ENTRY LEVEL

WEB3 FOR

MUSICIANS

And music NGO´s

MARCUS BADER

TABLE OF CONTENTS

WHAT IS THIS?

Well, in my daily work at the NGO Musikcentrum Syd, with independent music entrepreneurs, aka musicians and artists, I find that they have little time to keep up with emerging technologies.

Further, Music NGOs like Musikcentrum, has to build an overall understanding and a rising learning trajectory about the emerging digital services. Services that are currently being created, with many stakeholders all over the world, but without the creative input and participation from a whole lot of independent musicians and grassroot organisations.

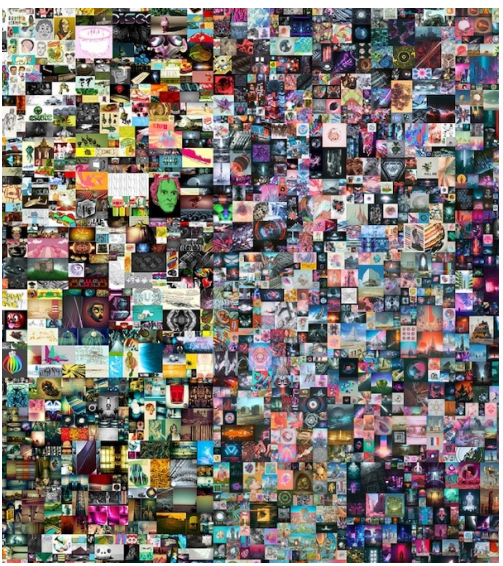
So! Time to get moving with this WEB3 stuff!

Regards

Marcus Bader at Musikcentrum Syd

EVERYDAYS: THE FIRST 5000 DAYS

69,3 miljoner USD



Everydays: The First 5000 Days is a digital artwork by American graphic designer Mike Winkelmann, better known as Beeple. This NFT sold for $69.3 million in February 2021 at Christie's.

The NFT is a collage of Beeple's 5,000 previous artworks. In 2007, Beeple began uploading a new image to his Instagram feed every day for 13 years.

FURTHER READING --->

RE-SOURCES

0pensea

CRYPTOPUNK #5822

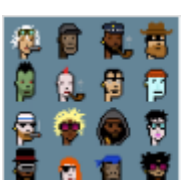
23,7 miljoner USD

CryptoPunk #5822 was sold for 8,000 ETH in February 2022 to the CEO of a blockchain startup.

Cryptopunks is one of the first known NFT projects, these NFTs continue to be top of the list of the most expensive NFTs sold. Cryptopunk are part of a group of NFTs based on the same theme.

FURTHER READING --->

RESOURCES



CryptoPunks

10,000 unique collectible characters with proof of ownership stored on t...

larvalabs.com

WEB1

The origin

RESOURCES

http://info.cern.ch/hypertext/WWW/TheProject.html

The first web page went live on August 6, 1991. It was dedicated to information on the World Wide Web project and was made by Tim Berners-Lee. It ran on a NeXT computer at the European Organization for Nuclear Research, CERN.

FURTHER READING --->

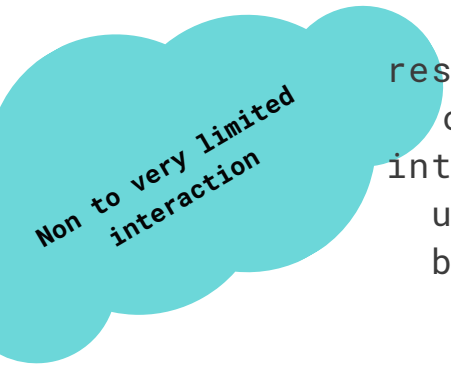
RESOURCES

THE WAYBACK MACHINE --->

Original based on open source technology and static webpages that mimiced the real world

It was the equivalent of being able to listen to a CD but not modifying it

Had limited features due to restrictions of slow internet and untested browsers



WEB1

FURTHER READING --->

RESOURCES

THE WAYBACK MACHINE --->

1995-2000

"Following the dotcom crash (the almost crash..), the Web was widely criticized and believed by many to be overhyped. This harsh criticism was widespread despite the fact that many technological innovations experience growth in the form of a bubble and often crash early in their lifetime."

