

NFT

The Next Big Thing or Just a Bubble?

Prague University of Economics and Business

“BLOCKCHAIN” HAS MANY MEANINGS

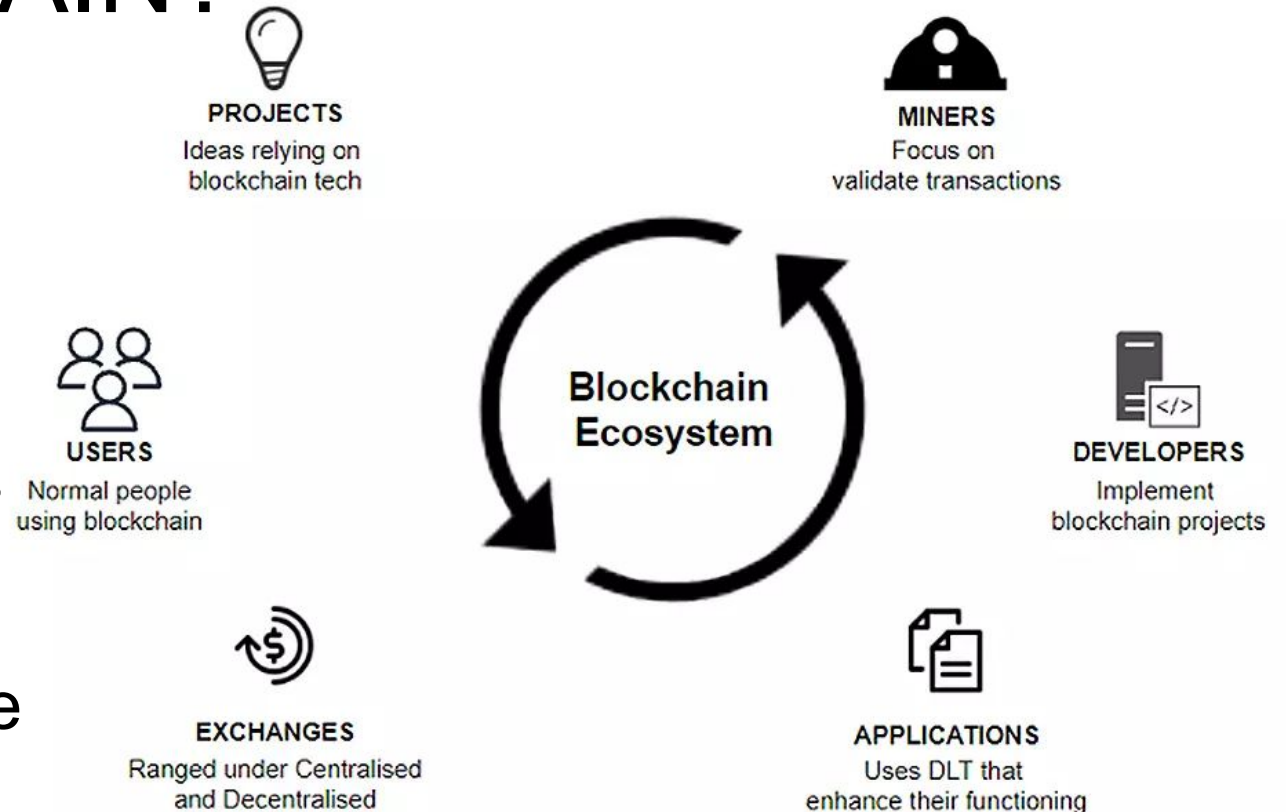
- *A blockchain is a decentralized or distributed "database that is shared among computer network nodes. A blockchain acts as a database, storing information in a digital format. Blockchains are well known for their critical role in keeping a secure and decentralized record of transactions in cryptocurrency systems like Bitcoin.”*
- Blockchain is one of the most recently developed technologies, highlighting the Internet of Things (IoT) and artificial intelligence revolutions' models and advancements. (Abou Jaoude & Saade, 2019)
- *“To understand the power of blockchain systems, and the things they can do, it is important to distinguish between ...the bitcoin currency, the specific blockchain that underpins it and the idea of blockchains in general.”* (THE ECONOMIST, 2015)
- Blockchain can be used in many spheres from self-driving cars or drones, payments for related services, in supply chain management, in accounting, quality assurance investigations, smart contracts, voting, stock exchange, global transactions, storing medical records, storing individual credit records, tracking the attribution of artworks, or verifying payments using the supply chain, among many other processes and procedures.

WHAT IS BLOCKCHAIN?

Blockchain is a technology that:

- permits transactions to be gathered into blocks and recorded
- cryptographically chains blocks with a hash in chronological order; and
- allows the resulting ledger to be accessed by different servers.

Is it real technological disruptor or just a hype?



