



Introduction to Blockchain Technology

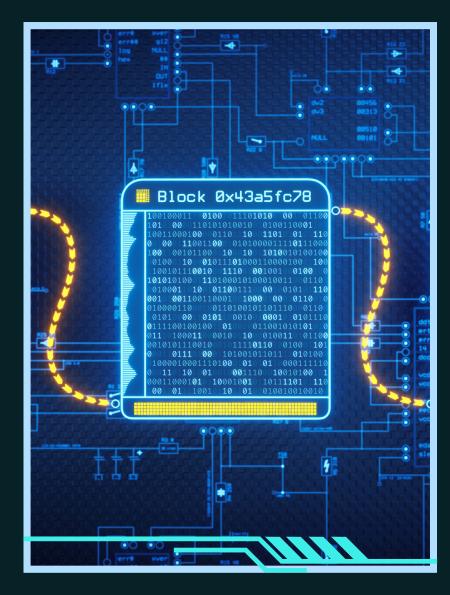
Blockchain is like a digital notebook that everyone can see, but no one can change. It started with Bitcoin, a kind of online money, but now people use it for many other things. The best part is that no one controls it, and once something is written in it, it can't be erased. Everyone can trust what's in the notebook because it's safe and honest.

How Blockchain Works

Blockchain is like a game of teamwork. Instead of one computer, many computers (called "nodes") work together to store and check the data. Imagine each computer gets a piece of a puzzle. Once they all agree the puzzle is right, they add it to the chain.

This agreement is called "consensus."

When you add something new (like a transaction), it becomes a block, and all the blocks link together in a row to make a chain. Each block has a code (called a "hash") that is viewable online to make sure no one can mess with it. That's how blockchain keeps everything safe and honest!







Blockchain vs. Traditional Systems



In **traditional systems**, everything goes through one main place, like a bank or a company. This central authority is in charge and keeps all the important information, which means we have to trust them to be fair and secure.

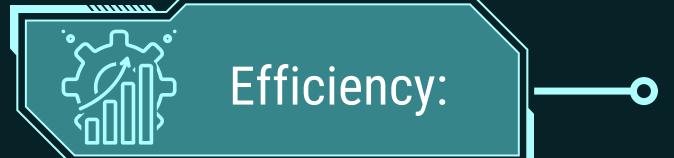
Blockchain is different because it doesn't need just one boss. Instead, it spreads the control across many computers/devices around the world. No one person or company is in charge! This means more security, fewer people in the middle (like banks), and it can cost less because you don't need to pay those middlemen.



In a blockchain system, everyone involved can see the same exact information, meaning no one can secretly change or hide data. Every participant has access to the same version of the "truth," which builds trust among users and ensures accountability in transactions.



Blockchain employs advanced cryptographic techniques to secure its data, making it extremely difficult to tamper with or hack. Each block is linked to the previous one, so any attempt to alter a transaction would affect the entire chain, effectively preventing fraud and unauthorized changes.



Blockchain can speed up processes by automating tasks through smart contracts, which execute actions automatically when certain conditions are met. This reduces the need for manual checks and approvals, allowing transactions to settle much faster than traditional methods.



By eliminating the need for intermediaries like banks and brokers, blockchain significantly cuts down on transaction costs. Direct peer-to-peer exchanges remove the necessity to pay middlemen for verification, further reducing operational expenses for businesses.







Smart Contracts Explained

Smart contracts are self-executing agreements where the terms of the contract are directly written into code on a blockchain. This means that once the contract is deployed, it can automatically enforce the terms without the need for intermediaries or manual intervention.





Benefits of Smart Contracts:

REDUCE PAPERWORK: BY DIGITIZING AGREEMENTS, SMART CONTRACTS ELIMINATE THE NEED FOR PHYSICAL DOCUMENTS, STREAMLINING THE CONTRACTING PROCESS AND REDUCING THE RISK OF LOSS OR DAMAGE.

AUTOMATE TASKS: SMART CONTRACTS CAN AUTOMATICALLY EXECUTE TASKS BASED ON PREDEFINED CONDITIONS, REDUCING THE NEED FOR HUMAN OVERSIGHT AND INCREASING EFFICIENCY IN VARIOUS PROCESSES.

ENSURE COMPLIANCE: SINCE THE TERMS ARE CODED AND CANNOT BE ALTERED, SMART CONTRACTS HELP ENSURE THAT ALL PARTIES ADHERE TO THE AGREED TERMS, REDUCING THE LIKELIHOOD OF DISPUTES.

DIRECT TRANSACTIONS WITHOUT MIDDLEMEN: SMART CONTRACTS FACILITATE DIRECT TRANSACTIONS BETWEEN PARTIES, CUTTING OUT INTERMEDIARIES LIKE BANKS OR BROKERS. THIS NOT ONLY SPEEDS UP THE PROCESS BUT ALSO LOWERS COSTS ASSOCIATED WITH FEES AND COMMISSIONS.

ENABLE OWNERSHIP AND PROVENANCE THROUGH NFTS: SMART CONTRACTS ARE FOUNDATIONAL TO NFTS, WHICH REPRESENT UNIQUE DIGITAL ASSETS ON THE BLOCKCHAIN. THIS ALLOWS FOR VERIFIABLE OWNERSHIP, PROVENANCE TRACKING, AND THE ABILITY TO TRADE DIGITAL COLLECTIBLES, ART, OR OTHER UNIQUE ITEMS SECURELY.





