Understanding Cryptocurrency

INTRODUCTION

ASHEBORO PUBLIC LIBRARY
RANDOLPH COUNTY PUBLIC LIBRARIES

Cryptocurrency Defined

Cryptocurrency is a type of digital or virtual currency that uses cryptography* for security.

Unlike traditional currencies like dollars or euros, cryptocurrencies exist only in digital form and are not issued or controlled by any central authority, such as a government or bank.

*Cryptography: constructing and analyzing protocols that prevent third parties or the public from reading private messages

E.g. Enigma Machine (WWII)

TRADITIONAL MONEY VS. CRYPTOCURRENCY

Traditional Money

- Centralization
- Physical
- Transactions with banks.
- Privacy: tracked and recorded transactions
- Government Regulation

Cryptocurrency

- Decentralization
- Digital
- Transactions are pseudonymous.
- Privacy
- Varying degrees of regulation depending on the country

ENTER BITCOIN

Created in 2009 by an anonymous person or group using the name Satoshi Nakamoto.

Electronic cash that exists solely in the digital realm stored in digital wallets.

The first cryptocurrency. now widely-known and accepted. This comes with a level of credibility that newer cryptocurrences don’t have.

Bitcoin also has a fixed supply, which is another key difference. There will only ever be 21 million Bitcoins created. This limited supply can make Bitcoin more valuable over time, as long as the demand continues to grow or remain steady

Bitcoin is its security and stability. Bitcoin uses a technology called blockchain, which is a public ledger that records all transactions made with Bitcoin. This technology makes it very difficult to alter or tamper with transaction records

BLOCKCHAIN

Blockchain technology is essentially a decentralized and distributed digital ledger that records transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the consensus of the network.

Healthcare Records

Blockchain can be used to store and manage patient medical records.

Each time a patient visits a doctor, undergoes a procedure, or gets a prescription, the information is securely recorded on the blockchain. This allows healthcare providers to access a complete and accurate medical history, improving patient care and reducing the risk of errors.

MINING

- Ensures security and integrity.
- Solving complex mathematical problems.

Imagine a blockchain as a digital notebook shared among a group of friends. Each page in the notebook is a block that contains transaction records. When someone makes a transaction, such as sending money to a friend, that transaction is written down.

However, before it can be added to the notebook, it needs to be verified to ensure it's legitimate. This is where mining comes into play. Miners are like the friends who double-check the transactions and make sure no one is cheating or trying to spend the same money twice.

Miners use powerful computers to try millions of possible solutions per second. The first miner to solve the puzzle gets to add the new page of transactions to the notebook and is rewarded with new cryptocurrency coins, like earning a tip for their work.

ADVANTAGES AND RISK TO CRYPTOCURRENCY

ADVANTAGES

Lower Transaction Fees

Faster Transactions

Acessibility

Ownership

RISKS

Price Changes Quickly

Security Concerns

No Regulation

No Refunds

WALLETS (STORING CRYPTOCURRENCY)

Hot Wallets (Online)

These are wallets connected to the internet, making them easy to use but potentially more vulnerable to hacking.

- Mobile Wallets: Apps on your smartphone (e.g., Trust Wallet, Coinbase Wallet).
- Desktop Wallets: Software you install on your computer (e.g., Electrum, Exodus).
- Web Wallets: Wallets you access through your browser (e.g., MetaMask, Binance).

Cold Wallets (Offline)

These wallets are offline and provide more security. They include:

- Hardware Wallets: Physical devices like USB sticks (e.g., Ledger Nano S, Trezor).
- Paper Wallets: Physical pieces of paper with your private keys and public addresses printed on them.

FUTURE OF CRYPTOCURRENCY

NFTs (non-fungible tokens)

NFTs provide a way to own and trade unique digital items securely and transparently.

Digital Identity

Help protect your privacy and make signing up for services quicker and safer.