Recapitulation – Cryptography and Hash

Two basic mathematical principles in the foundations of any blockchain

Cryptography

- *symmetric* – same key for encryption and decryption
 - *Not used in Blockchain*
- **asymmetric** – pair of keys: public – encryption / private – decryption
 - In Blockchain is public used for „addressing“ and private for „authorization“ of transactions.
- **Hash function** - one-way function which gives unique hash value to any given input.
 - In Blockchain is used to „lock“ blocks together.
- Advantages / Disadvantages / Troubles

HOW THE BLOCKCHAIN WORKS

- "Blockchain" is defined as a data structure storing information in blocks forming a chain, where the new blocks are linked to previously generated blocks. It is a sequence of hash-chained records, where a block is a digital container for transactions, contracts, property titles, etc.

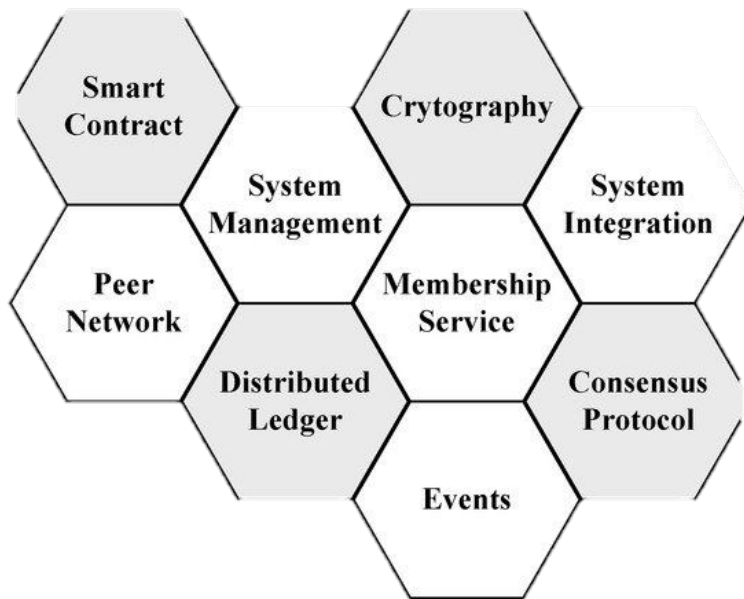


Figure 1 Major components in blockchain systems.

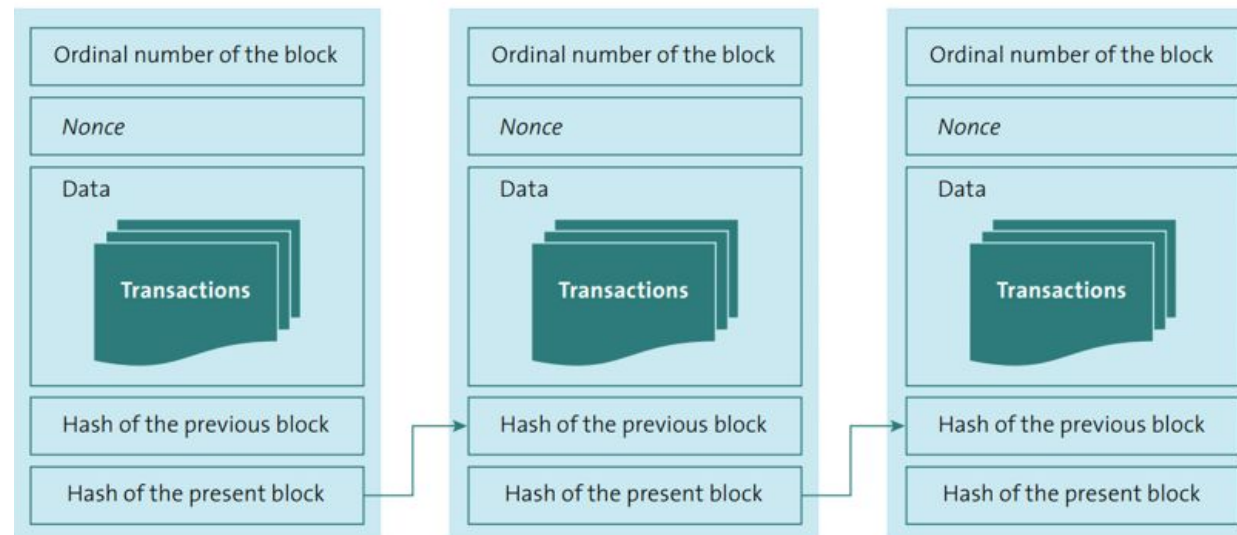
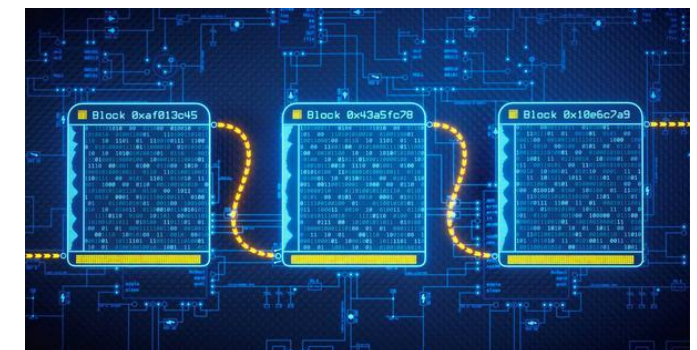


