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Securing Medical Record Using Blockchain

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Abstract: Patients leave data in random order across different organizations loose simple access to historical data as they lose contact from a developer, as the developer, not the client, often retains first general ship to overcome this problem, they use leveraging block chain technology to create a revolutionary decentralised record management system for emrs to overcome this problem.

Keywords: blockchain, medical record, IPFS, EMRS, secure, cryptography

I. INTRODUCTION

Block-chain tech aids in the better administration of health sector. A system using block-chain record management is required in successful maintenance & exchange of digital hospital records. it is being developed using a prototype of an emr hospital control system using the consent block-chain tech. This arrangement assures the isolation& confidentiality of medical records, as well as their easy accessibility and availability.

Recently, there has been a need for a technology which uses a block-chain. Which is efficient amd safe? An intelligent health tech schema will assure reliable records, warehouse gently records entrance, moreover privacy, clients may get complete control over their medical data, providing client the preference to view and manage their data. They described an electronic medical records system (emrs) in which they will assure guarded records warehouse and records entrance. & further guarantee isolation including subject's complete command regarding their medical information.

II. BACKGROUND INFORMATION

A. Block-chain is a one to one dispended data tech which was been adopted by finance since inception.
B. Block chain is a data-storage technology that makes it difficult to attack or manipulate the system
C. A block-chain distributed warehouse is dominated from high count computers and is importantly an info warehouse which deals with double data throughout the digital computer when deal is cracked on bloc-chain the deal is saved in the warehouse.
D. Block-chain portraits distributive data warehouse tech that deals & captures using crypto pictures sig known as a hash
E. Work can't be deleted with block chain. Straight computation with hash number a single block is not constant, chain will be warned of work deletion or tampering. The work or transaction settlement cannot be reversed with block chain
F. When a patient visits many hospitals, he must keep track of all of his data and keep up with updates, which might lead to situations when critical information is unavailable
G. Due to data inaccessibility, subject takes many tests to assess findings .it often happens when data is kept in diff hospital
H. Healthcare data is sensitive, and managing it is difficult, isolation is not taken seriously in lab practice that gives subject the efficiency to know the policies

III.EASE OF USE

System has two main modules.

A. Doctor
1) Upload a medical document about a certain patient to block chain
2) View a certain patients uploaded document

B. Patient
1) Upload a document to the block chain document is added as a node in ipfs which returns a hash the hash is then stored on the block chain
2) View the uploaded documents
3) Analyze the uploaded documents the text from the document is extracted and renamed entity recognition is performed on the text using biomedical named entity recognition and multi-type normalization
4) Analyze their reports to find keywords related to drugs or diseases
5) Add a trusted doctor to view their medical documents

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IV. OBJECTIVES OF STUDY

The block data shows the info possession and viewership guarantees dealt by fragments of a single one-to-one network.
A smart contract, made possible by block-chain technology, allows us to duplicate and follow specific situations varies as turning viewership events or planning a new report in the practice.
Hospitalized subjects-provider bonds the link with therapeutic studies for data retrieval instructions and viewing rights, which are effectively data pointers for external database execution.

V. NOVELTY/PROBLEM JUSTIFICATION

A. Universal Access
B. Up-to-date records in real time
C. Different Roles and Different dashboard for doctor and patients
D. Better Security
E. Automation through the use of Smart Contracts
F. Healthcare organizations no longer need to store a significant number of records in their database

VI. METHODOLOGY

The block chain is a hash of the record that is encrypted that ensures data integrity by preventing tampering.
Patients can agree to their information being shared with other physicians, and clinicians can give a fresh info to subjects file. This keeps subjects informative & involved with development of the files.
Handle identity confirmation using public-key cryptography and a DNS-like implementation that maps a person's ethereum address to an already existent.

VII. RELATED WORKS

The potential for healthcare data management systems built on top of block chain technology has lately been highlighted.
Yue and colleagues declairsto use block-chain in the development of a primary system. The structure of a primary data gateway petition for smooth and stable control and distribution of therapeutic data between various companies that may reach subjects data as described, however, the method has yet to be deployed or tested. Several writers have examined the possibility of employing block-chain in the health sector in recent years.
Block-chain tech has the capability to add some of the issues with current electronic medical record solutions, as well as add value to the approach method, indirect passage to patients' therapeutic records, & data security.
Different block chain-based tools a therapeutic record supervision system, Asaph Azaril et al have used the block-chain-platform. This mode uses the pow method for consent, which demands plenty of sources for mining, making it a very costly option.
Sofia et al have introduced a block-chain build and smart evidence electronic health record access and sharing method.
TengfeiXue et al suggested a therapeutic information distribution model based on block chain tech & detailed this concept also various elements of the scheme, although this scheme has certain practical issues.
Khezr et al. identified several concerns with the health sector administration method & whereby block chain technology can help to fix them. They discussed popular analysis on shared ledger tech in healthcare, as well as several potential medical use instances where block-chain tech might work a key part in streamlining the process. They also suggested the use of some delivery mechanism

