

BLOCKCHAIN: THE NEXT HORIZONTAL INNOVATION

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ABSTRACT

A block chain is a decentralized ledger, which records the transactions between two parties in a secure, verifiable, and immutable manner. The concept of block chain like mechanism was first used in 1979.

Keywords: Block chain, Healthcare.

INTRODUCTION

The blockchain is an undeniably ingenious invention – a brainchild known by the pseudonym, Satoshi Nakamoto, of an individual or group of individuals. But it has developed into something bigger since then, and the primary issue every single person asks is: What is Blockchain?

Block chain technology established the backbone of a new form of internet by enabling digital data to be distributed but not copied. The tech community has now found other potential uses for the technology, originally designed for the digital currency, Bitcoin, (Buy Bitcoin).[1]

Block chain: The Next Horizontal Innovation

- ❖ Since the block chain is Immutable and traceable, patients can easily send records to anyone without the fear of data corruption or tampering.
- ❖ Similarly, a medical record that has been generated and added to the block chain will be completely secure.
- ❖ The patient can have some control over how their medical data gets used and shared by the institutes. Any party, which is looking to get the medical data about a patient, could check with the block chain to get the necessary permission.
- ❖ The patient can also be incentivized to for good behavior via a reward mechanism. E.g.

they can get tokens for following a care plan or for staying healthy. Also, they can be rewarded by tokens for giving their data for clinical trials and research

- ❖ Pharma companies need to have an extremely secure supply chain because of the kind of product they carry. Pharmacy drugs are consistently stolen from the supply chain to be sold illegally to various consumers. Also, counterfeit drugs alone cost these companies, nearly \$200 billion annually. A transparent block chain will help these companies to enable close tracking of drugs to their point of origin and thus help eliminate falsified
- ❖ Various medical institutes around the world conduct their own research and clinical trials on various new drugs and medications. A block chain will help create a single global database to collect all this data and put them in one place.
- ❖ Insurance fraud is a major problem that is affecting the healthcare industry. This happens when dishonest providers and patients submit false claims/information to receive payable benefits. To get an understanding of how serious this problem is, try to wrap your head around this: According to Boyd Insurance, Medicare fraud in the U.S. alone costs about \$68 billion a year.[2]

Out of these use cases, the focus is led on the enhancement of the security and privacy of e- health information, as healthcare is a data-intensive domain where a large amount of data is created, disseminated, stored, and accessed daily. For example, data is created when a patient undergoes some tests (e.g. computerized tomography or computerized axial tomography scans), and the data will need to be disseminated to the radiographer and then a physician. The results of the visit will then be stored at the hospital, which may need to be accessed at a later time by a physician in another hospital within the network.[3]

CONCLUSION

It is clear that technology can play a significant role in enhancing the quality of care for patients (e.g. leveraging data analytics to make informed medical decisions) and potentially reduces costs by more efficiently allocating resources in terms of personnel, equipment, etc. For example, data

captured in paper form is hard to capture in systems (e.g. costly and data entry errors), costly to archive, and being available when needed. These challenges may lead to medical decisions not made with complete information, the need for repeated tests due to missing information or data being stored in a different hospital at a different state or country (at the expenses of increasing costs and inconvenience for the patients), etc. Due to the nature of the industry, ensuring the security, privacy, and integrity of healthcare data is important.

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