Figure 2: Process of building blockchain

Recapitulation – Blockchain principles

- Main idea is to solve double spending problem in the decentralized / distributed system, where actors don't trust each other.
 - Achieved through block authorization
- Distributed ledger technology
 - Peer2peer, with „nodes“ who authorize correctness
- Consensus building
 - Proof of work / Proof of stake / Proof of history / Proof of cover
 - Advantages / Disadvantages / Troubles



BLOCKCHAIN PROMISES

Increased trust in value exchange

- gives users assurance that information stored, such as certificates, has not been changed
- can reduce transactional obscurity, insecure states, and dubiousness by providing complete transaction disclosure and the supplementation of homogeneous and verified facts across all network members

Resistance to censorship and immutability

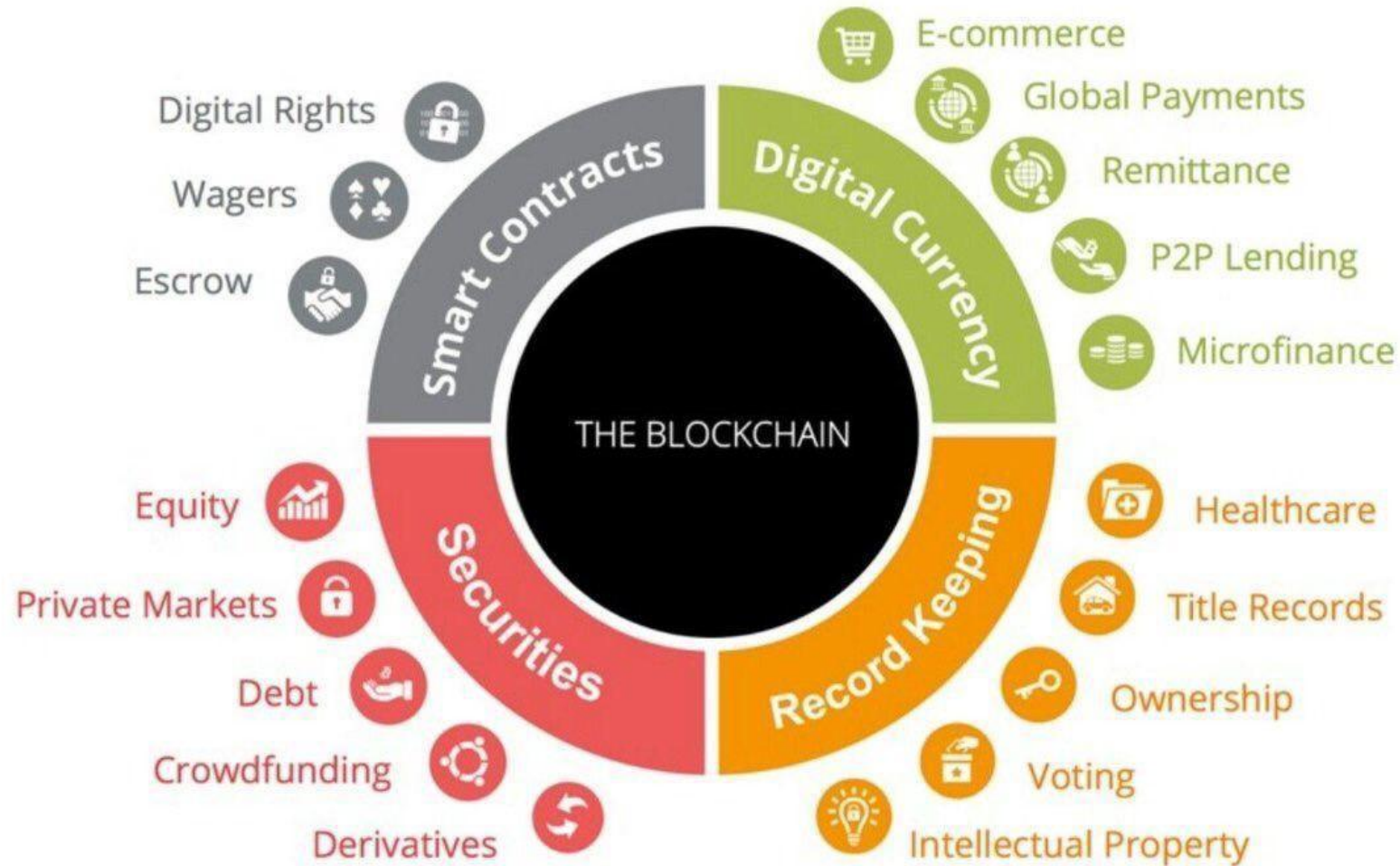
- where the government or cyberterrorists would be unable to pass through the personalized ledger designed for personal use

