

T. Bilotska

Research supervisor: Y.B.Sikora,

Candidate of Pedagogical Sciences,

Associate Professor

Zhytomyr Ivan Franko State University

Language tutor: O.E. Kravets

THE ART OF BLOCKCHAIN

A blockchain, originally block chain, is a continuously growing list of records, called blocks, which are linked and secured using cryptography. Each block typically contains a cryptographic hash of the previous block, a timestamp and transaction data. By design, a blockchain is inherently resistant to modification of the data. It is "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way". For use as a distributed ledger, a blockchain is typically managed by a peer-to-peer network collectively adhering to a protocol for inter-node communication and validating new blocks. Once recorded, the data in any given block cannot be altered retroactively without the alteration of all subsequent blocks, which requires collusion of the network majority.

Blockchain was invented by Satoshi Nakamoto in 2008 for use in the cryptocurrency bitcoin, as its public transaction ledger. The invention of the blockchain for bitcoin made it the first digital currency to solve the double spending problem without the need of a trusted authority or central server. The bitcoin design has been the inspiration for other applications.

The credit and debits payments company MasterCard has added three blockchain-based APIs for programmers to use in developing both person-to-person (P2P) and business-to-business (B2B) payment systems. CLS Group is using blockchain technology to expand the number of currency trade deals it can settle.

VISA payment systems, Mastercard, Unionpay and SWIFT have announced the development and plans for using blockchain technology.

Prime Shipping Foundation is using blockchain technology to address issues related to the payments in the shipping industry, seeking 150 million USD to develop their proprietary PRIME Token.

Nikolai Hampton pointed out in Computerworld that "There is also no need for a "51 percent" attack on a private blockchain, as the private blockchain (most likely) already controls 100 percent of all block creation resources. This has a set of particularly profound adverse implications during a financial crisis or debt crisis like the financial crisis of 2007–08, where politically powerful actors may make decisions that favor some groups at the expense of others. and "the bitcoin blockchain is protected by the massive group mining effort. It's unlikely that any private blockchain will try to protect records using gigawatts of computing power — it's time consuming and expensive." He also said, "Within a private blockchain there is also no 'race'; there's no incentive to use more power or discover blocks faster than competitors. This means that many in-house blockchain solutions will be nothing more than cumbersome databases."

References

1. "Blockchains: The great chain of being sure about things". The Economist. 31 October 2015. Archived from the original on 3 July 2016. Retrieved 18 June 2016. The technology behind bitcoin lets people who do not know or trust each other build a dependable ledger. This has implications far beyond the crypto currency.
2. Jump up Morris, David Z. (15 May 2016). "Leaderless, Blockchain-Based Venture Capital Fund Raises \$100 Million, And Counting". Fortune. Archived from the original on 21 May 2016. Retrieved 23 May 2016.