Kristinn_Sveinn_Ingolfsson;

RESOURCES

PAPER --->

WEB2

The rise of social media

Users do not own their own data. Users gave away their data in order to have unlimited information

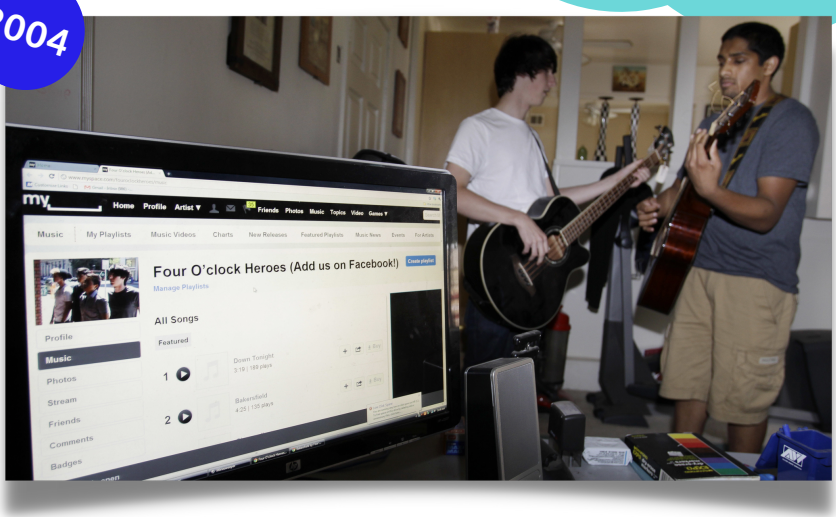
A few BIG TECH companies are controlling the data

Based on user generated content and centralization

WEB2

Evolvement of closed-source applications like iMessage and Whats app - encrypted data

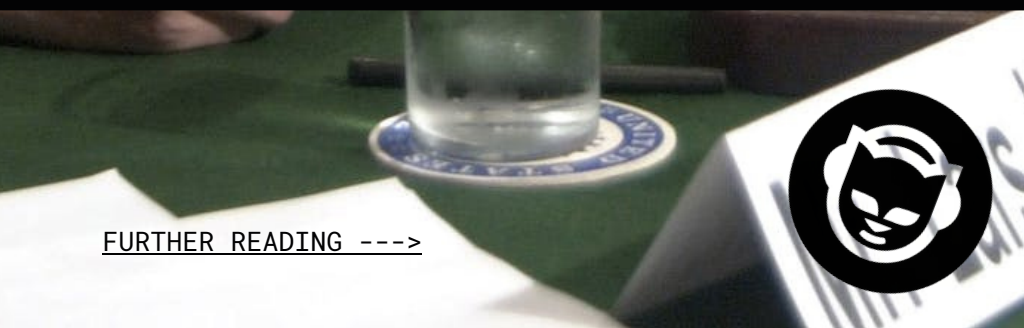
2004



April 2000
METALLICA SUES Nnapster
- "The shitstorm begins"

2000

“With each project,” read a press release from the band, “we go through a gruelling creative process to achieve music that we feel is representative of Metallica at that very moment in our lives. We take our craft – whether it be the music, the lyrics, or the photos and artwork – very seriously, as do most artists. It is therefore sickening to know that our art is being traded like a commodity rather than the art that it is. From a business standpoint, this is about piracy – taking something that doesn't belong to you. And that is morally and legally wrong. The trading of such information – whether it's music, videos, photos, or whatever – is, in effect, trafficking in stolen goods.”

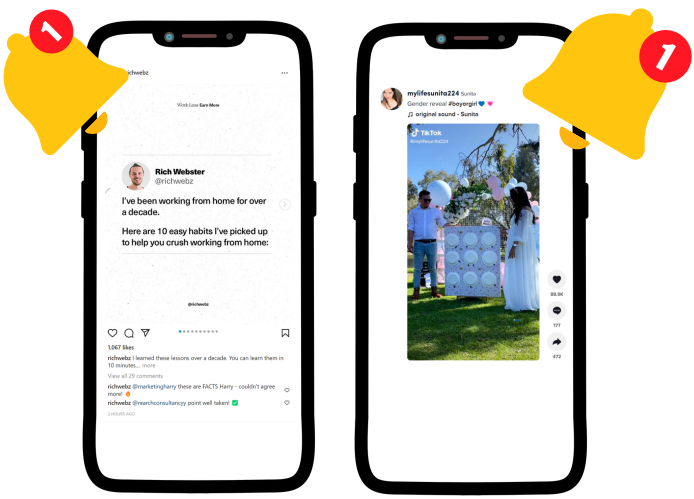


FURTHER READING --->

Mobile apps

The rise of Social media networks such as Myspace, Facebook etc.

The good thing about WEB 2.0 is that there is free flow of information, users can learn almost anything.



Mobile first

Many formats

A few BIG TECH companies are controlling the data

WEB3

Cryptocurrency,
communities & decentralization

THE GAME CHANGER

Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
satoshin@gmx.com
www.bitcoin.org

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

1. Introduction

Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the minimum practical transaction size and cutting off the possibility for small casual transactions, and there is a broader cost in the loss of ability to make non-reversible payments for non-reversible services. With the possibility of reversal, the need for trust spreads. Merchants must be wary of their customers, hassling them for more information than they would otherwise need. A certain percentage of fraud is accepted as unavoidable. These costs and payment uncertainties can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party.