Supply Chain and Logistics

Blockchain enhances transparency and traceability in supply chains by providing a decentralized and immutable ledger that records every transaction or movement of goods from their origin to the final consumer. Each participant in the supply chain can access real-time data, ensuring that everyone has the same, up-to-date information. This level of transparency reduces the chances of fraud, as it becomes much harder to manipulate data without being detected. Additionally, it allows for effective quality control, as companies can trace products back to their source and verify their authenticity.



WALMART UTILIZES BLOCKCHAIN TECHNOLOGY TO TRACK THE JOURNEY OF FOOD PRODUCTS FROM FARM TO STORE, SIGNIFICANTLY IMPROVING FOOD SAFETY. IF A CONTAMINATION ISSUE ARISES, WALMART CAN QUICKLY IDENTIFY THE SOURCE AND REMOVE AFFECTED PRODUCTS FROM SHELVES, ENSURING CONSUMER SAFETY.

ITTPS:// CORPORATE.WALMART.COM/NEWSROOM/2018/09/24/ IN-WAKE-OF-ROMAINE-E-COLI-SCARE-WALMART-DEPLOYS-BLOCKCHAIN-TO-TRACK-LEAFY-GREENS

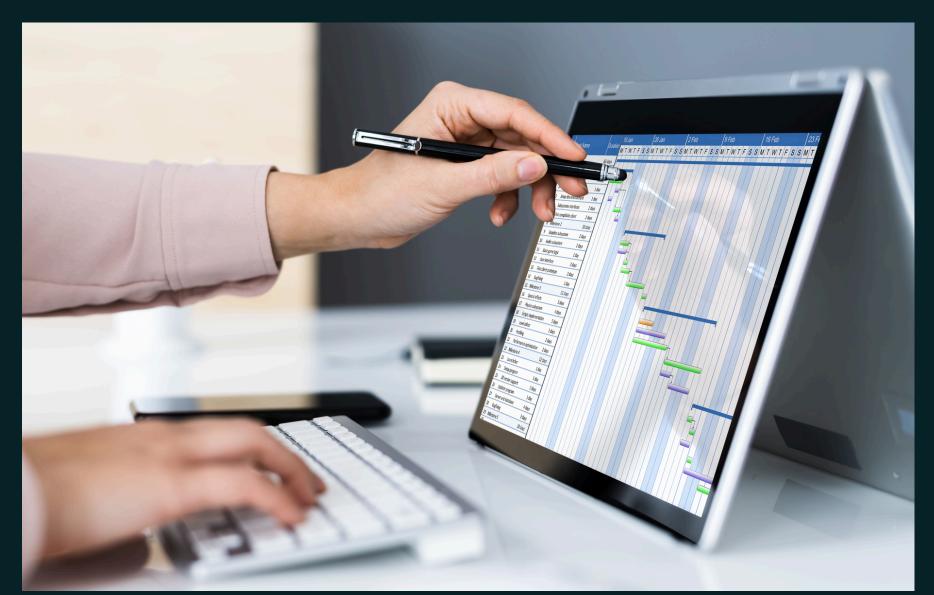
Notable Case Studies:

- IBM Food Trust: IBM's blockchain solution is used by various food companies, including Nestlé and Unilever, to enhance food traceability and safety. It allows for real-time tracking of food items, which helps companies respond more rapidly to food safety issues.
- De Beers: The diamond company uses blockchain to track the provenance of diamonds, ensuring that they are ethically sourced and conflict-free. This transparency builds consumer trust and allows customers to verify the origin of their diamonds. ARTICLE 2

 HTTPS:// WWW.BUSINESSNEWSASIA.COM/ 2022050652347318-DE-BEERS-INTRODUCES-TRACR-THE-WORLDS-FIRST-BLOCKCHAIN-BACKED-DIAMOND-SOURCE-PLATFORM/
- Maersk and IBM's <u>TradeLens</u>: This blockchain platform improves global trade by allowing participants to share shipping data securely. It enhances visibility into the shipping process, reduces delays, and minimizes fraud, ultimately making the supply chain more efficient.

HTTPS:// WWW.TRADELENS. COM

Provenance: This platform uses the Ethereum blockchain network to trace the origins of products, particularly in the fashion and food industries. It allows consumers to see the entire supply chain of a product, fostering trust in the brands that utilize it. The platform utilizes Ethereum's smart contract capabilities to provide transparency and traceability for products, enabling consumers to verify the origins and authenticity of the goods they purchase. HTTPS:// www.provenance.org/ News-INSIGHTS/ BLOCKCHAIN-CERTIFICATION







Provenance Defined



Provenance: the history of ownership and authenticity of an item or asset. In the context of art, collectibles, and digital assets like NFTs (Non-Fungible Tokens), provenance tracks the origin of the item, its previous owners, and any changes in ownership over time.

Authenticity: It helps verify that an item is genuine and not a forgery.

Value Assessment: The provenance can impact the value of an asset; items with a well-documented history of ownership often have higher value.

Historical Significance: Provenance can provide context and historical significance, enhancing the narrative surrounding the item.



NeverFade TRINKETS

THANKYOU

That's BLOCKCHAIN in a nutshell.





https://nftrinkets.fun/