Efficient, consistent transactions between participants

- lowers transaction costs and reduces the need for well-known and trustworthy third parties
- enables users of blockchain technology to avoid relying on third parties for transaction and asset security

Decentralization, persistency, anonymity, and auditability

No single point of failure



POSSIBLE AREAS OF USE CASES

Blockchain – case studies and possible uses

- IoT
 - Smart Appliances and metering
 - IoT monitoring
- Cross-border transactions
- Medicine
 - Clinical trial tracking
- Public sector
 - Digital voting
 - Transparent budgeting
- Personal identity protection
 - Digital IDs (birth, marriage, death certificates, passports, ...)
 - Wills and Inheritances
- Gaming industry (play to earn schemes)

Is Investing in NFTs Great???

What is an NFT?

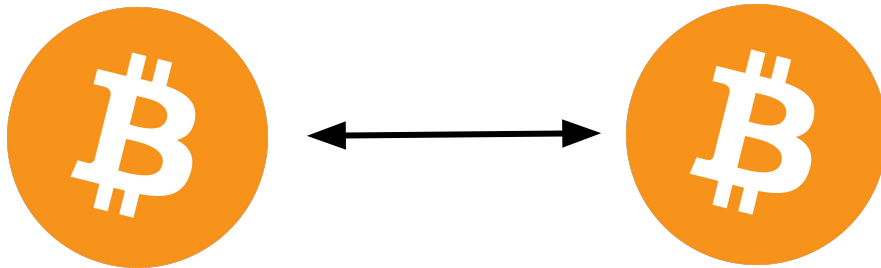
A decorative graphic at the top of the slide featuring a network of interconnected nodes and lines, resembling a blockchain or digital network. A central node is highlighted with a blue double quote icon.

“

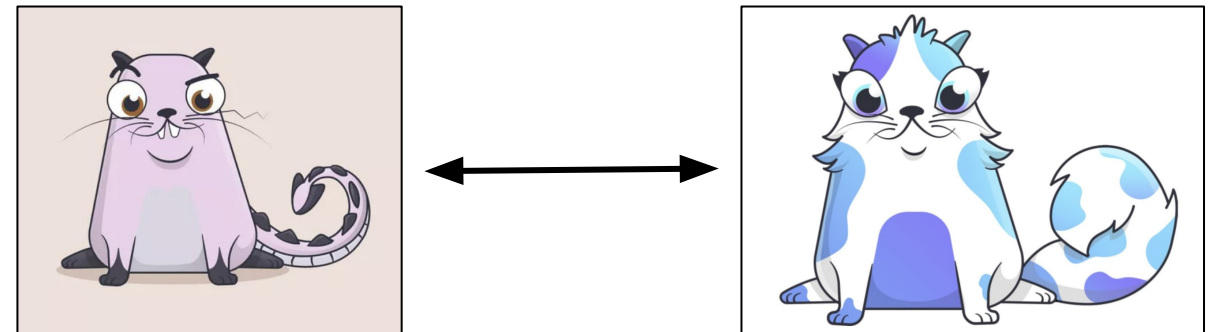
*NFTs or non-fungible tokens are
crypto assets that represent
ownership of digital files,
photos, and videos.*

