

# Insurance Claiming Using Blockchain

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**Abstract:-** A type of insurance called medical insurance covers all or a portion of the risk associated with a person needing medical care. An insurer can create a regular financial structure, such as a monthly premium or payroll tax, to provide the funds to pay for the medical benefits provided in the insurance agreement by assessing the overall risk of health risk and health system expenses over the risk pool. Blockchain, which is most commonly described as a shared, immutable ledger, has the potential to reinvent these procedures as well as many others. Blockchain technology has applications well beyond bitcoin. Medical insurance claims or medi-claims must be made in urgent or catastrophic instances where medical crises occur. It can be inconvenient during such emergency situations and takes a lot of time to get the insurance claimed. In order for the medi-claim to be approved, patient's family members must chase after banks and insurance providers. The suggested system functions like a blessing in these circumstances. The proposed system ensures that the likelihood of fraud is extremely low while simultaneously speeding up the insurance claim procedure. Blockchain technology offers operational, regulatory, increased visibility, and traceability verification efficiencies. This technology also functions as a strong database that may be coupled with big data with ease. Blockchain technology can reduce costs and boost the competitiveness of numerous services.

**Keywords:-** Hash-cash, Blockchain, Mining, Distributed Ledger Technology(DLT), Block, Decentralized.

## I. INTRODUCTION

Blockchain is a distributed ledger technology (DLT) that utilises decentralisation and cryptographic hashing to make any digital asset's history unchangeable and transparent. In essence, it is a distributed, decentralised digital ledger with data known as blocks. A digital asset's origin is tracked by the distributed ledger. Each block contains a cryptographic hash of the one before it, linking the two. A chain is created by the joined blocks.

Medical insurance is one of the most significant and popular categories of insurance. It is claimed when someone is facing a medical emergency and already has a health insurance policy with a particular Insurance company. This claim of policy is done by the patient usually. The patient or the kin of the patient is expected to apply for a claim, to the insurance company in which they already have a policy. After the application for the insurance to the company, a group of doctors are

assigned to the patient's file and these doctors then investigate whether the claim is legitimate or no and these doctors and insurance company employees also look up for other details like the injury type, injury reason, etc and on these basis of the details the doctors again check with the hospital that is their a patient present with the hospital who wants to process insurance.

Ethereum is a blockchain that Vitalik Buterin created in 2014. Ethereum also stores programming logic in contrast to the Bitcoin blockchain, which manages accounts and transactions. Any Turing-complete script can be executed on Ethereum for a fee. Decentralized apps are therefore made possible, with no risk of outage, censorship, or outside interference[2,9]. Szabo [8] initially described smart contracts in 1994. These are autonomously operating, self-executing contracts. Smart contracts can be created in Ethereum using Solidity. Within Ethereum virtual machines, several nodes execute contracts (EVM). Nodes are required to come to an agreement on the estimated outcome after a contract has been executed. The patient's information will be stored on the block after the hospital uploads or updates it, and nobody will be able to change it. A transaction sent to the contract address executes a smart contract after it has been published. There are two ways to implement this. Managing the transaction at the backend is the first method. The private and public keys for the key pair will be produced in the backend. The backend is also where transactions are signed. The other method is to create and generate keys using an app like metamask. The first method has the disadvantage that the keys are kept on the backend, which functions as a central database that can be attacked.

Key generation and transaction support are both possible with Metamask. The blockchain also stores patient information in addition to Metamask, which can raise storage costs. A distributed file-system, such the InterPlanetary File System (IPFS), can be utilised to lower this cost. Each item on IPFS can be identified by a hash and retrieved by a URL. The blockchain can hold the hash that was obtained through IPFS, which lowers the cost of storage.

## II. LITERATURE REVIEW

- CioSy: A Collaborative Blockchain- Based Insurance System, Faiza Loukil, Khoulood B, Rasheed H & Mourad Abed. CioSy aims at executing & monitoring insurance policies using blockchain technology.
- Health Care Insurance Fraud Detection Using Blockchain, Gokay Saldamli, Vamshi Reddy, Krishna

- S Bojja, Manjunatha K, Yashaswi D & Loai T. The need to build a system that removes middlemen & make use of technology to store & trace the data with the help of Blockchain Technology.
- Blockchain Technology for Fraudulent Practices in Insurance Claim Process, Dr. Jaideep G, Anitha Rani P, Dr. Venkata R & Tenali Anusha. To give a solution using Blockchain' s Smart Contracts ( one of the Blockchain features) .
  - A Secure AI- Driven Architecture for Automated Insurance Systems: Fraud Detection and Risk Measurement, Najmeddine Dhieb Hakim. Ghazzai, Hichem B & Yeah M. Blockchain based Framework - using XGBoost machine learning algorithm
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  - BlockCIS- A Blockchain based Cyber Insurance System, Gabriela C, Karim Eldefrawy & Tancredè Leopont. BlockCIS, a blockchain based continuous monitoring and processing system for cyber insurance.
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### III. CONCLUSION

Blockchain Technology provides verification efficiencies, including operational, regulatory, enhanced visibility and traceability. This paper studied the existing problem which involves central authorities acting as operators. This paper presents a decentralized approach which avoids central authorities by using blockchain technology, enabling hospitals to update and retrieve unmodified patient details. This paper also highlights some of the implementation challenges encountered undergoing our approach on the public Ethereum blockchain and discusses possible alternatives. This technology is also a powerful database that could easily be combined with big data. Blockchain solutions can help cut costs and make many services more competitive.

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