# The Block of chain

30 December, 2023

INSTRUCTOR: ME

Automation

## Beginner:

**What is blockchain, Decentralize Finance:**

- Ethereum blockchain is the first one to allow you to deploy your own code (smart contract) on their pre-built consensus algorithm network, not bitcoin blockchain.
- Bitcoin, Ethereum blockchain has a slow, old consensus algorithm.
- Substrate serves as the development framework for building blockchains, and Polka Dot represents the multi-chain **network** that connects and secures these blockchains.
- Substrate is a development framework for building blockchains, while Polkadot is a multi-chain network that connects different blockchains and provides shared security and interoperability. Substrate is often used to build custom blockchains that can then connect to the Polkadot network, benefiting from its features and the broader blockchain ecosystem it enables.
- Substrate allows developers to choose and implement various consensus mechanisms based on their needs, Polkadot employs a specific Nominated Proof-of-Stake consensus mechanism to secure the network and provide shared security for connected parachains.
- Polkadot itself is not a single blockchain; rather, it's a multi-chain network that consists of multiple interconnected blockchains.
- Cosmos is like a substrate but with limitations.
- Smart contract allows you to take your code and put that code on a shared backend, that we all shared, can all verify, and nobody can modify. That whole thing is run by code, not people.

- in Decentralized exchange (auto all in code) use are the one who provide liquidity. Buy cons with US dollars, an investment. Now the poll has dollars and cons too.
    - **Liquidity** is a measure of the cash and other assets **banks** have available to quickly pay bills and meet short-term business.
- conversion to different cons you get a fee because using the pool that you are the liquidity provider of.
- It's just a digital dollar (unique NFT). But it’s all automated. Money is there when landing. How can you make sure you'll get the money with interest? ownership change. How to borrow? How does re-pay work?
- Code for specific amounts of mining you can do every year. All of this just with Pub key. Don't need to reveal anything.
- 70,000 nodes currently securing the bitcoin network. I have to convince them to add a fake transaction.
- How many coins you hold. The amount of rewards that you will get from the network.
- The proof of stake is what is securing all these third generation blockchain. Proof-of-stake means that you have to prove how much stake (lock) do you have on the network, and join time.
- Delegated proof of stake is eventually everyone will be chosen to be a validator. After becoming you have to run it always.
- Bitcoin is a distributed database, add only database. That is replicated across computers all around the world. The data structure of this database is a linked list. and the nodes of this linked list hold data about who has how many coins.
- Contract account controlled by code. Add or delete, modify data by code. That data is replicated across all the nodes in the network.
- You have them on an exchange, the only thing you can do is trust the exchange, centralization.
- Decentralized computing power so people can write and run code that no one can take down. modify. Decentralize exchanges like Uniswap, ref finance, pancake swap. Smart contracts are running these exchanges. read the open source that powers these exchanges. read the exchange code. Secure their own wallet and remember their private key. This is why they stay on centralized exchange.

**Ultimate usage:**

Right now in my research crypto can remove the US dominance from the entire world. The dollar dominance.

Like any technology after a year of usage, now we know what works and what doesn't. We know which part sucks and which part Shines.

Let’s start with, what blockchain is good for:

- Number one: Central bank digital currencies (CBDC) may actually be the future of money. As long as they're actually backed by banks by this distributed ledger technology, The goal is to transfer money abroad that reduces transaction times and processing fees that they have to put in the way, quick and cheap. (main use case is remittance) 114 countries are exploring CBDC. China, Singapore and India are at the forefront of the Central bank digital currencies revolution.
- সবার কাছে আমার টাকা আছে তাহলে কি হবে? আমার কাছ থেকে কিনা লাগবে. আমার ডিমান্ড বাড়বে. সে অনুযায়ী আমি দাম ঠিক করতে পারবো. More আমাকে আগে নিজে সফিসেন্ট হতে হবে তারপরে অন্যকে দিতে পারব. আমার কাছে যত resources আছে ওটার useability এবিলিটি বাড়াতে হবে.
- এর জন্যেই লোন নিয়ে নাও আমার টাকায়. সবার কাছে আমার টাকা আছে তাহলে কি হবে? আমার কাছ থেকে কিনা লাগবে. আমার ডিমান্ড বাড়বে. সে অনুযায়ী আমি দাম ঠিক করতে পারবো.

First, What is this thing? Distributed consensus over a single, global ledger, with permissionless, ordered transactions that update that ledger. A ledger is basically a map of who owns what.

- An interesting, related application is identity. It’s not as immediately obvious why identity should have value the way money does. However, every human system and institution depends on identity and reputation. It turns out that blockchain is pretty good at allocating and keeping track of scarce, unique, secure, durable digital

identity. There was no reason for identity to be global until the advent of nation states, passports, and international travel.

Which part sucks? Which part doesn't work?

- Non-interference of government (Decentralized finance). Which is basically a scam.
- It does not work well for the much larger amount of data behind most of the applications we use on a day to day basis. There's zero chance that you're going to store your email, text messages, calendar, or cat photos on a blockchain. which means that every message is sent to every node in the network indiscriminately. The protocol is well-suited to blockchain since all of the data in the network, such as blocks and transactions, is global and all nodes need to agree on them.

For more or For reference: https://youtu.be/aDZjA6fUh18?si=_JCplitU4PvFnV73

https://youtu.be/4ZWtFhI9_A8?si=UfzTz4tHPHMlWLUz

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**Working as a DevRel contributor:**

- Passionate for helping developers and building communities (esp. open-source)
- Content Creation and Promotion.
- Community Engagement: encouraging feedback, supporting, on top of Discord issues, GitHub issues, and other feedback channels
- Partnerships & Collaborations: Collaborate with external partners, including developers, communities, and organizations.
- Brainstorm Events, organizing, analyzing their performance.

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**How to learn rust | Which blockchain you should pick**

- First application devlopment, how blockchain works (contribute to https://github.com/OpenZeppelin?q=&type=all&language=rust&sort=)

- pick a rust blockchain, write a smart contract like NEAR protocol then Substrate (polkadot).

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**in [rustinblockchain.org/learning](rustinblockchain.org/learning):**

- *Contributing to Core development
- devops
- how open source works
- building apps, Application development
- smart contract development with near and substrate*
- programming on dfinity
- programming on solana