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Blockchain in Real Estate

Nishtha Kapoor | Akshay Jain | Abdul Faheem | Ajeet

Department of Information Technology, Dr. Akhilesh Das Gupta Institute of Technology and Management

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ABSTRACT

Technology has affected every part of our lives and that also includes our day to day activities. Terms like blockchain and cryptocurrency are more popular than ever. People try to learn more and more about technologies that are trending and emerging. This project is aimed at implementing an ethereum based web application by implementing smart contracts to assist users in selling and buying real estate and provide a more personal experience. This includes frontend and the smart contract's logic. This application aims at making real estate as a non-fungible token and deducting amount from users account automatically once the requirements that are already defined by the smart contracts are met.

Keywords— Blockchain, ethereum, smart contracts, solidity

1. INTRODUCTION

In these desperate times that we are living in we very well know nothing is certain, only things that you can count on are things that belong to you and your choices. The choices that you made as an adult in the form of investment. But, in these trying times one thing that is understood is you can not be present in person for every task that you want to do, and coming out the desperate corona times we have proved that most of the things that you can imagine and beyond can be done in online mode without your actual presence.

Our application is made keeping in mind what are the things necessary in any real estate purchase transaction and ruling out any source that asks for extra amount. Only amount that is charged extra, apart from the real estate actual cost is gas money that every ether transaction requires to complete.

Blockchain application has increased hugely in the last ten years, it's hard to find a section that has not been influenced by the technology. Cryptocurrencies have made a strong effect on payments, and foreign exchange. Initial coin exchange(ICOs) have challenged stock investing, startup loans, and (money to small business). Even the food supply chain industry has been turned upside down by blockchain.

Real estate hasn't escaped blockchain disruption either, transacting high value things such as real estate only through digital channels has never been the normal way of things. Real estate transactions are often managed and done offline involving face-to-face engagements with different things/businesses. Blockchain, however, opened up ways to change this. The introduction of smart contracts in blockchain (raised, flat supporting surfaces) now allows valuable things like real estate to be symbolized and be traded like cryptocurrencies like bitcoin and (pain-killing gas/high in the sky).

With the help of knowledge explained above, we have tried putting into use, a simple use that symbolicises real estate and makes its (instance of buying something for money) and sell easy.

Blockchain technology has impacted the real estate industry in a variety of ways, including offering a new means for buyers and sellers to connect with one another.

Blockchain could be used to cut out of the real estate transaction process, in that way reducing costs.

This technology could also help to the practice of fractional ownership of real estate.

With the help of knowledge explained above, we have tried implementing a simple application that tokenises real estate and makes its purchase and sell easy.

- Blockchain technology has impacted the real estate industry in a variety of ways, including offering a new means for buyers and sellers to connect with one another.
- Blockchain could be used to cut intermediaries out of the real estate transaction process, thereby reducing costs.
- This technology could also help to codify the practice of fractional ownership of real estate.

The rest of this paper is organized as follows. Section II explains technologies used. Section III summarizes the key points kept in mind while making this dynamic application. Section IV gives the gains while tokenising real estate. Section V explains the future goals. Section VI discusses the various advantages and disadvantages of using blockchain in real estate. Section VII concludes the paper.

2. TECHNOLOGIES USED/FLOW OF PROJECT

Our app is basically a web app which is used for transaction of real estate tokens. As explained above, real estate is converted into non-fungible tokens and as soon as the requirements explained in the smart contracts are met, automatically the pre-decided amount ,including the gas money, is deducted and the property is transferred from one party to another. It has the following two parts-
Frontend and smart contract.

FRONTEND

The frontend is made in react. React is a JavaScript library for building user interfaces. React is used to build single-page applications. React allows us to create reusable UI components.

Smart Contracts

Smart contracts are simply programs stored on a blockchain that run when predetermined conditions are met. They typically are used to automate the execution of an agreement so that all participants can be immediately certain of the outcome, without any intermediary's involvement or time loss. They can also automate a workflow, triggering the next action when conditions are met.

GRAPHIC USER INTERFACE(GUI)

To create a graphical user interface, we used react, the famous frontend javascript library.

3. KEY POINTS

1. Platforms and Marketplaces

Real estate technology has usually/(in the past) been mostly concerned with listings and with connecting buyers and sellers. However, blockchain introduces new ways to trade real estate and can enable trading and online (places where people buy things) to support real estate transactions more complete and thoroughly. For example, Atlant has developed a (raised, flat supporting surface) that uses blockchain technology to help real estate and rental property transactions. By symbol/symbolizing real property, valuable things can then be traded much like stocks on an exchange and transactions can be done online.