Non-Fungible

One asset cannot be directly replaced by another



Bitcoin is fungible and not unique



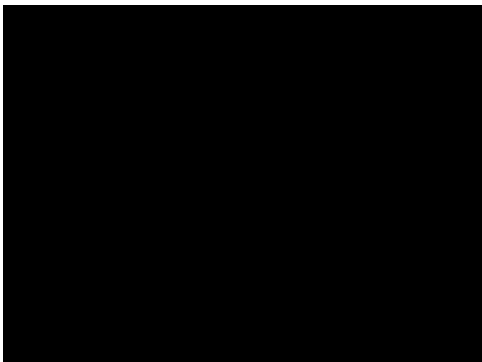
NFTs are non-fungible and unique

NFT Origins



2014

First NFT **"Quantum"**
was minted by Kevin
McCoy



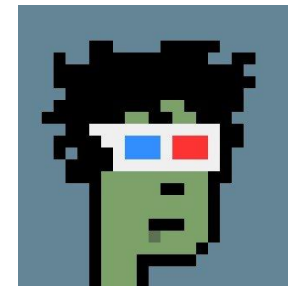
2017

NFTs finally go
public and are built
on the **ethereum**
blockchain



2018

Crypto Punks and
Crypto Kittens are
created and gain
popularity



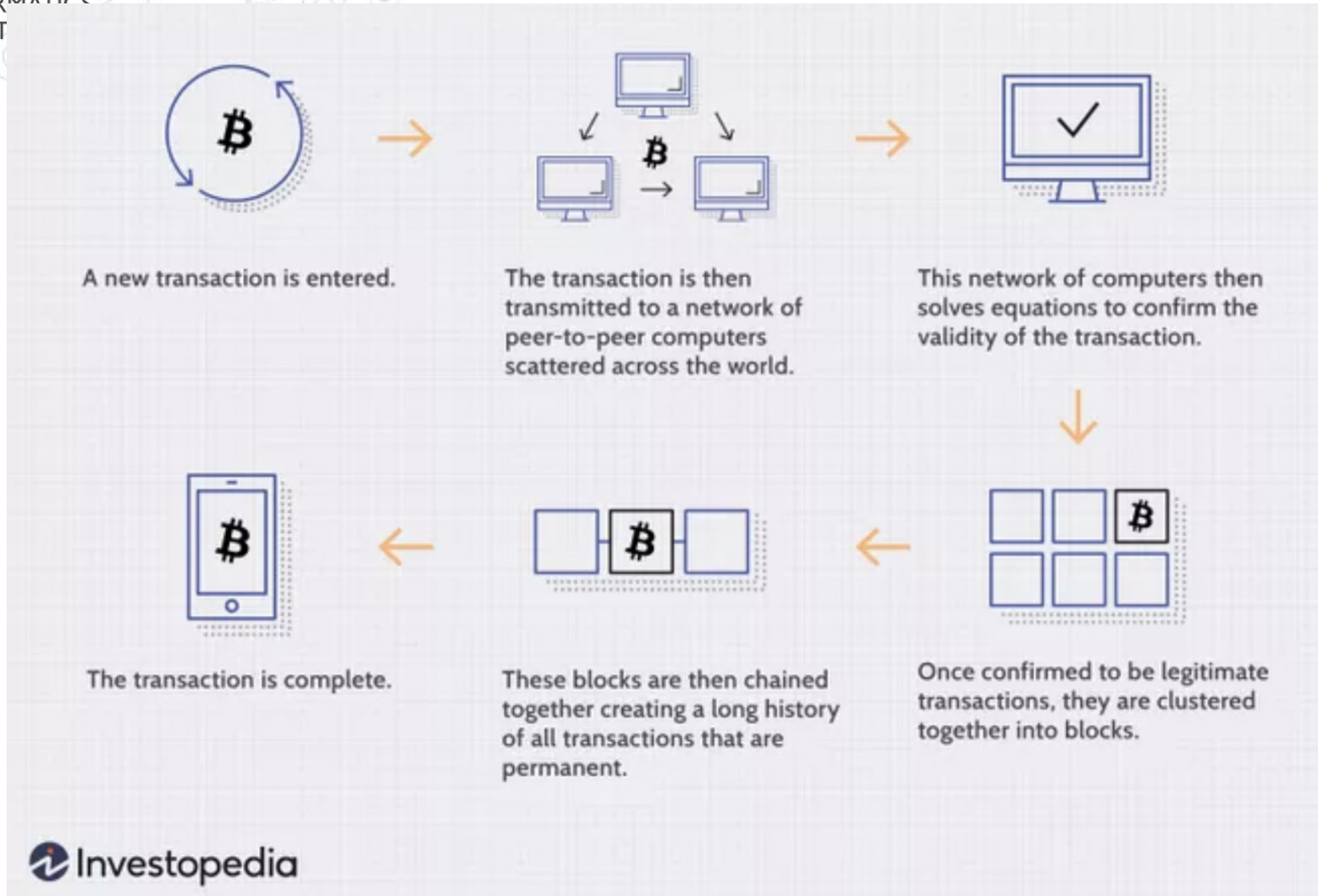
2021

NFTs surge and reach
a **\$41 billion dollar**
value



Ethereum and Web3

- Ethereum is a network system that is powered by **Ether (ETH)** which is its cryptocurrency
- The system is powered by **blockchain technology** which is part of the **Web3** era
- Blockchain is a way to **record information** so that transactions are not altered, deleted, or destroyed
- Meant to increase **security**, **scalability**, and **privacy** of the user



Decentralized

When was created the first NFT ?

- Kevin McCoy and Anil Dash
- May 3, 2014
- Namecoin blockchain
- McCoy and Dash's octagon sold for \$1.4 million => Sillytuna

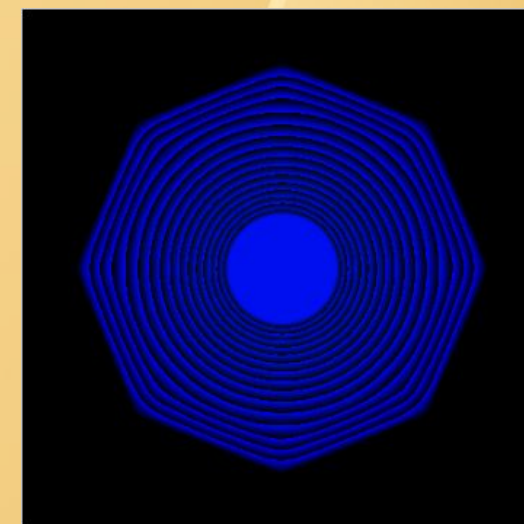


s.vse.cz/english

Created



Sold



Quantum



Everydays - The First 5000 Days,
by Mike Winkelmann 2021



2017



\$69.3 million

NFT, can be :

