NFT
The Next Big Thing or Just a Bubble?
“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
"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.
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?
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
History

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
Everydays - The First 5000 Days, by Mike Winkelmann 2021

$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.
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

just setting up my twttr
8:50 PM · Mar 21, 2006

181.2K 129.6K  Copy link to Tweet

Owned by @sinaEstavi
Platforms where to buy or trade NFTs

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

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

CryptoPunk #5364
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
Ownership

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

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

- **Art**
- **Photography**
- **Sports**
- **Gaming**
Community

- 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
Scarcity

- 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
10 Top NFTs

<table>
<thead>
<tr>
<th>Rank</th>
<th>NFT Name</th>
<th>Volume (ETH)</th>
<th>Change (%), Price Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CyberBrokers</td>
<td>7,418.99</td>
<td>-36.00, Red</td>
</tr>
<tr>
<td>2</td>
<td>Invisible Friends</td>
<td>6,420.61</td>
<td>+18.83, Green</td>
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<tr>
<td>3</td>
<td>Dippies</td>
<td>5,737.28</td>
<td>-43.91, Red</td>
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<tr>
<td>4</td>
<td>Bored Ape Yacht Club</td>
<td>5,638.24</td>
<td>+270.67, Green</td>
</tr>
<tr>
<td>5</td>
<td>CLONE X – X TAKASHI MURAKAMI</td>
<td>5,410.08</td>
<td>+28.19, Green</td>
</tr>
<tr>
<td>6</td>
<td>Antonym: GENESIS</td>
<td>4,935.97</td>
<td>-18.41, Red</td>
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<tr>
<td>7</td>
<td>WonderPals</td>
<td>4,525.76</td>
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<tr>
<td>8</td>
<td>Azuki</td>
<td>3,830.33</td>
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<td>9</td>
<td>Mutant Ape Yacht Club</td>
<td>3,433.99</td>
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<tr>
<td>10</td>
<td>CryptoPunks</td>
<td>3,317.68</td>
<td>-69.00, Red</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Ethereum</th>
<th>vs.</th>
<th>Polygon</th>
</tr>
</thead>
<tbody>
<tr>
<td>More popular</td>
<td></td>
<td>No gas fees</td>
</tr>
<tr>
<td>More secure</td>
<td></td>
<td>Less popular</td>
</tr>
<tr>
<td>Has auctions</td>
<td></td>
<td>Less secure</td>
</tr>
<tr>
<td>High gas fees</td>
<td></td>
<td>No auctions</td>
</tr>
</tbody>
</table>

[https://www.coinbase.com/price/ethereum](https://www.coinbase.com/price/ethereum)  [https://etherscan.io/gastrack](https://etherscan.io/gastrack)
Buying Crypto + Wallet

