AN OVERVIEW OF THE ARTICLE:
"HOW ARE SILK ROAD, THE DARK WEB AND BITCOIN CONNECTED?, BY ANDREW SERGEENKOV, 2021"

Class presentation by

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ABOUT OURSELVES

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INTRODUCTION OF THE TOPIC AND ITS HISTORY

- Blockchain can be defined as a **distributed immutable verified ledger**.

- It consists of series of transactions that are put in one block in such a way if a transaction Is altered in any way, all the blocks are updated and as this ledger is maintained across many peers, it is difficult to alter the transaction.

- All the blockchain peers need to **agree** to each transaction to get added to the block.

- Major features:

  - **Decentralization**

  - **Improved Trust and security**

  - **Autonomy and Fairness**
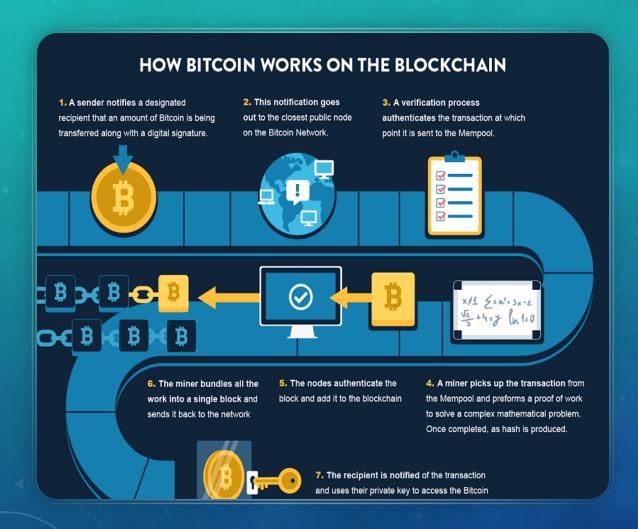
INTRODUCTION OF THE TOPIC AND ITS HISTORY

- In the late 1990s, two research organizations in the US Department of Defense drove efforts to develop an anonymized and encrypted network called as "**Dark web**" that would protect the sensitive communications of US spies. This secret network would not be known or accessible to ordinary internet surfers.

- Bitcoin emerged in 2011 as the currency of choice for drug dealers conducting transactions on a dark-web site known as the Silk Road.

DIAGRAM 1

DARK WEB SERVICES

PORNOGRAPHY · PHARMACEUTICALS · WEAPONS · BLOGS · FINANCIAL FRAUD SITES · DRUGS · FAKE DOCUMENTATION SERVICES · CARDING SITES

TOR BROWSER, THE SILK ROAD, AND BITCOIN

- The dark web was made possible due to Tor.

  - Allowed for private browsing network

  - Routes internet traffic to different destinations

  - The Onion Routing

- Silk Road is a digital marketplace used in the dark web

  - Founded by Ross Ulbritch.

  - Was created for buying anything and being anonymous

  - Traditional marketplace tracked users

  - Anonymity made a good place to sell goods

TOR BROWSER, THE SILK ROAD, AND BITCOIN CONTINUATION...

- Silk Road provides
  - Vendor reviews
  - Escrow service
  - Private communication via messages
- Silk Road uses Bitcoin for transactions
- Bitcoin is a decentralized digital currency
  - Manages peer to peer network using cryptography algorithms
  - Users handle their accounts (public address) and transactions using a private key without revealing their identity.

BITCOIN TRANSACTION

- Bitcoin is a decentralized digital crypto currency

- Sender notifies the recipient about the bitcoin transaction along with the digital key.

- Closest public Bitcoin node register this transaction in Mempool once the verification is done.

- Bitcoin nodes creates the mathematical equation called "mining process", creation of new Bitcoin block happens only if Bitcoin node solves the mining process.

- Generated new block is linked to the Bitcoin block chain.

- The recipient is notified of the transaction and uses their private key to access the bitcoin

SIGNIFICANCE OF BITCOIN IN DARKWEB

BITCOIN TRANSACTIONS IN THE DARK WEB

- Bitcoin inherits the below mentioned block chain features which caused global to embrace it with wide-open arms.

1. *Anonymity:* Execution of transactions without leaving a trace is extremely beneficial in the dark web.

2. *Security:* Dealers of the dark web require safe and reliable means of getting their illicit fund without getting an intrusion from the government can be achieved using bitcoin.

- Bitcoin is one of the most used cryptocurrencies in the dark web apart from other cryptocurrencies like Litecoin, Monero, and dash.

- According to the Australian study, about 47% of the Bitcoin o were allocated to satisfying the cravings of dark web mafias

REVIEW OF THE PAPER

- Good thing : Author didn't have any bias or prejudice against the Blockchain technologies.

- Bad thing : Author introduced Bitcoin as a currency and its usage in illicit transactions and should've emphasized in a small introduction as well as pros and cons.

THOUGHT PROVOKING IDEA

- Using the existing Dark Web technologies, we can design a platform for judicial system to get the digital proof of a crime from witness anonymously.