Estate Planning for Cryptocurrency

CLE Credit

The State Bar of Arizona does not approve or accredit CLE activities for the Mandatory Continuing Legal Education requirement. The activities offered by the MAAT LEGAL, LLC may qualify for 1 hour toward your annual CLE requirement for the State Bar of Arizona, California or other jurisdiction.

To claim certificate of attendance track codes given during the broadcast and email them to info@maatlegal.com.

CLE Credit

The State Bar of Arizona does not approve or accredit CLE activities for the Mandatory Continuing Legal Education requirement. The activities offered by the MAAT LEGAL, LLC may qualify for 1 hours toward your annual CLE requirement for the State Bar of Arizona, California or other jurisdiction.

Blockchain Technology

The history of Bitcoin

2008

Idea was published under the pseudonym Satoshi Nakamoto

2009

Start of the Bitcoin Network

2010

Fist cryptocurrency stock exchange is launched

2011

One Bitcoin equals one USD

The history of Bitcoin

2013

1 Bitcoin equals
100 USD

2014

Microsoft accepts
Bitcoin

2017

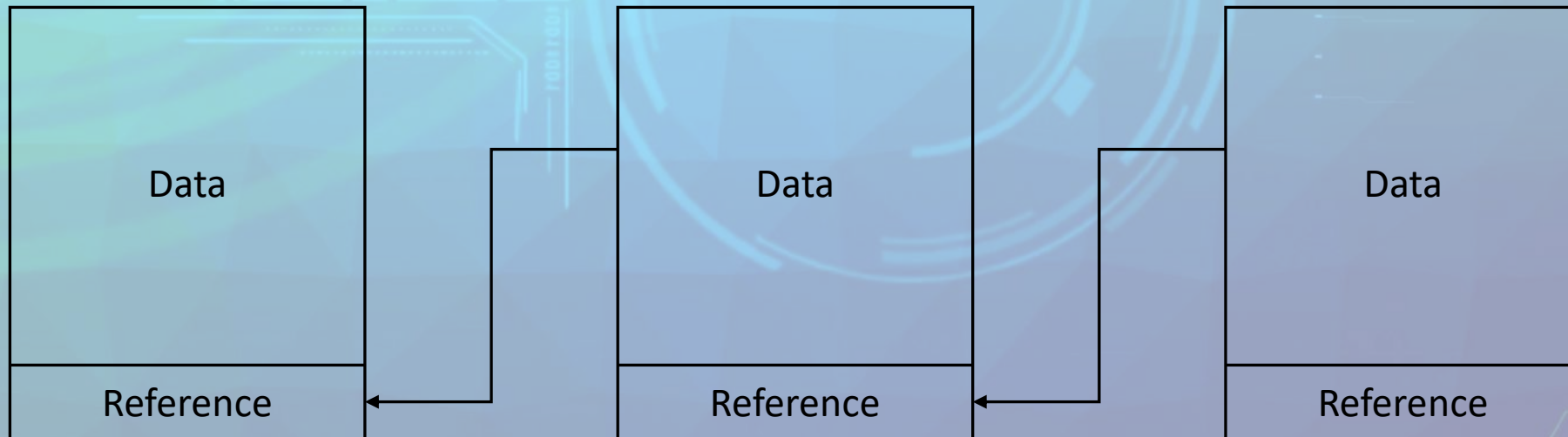1 Bitcoin equals
10,000 USD

Bitcoin ≠ blockchain

Is an application of blockchain technology

Is the underlying datastructure, which can be used for many things, including cryptocurrencies

What is A Blockchain?

A blockchain is a growing list of data blocks that are linked together.

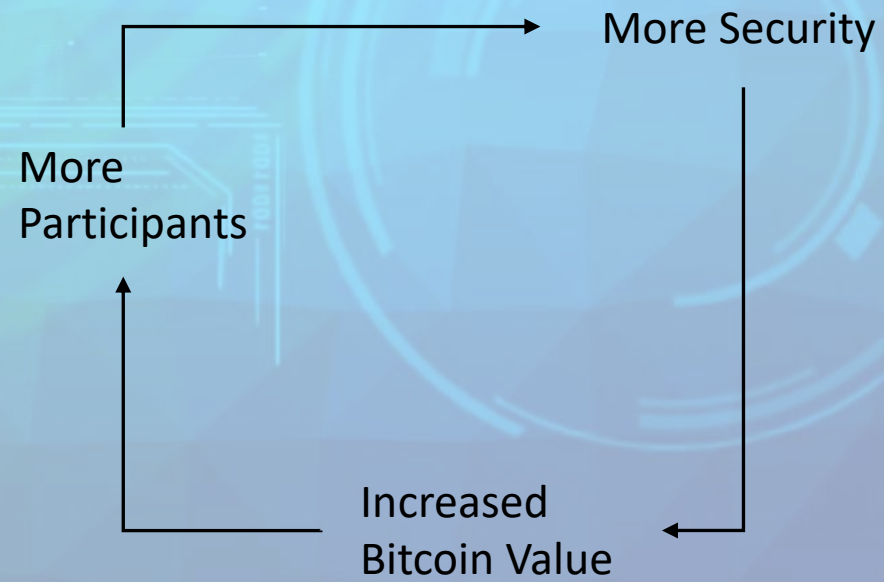| Data	Data	Data
Reference	Reference	Reference

Bitcoin ecosystem

A public network in which anyone, including a malicious participant, can participate without restriction.

Even though it is not organized by a central authority, it works!

Bitcoin ecosystem

More Security

More
Participants

Increased
Bitcoin Value
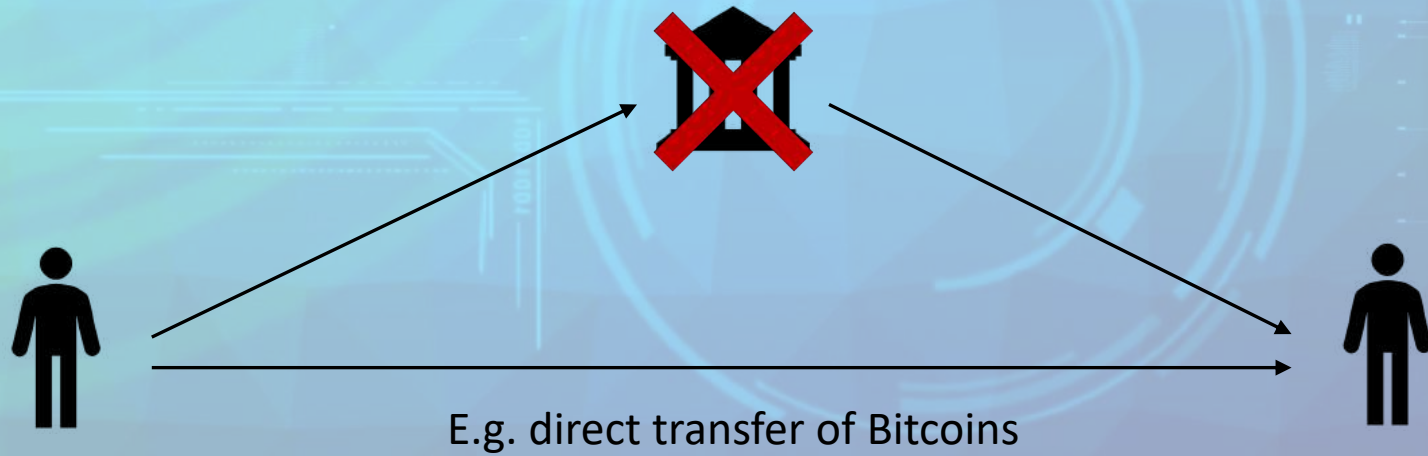
Building Consensus

After a finite time, all participants agree on a single state.