- a digital painting;
- a video;
- a meme;
- a gif
- a photograph ;
- a movie ;
- a ticket for an event, such as a concert;
- a video game element (avatars, skins), such as those of Cryptokitties;
- a collector's item, a card for example;
- a patent ;
- a virtual object that can be used in a virtual world with a virtual reality headset, such as a pair of designer shoes;
- an audio file, or even a whole musical album like "When you see yourself" by the group King of Leon.



ArabPunks

29478

50530

NIST

Crypto Art

An opportunity...

For the artists :

- Exhibition is accessible from anywhere and at any time.
- More visibility
- They will no have to wait for IRL events to sell their work and earn money.
- It's secure from piracy or scam



For buyer :

- support an artist
- Expand the collection and collect rare works of art
- Make money with NFT



First tweet of Jack Dorsey



Platforms where to buy or trade NFTs

- OpenSea
- Crypto.com
- Foundation
- AtomicMarket
- Enjin Marketplace
- Rarible
- SuperRare
- BakerySwap
- Myth Market
- Known Origin



crypto.com



NFT can help :

1st March : Anonymous donor gave 230K \$ NFT to the Ukraine to support them during the war.



CryptoPunk #5364



CONTRACT



Can be use in other ways...



NFT vs Crypto

- Smart contracts are code in the blockchain that **verify ownership** and handle **transferability**
 - help certify assets as one-of-a-kind
 - allow royalties to be paid to creators (even in secondary markets)
 - ensure NFTs aren't divided into smaller units

NFT Philosophy

Why Invest?

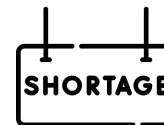
Ownership



Uniqueness



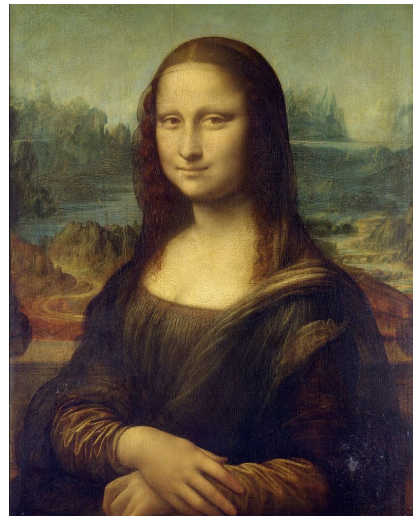
Scarcity



Community



- NFTs are all about **ownership**
 - With some digital art/music, owners have control over file production or usage



- There's something **unique** for everyone!

Art



Sports



Photography



Gaming








- Most NFT organizers have **twitter** or **discord chats** for conversation with potential buyers and NFT owners
 - provide **personal value** and a **shared experience**
 - Bored Ape Yacht Club:
 - NFT + collaborative graffiti board + membership








- Only a specific number of NFTs are minted:
 - when an artist creates more, it's part of a different collection
 - can be sold on secondary markets, but are verifiable with blockchain technology

***WELCOME TO THE
BORED APE YACHT CLUB***

BAYC is a collection of 10,000 Bored Ape NFTs—unique digital collectibles

OpenSea		
1	 CyberBrokers + More	7,418.69 -36.00%
2	 Invisible Friends + More	6,420.61 +19.83%
3	 Dippies + More	5,737.28 -43.91%
4	 Bored Ape Yacht Club + More	5,638.24 +270.67%
5	 CLONE X - X TAKASHI MURAKAMI + More	5,410.08 +28.19%

OpenSea		
6	 Antonym: GENESIS + More	4,935.97 -18.41%
7	 WonderPals + More	4,525.76 -42.42%
8	 Azuki + More	3,830.33 +11.33%
9	 Mutant Ape Yacht Club + More	3,433.99 +32.96%
10	 CryptoPunks + More	3,317.68 -69.00%

<https://opensea.io/rankings>

How to Buy



How to Invest – 4 easy steps

1. Buy the cryptocurrency (Ether, Polygon)
2. Set up a wallet to hold the cryptocurrency (Metamask, Coinbase, etc)
3. Link your wallet to an open marketplace (OpenSea, Rarible)
4. Find an NFT category, pick an NFT, and either buy now or make an offer

Buying Crypto + Wallet

- **Ether vs Polygon**

- **Gas fees** are the amount paid by the seller and buyer of an NFT on top of the selling price to cover **mining fees**
- Can only buy certain NFTs with Polygon