2. No Intermediaries

People (who buy and sell for someone else), lawyers, and banks have long been part of the real estate community. However, blockchain may soon bring in a change in their roles and participation in real estate transactions, according to a report by Deloitte. New properties can eventually assume functions such as listings, payments, and legal (paperwork that proves or supports something). Cutting out the (people who get between two arguing parties to help them agree) will result in buyers and sellers getting more out of their

money as they save on commissions and fees charged by these (people who get between two arguing parties to help them agree). This also makes the process much quicker as the back-and-forth between these (people or businesses who buy goods to sell to stores, not you) gets cut.

3. Liquidity

Real estate has long been believed as something of value that since it takes time for sales to end. This isn't the case with cryptocurrencies and symbols since they can, in your mind (but maybe not in real life), be easily traded for fiat types of money through exchanges. However, as symbols, real estate can be easily traded. A seller doesn't have to wait for a buyer who can afford the whole property in order to get some value out of their property.

4. Fractional Ownership

By allowing fractional ownership, blockchain also lowers the real estate investing. Usually, investments would require significant money deposit in order to buy property. In a different way, (people or businesses who give money to help start businesses) could also combine their money to buy bigger ticket properties. Through blockchain, (people or businesses who give money to help start businesses) would simply have to access a trading app to buy and sell even fractions of symbols as they see fit. Also, fractional ownership would also help them avoid managing the properties themselves such as maintenance and leasing.

Upkeep alone can add up to significant costs and dealing with renters may be a troublesome effort. This also affects related activities such as lending where property owners often have to put their properties for loans in order to get quick access to cash. Depending on the terms, property owners may also continue enjoying use of their property.

5. Decentralization

Blockchain commands trust and security as a decentralized technology. Information stored in the blockchain is accessible to all peers on the network, making data transparent and immutable. One only has to go back to the housing bubble crash in 2008 to see how greed and the lack of transparency in the part of institutions can have catastrophic consequences. A decentralized exchange has trust built into the system. Since information can be verifiable to peers, buyers and sellers can have more confidence in conducting transactions. Fraud attempts would also be lessened. Smart contracts are increasingly becoming admissible records with Vermont and Arizona passing such legislation. As such, smart contracts would have more enforceability beyond the technology itself.

6. Costs

The transparency associated with a decentralized network can also trim down costs associated with real estate transactions. Beyond the savings made by cutting out intermediaries' professional fees and commissions, there are other costs such as inspections costs, registration fees, loan fees, and taxes associated with real estate. These costs even vary depending on the territory that has jurisdiction. Like intermediaries, these can be reduced or even eliminated from the equation as platforms automate these processes and make them part of the system.

Global real estate is worth hundreds of trillions of dollars, but is dominated by the wealthy and large corporations. Through blockchain technology, it is possible that more people will be able to access the market where transactions can be made more transparent, secure, and equitable. Real estate transactions may eventually become truly peer-to-peer activities with blockchain-powered platforms doing most of the work.

4. GAINS

- Digitized and automated processes
- Immediate trading and liquidity (premium: 20-30%)
- Ability to fractionalize/democratize

– reduced ticket size

– increased diversification

- Access to new types of investors
- Access to new global infrastructure of investors and secondary liquidity

• Programmable tokenized shares for automation of cross-border transfers,
lock-up periods, dividend payment, etc.
• Smart "functions": custody, DeFi lending, atomic transfer, etc.
• Increased security by removal of human errors
• Transparency and traceability

5. Future Aspect

Blockchain in real estate has a lot laid out for its future days than stated.
Below are some of it discussed:

1. VIEW STATUS OF PROPERTIES- This is an interesting feature that can be added to this web app so that instead of just using it for transferring cryptocurrency for just one account, one can watch how many properties are available and what is actual cost going on.

2. CAN BE INTEGRATED WITH OTHER APPS: It can be integrated with other apps like discord or facebook as a separate participant and people can chat about properties and make buying and selling of property easier.

6. ADVANTAGES AND DISADVANTAGES

The pros of using cryptocurrency for real estate include:

- Efficiency as cryptocurrency transactions typically occurs within minutes.
- Greater privacy – bitcoin wallets allow for superior privacy when buying property.
- Liquidity in property investing.
- Avoiding tax on property rights transference.
- Reducing real estate transaction costs.
- Transferring crypto-wealth to tangible assets.

The cons of using cryptocurrency for real estate include:

- Market/value volatility.
- Unexperienced real estate entrepreneurs entering the market.
- No tangible collateral or downside protection (until converted into hard assets).
- Risks of new regulation impacts.

7. Conclusion

Our web based application aims at transforming your real estate property into a non-fungible token and hence, making it's transaction easier and safer without any hassle. It also aims at reducing or ruling out any extra cost that any third party may require in offline selling of property, in turn ruling out the involvement of any third party, making only the two parties aware of the transaction who are involved in the transaction.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

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