E.g. on who owns how many Bitcoin.

CREATING WITNESSES

If something is published on a public blockchain, all participants become witnesses.

This is used, for example, by OriginStamp to create a secure timestamp for documents.

Key Features

Write-only, immutable, transparent data storage

Decentralized, no need for intermediaries

Consistent state across all participants

Resistant against malicious participants

Open to everyone

challenges

Energy consumption

Scalability

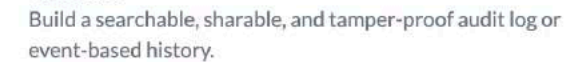Money laundering

Personal responsibility

originstamp

Products   Customers   Pricing   Verify   Blog   Log In   Start for Free

Timestamp API
Add secure, blockchain-based timestamps to your assets to protect them from manipulation.

Event API
Build a searchable, sharable, and tamper-proof audit log or event-based history.

Blockchain Consulting and Development
Leverage blockchain technology for your business to gain a competitive advantage.

Built for Companies

OriginStamp makes the use of blockchain technology fast

From **EduTech** to **Supply Chain**, we are commited to your success   Talk to us →

Intellectual Property Protection
Protect Ideas, Designs and More

Attach your identity to your ideas, creative work, research results, designs, and more. Use OriginStamp to create a tamper-proof timestamp of the resulting file. This timestamped file can be of great help when you want to defend your intellectual property rights.

What is blockchain?

- Based on a peer-to-peer (P2P) topology, blockchain is a distributed ledger technology (DLT) that allows data to be stored globally on thousands of servers – while letting anyone on the network see everyone else's entries in near real-time. That makes it difficult for one user to gain control of, or game, the network.

- https://www.computerworld.com/article/3191077/what-is-blockchain-the-complete-guide.html

What Is a Blockchain?

A blockchain is an open, distributed ledger that records transactions in code. In practice, it's a little like a checkbook that's distributed across countless computers around the world. Transactions are recorded in "blocks" that are then linked together on a "chain" of previous cryptocurrency transactions.

"Imagine a book where you write down everything you spend money on each day," says Buchi Okoro, CEO and co-founder of African cryptocurrency exchange Quidax. "Each page is similar to a block, and the entire book, a group of pages, is a blockchain."

With a blockchain, everyone who uses a cryptocurrency has their own copy of this book to create a unified transaction record. Software logs each new transaction as it happens, and every copy of the blockchain is updated simultaneously with the new information, keeping all records identical and accurate.

To prevent fraud, each transaction is checked using one of two main validation techniques: proof of work or proof of stake.

Proof of Work vs Proof of Stake

Proof of work and proof of stake are two different validation techniques used to verify transactions before they're added to a blockchain that reward verifiers with more cryptocurrency. Cryptocurrencies typically use either proof of work or proof of stake to verify transactions.

Proof of work. "Proof of work is a method of verifying transactions on a blockchain in which an algorithm provides a mathematical problem that computers race to solve," says Simon Oxenham, social media manager at Xcoins.com.

Each participating computer, often referred to as a "miner," solves a mathematical puzzle that helps verify a group of transactions—referred to as a block—then adds them to the blockchain leger. The first computer to do so successfully is rewarded with a small amount of cryptocurrency for its efforts.

This race to solve blockchain puzzles can require an intense amount of computer power and electricity. In practice, that means the miners might barely break even with the crypto they receive for validating transactions, after considering the costs of power and computing resources.

Proof of stake. To reduce the amount of power necessary to check transactions, some cryptocurrencies use a proof of stake verification method. With proof of stake, the number of transactions each person can verify is limited by the amount of cryptocurrency they're willing to "stake," or temporarily lock up in a communal safe, for the chance to participate in the process. "It's almost like bank collateral," says Okoro. Each person who stakes crypto is eligible to verify transactions, but the odds you'll be chosen to do so increase with the amount you front.

What is Cryptocurrency

Forbes ADVISOR

Getty

Cryptocurrency is decentralized digital money, based on blockchain technology. You may be familiar with the most popular versions, Bitcoin and Ethereum, but there are more than 5,000 different cryptocurrencies in circulation, according to CoinLore.

