (2017–2023)	Peaked in 2021–2022
Unique Buyers (peak)	2M+ per month	Q1 2022 market peak
Top Single Sale	\$69.3M	Beeple “Everydays” (Christie’s)
Active Collections	10,000+ launched	Most have low liquidity
Gaming NFT Market	25–30% of volume	Fastest growing segment

ed at \$25B+ in 2021 — technology adoption continues despite price

Despite market cooling, NFT technology adoption continues in gaming, identity, and real-world assets.

The Risks of NFTs



NFT buyers face unique risks: rug pulls, counterfeit collections, and metadata permanence.

1. NFTs are unique digital tokens — no two are the same, and ownership is on-chain

2. ERC-721 is the core NFT standard; ERC-1155 enables multi-token (batch) contracts

3. Metadata is usually off-chain (IPFS / Arweave) — permanent storage is not guaranteed

4. Use cases span art, gaming, music, real estate, event tickets, and identity

5. Risks include rug pulls, wash trading, counterfeit collections, and metadata loss

Next: Deep dive into NFT standards, valuation, and advanced topics

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