

Секція:

Гуманітарні науки

UDC 004.031.43

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BITCOIN AS CRYPTOCURRENCY AND PEER-TO-PEER E-PAYMENT SYSTEM

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УДК 004.031.43

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БІТКОЙН ЯК КРИПТОВАЛЮТА І ПІРІНГОВА СИСТЕМА ЕЛЕКТРОННИХ ПЛАТЕЖІВ

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Ключові слова: криптовалюта, пірінгова мережа, проблема подвійних витрат
Keywords: cryptocurrency, peer-to-peer network, double-spending problem

This study has three major purposes: to determine what is Bitcoin as a cryptocurrency and as an e-payment system, to explain operation of Bitcoin Payment System and the way of creation of Bitcoin digital currency, to investigate advantages and problems of the Bitcoin operation.

Though Bitcoin was founded on 3 January 2009 and successfully used in number of countries, it is still unknown for vast majority of people.

First, a short excursus to the history of Bitcoin is presented. This shows that nowadays Bitcoin is decentralized and open source, so that everybody can review the code. Then, concept of Bitcoin as a peer-to-peer network is defined.

Second, process of bitcoin transactions is explained. The importance of usage electronic signature, which includes private and public addresses, is highlighted.

Third, the advantages of Bitcoin such as low fees, accessibility in every country, impossibility of the account to be frozen etc. are considered. The problem of double-spending is described and Bitcoin mining as its solution is examined. This is directly related to the creation and distribution of Bitcoin currency. Examples of Bitcoin usage are presented.

On the basis of the results of this research, it can be concluded that Bitcoin is promising but still not widely used. Bitcoin has a number of new possibilities and advantages comparing with common payment systems. Bitcoin mining is an important and integral part of Bitcoin and ensures fairness, while keeping Bitcoin network stable, safe and secure.