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INSTITUTE OF INFORMATION TECHNOLOGY
ADDING VALUE TO ENGINEERING

“Blockchain-Based E-Health Systems”

BY GROUP - 04

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Guide

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Motivation

- We observe in this vision of Blockchain Technology is decentralized cooperation between distributed agents.
- We notice that the decentralized architecture provides the automatic data recovery from different attacks.
- Most of existing system having issues of data management in custom block, we provide in this work effective and secure data management.

Introduction

- Distribution computing is a decentralized computing architecture.
- It is highly suitable for time and location sensitive applications.
- A blockchain system is a virtually incorruptible cryptographic database where critical information could be recorded.
- This study focuses on the applicability of Blockchain technology in healthcare.
- Blockchain might replace conventional methods of keeping track of valuable information.

Objective

- To design approach for health care domain where system store all historical data into block chain manner.
- To create a distributed computing environment hierarchy for parallel data processing for end users applications.
- To develop an algorithm for secure data management in custom blockchain.
- To deploy the proposed system on (n) in P2P network and show the effectiveness of proposed system.

Literature Survey

Sr. No.	Paper Name	Author's contribution	Advantages	Disadvantages
1.	Disrupting governance: The new institutional economics of distributed ledger technology (Davidson et al. 2016)	A case study of Backfeed, an Ethereum-based platform for creating new types of commons-based collaborative economies.	The new governance capabilities that blockchains bring have the potential to offer far greater improvements to total factor productivity and economic welfare .	Economic analysis is at risk of fundamentally misunderstanding the long run consequences of distributed ledger technology.
2.	A comprehensive literature review on the Blockchain as a technological enabler for innovation (Johansen, 2016)	The Blockchain technology to function as a technological enabler for innovation and the required factors for success.	The system improves the understanding of technology.	The system shows that it is crucial to continue to develop the technology, as research indicates that the system has not yet reached the tipping point of technology.