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

https://opensea.io/explore-collections
Analyzing an NFT

CyberBrokers Collection

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

<table>
<thead>
<tr>
<th>NFT Name</th>
<th>ETH (in 1,000)</th>
<th>USD (in 1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beeple Everyday: The First 5000 Days (Mar 11, 2021)</td>
<td>38474</td>
<td>69346</td>
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<tr>
<td>CryptoPunk 7804 (Mar 11, 2021)</td>
<td>4200</td>
<td>7821</td>
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<tr>
<td>CryptoPunk 3100 (Mar 11, 2021)</td>
<td>4200</td>
<td>7574</td>
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<tr>
<td>Beeple CROSSROADS (Feb 25, 2021)</td>
<td>4152</td>
<td>6600</td>
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<tr>
<td>CryptoPunk 6965 (Feb 19, 2021)</td>
<td>800</td>
<td>1546</td>
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<tr>
<td>CryptoPunk 4156 (Feb 18, 2021)</td>
<td>650</td>
<td>1199</td>
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<tr>
<td>CryptoPunk 2140 (Mar 02, 2021)</td>
<td>750</td>
<td>1069</td>
</tr>
<tr>
<td>CryptoPunk 6487 (Feb 22, 2021)</td>
<td>550</td>
<td>1052</td>
</tr>
<tr>
<td>hairy #1/1 (Mar 14, 2021)</td>
<td>543</td>
<td>1036</td>
</tr>
<tr>
<td>CryptoPunk 3393 (Mar 13, 2021)</td>
<td>500</td>
<td>884</td>
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<tr>
<td>CryptoPunk 2140 (Feb 22, 2021)</td>
<td>400</td>
<td>774</td>
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<tr>
<td>CryptoPunk 2890 (Jan 23, 2021)</td>
<td>605</td>
<td>747</td>
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<td>CryptoPunk 3011 (Mar 12, 2021)</td>
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<td>CryptoPunk 1839 (Mar 12, 2021)</td>
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<td>Hashmask 9939 (Feb 02, 2021)</td>
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<td>CryptoPunk 3609 (Mar 05, 2021)</td>
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<td>The EverLasting Beautiful by FEWOCIOUS #1/1 (Mar 08, 2021)</td>
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<td>CryptoPunk 5234 (Mar 04, 2021)</td>
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<td>CryptoPunk 2681 (Feb 19, 2021)</td>
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<tr>
<td>Beeple Everydays - Raw #1/100 (Mar 13, 2021)</td>
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<td>527</td>
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<td>Hashmask 6718 (Feb 04, 2021)</td>
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<td>Boardwalk #1/1 (Feb 20, 2021)</td>
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<td>466</td>
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<td>CryptoPunk 1119 (Feb 26, 2021)</td>
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<td>CryptoPunk 6297 (Feb 07, 2021)</td>
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<td>Death of the Old #1/1 (Mar 01, 2021)</td>
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<td>Aku.001 - The Vault #1/1 (Feb 23, 2021)</td>
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<td>Beeple Everydays - Raw #19/100 (Feb 25, 2021)</td>
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<td>The Smintons #1/1 (Jan 21, 2021)</td>
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<td>INFECTED #67/123 (Feb 26, 2021)</td>
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<td>Salvavidas #1/1 (Mar 13, 2021)</td>
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<td>251</td>
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<td>Afraid to Be Myself #5/5 (Feb 26, 2021)</td>
<td>153</td>
<td>233</td>
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<tr>
<td>Heroines - Weight Of The World (Mar 06, 2021)</td>
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<td>230</td>
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<tr>
<td>BULL RUN #145/271 (Mar 11, 2021)</td>
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<td>INFECTED #40/123 (Mar 11, 2021)</td>
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<td>THE 5000 DAY SELECTS (Mar 12, 2021)</td>
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<td>Everything’s Fine #6/5 (Mar 10, 2021)</td>
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<td>THE 5000 DAY SELECTS (Mar 13, 2021)</td>
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<td>BULL RUN #238/271 (Mar 11, 2021)</td>
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<td>BULL RUN #188/271 (Mar 11, 2021)</td>
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<td>Queeny (Mar 03, 2021)</td>
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<td>Real Ghost #1/1 (Mar 04, 2021)</td>
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<tr>
<td>BULL RUN #148/271 (Mar 11, 2021)</td>
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<tr>
<td>INTO THEER #156/207 (Mar 09, 2021)</td>
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<tr>
<td>The Bitcoin Angel #1/1 (Feb 28, 2021)</td>
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<td>Cubist Satoshi #1/1 (Feb 28, 2021)</td>
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<td>Beeple Everydays - Raw #76/100 (Mar 15, 2021)</td>
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<td>The First Ever Edition Of Rick And Morty Cryptoart #1/1 (Jan 20, 2021)</td>
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<td>BULL RUN #174/271 (Mar 11, 2021)</td>
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<tr>
<td>INTO THEER #196/207 (Feb 25, 2021)</td>
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<tr>
<td>AI Generated Landscape Painting #4 (Mar 06, 2021)</td>
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<td>154</td>
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</table>
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???...