You can use crypto to buy regular goods and services, although many people invest in cryptocurrencie as they would in other assets, like stocks or precious metals. While cryptocurrency is a novel and exciting asset class, purchasing it can be risky as you must take on a fair amount of research to fully understand how each system works.
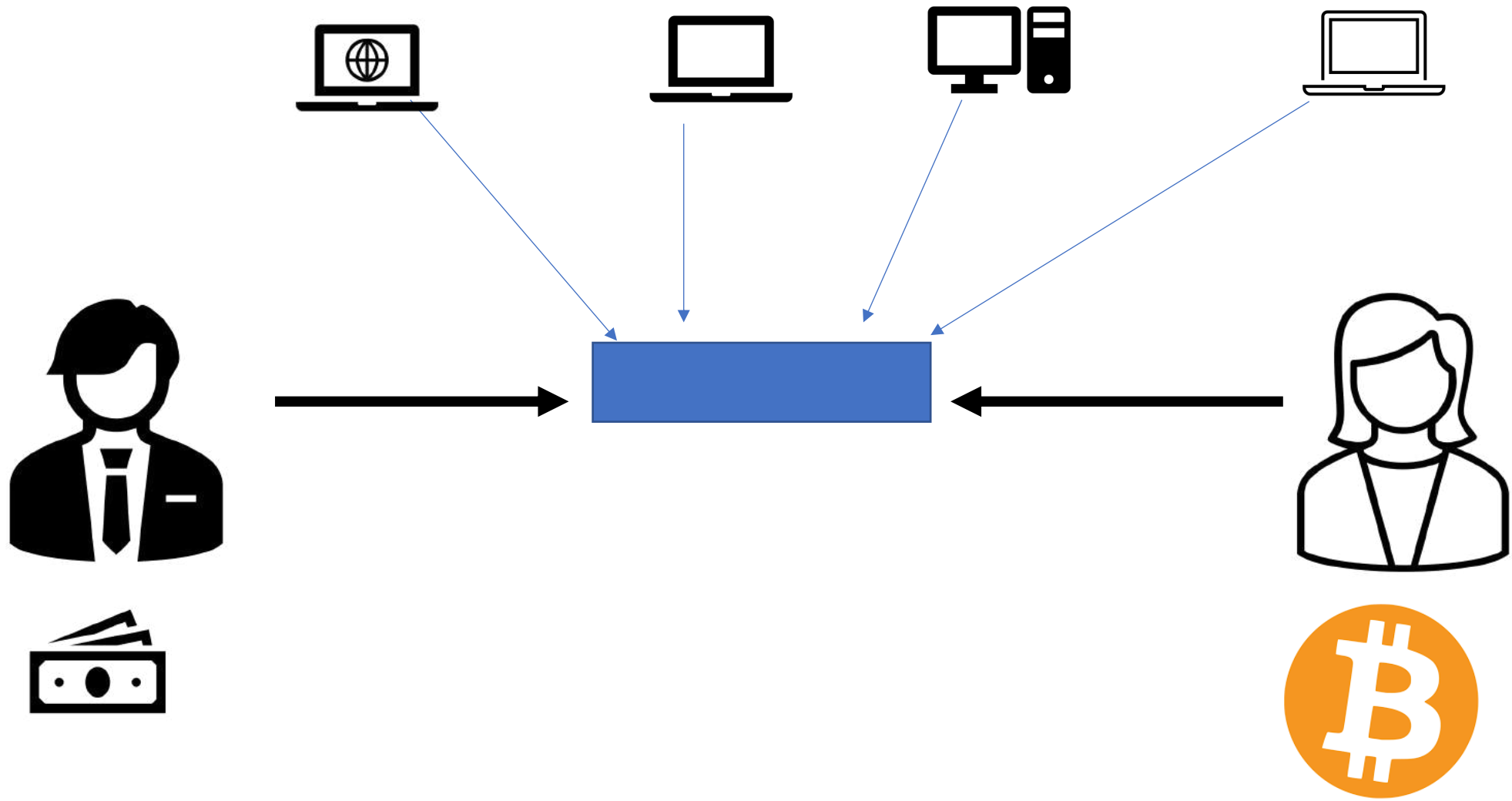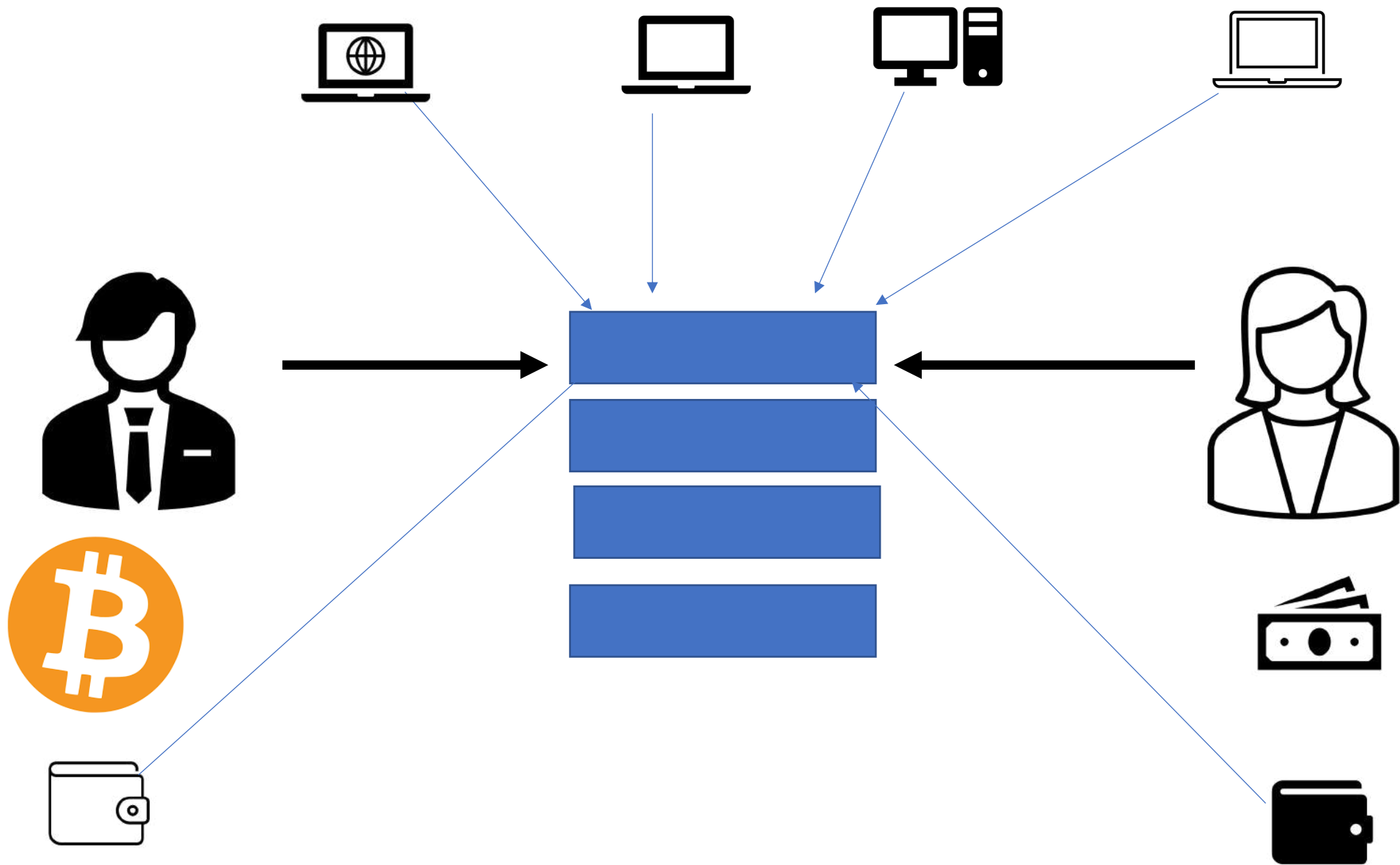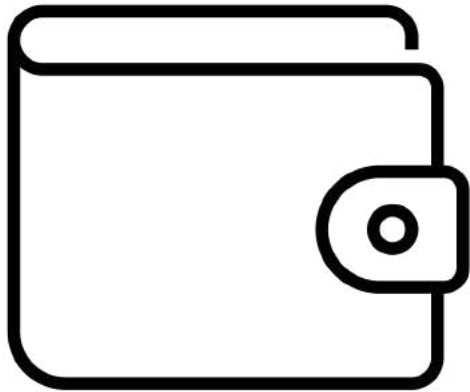
What is a Wallet?
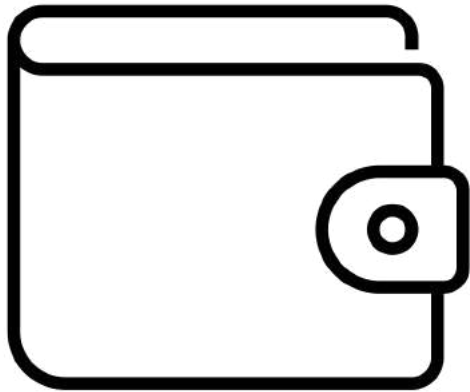
- Tool to communicate with the Blockchain
- ID
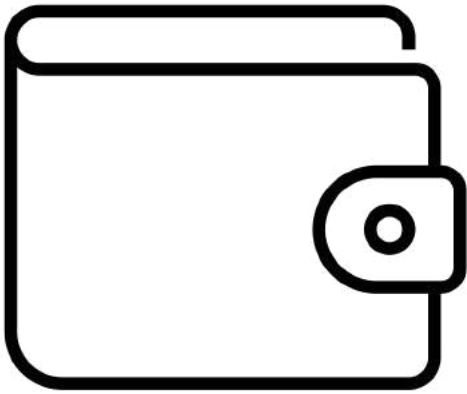- Public Keys
- Private Key
  - Seed Phrase

Types of Wallets – Hot/Software

- Exchange – Coinbase
- Trustwallet.com
- Blockchain.com
- Metamask.io

Types of Wallets – Cold/offline

- Hardware
  - Ledger.com

Your way to financial freedom

Enjoy security, ownership and ease of use for your crypto with Ledger.

Discover our products →

Types of Wallets – Cold/offline
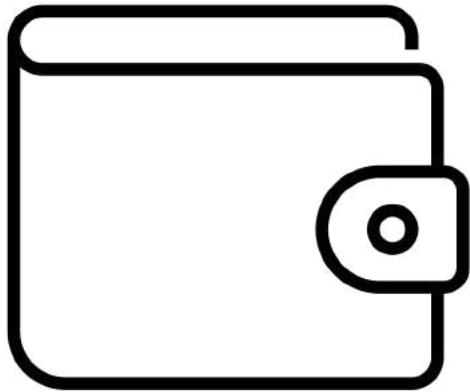
- Hardware
  - Ledger.com
  - Trezor.io

Go offline.
Store your coins with Trezor.