What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party. Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers. In this paper, we propose a solution to the double-spending problem using a peer-to-peer distributed timestamp server to generate computational proof of the chronological order of transactions. The system is secure as long as honest nodes collectively control more CPU power than any cooperating group of attacker nodes.

Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
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WEB3

WEB3

What is the WEB3 and how can it benefit musicians?

- "It presents an opportunity where people are not merely products or beneficiaries of technology-powered business models but builders and owners of digitally unique assets."
- A space where artists potentially can drive the development of the next distribution platforms
- A community which is decentralized, autonomus and multidisciplinary
- Artists are no longer merely products in a technology-powered business model

"**Web3** is not only a new foundational layer of the world wide web, it is a fundamentally new approach to the following":

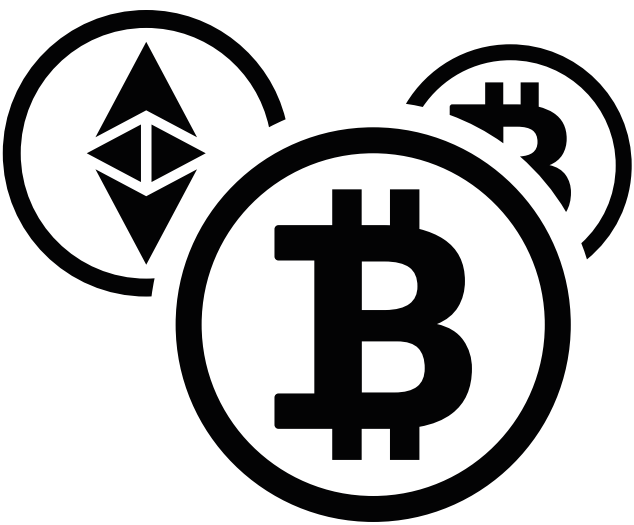
RE-SOURCES

MEDIUM ABOUT WEB3 --->

WEB3

CRYPTOCURRENCY

A cryptocurrency is a digital or virtual currency, which is secured by cryptography that makes it impossible to double-spend on a distributed network.



WEB3

BLOCKCHAIN

- Blockchain is a peer-to-peer network.
- The word ‘blockchain‘ is made up of two separate terms, ‘block’ and ‘chain’.
- A ‘block’ is referred to as a collection of data, and ‘chain’ is referred to a public database of these blocks, which is further, stored as a list."

- Amarpreet Singh

WEB3

BLOCKCHAIN

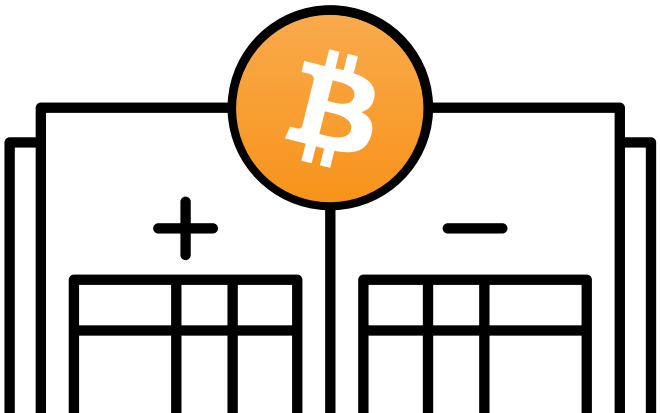
A blockchain behind cryptocurrencies is a:

Public ledger, which is used to

- store the history of every transaction that cannot be tampered or changed

- This makes the transactions secure and safer than the existing systems

- The first blockchain and cryptocurrency - allowed us to make P2P transactions without involving a third-party organization like a bank

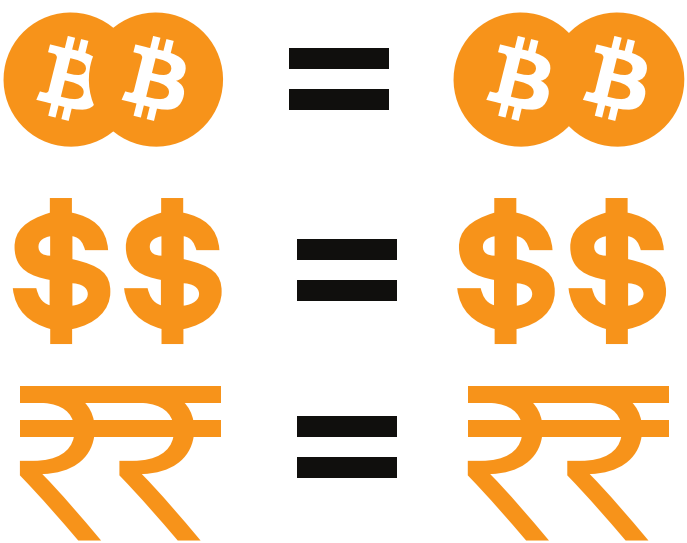


WEB3

FUNGIBLE

Physical money and cryptocurrencies are “fungible,” meaning they can be traded, divided or exchanged for one another. They're also equal in value;

