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CSE 490

Section: 05

Topic: Blockchain

What Is Blockchain?

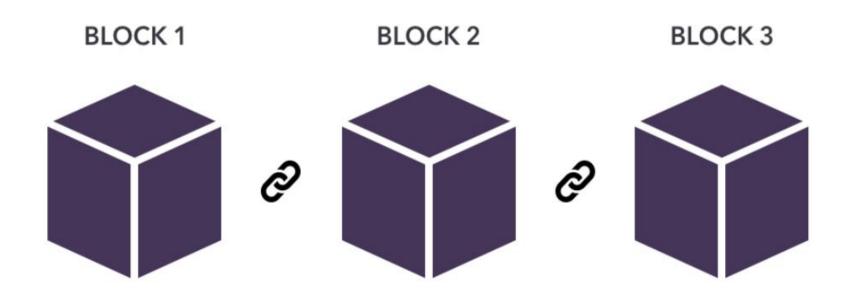
- Chain of block that contains information.
- Offers transparency, immutability and Security.
- Originally intended to timestamp digital documents.
- Implementation of digital cryptocurrency bitcoin.



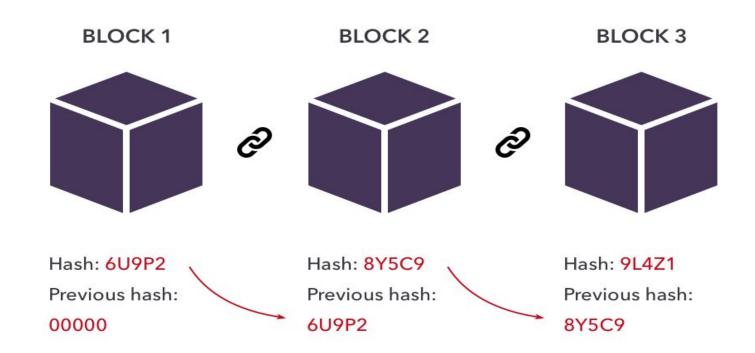
History of Blockchain

- 1991: Stuart Haber and W Scott Stornetta
- > 1998: Computer scientist Nick Szabo
- 2000: Stefan Konst publication
- 2008: Satoshi Nakamoto's paper release
- 2009: Nakamoto's implementation
- **2014:** Blockchain technology is separated from the currency

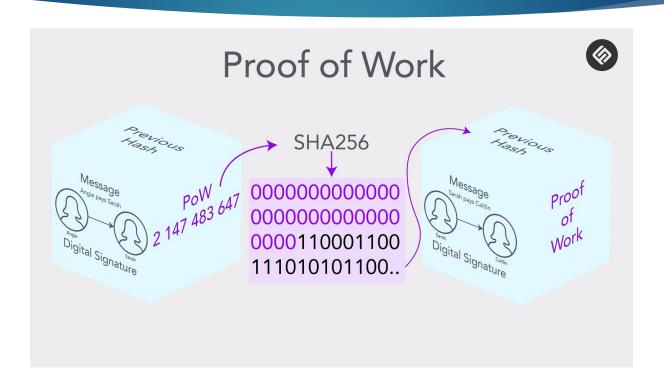
Distributed Ledger



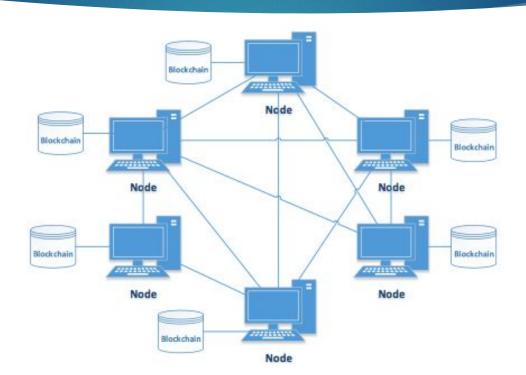
Distributed Ledger



Proof of work



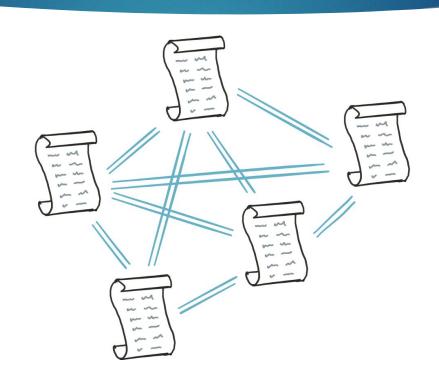
Peer TO Peer Network



Consensus



Smart Contracts



Benefits

- > Transparent.
- > More Secure.
- > Faster.
- Cost Effective.
- > Ease of use.
- > Peer 2 peer network.
- > Immutable.

Limitations

- Impractical for small organizations.
- > Need More Resources.
- Complexity.
- Large energy consumption.
- Size of blockchain.

Blockchain Applications

- Medical records
- E-Notary
- Collecting taxes
- Education: Storing credential data
- Insurance: Claims processing
- Birth, wedding, and death certificates
- Asset Management: Trade Processing and Settlement

Conclusion

- Almost Impossible to break.
- > Improvement.
- > Future.