Hardware wallet is the safest way to manage & trade your cryptocurrencies.

To claim certificate of attendance track codes given during the broadcast and email them to info@maatlegal.com.

CLE Credit

Wallet

CLE Credit

The State Bar of Arizona does not approve or accredit CLE activities for the Mandatory Continuing Legal Education requirement. The activities offered by the MAAT LEGAL, LLC may qualify for 1 hours toward your annual CLE requirement for the State Bar of Arizona, California or other jurisdiction.

How Does Cryptocurrency Work?

A cryptocurrency is a medium of exchange that is digital, encrypted and decentralized. Unlike the U.S. Dollar or the Euro, there is no central authority that manages and maintains the value of a cryptocurrency. Instead, these tasks are broadly distributed among a cryptocurrency's users via the internet.

Bitcoin was the first cryptocurrency, first outlined in principle by Satoshi Nakamoto in a 2008 paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System." Nakamoto described the project as "an electronic payment system based on cryptographic proof instead of trust."

That cryptographic proof comes in the form of transactions that are verified and recorded in a form of program called a blockchain.

By NATHAN REIFF | Reviewed By SOMER ANDERSON ⊘ | Updated Jun 16, 2020

Bitcoin vs. Ethereum: An Overview

Ether (ETH), the cryptocurrency of the Ethereum network, is arguably the second most popular digital token after bitcoin (BTC). Indeed, as the second-largest cryptocurrency by market cap, comparisons between Ether and BTC are only natural.

Key Differences

While both the Bitcoin and Ethereum networks are powered by the principle of distributed ledgers and cryptography, the two differ technically in many ways. For example, transactions on the Ethereum network may contain executable code, while data affixed to Bitcoin network transactions are generally only for keeping notes. Other differences include block time (an ether transaction is confirmed in seconds compared to minutes for bitcoin) and the algorithms that they run on (Ethereum uses ethash while Bitcoin uses SHA-256).

How do smart contracts work?

Smart contracts work by following simple "if/when...then..." statements that are written into code on a blockchain. A network of computers executes the actions (releasing funds to the appropriate parties; registering a vehicle; sending notifications; issuing a ticket) when predetermined conditions have been met and verified. The blockchain is then updated when the transaction is completed.

Let's see how this plays out in a supply chain example. Buyer B wants to buy something from Seller A, so she puts money in an escrow account. Seller A will use Shipper C to deliver the product to Buyer B. When Buyer B receives the item, the money in escrow will be released to Seller A and Shipper C. If Buyer B doesn't receive the shipment by Date Z, the money in escrow will be returned. When this transaction is executed, Manufacturer G is notified to create another of the items that was sold to increase supply. All this is done automatically.

Within a smart contract, there can be as many stipulations as needed to satisfy the participants that the task will be completed satisfactorily. To establish the terms, participants to a blockchain platform must determine how transactions and their data are represented, agree on the rules that govern those transactions, explore all possible exceptions, and define a framework for resolving disputes. It's usually an iterative process that involves both developers and business stakeholders.

Formally: An informal introduction to Blockchain

Author: Darren McCarley

Date: 3/13/2018

https://www.linkedin.com/in/darrenmccarley

LOCKHEED MARTIN

Disclaimer

- This is not a Bitcoin introduction. This is a high-level introduction to Blockchain technology. However, we should acknowledge that Satoshi Nakamoto (pseudonym) and his/their creation, Bitcoin, popularized Blockchain technology. (There are currently arguments that Bitcoin was not the first blockchain.)

Disclaimer

- This is not a Bitcoin introduction. ==This is a high-level introduction to Blockchain technology.== However, we should acknowledge that Satoshi Nakamoto (pseudonym) and his/their creation, Bitcoin, popularized Blockchain technology. (There are currently arguments that Bitcoin was not the first blockchain.)

Disclaimer

- This is not a Bitcoin introduction. This is a high-level introduction to Blockchain technology. However, we should acknowledge that Satoshi Nakamoto (pseudonym) and his/their creation, Bitcoin, popularized Blockchain technology. (There are currently arguments that Bitcoin was not the first blockchain.)

- Today there are various *flavors* of Blockchain. This paper attempts to generalize Blockchain with samples in some of those flavors. Additional research, prototyping, and due diligence should be exercised before making any long-term decisions.

- Lastly, it is the opinion of the author, no single Blockchain solution will fulfill all needs. As many of the Blockchain technologies are paradigm specific, one should educate themselves on when and how to implement a Blockchain solution. Perhaps more importantly, when NOT to implement a solution.

A Brief history of Blockchain

- On October 31, 2008, *Satoshi Nakamoto* released the [Bitcoin White Paper](#) outlining a purely peer to peer electronic cash/digital asset transfer system. This is the first popular implementation of Blockchain and is attributed as birthing today's Blockchain industry. Since then, additional Blockchains have been popularized, Ethereum, various Hyperledger project solutions, as well as numerous others including "Blockchain like" solutions such as *GuardTime's KSI* products

What is Blockchain?

- Blockchain is a system comprised of..
  - Transactions
  - Immutable ledgers
  - Decentralized peers
  - Encryption processes
  - Consensus mechanisms
  - Optional Smart Contracts

- Let's explore these concepts

Transactions

- As with enterprise transactions today, Blockchain is a historical archive of decisions and actions taken

- Proof of history, provides provenance

Notable transaction use cases
Land registration – Replacing requirements for research of Deeds (Sweden Land Registration)
Personal Identification – Replacement of Birth/Death certificates, Driver's Licenses, Social Security Cards (Estonia)
Transportation – Bills of Lading, tracking, Certificates of Origin, International Forms (Maersk/IBM)
Banking – Document storage, increased back office efficiencies (UBS, Russia's Sberbank)
Manufacturing – Cradle to grave documentation for any assembly or sub assembly
Food distribution – Providing location, lot, harvest date Supermarkets can pin point problematic food (Walmart)
Audits – Due to the decentralized and immutable nature of Blockchain, audits will fundamentally change.

- Demo - https://anders.com/blockchain/blockchain.html

Immutable

- As with existing databases, Blockchain retains data via transactions
- The difference is that once written to the chain, the blocks can be changed, but it is extremely difficult to do so. Requiring rework on all subsequent blocks and consensus of each.
- The transaction is, immutable, or indelible
- In DBA terms, Blockchains are Write and Read only
- Like a ledger written in ink, an error would be be resolved with another entry

Decentralized Peers

- Rather than the centralized "Hub and Spoke" type of network, Blockchain is a decentralized peer to peer network. Where each NODE has a copy of the ledger.
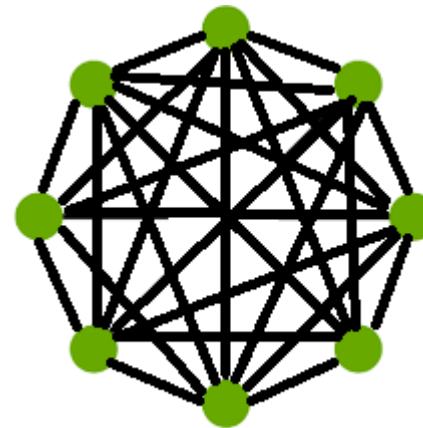
Legacy Network