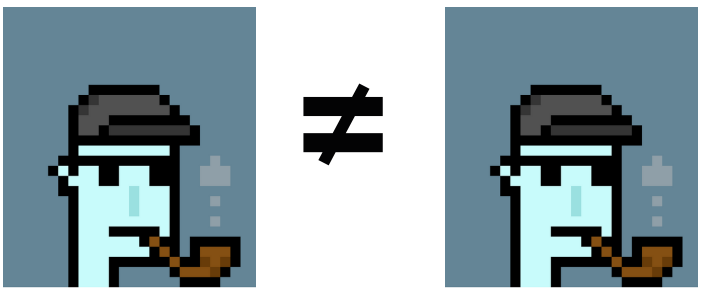
One dollar is always worth another dollar; one Bitcoin or Rupie is always equal to another Bitcoin or Rupie"



WEB3

NON-FUNGIBLE

NFTs (non-fungible tokens) are unique cryptographic tokens that exist on a blockchain and cannot be replicated. NFTs can represent real-world items like artwork and real estate. "Tokenizing" these real-world tangible assets makes buying, selling, and trading them more efficient while reducing the probability of fraud.



ORIGINAL ≠ COPY

RE-SOURCE

INVESTOPEDIA --->

For an artist, it can mean selling your music as an NFT, means YOU own the original copy and YOU can MINT it and sell it on an NFT MARKETPLACE at any price you want.

Or you can collectively create a piece of music, combined artwork with text, and MINT it as an NFT!

WEB3

MARKETPLACES

NFT Marketplaces such as OpenSea and Rarible allow musicians to receive royalties on future NFT sales. This means that every time the musical NFT sells, the creator or owner of the NFT receives royalties on secondary sales. This percentage is set when the musician mints their music NFT,

Bundle NFTs: platforms like OpenSea allow NFT creators to bundle NFTs and sell them all at once. This allows for quick sales and saves service fees for music creators.

- OPENSEA
- RARIBLE

dAPPs

ROYALTIES

WEB3

MUSIC MARKETPLACES

dAPP

Mintable.app

The best marketplace for artists and sellers of digital items. Private,...

mintable.app

Own your favorite music.

Own music and earn royalties alongside artists, on Royal

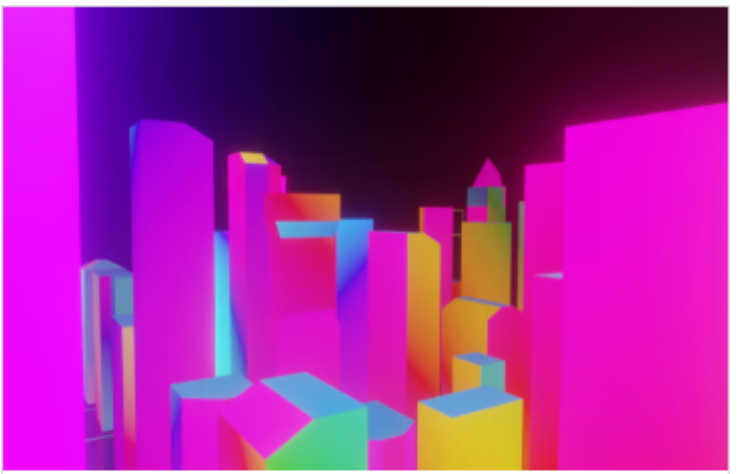
CryptoArt | NFT Art Marketplace | Digital Art

SuperRare is the digital art market on Ethereum. Each artwork is authentically created by an artist in the network, and tokenized as a collectible digital item...

WEB3

MINTING

"Code, called Smart Contracts, create NFTs in a process called "minting." The contracts that create NFTs are fairly simple. "



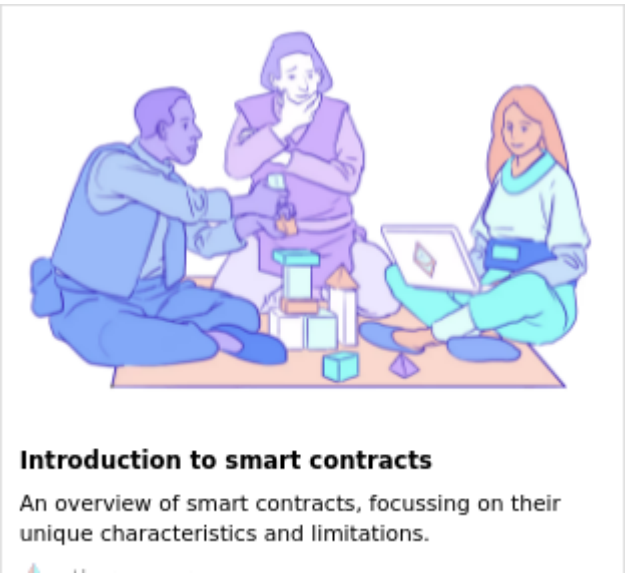
An NFT minting smart contract, explained. Line by line.