Literature Survey

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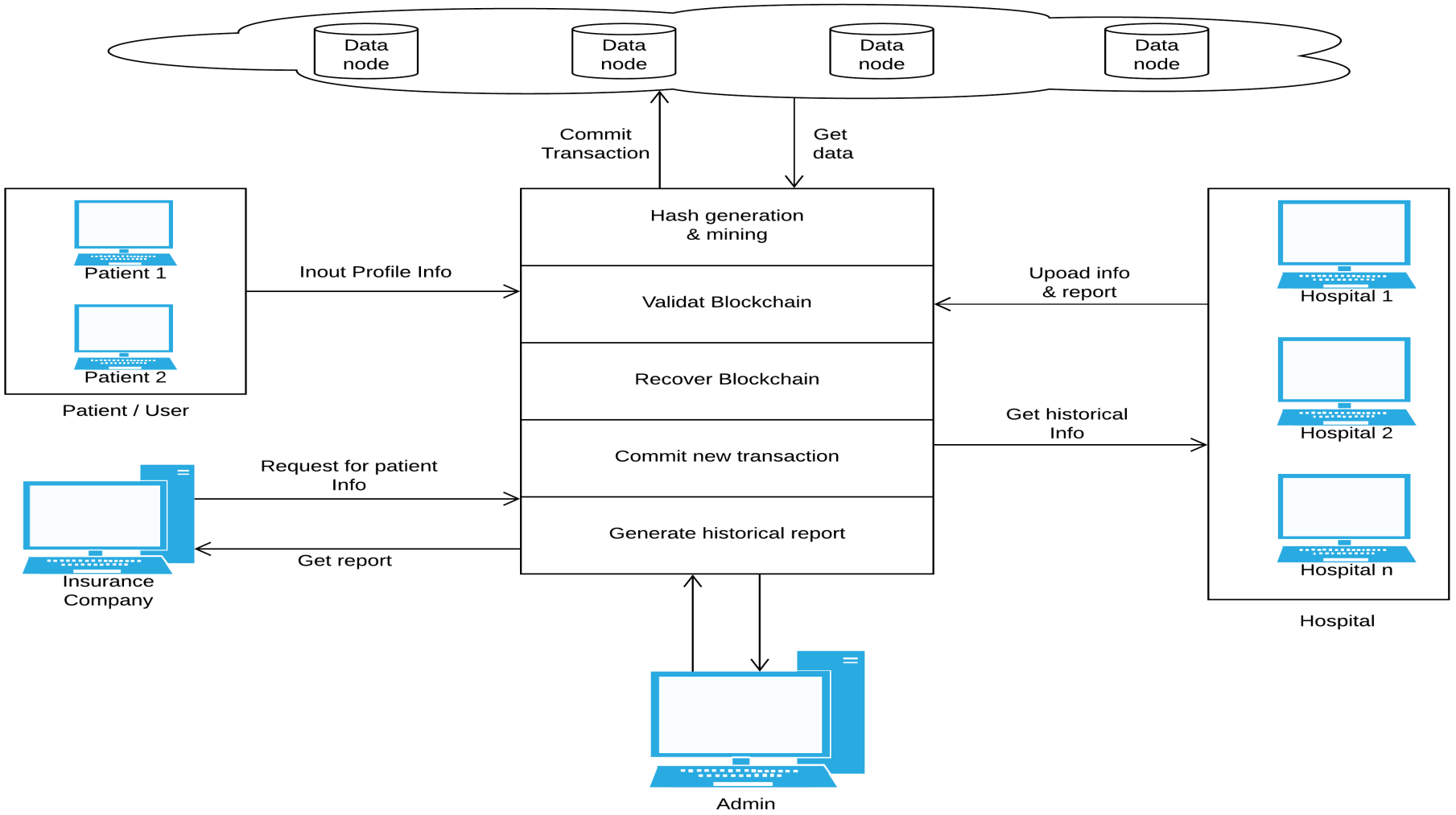
3.	Beyond cryptocurrencies - A taxonomy of decentralized consensus systems (Glaser & Bezzenberger, 2015)	A comprehensive taxonomy of decentralized consensus systems in order to provide a tool for researchers and practitioners.	The system also considers the amount of literature in the region as an important factor in evaluating the maturity of the concepts.	There is still a gap to understand the BT in OI.
4.	Blockchain and Value Systems in the Sharing Economy: The Illustrative Case of Backfeed (Pazaitis et al., 2017)	A conceptual economic model of blockchain-based decentralised cooperation.	The blockchain technology has the potential to enable the creation of commons-oriented ecosystems in a sharing economy.	Regardless of the accuracy of the theoretical model, empirical analysis is always required in order to validate the model.

System Architecture



Hardware and Software Requirement

Software :

- JDK 1.7
- Eclipse Juno
- Mysql 5.1

Hardware :

- Hard Disk 300 GB
- Processor i3 with 2.7 Ghz
- Ram 4 GB

Deliverables

- Improved performance and security as parallel processing.
- Transparent transactions through the use of blockchain technology.
- Authenticity of assets and fraud prevention.
- By streamlining and automating the processes with blockchain, transactions can be completed faster and more efficiently.
- Reduction in costs.

Conclusion

- The central outline of the proposed algorithm is the implementation of health care data storage using block chain.
- System creates the trustworthy communication between multiple parties without using any third party interface.
- We use the Hash generation algorithm and the Hash will be generated for the given string.
- Before executing any transaction, we use peer to peer verification to validate the data.
- If any chain is invalid then it will recover or update the current server blockchain.
- This will validate till the all nodes are verified and commit the query.
- Mining algorithm is used for checking the hash generated for the query till the valid hash is generated.

References (in IEEE format)

[1] Sunit Biswas, Kashif Sharif (2020). Interoperability and Synchronization Management of Blockchain-Based Decentralized e-Health Systems.

[2] Hao Guo, Wanxin Li (2019). Access Control for Electronic Health Records with Hybrid Blockchain-Edge Architecture.

[3] Pazaitis, A., De Filippi, P. and Kostakis, V. (2017). Blockchain and Value Systems in the Sharing Economy: The Illustrative Case of Backfeed. Working Papers in Technology Governance and Economic Dynamics.

[4] Davidson, S., De Filippi, P., & Potts, J. (2016). Disrupting Governance: New Institutional Economics of Distributed Ledger Technology.

[5] Glaser, F., & Bezzenberger, L. (2015). Beyond Cryptocurrencies - A Taxonomy of Decentralized Consensus Systems. In European Conference on Information Systems.