VIII. CONCLUSIONS

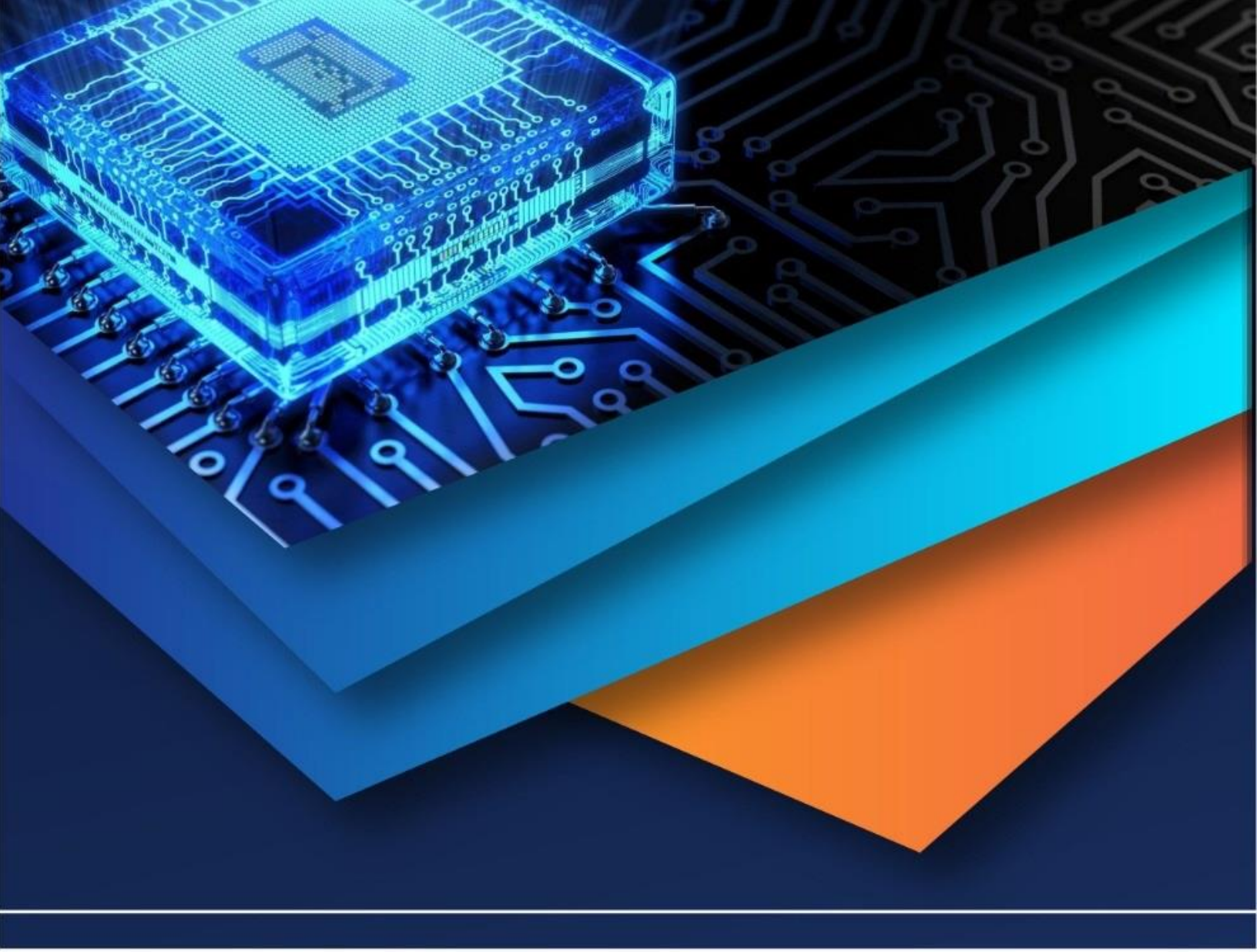
Each application of block-chain tech in the health sector remains calm in its initial planes, and there are significant hurdles and crucial decisions to be made in the future.
Blockchain technology promises that it will allow for efficient information sharing among stakeholders while also preserving data integrity and patient privacy.
The privacy of a patient is protected by allowing him to set nice grained entrance command above his information via agreements.
Agreements are imposed by chain code thought, & as a result, no user can violate them.

REFERENCES

[1] Hyperledger White paper [Internet] Hyperledger Project. [cited 9 March 2017]. Available: https://github.com/hyperledger/
[2] Azaria, A., et al. MedRec: Using Blockchain for Medical Data Access and Permission Management. in 2016 2nd International Conference on Open and Big Data (OBD). 2016.
[3] Li, H., et al., Blockchain-Based Data Preservation System for Medical Data %J J. Med. Syst. 2018. 42(8): p. 1-13.

[4] Alexaki, S., et al. Blockchain-based Electronic Patient Records for Regulated Circular Healthcare Jurisdictions. in 2018 IEEE 23rd International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD). 2018.
[5] T. F. Xue, F.U.Q., C. Wang, and X. Y. Wang,. A Medical Data Sharing Model via Blockchain. inActaAutomaticaSinica. 2017.
[6] Khezr, S.; Moniruzzaman, M.; Yassine, A.; Benlamri, R. Blockchain technology in healthcare: A comprehensive review and directions for future research. Appl. Sci.2019, 9, 1736
[7] Kumar, T.; Ramani, V.; Ahmad, I.; Braeken, A.; Harjula, E.; Ylianttila, M. Blockchain Utilization in Healthcare: Key Requirements and Challenges. In Proceedings of the 2018 IEEE 20th International Conference on e-Health Networking, Applications and Services (Healthcom), Ostrava, Czech Republic, 17–20 September 2018
[8] Daisuke, I.; Kashiyama, M.; Ueno, T. Tamper-resistant mobile health using blockchain technology. JMIR MhealthUhealth 2017

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