With all the hype and criticism, the trillions of dollars in transactions and billions of dollars lost to

WEB3

SMART CONTRACT

"A smart contract is a self-executing contract with the terms of the agreement between buyer and seller being directly written into lines of code. The code and the agreements contained therein exist across a distributed, decentralized blockchain network."



WEB3

E-WALLET

"E-wallet is a type of electronic card which is used for transactions made online through a computer or a smartphone. Its utility is same as a credit or debit card. An E-wallet needs to be linked with the individual's bank account to make payments."

More reading:--->>>

WEB3

Decentralized autonomous organisation

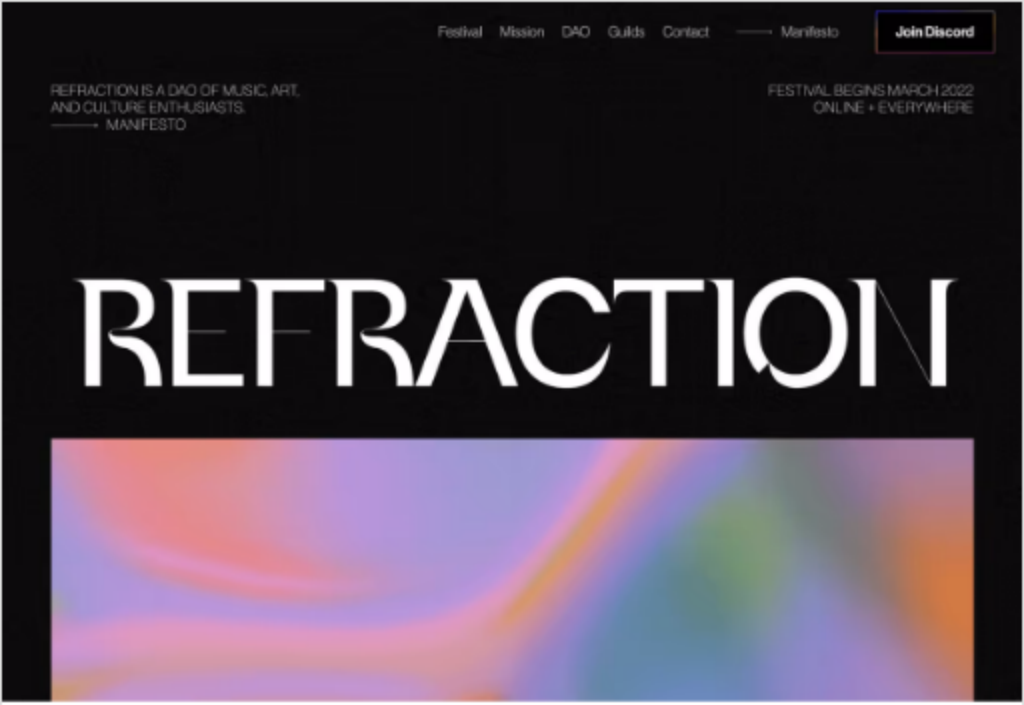
DAO

DAOs are member-owned communities without centralized leadership. A DAO's financial transaction records and program rules are maintained on a blockchain

The Best Examples Of DAOs Everyone Should Know About

There is a lot of hype around Decentralized Autonomous Organizations (DAOs), as a key element of the metaverse and web3. Here we look at the best

https://pleasr.org/



Refraction Festival

Refraction is a collective of diverse music, art, and culture enthusiasts who will own a festival, ongoing events, and spaces worldwide through its DAO.

