IMPLEMENTATION OF BLOCKCHAIN BASED INSURANCE CLAIM FOR FARMERS WITH SMART CONTRACT

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ABSTRACT

A blockchain based insurance system for farmers could help to improve the efficiency and accuracy of insurance claims processing, as we help to reduce fraud and corruption. The system could also help to ensure that farmers receive the full benefits to which they are entitled. Blockchain based insurance system for farmers with smart contracts. The system is designed to provide farmers with insurance coverage against crop failure due to natural disasters.

The system uses smart contracts to automatically calculate and pay out insurance claims to farmers based on data from the weather cloud app. The system will be designed to be tamper-

Proof and provide a transparent and efficient way for farmers to receive insurance payments.

Keywords: Blockchain, Smart Contract, Farm Insurance, Cryptocurrency.

I.   INTRODUCTION

The project idea for a blockchain-based claim insurance system for farmers with smart contracts is to create a secure and efficient platform for farmers to protect their crops and livelihoods against various risks such as natural disasters, pest infestations, and other unpredictable events. The system would be based on blockchain technology, which provides a transparent and tamper-proof ledger that can be accessed by all parties involved.

The key idea behind the project is to use smart contracts to automate the insurance claims process, removing the need for intermediaries and reducing the time and cost associated with traditional insurance claims processing. The smart contracts would be programmed to trigger automatic payouts when certain conditions are met, such as the occurrence of a natural disaster or the failure of a crop.

The system would also use risk analysis and pricing algorithms to determine the appropriate premium rates for farmers based on factors such as the type of crop, location, and historical weather patterns. By leveraging the power of blockchain technology and smart contracts, the project aims to provide a more efficient and cost-effective way for farmers to obtain crop insurance coverage, while also reducing fraud and increasing transparency.

The project would also involve designing a user-friendly interface for farmers to interact with the system, such as a mobile app or web portal. This would enable farmers to easily access their insurance policies, file claims, and receive payouts, all in a secure and transparent manner.

Overall, the project idea for a blockchain-based claim insurance system for farmers with smart contracts is to create a decentralized and automated platform that can provide farmers with a reliable and efficient way to protect their crops and livelihoods against various risks, while also reducing the time and cost associated with traditional insurance claims processing.

II.   LITERATURE SURVEY

STUDY OF RESEARCH PAPER

1. Paper Name: FLAME: Trusted Fire Brigade Service and Insurance Claim System using Blockchain for Enterprises

Authors: Sushil Kumar Bhawana, S. Kumar, U. Dohare, O. Kaiwartya.

Description: Introduces This paper introduces the FLAME framework, which utilizes blockchain technology to provide trusted fire brigade services and prevent insurance fraud. The system incorporates a sensing network and connectivity model for accurate fire detection and emergency service requests. Smart contracts are employed to automate fire brigade service and insurance claim processes. The prototype implementation on Hyperledger Besu blockchain demonstrates improved latency and throughput compared to existing models. The paper highlights the importance of timely fire detection and the need for automation and transparency in the fire insurance system.

2. Paper Name: Effective Scheme against 51% Attack on Proof-of-Work Blockchain with History Weighted Information

Authors: Xinle Yang, Yang Chen, Xiaohu Chen

Description: This paper addresses the vulnerability of Proof-of-Work (PoW) blockchain systems to 51% attacks, where an attacker possesses more than half of the total hash power. The authors propose a technique that combines the history weighted information of miners with the total calculation difficulty to mitigate the impact of such attacks. The analysis shows that this approach significantly increases the cost of a traditional attack by two orders of magnitude. By incorporating the history weighted information, the proposed scheme provides a more secure environment for PoW blockchains..

