

Blockchain in Real Estate

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Abstract

The land transactions that happens around us is a long process which may even take months to complete. Not only it may take time it may also cost extra charges for intermediate people and also for the transaction. Not only it may consume time and money it may also include fraud activities.

Blockchain, an emerging technology may provide a solution for this problem. Using blockchain, land or property transactions can be made more easier and secure. Transactions can be done within no due of time and the unwanted cost and people can be limited. The blockchain may prevent fraud activities included in a real estate or land transactions.

Keywords: Blockchain, smart contract, land transaction, real estate

I. INTRODUCTION

Land transactions in a real estate business is a long process which may take long time even months for the change of ownership from one person to other or from seller to buyer; even in the new world of technology. Not only the time but also it may cause unwanted cost for the land transaction.

In the present world, in the property transaction or in a real estate, it may include third parties like broker, document writer etc other than buyer and seller. A buyer and seller has to depend on a third party for their land transactions. Involvement of a third party in a transaction may cost extra charges. And the buyer and seller are forced to trust in that third party no matter what.

Even though we may get a faithful third party, there is no guarantee that there had not involved any fraud activities in the land transaction. Real estate or property transaction is an area where many fraud activities are involved. Many fraud activities were reported in the past and still it is continuing on.

The main fraud activity that is involved in this field is double spending. The seller can sign multiple agreements of sale on

the same piece of property with multiple buyers with the help of multiple third parties (In most cases the third party will be a victim).

The blockchain as the name indicates, is a chain of blocks which may contain list of growing records [4]. The block and chain are information and public databases respectively. The blockchain is a technology where we store information in a public database. The blockchain is a decentralized technology.

At first blockchain was created for bitcoins. But now it is being used with different technologies and in different fields.

By using the blockchain we can solve the problems that are faced in a property transactions or in real estates.

The blockchain may store all the transaction that had done using it and they cannot be tampered. A blockchain may reduce unwanted costs, intermediates involved in a transaction. The contracts involved in a transaction will be written by the smart contracts.

II. BLOCKCHAIN ON REAL ESTATE

Property or land transaction can be done by using blockchain. While using blockchain we can make our property transactions more secure and faster.

As for now we can develop a private blockchain for land transaction. The persons or people who are interested in land transaction using blockchain have to join or register the blockchain for land transactions.

A registered user can only buy or sell property by using blockchain. The smart contracts of blockchain will help in the process of land transaction. Once the buyer and seller agree on terms and conditions (details about land) and the buyer wants to proceed the transaction then with the help of smart contract the land can be transacted.

A smart contract is a computer program which will be executed automatically when the pre-determined conditions are met. So when a transaction between buyer and buyee happens a contract between them will be generated by smart

contract. This generated smart contract can be used as a proof of transaction [2].

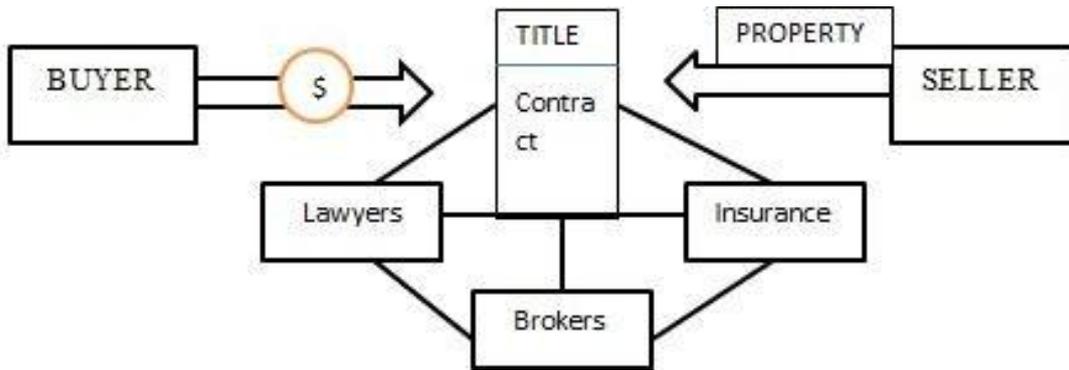


Fig. 1. Land transaction without blockchain.

The money that have to be transacted to the seller can also done through blockchain. And it can be given directly to seller without the help of any third party like bank or broker.

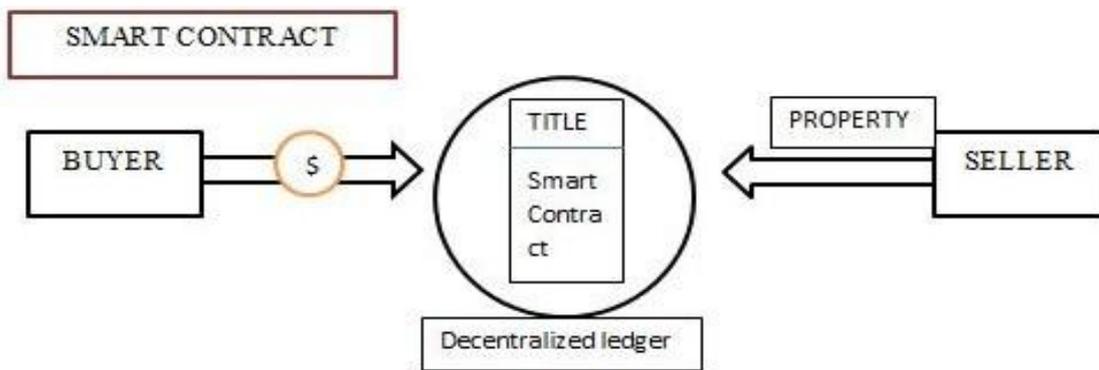


Fig. 2. Land transaction using blockchain.

Not only we can sell or buy property, but also we can use this technology to rent out the properties that we own. The tenant and landlord could digitally sign a smart contract on the terms and conditions. The terms and conditions may include rental fees, duration of lease, and frequency of payments along with details of each party [3]. Based on the terms and conditions they had agreed, the smart contracts will automatically generate contract between the landlord and the tenant. And the smart contracts can automatically initiate lease payments from tenant to landlord; and also the security deposit to tenant once when the agreement terminate.

A. Smart Contract

A smart contract is a computer program with a set of codes. The smart contracts are self-executing and self-verifying. The contracts that are written using smart contracts are tamper-resistant. The smart contracts will be automatically generated when pre determined conditions are met. The smart contracts are irreversible and traceable. All the details or information

related to a transaction will be included in a smart contract and the details will be maintained [2].

The smart contracts will eliminate the involvement of third party in a transaction like a document writer. It will also reduce the transaction cost [2].

III ADVANTAGES OF USING BLOCKCHAIN IN REAL ESTATE

Trust and Transparency - Blockchain offers an unquestionable and censorship-resistant for sharing data. It provides databases that can be shared and also a tamper resistant one.

Efficient transactions - Transactions can be done within no due of time and also without extra cost.

Use of intermediates - Blockchain may limits the use or involvement of third parties or intermediates. And hence extra costs and fraud activities can be limited or avoided.

IV CONCLUSION

This paper had focused on how blockchain can be used for the transaction of land and properties. How it benefits the real estate field and the advantages of using blockchain.

V FUTURE SCOPE

Land transactions using blockchain can be done in a public blockchain where any citizen is allowed to view the data stored in the blockchain without tampering it . And also we can use the blockchain to do land transactions across countries. And it can be made into a level, where we can do our land transactions like our online shopping.

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