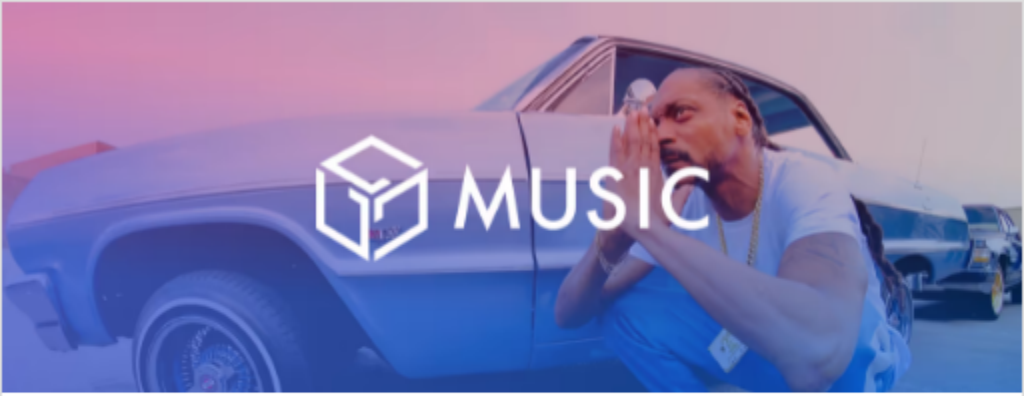
refractionfestival.com

"We are a decentralized global creative community of artists, curators, technicians, and fans focused on moving the culture forward through collectively reimagining live experiences in the physical world and in the open metaverse. Our cornerstone is Refraction Festival, a month-long fully on-chain IRL<->URL project featuring musical performances and art installations in over ten cities across five continents."

objkt.com

The largest NFT marketplace on Tezos

objkt.com



Gala Music

Decentralizing the music industry, empowering artists and fans with blockchain-backed NFTs that earn real rewards.

gala.world

A Music Node, in the most basic sense, is like your own jukebox that the whole world can access. By hosting music on your Node, you can earn whenever someone plays that specific song. Nodes come in two types:
Player Nodes: These are the general purpose Nodes that can play anything. You can host your NFTs, track plays, and participate in the broader ecosystem with these Nodes.

Fan Nodes: These are special Nodes just for the superfans. If you are a dedicated fan of an artist with Gala Music, this is the Node for you. Fan Nodes give you special access to drops only for Fan Nodes, the ability to host and earn as well, and make you part of an elite group.Gala Music is a curated platform where music can be hosted, shared and listened to through a network of decentralized Player Nodes.

Each Node can host music NFTs, which may then be played through the network, rewarding the operator of the hosting Node, as well as the artist and NFT owner for each listen. This system not only rewards NFT owners and hosting Node operators for supporting the Ecosystem, but gives the largest portion of rewards directly to the artists.

Our network of user-operated Nodes serve as the baseline infrastructure for Gala Music to function — without them, a decentralized future for music would not be possible.

Text snippets from Gala Music

WEB3

METAVERSE

Metaverse is a broad term. It generally refers to shared virtual world environments which people can access via the internet by the use of VR or AR.


Metaverse Music Venue in Decentraland: Live ...
Watch on YouTube

WEB3

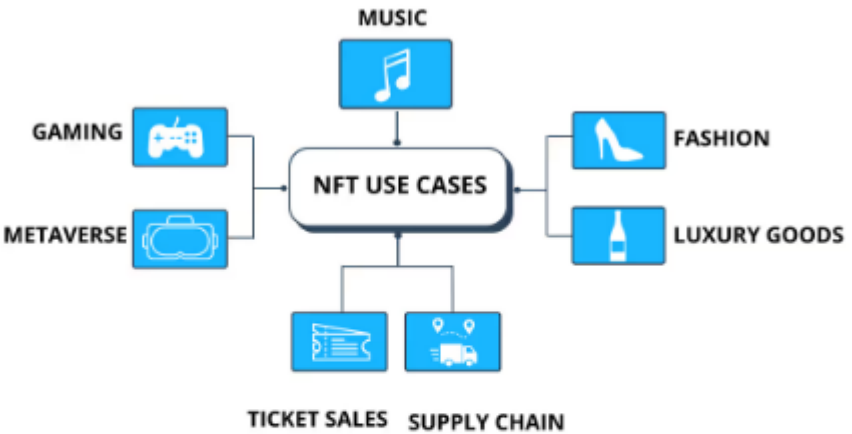
IN GAME MERCH

Avatars as NFTs

Live events in Metavers

Digital clothes or attributes to NFT avatars

Royalties



Top 7 Use Cases of NFTs

NFTs have use cases in different industries such as supply chain management. It can provide additional revenue and cost-saving mechanisms

AIMultiple


Travis Scott and Fortnite Present: Astronomical...
Watch on YouTube

WEB3

SANDBOX

- The Sandbox is an Ethereum-based metaverse game that lets users buy virtual land and customize it with playable games and experiences.

- Celebrities and brands have flocked to the space, including Snoop Dogg, Adidas, Paris Hilton, The Walking Dead, Gucci, and more.