Centralized DB
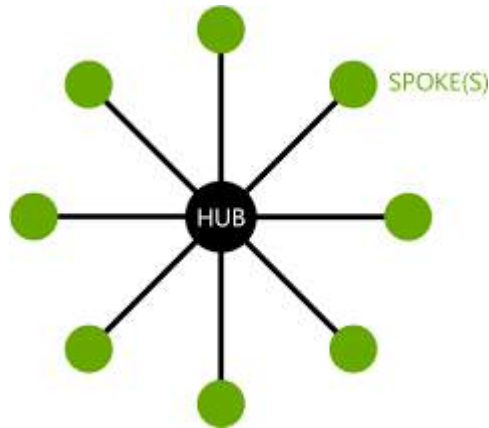
Blockchain Network

Distributed Ledgers

Encryption

- Standard encryption practices
- Some Blockchains allow for "BYOE" (Bring Your Own Encryption)
- Only as good as the next hardware innovation
- All blocks are encrypted
- Some Blockchains are public, some are private
  - Public Blockchains are still encrypted, but are viewable to the public, e.g. https://www.blocktrail.com/BTC
  - Private Blockchains employ user rights for visibility, e.g.
    - Customer – Writes and views all data
    - Auditors – View all transactions
    - Supplier A – Writes and views Partner A data
    - Supplier B – Writes and views Partner B data

Consensus

- Ensures that the next block in a blockchain is the one and only version of the truth

- Keeps powerful adversaries from derailing the system and successfully forking the chain

- Many Consensus mechanisms, each with pros and cons

Consensus Mechanism
Proof of Work
Proof of State
Proof of Elapsed Time
Proof of Activity
Proof of Burn
Proof of Capacity
Proof of Importance
And others….

Smart Contracts

- Computer code
- Provides business logic layer prior to block submission

Blockchain	Smart Contracts?	Language	
Bitcoin	No		
Ethereum	Yes	Solidity	
Hyperledger	Yes	Various	GoLang, C++, etc, depends
Others	Depends	Depends	

Blockchain Capabilities

A shared ledger technology allowing any participant in the business network to see the system of record (ledger)

Ensuring appropriate visibility; transactions are secure, authenticated & verifiable

All parties agree to network verified transaction

Business terms embedded in transaction database & executed with transactions

Blockchain Essentials
1. A business problem to be solved
   • That cannot be solved with more mature technologies
2. An identifiable business network
   • With Participants, Assets and Transactions
3. A need for trust
   • Consensus, Immutability, Finality or Provenance

Negative Indicators, Anti-Patterns
1. Need high performance (millisecond) transactions
2. Small organization (no business network)
3. Looking for a database replacement
4. Looking for a messaging replacement
5. Looking for transaction processing replacement
6. Process and metrics are not clear within the ecosystem
7. Value, velocity and/or variability are not present

Additional Resources

- [Bitcoin White Paper](#) – Satoshi Nakamoto
- [Blockchain Demo](#) – Anders Brownworth
  - [Videos](#)
- [Blockchain for Business - An Introduction to Hyperledger Technologies](#) - edX.org
- [Ethereum White Paper](#)
- [Guardtime](#) – Blockchain *like* official site
- [Hyperledger official site](#) - Linux Foundation
- [IBM Blockchain for Business](#) – IBM Dev Center
- [IBM Blockchain Essentials Course](#) – IBM Dev Center
- [IBM Blockchain Foundation Developer](#) – IBM Dev Center
  - Many more and pages are always changing

To claim certificate of attendance track codes given during the broadcast and email them to info@maatlegal.com.

CLE Credit

Smart Contract

CLE Credit

The State Bar of Arizona does not approve or accredit CLE activities for the Mandatory Continuing Legal Education requirement. The activities offered by the MAAT LEGAL, LLC may qualify for 1 hours toward your annual CLE requirement for the State Bar of Arizona, California or other jurisdiction.

NFTs, explained

I have questions about this emerging... um... art form? Platform?

By Mitchell Clark | Updated Mar 11, 2021, 1:42pm EST

f   🐦   ↗ SHARE

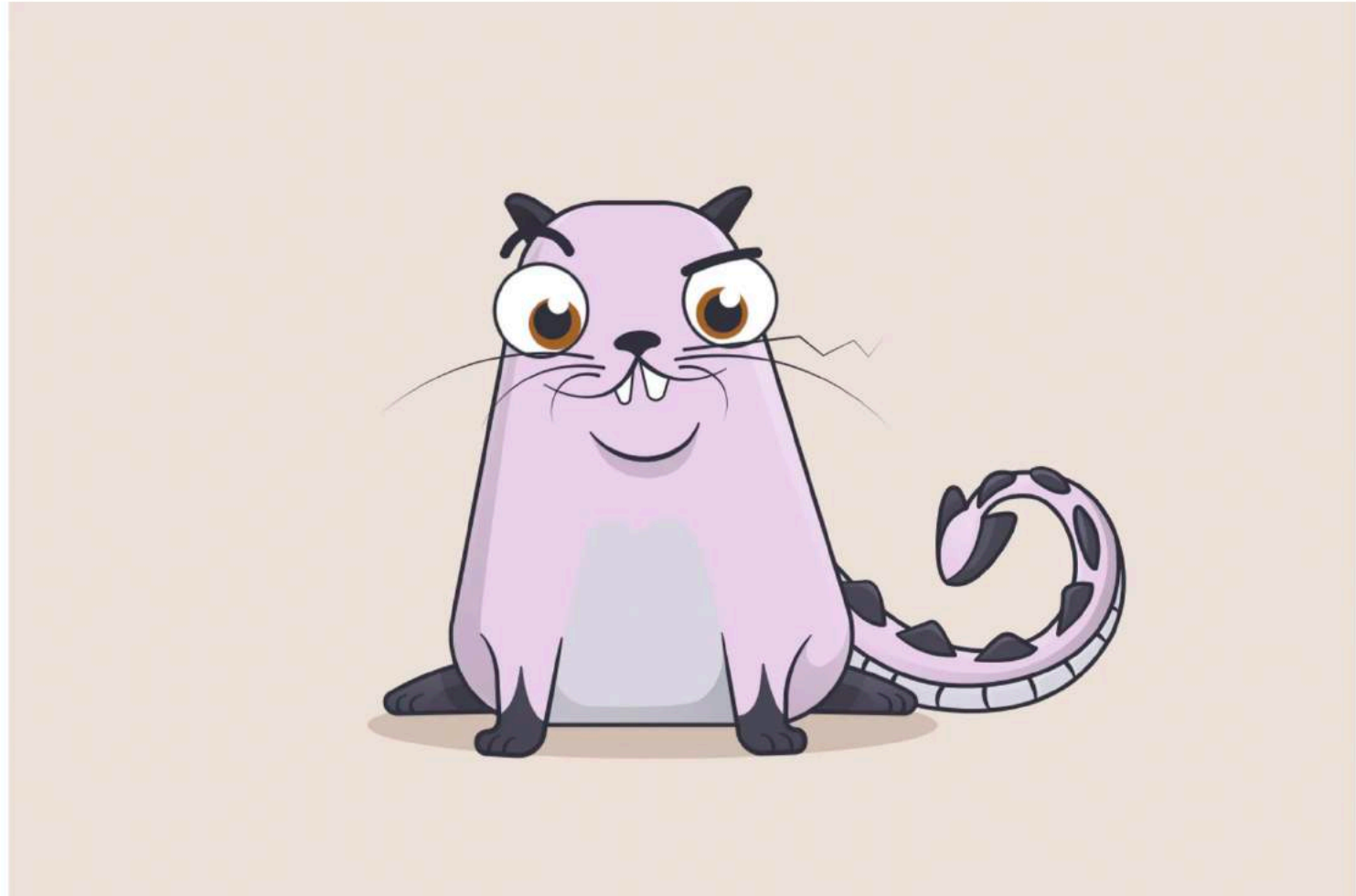https://www.theverge.com/22310188/nft-explainer-what-is-blockchain-crypto-art-faq

Image: Cryptokitties.co

NFTs, explained

- There's nothing like an explosion of blockchain news to leave you thinking, "Um… what's going on here?" That's the feeling I've experienced while reading about Grimes getting millions of dollars for NFTs or about Nyan Cat being sold as one. And by the time we all thought we sort of knew what the deal was, the founder of Twitter put an autographed tweet up for sale as an NFT.