Ethereum 	vs.	Polygon 
✓ More popular		✓ No gas fees
✓ More secure		✗ Less popular
✓ Has auctions		✗ Less secure
✗ High gas fees		✗ No auctions

Buying Crypto + Wallet

- **Wallet**

- Most popular are **Coinbase** or **Metamask**
- Connect to an NFT marketplace (OpenSea.io is most popular)



OpenSea



METAMASK

<https://opensea.io/explore-collections>

Analyzing an NFT



+ Add to watchlist



CyberBrokers

Created by [CyberBrokersDeployer](#) ✓

9.8K

items

4.0K

owners

1.49

floor price

8.0K

volume traded

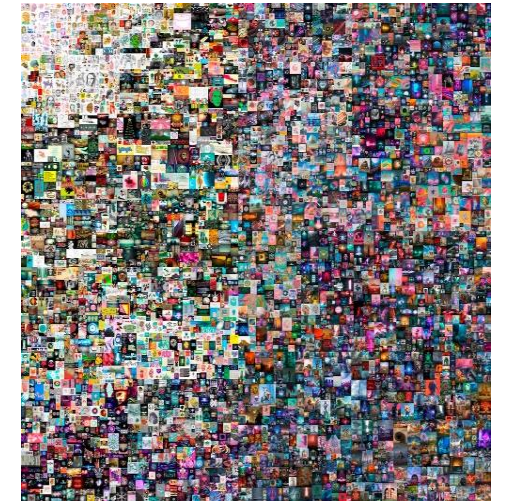
The artist, Josie Bellini, presents CyberBrokers, a first-of-its-kind art collectibles ecosystem centered around 10,001 unique and on-chain CyberBroker NFTs.

[CyberBrokers Collection](#)

Are NFTs Worth the Hype?

NFTs

- What NFT actually is?
- Principles and technological limitations
 - Ownership/Uniqueness/Scarcity/Community
- NFT vs copyright
- Legal status, liability, regulation
- History, famous cases, 2021 crash
- Marketplaces and platforms
- Community
- Troubles and scams in NFT world
 - Monetization pyramid scheme?

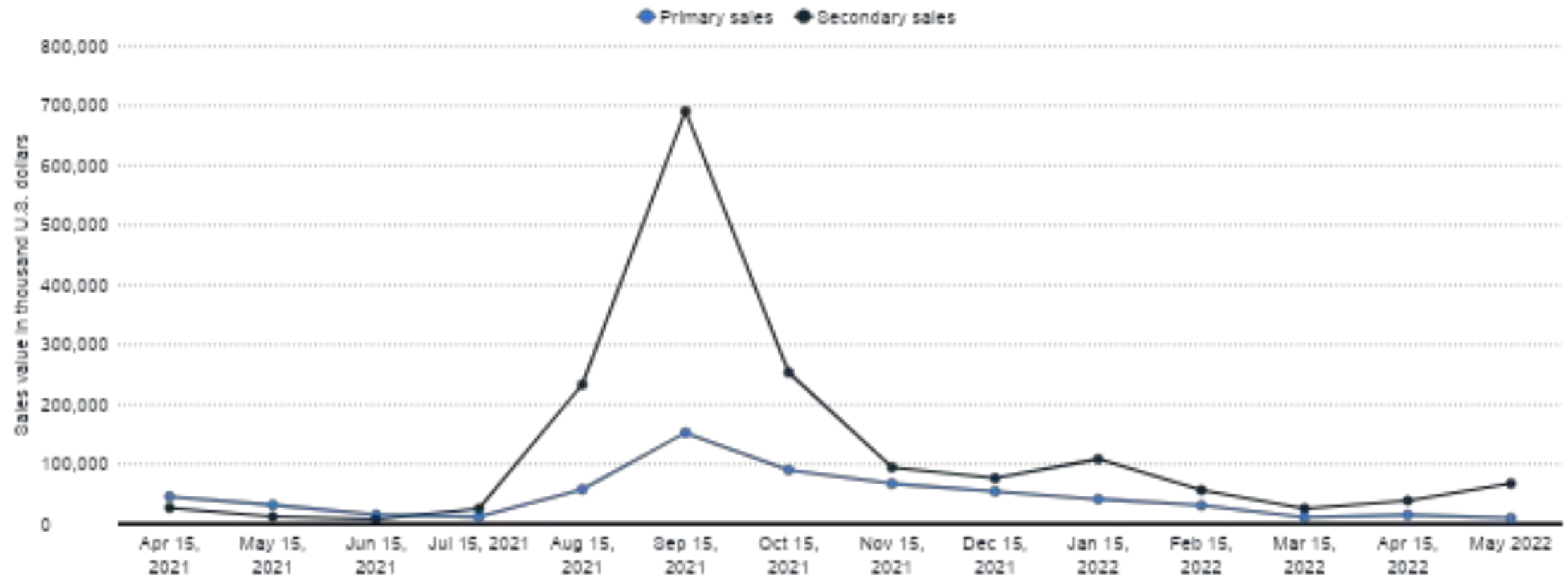


The biggest NFT sales worldwide (March, 2021)