What is The Sandbox? The Ethereum NFT Metaverse Game

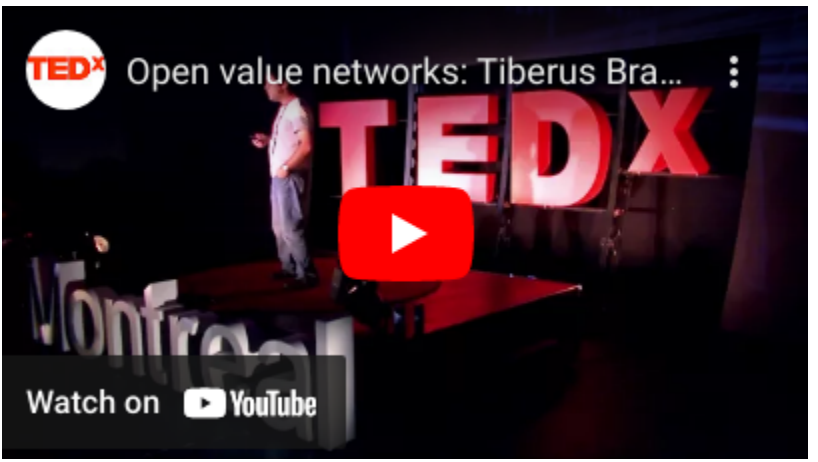
Build and share your own game experiences with


The Sandbox Explainer Video 1 - What is The S...
THE SANDBOX?
Watch on YouTube

WEB3

OPEN VALUE NETWORKS

A new organizational formation based on digital infrastructures to support commons-based peer production.



https://www.valueflo.ws/

NFTs

MINTING

NFT MARKETPLACE

Creating NFT´s and putting them on the Market

1. Figure Out What You Want to Create
2. Choose Blockchain like Ethereum
3. Set up an NFT wallet
4. Choose an NFT platform
5. Create the NFT
6. List the NFT for sale

RE:SOURCES

CRYPTO WALLET

Step 1:
Figure Out What You Want to Create

Figure Out What You Want to Create
NFTs are typically tied to a piece of digital art. This may be an image, an audio production (such as a song), or even a short video clip (such as an animated GIF). The goal is to create a unique piece of digital media that can be sold, just like selling a painting at an art gallery.

NFTs provide value to creators by being unique, something that cannot be owned elsewhere.

It is especially important to ensure that you own the right to the digital media you are using, as creating an NFT from media you don't own may have legal ramifications.

Step 2: Choose a Blockchain like Ethereum

There are several blockchains that can store your NFT. This blockchain will keep a permanent record of your NFT, so it's important to choose the one that fits your requirements.

Ethereum

The most popular NFT blockchain is Ethereum, which hosts thousands of NFT collections. Ethereum NFTs are created utilizing the ERC-721 standard, which stores the metadata of the NFT on the Ethereum blockchain.

NFTs provide value to creators by being unique, something that cannot be owned elsewhere.

It is especially important to ensure that you own the right to the digital media you are using, as creating an NFT from media you don't own may have legal ramifications.

This standard was developed by the same teams that developed the ERC-20 smart contract and defines the minimum interface–ownership details, security details, and metadata–required for exchanging and distributing gaming tokens.

This blockchain currently operates using the proof-of-stake (PoS) consensus mechanism, making it much more eco-friendly than it used to be.

ost NFT marketplaces support the creation of Ethereum NFTs, though transferring NFTs on the Ethereum blockchain may come with high gas fees for minting.

Step 3:
Set up an NFT wallet

Once you choose a blockchain, you will need a digital wallet that supports that blockchain to store your NFT. To create a wallet, you will need to download the crypto wallet app, provide a username and password, and store your private keys and recovery phrase offline for backup purposes.

There are several popular wallet apps that support multiple blockchains:

MetaMask: MetaMask is a popular crypto wallet that supports a wide variety of cryptocurrencies, as well as both Ethereum and Solana blockchains. It can be used as a mobile app or added as a browser extension.

Coinbase Wallet: Coinbase offers a digital wallet that supports ERC-721 NFT tokens, as well as Solana NFT collections.

It can be downloaded as a mobile app or added as a browser extension.

Ledger Nano X: If you want to store your NFT in a secure hardware wallet, the Ledger Nano X supports both Ethereum and Solana NFTs.

Step 4:
Choose an NFT plattform

Choose an NFT platform marketplace
An ever-growing list of NFT platforms allows you to create an NFT, but the best ones offer a full-service marketplace to list and sell NFTs. Here are a few of the most popular NFT platforms:

OpenSea: The most popular NFT platform by far is OpenSea. With more than $20 billion in trading volume since its launch in 2017 and more than 2 million NFT collections listed, OpenSea is the top platform for Ethereum-based NFTs.20 OpenSea launched support for Solana NFTs in July 2022.21.

Solanart: As the Solana-based NFT platform, Solanart hosts some of the most popular Solana NFT collections, with a slick user interface and a simple application process for minting.22
Crypto exchanges: Several crypto exchanges support NFT creation, such as Binance Exchange. You can create your NFT directly on the platform, choose which blockchain you prefer, and mint or create the NFT directly.