NFTs, explained

A one-of-a-kind digital rendition of the Nyan Cat meme from 2011 sold for about US$590,000 in an online auction, February 19, 2021

NFTs, explained

WHAT IS AN NFT? WHAT DOES NFT STAND FOR?

Non-fungible token.

That doesn't make it any clearer.

Right, sorry. "Non-fungible" more or less means that it's unique and can't be replaced with something else. For example, a bitcoin is fungible — trade one for another bitcoin, and you'll have exactly the same thing.

A one-of-a-kind trading card, however, is non-fungible. If you traded it for a different card, you'd have something completely different.

NFTs, explained

- **How do NFTs work?**
- At a very high level, most NFTs are part of the Ethereum blockchain. Ethereum is a cryptocurrency, like bitcoin or dogecoin, but its blockchain also supports these NFTs, which store extra information that makes them work differently from, say, an ETH coin. It is worth noting that other blockchains can implement their own versions of NFTs. (Some already have.)

What's worth picking up at the NFT supermarket?

NFTs can really be anything digital (such as drawings, music, your brain downloaded and turned into an AI), but a lot of the current excitement is around using the tech to sell digital art.

Dogecoin isn't an NFT. But this GIF of a dogecoin is. GIF: *NyanCat on OpenSea*

Do people really think this will become like art collecting?

I'm sure some people really hope so — like whoever paid almost $390,000 for a [50-second video by Grimes](#) or the person who paid $6.6 million for [a video by Beeple](#).
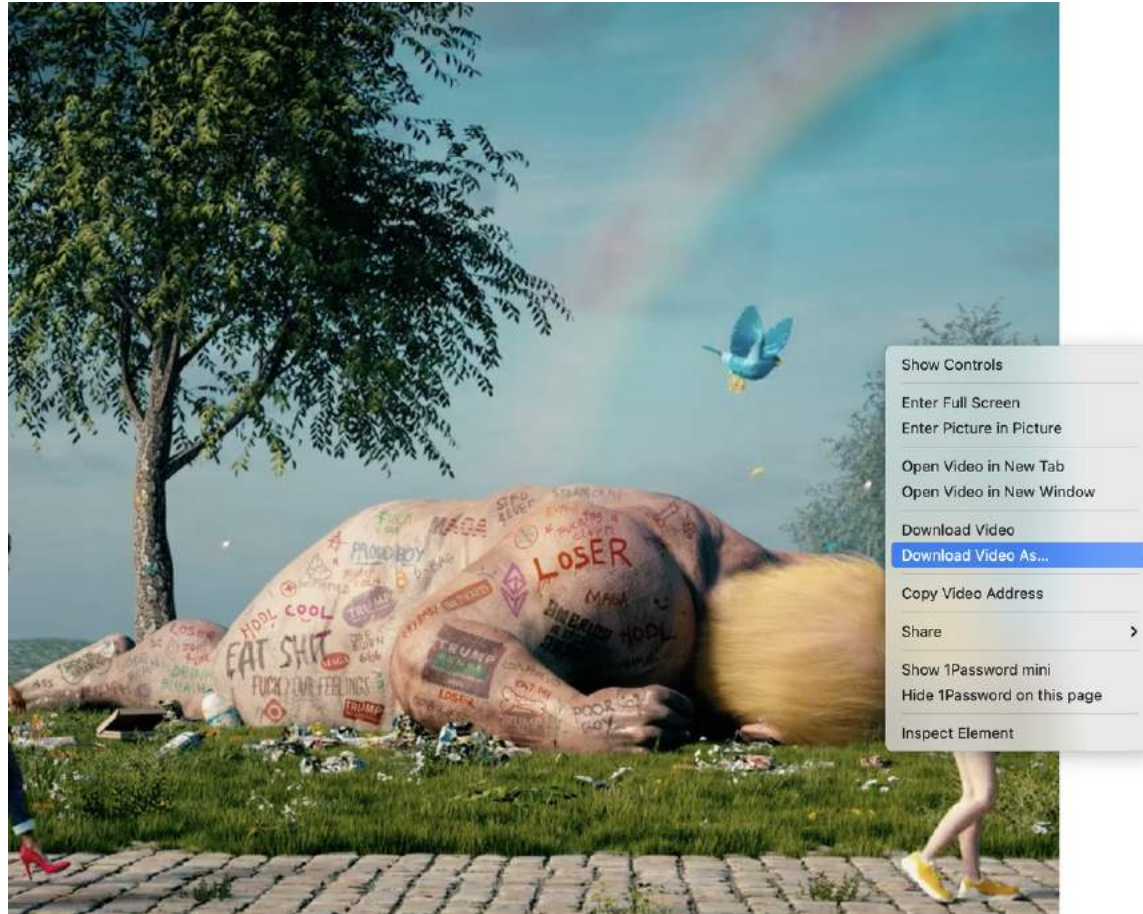
Sorry, I was busy right-clicking on that Beeple video and downloading the same file the person paid millions of dollars for.

Wow, rude. But yeah, that's where it [gets a bit awkward](). You can copy a digital file as many times as you want, including the art that's included with an NFT.

But NFTs are designed to give you something that can't be copied: ownership of the work (though the artist can still retain the copyright and reproduction rights, just like with physical artwork). To put it in terms of physical art collecting: anyone can buy a Monet print. But only one person can own the original.

What do you think of the $3,600 Gucci Ghost? Also, you didn't let me finish earlier. That image that Beeple was auctioning off at Christie's ended up selling for $69 million, which, by the way, is $15 million more than Monet's painting *Nymphéas* sold for in 2014.
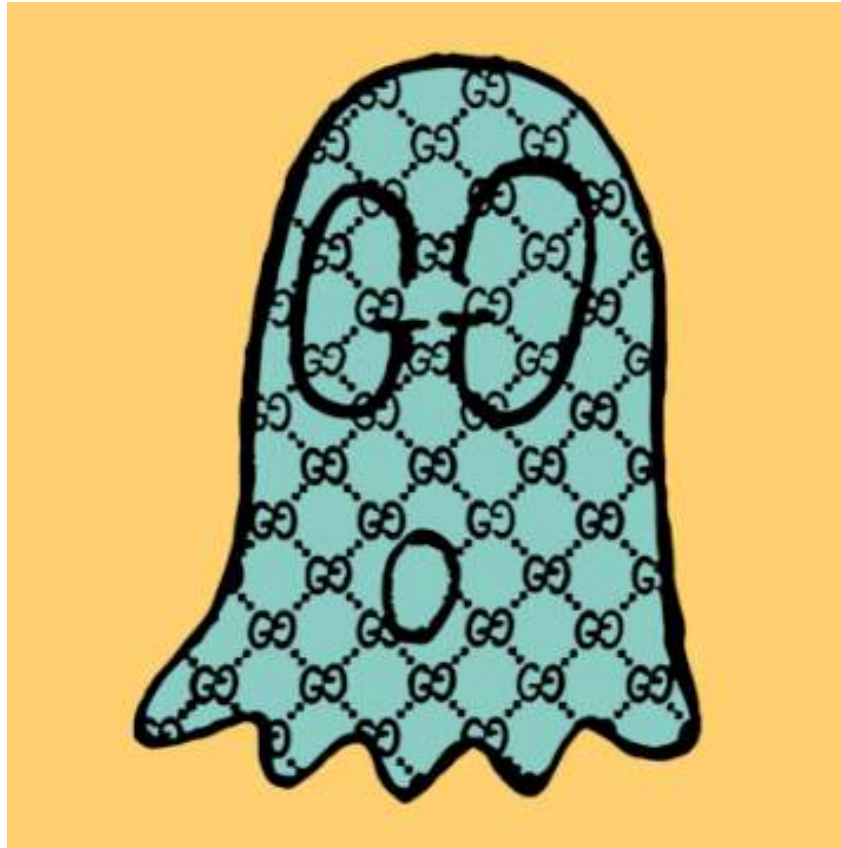
This last sold for $3,600, but the current owner is asking for $16,300. GIF by Trevor Andrew

