

Blockchain: Technology Behind the Future

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What is Blockchain?

Blockchain is a technology that ensures security, immutability, and transparency for data. Once data has been recorded on a blockchain, it is nearly impossible for that information to be changed, hacked or manipulated. Computers worldwide host networks of blockchains that participate in verifying and sharing attached data between one another.

Because blockchain enables verification and trust without the need for centralized authority, it is foundational for decentralized cryptocurrencies such as Bitcoin and Ethereum. Its unique structure prevents tampering of network currency transfer, thereby creating a “digital ledger” that holds financial information for cryptocurrency users.

Blockchain in Technology Today

Real Estate: streamlining property transactions with transparent and immutable records, reducing fraud.

(Example: Propy)

Healthcare: protecting sensitive patient data, and allowing for secure sharing of data between entities.

(Example: MedRec)

Supply Chain: ensuring the authenticity and traceability of shipped goods.

(Example: Walmart)

Voting Systems: verifying integrity of electoral processes by creating tamper-proof voting systems.

(Example: Voatz)

Education: securing academic credentials within immutable records, simplifying verification.

(Example: Blockcerts)

Why Blockchain?

Security:

Every piece of data stored is directly authorized by the digital signature of its storer. Since blockchains are immutable, each piece of data is highly secure and infinitely traceable once on the blockchain.

Immutability:

Each ‘block’ within a blockchain is connected directly by the information stored in the previous block. This creates a long, unbreakable chain of blocks, secured and verified by blockchain providers all around the world. This makes many cryptocurrency blockchains digital ledgers of data.

Transparency:

A blockchain can be pictured as a Google spreadsheet shared amongst thousands of computers around the world. Each spreadsheet holds the same data, based upon actual financial transfers. While everyone can access this data, no individual is able to corrupt it.

Further Applications of Blockchain

Blockchain technology will change the way we interact with our finances, our communities, and our assets.

DeFi (Decentralized Finance): alternatives to traditional banking and investment opportunities can be found on blockchains today, including secure ways to lend currency.

DAOs (Decentralized Autonomous Organizations): distinguishing ownership of software, introducing execution of autonomous code to serve protocols hosted worldwide.

NFTs (Non-Fungible Tokens): trackable denominations of data stored on blockchains that prove history, ownership, and intellectual property of any digital or real item.

Blockchain and Artificial Intelligence (AI)

The recent surge in AI has brought a massive opportunity for capitalization on data-driven insights and automation. As AI continues to grow, it will combine with blockchain technology to create provable trust in any automated system.

Data Integrity: blockchain security ensures integrity of AI data and outputs, fostering trust in decisions made across fields like healthcare or finance.

AI Transparency: by notarizing processes using blockchain, processes can enhance transparency, allowing for verifiable proof of AI action and decisions.

Intellectual Property (IP) Protection: with the prominence of AI generated content, blockchain ensures creators can safely prove and protect their works.

Conclusion

Blockchain is a fundamentally important technology to verify and secure the future. As an asset class, blockchain presents itself as a powerful hedge against the current financial system. While cryptocurrencies are the most prominent application of blockchain, there will be many companies that arise in the future that take advantage of this nascent technology.