Step 5:
Create the NFT

Once you have chosen a platform, creating an NFT is pretty straightforward. Here is an example for creating an NFT on OpenSea:

Connect your wallet: In the OpenSea menu, select the wallet icon and choose which digital wallet you'd like to connect. This will require you to sign a verification on your wallet app.

Select the "Create" option: This brings up a menu for the NFT creation process, including an upload section, NFT features, properties, and blockchain.

Upload your media file: This is the picture or other media that you will be selling. You can upload directly or link to an externally hosted media file.
Fill in the details:

You will need to name your NFT and fill in a description. You can optionally add unique properties and additional perks like unlockable content, such as an invite to a private Discord channel or discount codes to merchandise.

You can also create a limit on how many can be minted (typically just one, unless you are making a full collection).
Select your blockchain: This will be the blockchain on which your NFT resides, and it cannot be changed once minted.
Create the NFT: Once you have filled in the details of your NFT, simply select "Create."

After hitting "Create," your file will upload, and the NFT will be created. But the NFT is not listed for sale just yet, and the metadata is technically changeable until you list your item for sale.

Step 5:
Create the NFT
RE:SOURCES

How do I create an NFT?

Creating an NFT on OpenSea is easy! This guide explains how to create NFTs on the Ethereum or Polygon blockchains. Setting up your first NFT collection On...

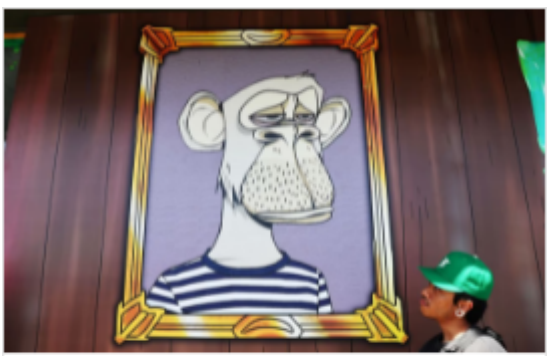
Step 6:
List the NFT for sale

Listing an NFT for sale is simple, and most NFT platforms allow you to do this for free. Once your NFT is created and in your wallet, you can simply hit the “sell” button on the platform of your choice and choose the price you wish to list it at and how long you want the sale to last.

Once the details of your sale are filled in, you can create the listing. This will require you to sign a few transactions in your digital wallet, which may include paying transaction fees on your chosen blockchain. Solana transactions are tiny, typically less than $0.01, while listing an NFT on the Ethereum blockchain can cost much more, depending on the network fees at the time of listing.
have a unique URL you can share with others. Sellers pay a nominal fee to the NFT marketplace when a purchase is made, for example, Binance charges a 1% platform fee as well as other fees while OpenSea charges a flat 2.5% of the sale price.
25
26

When you create the NFT, however, you can add in a royalty fee that pays you a percentage of the transaction each time your NFT is subsequently sold. Creators can earn up to 10% for every transactio.

https://help.coinbase.com/en/nft/creators/royalties



How to Create an NFT

Non-fungible tokens can be created directly on NFT platforms, allowing you to upload your artwork and ‘mint’ it on the blockchain. Here’s how.

WEB3

XTRA READING

Proof of Work (POW) Explained
With the proof of work (POW) model, cryptocurrency miners compete against each other to solve complex problems using high-powered computers.

Those first to do so are given the authority to add the new block of transactions and then rewarded with digital currency for their work. When a block is authenticated, it's added to the blockchain.

Proof of work requires increasingly fast computers, the use of significant energy resources, and processes that eventually slow down transaction times as a cryptocurrency network grows.

WEB3

XTRA READING

Proof of Stake (POS) Explained
With the proof of stake (POS) model, miners have to pledge a "stake" of digital currency before they can validate transactions. A miner's capacity to validate blocks depends on how many coins they have put up for stake and how long they have been validating transactions. The more coins they own, the more power they have for mining.

The miner chosen for each transaction is chosen randomly through a weighted algorithm that takes the miners' relative power into account.

Proof of stake was developed as an alternative to proof of work because of concerns about:

- How much energy proof of work uses
- Its environmental impact!!
- Its vulnerability to attacks
- Questions about its scalability

WEB3

XTRA READING

Proof of Stake (POS) Explained
With the
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Is proof-of-stake better for the environment?

Proof of stake requires much less energy and no specialized equipment. As a result, it is considered a more environmentally-friendly alternative to proof of work. The Ethereum Foundation says its switch to PoS will result in a network that uses nearly 100% less energy.

Sept 2022

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because o

- How much energy proof of work uses
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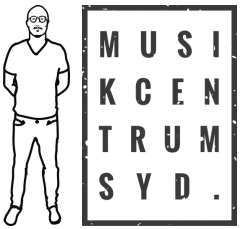

SO,WHAT IS THIS?

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