- **I'm an artist.**
- First off: I'm proud of you. Way to go. You might be interested in NFTs because it gives you a way to sell work that there otherwise might not be much of a market for. If you come up with a really cool digital sticker idea, what are you going to do? Sell it on the iMessage App Store? No way.
- Also, NFTs have a feature that you can enable that will pay you a percentage every time the NFT is sold or changes hands, making sure that if your work gets super popular and balloons in value, you'll see some of that benefit.

I'm a buyer.

One of the obvious benefits of buying art is it lets you financially support artists you like, and that's true with NFTs (which are way trendier than, like, Telegram stickers).

Buying an NFT also usually gets you some basic usage rights, like being able to post the image online or set it as your profile picture. Plus, of course, there are bragging rights that you own the art, with a blockchain entry to back it up.

No, I meant I'm a *collector*.
Ah, okay, yes. NFTs can work like any other speculative asset, where you buy it and hope that the value of it goes up one day, so you can sell it for a profit. I feel kind of dirty for talking about that, though.

So every NFT is unique?

In the boring, technical sense that every NFT is a unique token on the blockchain.

But while it could be like a van Gogh, where there's only one definitive actual version, it could also be like a trading card, where there's 50 or hundreds of numbered copies of the same artwork.

Can I buy this article as an NFT?

No, but technically anything digital could be sold as an NFT (including articles from *Quartz* and the *New York Times*, provided you have anywhere from $1,800 to $560,000). deadmau5 has sold digital animated stickers. William Shatner has sold Shatner-themed trading cards (one of which was apparently an X-ray of his teeth).

Image by deadmau5 and Mad Dog Jones

Gross. Actually, could I buy someone's teeth as an NFT?
There have been some attempts at connecting NFTs to real-world objects, often as a sort of verification method. Nike has patented a method to [verify sneakers' authenticity using an NFT system, which it calls CryptoKicks](). But so far, I haven't found any teeth, no. I'm scared to look.

What is Tokenization?

- In its simplest sense, tokenization is the conversion of physical or virtual assets into digital units that can be bought and sold. Tokenization eliminates territorial barriers and intermediaries while enabling fractional ownership of assets — which opens the market to small investors. Almost any asset can be tokenized nowadays, from artwork to gold to real estate.

https://forkast.news/tokens-nfts-tokenization/

What is Tokenization?

- Tokenization is disrupting the way we invest in assets, and companies are increasingly seeing the token economy as a way to create new markets and increase sales. The global tokenization market is projected to surge to US$4.8 billion by 2025, up from US$1.9 billion in 2020, with a compound annual growth rate of 19.5%.

https://forkast.news/tokens-nfts-tokenization/

What is Tokenization?

- Tokenization is now a fixture in the virtual gaming industry. The National Basketball Association famously went all-in on NBA Top Shot, a crypto collectibles venture that allows fans to trade numbered versions of specific, officially-licensed and tokenized video highlights. An NFT of LeBron James doing a dunk recently sold for over US$200,000.

https://forkast.news/tokens-nfts-tokenization/

What is Tokenization?

- Tokenization is increasingly prominent in the precious metals space. Royal Mint Gold (RMG) is a gold tokenization project with backing from the Royal Mint of Great Britain.

- There is also currency tokenization, with stablecoins now available that provide the benefits of cryptocurrencies with the stability that comes with being backed by a fiat currency.

https://forkast.news/tokens-nfts-tokenization/

Billionaire Mark Cuban Wants to Turn Mavericks Tickets into NFTs

Vance Cariaga
March 29, 2021 · 2 min read

Chris Pizzello/Invision/AP/Shutterstock / Chris Pizzello/Invision/AP/Shutterstock

Dallas Mavericks owner Mark Cuban has always been a bit of a financial maverick himself, so it's no surprise that he's taking an offbeat approach to generating new revenue that involves NFTs, or nonfungible tokens.

See: *Mark Cuban's Mavericks Will Accept Dogecoin Payments for Tickets and Merch, 'Because We Can'*

Find: *What Is a Non-Fungible Token and Why Are They Booming?*

https://finance.yahoo.com/new billionaire-mark-cuban-wants-turn-151934328.html

nba_topshot

Happy #HoloDay! HOLO ICON Celebration Livestream
Playing Sports

💜 Follow

LIVE

get_2_cover: is there going to be a give away ?

g09103401: grats~@

pologoose: I got a #9 Jimmy Buckets Holo!
How'd I do?

Welcome to the chat room!

Welcome to the chat room!

Welcome to the chat room!

Welcome to the chat room!

Welcome to the chat room!

Welcome to the chat room!

ℹ Followers-Only Chat

Send a message

There was a network error. Please try again. (Error #2000)

🔄 Click Here to Reload Player

⚙ ⟦⟧ twitch   ◔ 0   ⚙   Chat

OWN THE NBA'S BEST MOMENTS

Buy, sell, and collect officially licensed digital collectibles, featuring iconic moments of your favorite players.

START MY COLLECTION

▶ 22s

DURANT

500,000+ NBA FANS OWN A MOMENT

# Janet Yellen Will Consider Limiting the Use of Cryptocurrency

During her confirmation hearing, the Treasury nominee said that blockchain-based financial networks are "a particular concern."

Blockchain-based financial networks are attractive to criminals because they do not require users to identify themselves—as the law requires most conventional financial networks to do. Because no individual or organization controls these networks, there's no easy way for governments to force them to comply with money-laundering laws.

How to plan for Crypto?

