Blockchain Development in Javascript Lecture 2

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Who is this course for?

- Anyone interested in Blockchain technology
- Anyone who has been frustrated by lengthy and dry explanations of this budding technology.
- Anyone that wants to understand what protocols like Bitcoin and Ethereum work under the hood.
- Anyone that wants to take more advanced courses ex. Ethereum Smart Contract development.

Learning Outcomes

- Creating a Blockchain in Javascript
- Understand what the Blockchain is and what it is not.
- Breakdown the actual blockchain into easy to manage components and explain how each of these components work together to create a functioning Blockchain implementation.
- Explain and understand the concepts of PoW and PoS with regards to the Ethereum platform.

Digital Timestamps

- In a implementation of Blockchain we have Blocks
- Blocks in themselves hold valuable information. This information can be anything really.
- One important thing with a Block is it’s Digital Timestamp this was a way to make sure digital documents could not be tampered and altered.
- Now, this was an after thought with regards to the web and notary until Satoshi Nakamoto invented Bitcoin.
- The easiest way to understand Blockchain is to think of it as a distributed ledger. In essence, that’s what a Blockchain is.

The anatomy of a Block

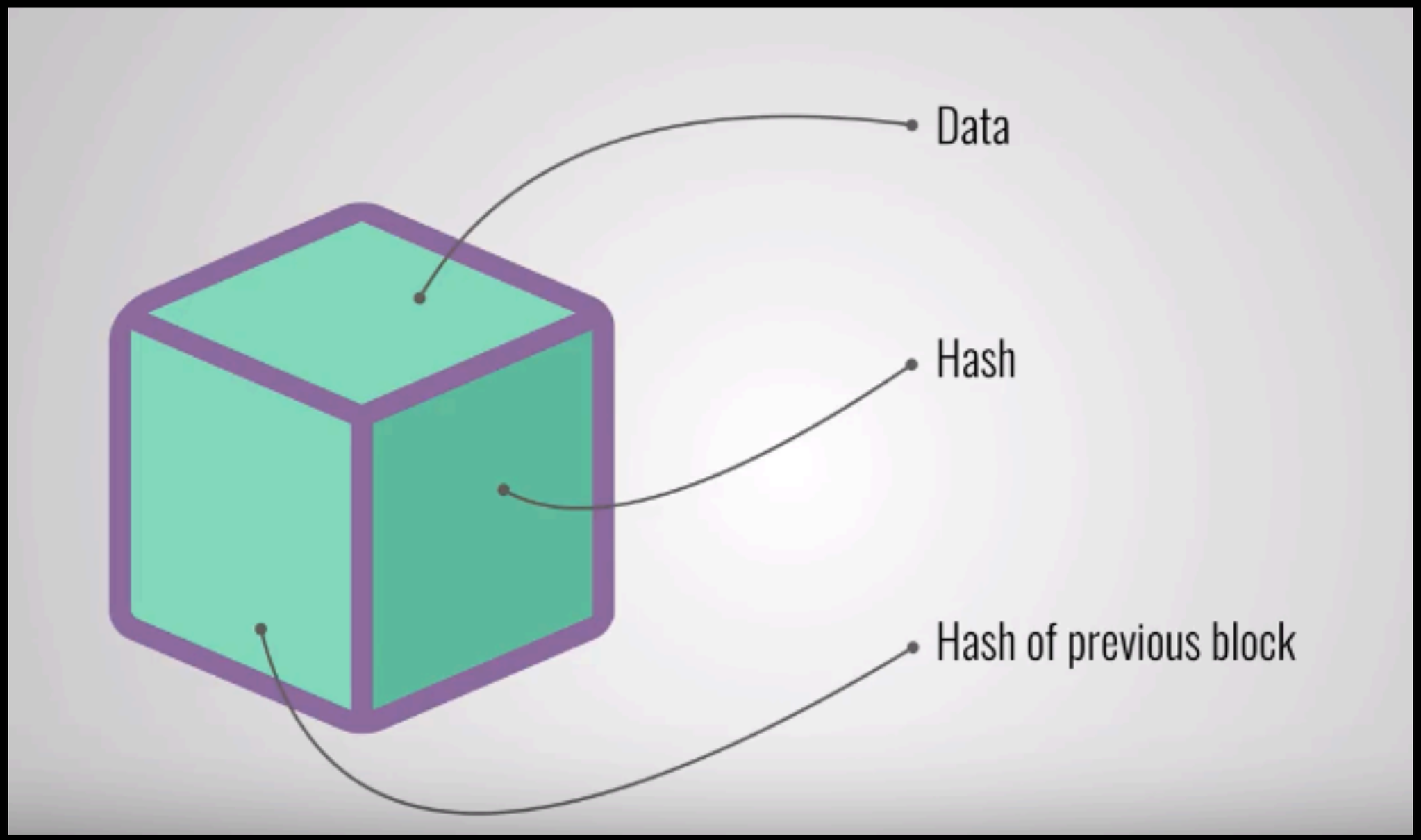

Diagram BreakDown

- Data: With regards to the Bitcoin Blockchain we could break this down into 3 parts. The sender / The receiver and the amount being sent.

- Hash: This can be thought of as the fingerprint for the transaction. As you know fingerprints are unique and cannot be duplicated. We use hashes to detect changes in the block. If the hash changes it’s no longer the same block. You can already imagine the security issue that this solves.

- Hash of previous Block: This is what creates a chain of blocks. This is what makes the blockchain a very secure system.

Implementing the Block in Javascript