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Survey on Land Registration System Using Blockchain Technology

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Abstract: *Blockchain technology enables programmers to check, save, the contents of a data sheet (a transaction ledger) distance(a sale tally) by multiple users. Blockchain technology gives us considerable benefits and impulses to diligence in terms of enabling better services. Land administration systems are of great significance for a large number of stakeholders. The result is presented in a form of a smart contract which is written in Solidity programming language that can cover indeed those more specific use cases in land administration systems similar as sharing of ownership, transferring part of ownership, splitting or coupling of real estate, and limiting the possibility of trading a real estate. The results of this review study aim to support professionals, interpreters, and stakeholders who wish to implement and manage metamorphosis systems related to blockchain in their sectors. Also, helping these possible blockchain handlers to understand the implied factors associated with blockchain would be useful for the decision-making processes of their associations.*

Keywords: Blockchain, Solidity, Security, Consensus, Decentralized, Distributed, BCT

I. INTRODUCTION

Blockchain is an arising platform for developing decentralized operations and data storehouse among the participated parties with all recorded sale that have been executed through- out the process. Each and every sale in the public ledger is verified with the help of consensus protocols involving maturity of the users of the system. Now a days the number of security attacks on online are adding. Also, new styles of attacks are evolving with contending to the developing security measures and norms. Indeed, though there are advanced risks, the digitization is impregnable. Ensuring security plays the major part in the government processes like land enrolments. This problem can be answered by applying Blockchain technology. Blockchain represents a DLT that stores deals in a chain of blocks. Blocks are added in chronological order in a way that makes it largely questionable that they can be tampered with and forged. To achieve this, blockchain relies on cryptographic hash, asymmetric cryptography, and distributed consensus mechanism. The main benefits of BCT are effectiveness, security, adaptability, and translucency. The fact that it is possible to fluently track and manage complex data logs makes blockchain technology (BCT) efficient.Shachi Mall et al. [8], N. Shelke et. al. [10] and S. L. Bangare et. al. [11-13], V. Durga Prasad Jasti et. al. [23] have shown different methods for classification.

II. METHODOLOGY

Step 1: Person registers to the platform

Person who either want to sell or buy land register to the blockchain land registry platform.

They can produce the profile on the platform with details like name, government-issued ID proofs and locations. A hash for the identity information submitted by the users gets stored on the blockchain.

Step 2: Sellers upload the property specifications on the platform

Sellers can upload lands images and documents on the platform and shares the land's location on the map. The transaction corresponding to the seller's action of listing the property details is recorded on the blockchain.

Once the property's details are uploaded to the platform, it is made available to all buyers who have signed up as a buyer.

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Step 3: Buyers request access to the listed property

A buyer interested in any specific land can send a request to access its specification to the land's owner.

owner receive notification for property access requests. They can either deny or accept it by looking at the buyer's profile.

Buyers can view the previous ownership records of the property and send a request to purchase it and initiate the transfer.

Transactions corresponding to the requests made by both sellers and buyers are recorded on the blockchain to ensure authenticity and traceability.

Step 4: Sellers approve the transfer request

If the seller approves the land ownership transfer request Smart contracts trigger to provide land documents' access to the buyer.

After the buyer verifies the documents, the meeting is schedule for ownership transfer with buyer and seller.

The meeting record is also added to the blockchain to solve property related disputes if occur in the future.

Step 5: Land Inspector verifies the transaction and initiates the transfer

Buyer verifies the documents submitted by sellers and adds the authenticated records to the **blockchain land registry** platform.

Sellers and buyers sign the property ownership transfer document on the land registry platform.

The signed document gets saved in the database and transaction corresponding to it is recorded on the blockchain.

The transfer is initiated and smart contracts trigger to send funds to the seller and title's ownership to a new buyer.

Step 6: Land Registry Document Validation and Authenticity

In case of any disputes, any authorized party can upload the signed land registry document on the platform to check its authenticity and validate it.

If hash generated after uploading the document is the same as that of the hash created at the time of signing the document, then the document is authenticated and no modifications have been made to the document.

III. CONCLUSION

The results of this review study also aim to support professionals, practitioners, and stakeholders who wish to implement and manage transformation projects related to blockchain in their sectors.Their search aim stops in point the gaps related to subject domains and provide future research directions for the use of blockchain in different sectors Apart from proposing BCT for solving problems of double spending an data tampering, a smart contract for reducing the time needed for registering transactions is presented. It is a distributed ledger that is open to anyone and once data is put into it, it is very difficult to change or meddle with it. Using this property of blockchain we want to put it to use into one of the most fraudulent systems in India, the Land Registration System. Blockchain technology made this system secure and faster.

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