- How would you plan for cash?
  - Private key = Control

- Where do you store private key
  - Safe Deposit box owned by trust
  - Leave Instructions of where to find it
    - Safe
    - Home office

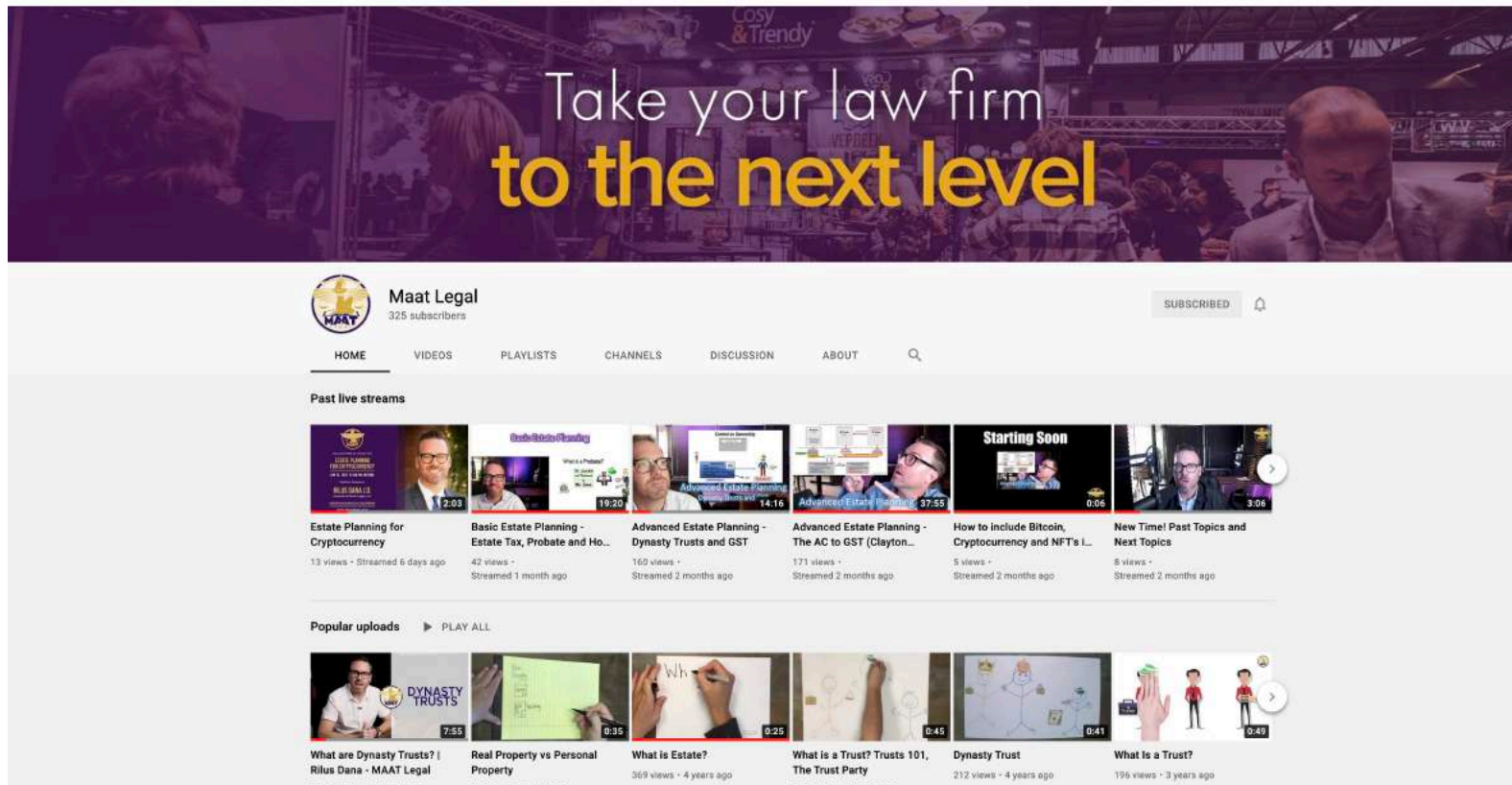- Consider Dividing Key into multiple locations.
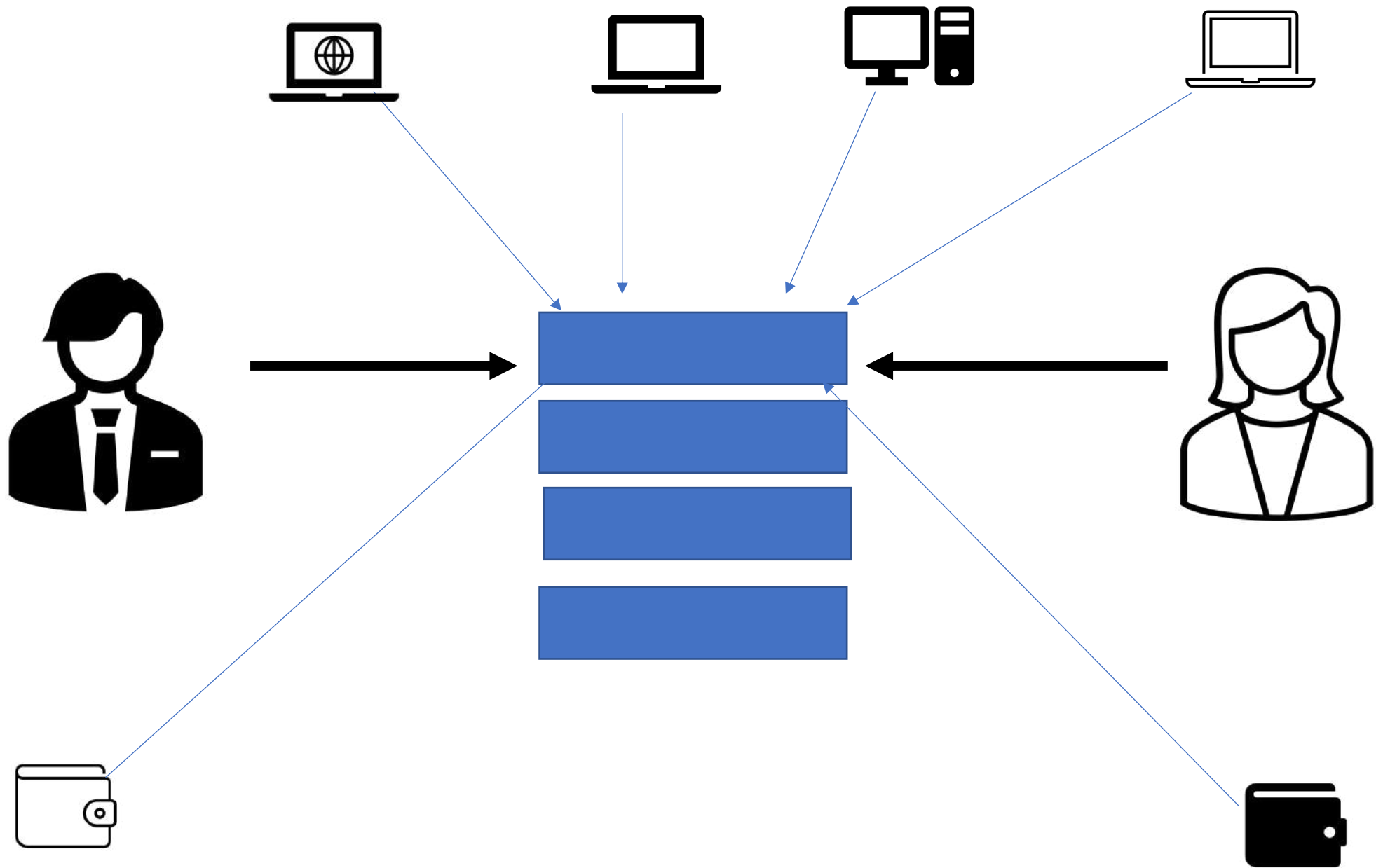
To claim certificate of attendance track codes given during the broadcast and email them to info@maatlegal.com.

CLE Credit

Subscribe to Maat Legal YouTube

- https://www.youtube.com/c/MaatLegal/

ALL COURSES   MY DASHBOARD   RILUS D

Maat Legal

All products

All Courses

Estate Planning for Digital Assets

9 Lessons $199.00

View more courses

- www.Academy.Maatlegal.com
- Estate Planning for Digital Asset Course
  - Includes Templates for Digital Asset Trust

- Save $100 with code Crypto100