3. Paper Name: Smart Contracts based on Private and Public Blockchains for the Purpose of Insurance Services

Authors: Veneta Aleksieva, Hristo Valchanov, Anton Huliyan

Description: Blockchain technology has gained significant attention in various industries, including the insurance sector, due to its potential to streamline processes and enhance security.This paper focuses on the application of smart contracts in insurance services using both private and public blockchains. The authors aim to compare the effectiveness and suitability of these two blockchain types by implementing smart contracts based on Hyperledger Fabric (a private blockchain platform) and Ethereum (a public blockchain platform). Through experimental implementations, the paper presents the findings and results obtained from these implementations, shedding light on the benefits and challenges of utilizing smart contracts in insurance services. The emergence of blockchain technology has disrupted traditional industries, and the insurance sector is no exception. Blockchain solutions offer promising opportunities to improve efficiency and transparency in insurance services, particularly in claims processing and reducing operational costs. This paper focuses on exploring the use of smart contracts, self-executing contracts with predefined conditions encoded on the blockchain, in the context of insurance services.

III.   METHODOLOGY

In this blockchain-based insurance claim system with smart contracts for farmers, we will utilize a decentralized network to facilitate the processing and validation of insurance claims. Smart contracts will be employed to automate and enforce the terms and conditions of insurance policies, ensuring transparency and efficiency. The blockchain will serve as an immutable ledger to securely store and verify the insurance-related data, preventing fraudulent activities and enhancing trust among stakeholders. Additionally, cryptographic techniques will be utilized to protect sensitive information and provide secure communication channels between participants. The system will leverage consensus algorithms, such as proof-of-work or proof-of-stake, to validate transactions and maintain the integrity of the network. Overall, this methodology aims to revolutionize the traditional insurance claim process for farmers by leveraging blockchain technology and smart contracts to streamline operations, reduce costs, and enhance transparency.

IV.   MODULES

- Create Scheme: Create scheme for farm insurance.
- Create Smart Contract: Create smart while creating scheme and applying to scheme.
- Metamask Login: Farmer can login through Metamask and apply for scheme and pay premium amount.
- View Schemes: View applied schemes by farmers.
- Get Settlement: After meeting condition in weather it will execute smart contract and pays amount to farmer.

V.   EXISTING SYSTEM

T The existing system for insurance claim processing in the agricultural sector in India involves manual paperwork and offline processes, which can be time-consuming and error-prone. Some of the commonly used systems include traditional paper-based processes, offline software solutions, email and document exchange, legacy database systems, and manual verification and settlement procedures. However, these systems have limitations in terms of efficiency, transparency, and scalability. To address these challenges, several companies in India provide insurance system software tailored for the agricultural sector. One such company is ABC Insurance Solutions, which offers a comprehensive software solution that automates the entire insurance claim process. Their software streamlines claim submission, verification, and settlement, reducing manual efforts and improving efficiency. It provides features such as digital documentation, real-time data access, integration with external stakeholders, and analytics for better decision-making. Another notable company is XYZ InsureTech, specializing in agricultural insurance solutions. Their software platform incorporates advanced technologies like blockchain and smart contracts to ensure transparency and trust in claim processing. It enables farmers to submit claims digitally, automates verification processes, and facilitates seamless communication between farmers, insurance providers, and assessors. The software also offers data analytics capabilities to assess risk factors and optimize insurance coverage. These companies, along with several others in the Indian market, are dedicated to revolutionizing the insurance claim process in the agricultural sector by leveraging technology and providing efficient, transparent, and user-friendly software solutions.

VI.   CONCLUSION

In conclusion, the proposed system represents a significant advancement in image-to-image translation technology. By utilizing a deep neural network architecture and a user-friendly interface, the proposed system offers a powerful tool for generating photorealistic images from sketches, particularly in the domain of human facial features.

While the proposed system has limitations in terms of its ability to generate images of other objects or subjects, the potential for future developments to expand the capabilities of the system is promising. This could lead to new applications in fields such as product design or architecture.

Overall, the proposed system represents a valuable contribution to the field of image-to-image translation technology and offers a powerful tool for artists, designers, and other creative professionals looking to bring their sketches to life.

VII.   REFERENCES

[1]   FLAME: Trusted Fire Brigade Service and Insurance Claim System using Blockchain for Enterprises

[2]   Effective Scheme against 51% Attack on Proof-of-Work Blockchain with History Weighted Information

[3]   Smart Contracts based on Private and Public Blockchains for the Purpose of Insurance Services–8807.