The 50 biggest NFT sales worldwide as of March 16, 2021	ETH	USD (in 1,000)
Beeple Everyday: The First 5000 Days (Mar 11, 2021)	38474	69346
CryptoPunk 7804 (Mar 11, 2021)	4200	7821
CryptoPunk 3100 (Mar 11, 2021)	4200	7574
Beeple CROSSROADS (Feb 25, 2021)	4152	6600
CryptoPunk 6965 (Feb 19, 2021)	800	1546
CryptoPunk 4156 (Feb 18, 2021)	650	1199
CryptoPunk 2140 (Mar 02, 2021)	750	1069
CryptoPunk 6487 (Feb 22, 2021)	550	1052
hairy #1/1 (Mar 14, 2021)	543	1036
CryptoPunk 3393 (Mar 13, 2021)	500	884
CryptoPunk 2140 (Feb 22, 2021)	400	774
CryptoPunk 2890 (Jan 23, 2021)	605	747
CryptoPunk 3011 (Mar 12, 2021)	400	721
CryptoPunk 1839 (Mar 12, 2021)	360	649
Hashmask 9939 (Feb 02, 2021)	420	640
CryptoPunk 3609 (Mar 05, 2021)	369	585
The EverLasting Beautiful by FEWOCIOUS #1/1 (Mar 08, 2021)	336	566
CryptoPunk 5234 (Mar 04, 2021)	350	554
CryptoPunk 2681 (Feb 19, 2021)	277	535
Beeple Everyday - Raw #1/100 (Mar 13, 2021)	299	527
Hashmask 6718 (Feb 04, 2021)	300	498
Boardwalk #1/1 (Feb 20, 2021)	238	466
CryptoPunk 1119 (Feb 26, 2021)	300	447
CryptoPunk 6297 (Feb 07, 2021)	215	362
Death of the Old #1/1 (Mar 01, 2021)	238	336

Aku.001 - The Vault #1/1 (Feb 23, 2021)	186	332
Beeple Everyday - Raw #19/100 (Feb 25, 2021)	204	324
The Smintons #1/1 (Jan 21, 2021)	236	314
INFECTED #67/123 (Feb 26, 2021)	176	268
Salvavidas #1/1 (Mar 13, 2021)	143	251
Afraid to Be Myself #5/5 (Feb 26, 2021)	153	233
Heroines - Weight Of The World (Mar 06, 2021)	149	230
BULL RUN #145/271 (Mar 11, 2021)	120	219
INFECTED #40/123 (Mar 11, 2021)	119	218
THE 5000 DAY SELECTS (Mar 12, 2021)	119	217
Everything's Fine #6/21 (Mar 10, 2021)	116	212
THE 5000 DAY SELECTS (Mar 13, 2021)	120	211
BULL RUN #238/271 (Mar 11, 2021)	115	211
BULL RUN #188/271 (Mar 11, 2021)	115	211
Queeny (Mar 03, 2021)	140	208
Real Ghost #1/1 (Mar 04, 2021)	122	195
BULL RUN #148/271 (Mar 11, 2021)	101	185
INTO THEER #156/207 (Mar 09, 2021)	101	180
The Bitcoin Angel #1/1 (Feb 28, 2021)	115	173
Cubist Satoshi #1/1 (Feb 28, 2021)	115	173
Beeple Everyday - Raw #76/100 (Mar 15, 2021)	92	172
The First Ever Edition Of Rick And Morty Cryptoart #1/1 (Jan 20, 2021)	122	172
BULL RUN #174/271 (Mar 11, 2021)	92	168
INTO THEER #196/207 (Feb 25, 2021)	101	160
AI Generated Landscape Painting #4 (Mar 06, 2021)	100	154

NFT sales value in the art segment worldwide in the last 30 days May 2022 (in 1,000 U.S. dollars)



Note(s): Worldwide; April 15, 2021 to April 15, 2022; figures refer to the aggregated number of sales recorded on the Ethereum, Ronin, and Flow blockchains during the previous 30 days

Further information regarding this statistic can be found on page 8.

Source(s): NonFungible; [ID 1235263](#)

Crash of the NFT market in May 2022

- Data released last week shown NFT transactions have decreased 92% from this time last year.
- The popularity of NFTs appears to be in decline.
- NFT „The First Tweet“ – auctioned for almost 3 mil. USD in 2020 was [auctioned for only 851 USD last week](#) !!!

Meltdown of cryptoworld in May 2022

- The price of Bitcoin, Ether and others got to its lowest point since 2020.
- Coinbase, the large cryptocurrency exchange, tanked in value by 20 %.
- Two major stable-currencies collapsed.
- More than \$300 billion was wiped out by a crash in cryptocurrency prices in just two days.
- Reasons? Consequences???...