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Use Blockchain to prevent fraud in health care data

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**Abstract**

This is the kind of fraudulent activity we often hear about in the news and solicit as big tech companies mishandling their customers' data. But it doesn't come close to the most prevalent or widespread form of data fraud.

The nature of the healthcare industry is what makes it particularly vulnerable to fraud, waste and abuse. Three main columns are often bridged within it (patients, hospital staff, and data management staff). Although they manage and interact with the same top-secret data - sometimes across personal devices - they do not share a common communication system, which increases the possibility of a data security breach.

When poor data management processes are unchecked, fraud has an opportunity to enter directly.

There is another, more fraudulent form of healthcare fraud that occurs largely due to poor data management, misunderstandings, and ineffective business practices.

In this case efficiency is the enemy of fraud. With a comprehensive data management system that integrates data from multiple sources (such as patient to physician, physician to data management system, data management system to insurance company), time-intensive errors can be kept to a minimum, and fraud can become easier to prevent.

The power of using blockchain cryptographic algorithms enables fraud to be detected and remedied early in the process, saving the healthcare industry and its customers a lot of money.

With the proliferation of electronic medical records, the healthcare industry is constantly trying to keep patient, hospital, insurance, and billing records secure. With so much data out there, tracking data while also ensuring privacy can often be a challenge

So it can be said that Blockchain: A stronger future for healthcare.

Blockchain is a valuable option for managing the large amounts of data processed by the healthcare industry because it provides security, speed, availability, and accessibility.

**Introduction About Blockchain**

A blockchain is essentially a distributed database of records or public ledger of all transactions or digital events that have been executed and shared among participating parties. Each transaction in the public ledger is verified by consensus of a majority of the participants in the system. And, once entered,

information can never be erased. The blockchain contains a certain and verifiable record of every single transaction ever made. To use a basic analogy, it is easy to steal a cookie from a cookie jar, kept in a secluded place than stealing the cookie from a cookie jar kept in a market place, being observed by

thousands of people. Bitcoin is the most popular example that is intrinsically tied to blockchain technology. It is also the most controversial one since it helps to enable a multibillion-dollar global market of anonymous transactions without any governmental control. Hence it has to deal with a number of regulatory issues involving national governments and financial institutions.

However, Blockchain technology itself is non-controversial and has worked flawlessly over the years and is being successfully applied to both financial and non-financial world applications. Last year, Marc Andreessen, the doyen of Silicon Valley’s capitalists, listed the blockchain distributed consensus model​as the most important invention since the Internet itself. Johann Palychata from BNP Paribas wrote in the Quintessence magazine that bitcoin’s blockchain, the software that allows the digital currency to function should be considered as an invention like the steam or combustion engine that has the potential to transform the world of finance and beyond. Current digital economy is based on the reliance on a certain trusted authority. Our all online transactions rely on trusting someone to tell us the truth—it can be an email service provider telling us that our email has been delivered; it can be a certification authority telling us that a certain digital

certificate is trustworthy; or it can be a social network such as Facebook telling us that our posts regarding our life events have been shared only with our friends or it can be a bank telling us that our money has been delivered reliably to our dear ones in a remote country. The fact is that we live our life precariously in the digital world by relying on a third entity for the security and privacy of our digital assets. The fact remains that these third party sources can be hacked, manipulated or compromised.

This is where the blockchain technology comes handy. It has the potential to revolutionize the digital world by enabling a distributed consensus​where each and every online transaction, past and

present, involving digital assets can be verified at any time in the future. It does this without compromising the privacy of the digital assets and parties involved. The distributed consensus​and anonymity​are two important characteristics of blockchain technology.