

BLOCKCHAIN TECHNOLOGY FOR PROPERTY REGISTRATION: A GAME-CHANGER IN THE REAL ESTATE INDUSTRY

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ABSTRACT:-

The property record system is an integral part of the bureaucracy since it keeps track of ownership documentation. There are a lot of holes and flaws in the current system, which makes it ripe for graft and strife. To meet these issues, the government must commit large resources, especially from the judicial and police sectors. Blockchain technology presents an opportunity to fix these gaps and address other issues with current property notation methods. The project's goal was to create a trustworthy system for storing national history data using blockchain technology. The framework proposed defines pertinent requirements for past agreements and incorporates logical contractual concepts at each stage of written agreements. Α blockchain is a distributed digital ledger kept by a group of users who have come to an agreement through some form of consensus protocol. Digital records, events, and transactions can all be tracked by a blockchain. which is a distributed ledger. The goal of this work is to create a blockchain-compatible model for property administration and a registration system for real estate that will be secure and reliable. Current methods of property registration and management would benefit from this revision since they would be Countries as diverse as brought up to date. those in Africa, Estonia, Georgia, and Central America have all recently begun using blockchain technology to run their land records and related government services. Despite its infancy, we have a firm grasp on the

opportunities and difficulties that lie ahead. Problems in registering contested titles and a lack of general familiarity with blockchain technology add to the difficulties faced by any nation.

Keywords: Property registration, blockchain, ethereum, smart contract, sellers, buyers.

1. INTRODUCTION:

To keep track of who owns which pieces of real estate, several jurisdictions use a property registry. This method of record-keeping can also be used to verify the primary real estate claims of various government agencies. But the existing system being applied at the local level is fraught with shortcomings and obstacles that might lead to corruption and bloodshed. We frequently resort to inefficient use of blockchain technology to overcome these problems. The inherent faults within the property registration system are exposed by the deployment of blockchain technology to close these gaps. Problems arise when records are altered or when a single buyer purchases many properties that are almost identical. When referring to government claims on private property, the term "property registration system" is used. Accurate records must be kept verify claims, discourage in order to dishonesty, and ensure a seamless handoff if ever required. The entries in the most recent property register make it difficult to check property titles, which may or may not lead to the detection of fraud. Planet bank conducted a poll that found that seventy people are caring for folks without property rights. Individuals' social and economic security depend on their ability to use their property rights. Α trustworthy and up-to-date property registry aids governments in collecting data, providing services, and making policy decisions. Planet Bank is heavily involved in this sector, what with their support for growing property registry systems in a number of nations and their conference promotion of property registry modernisation. Reliable, secure, and tamperproof digital property registration systems are a priority for many government agencies. There are many different parties involved in the system design process. These groups are struggling with a variety of issues and are looking to periodic assessments as a means to achieve progressive equilibrium. However. there is little confidence amongst the departments that must collaborate to get work When a large amount of data needs to done. be transferred between several databases or networks, blockchains excel.

2. LITERATURE SURVEY: BLOCKCHAIN-BASED PROPERTY REGISTRY: PANACEA, ILLUSION OR SOMETHING IN BETWEEN?

Many of the concepts of good governance in property management should be kept in mind while evaluating blockchain technology. The element's whole transaction history, or "chain of ownership," may be viewed by anyone who needs to know about its openness, efficiency, Additionally, you have the and legitimacy. option of storing specific identifiers like social security numbers and driver's license numbers. It is now possible to verify the legitimacy of transactions thanks to the establishment of transaction rules. Manually inspecting the deeds has long been used for this purpose, and is an important part of the efficient property registration system currently in place.

Blockchain-based framework for secure and reliable property registry system

Current practices and problems with the property-based account system are dissected in this essay. Since a typical system is susceptible to various forms of illegal access at each level, the use of physical documents, the need for extensive documentation, and the security challenges related to these records all have indirect effects on cost accounting. Costing is made more difficult as a result. The expected system would require a lot fewer

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workers and will be quite reliable, therefore it will be very cost-effective. An associate degree model is offered in this article as a potential answer to the problem of short-term contracts between customers and retailers.

Design of Property Administration and Title Registration Model supported Blockchain Technology

The following are some suggestions that came out of the research: According to the original plan, the ILMIS framework has to be updated. This strengthens the property registration system's defenses against both within and outside threats. The technology has its origins in digital currency, but it is increasingly being adopted in many sectors of the economy, including the agricultural, medical, and electrical sectors. Individuals still resort to illegal uses of this technology, despite the flawed regulations that exist.

3. PROPOSED SYSTEM:



In the first step, an algorithmic rule is put into action. This happens every time a user enrolls and provides a requirement. During the preagreement phase, both the buyer and the seller sign the title agreement. The parties' signatures, transaction IDs, the amount paid, and the status of the payment are all included in this agreement. The sales requisition agreement follows the delivery of the deed of title. Blockchain technology offers a solution to the problem of double spending, and it can also be used to fulfill the system's need for trustworthy transaction records. Locking down the exclusive nation name is a necessary precaution that must be taken by the system. The transaction ID will stay the same until it is approved or declined. Additionally, the property report and property ID, as well as property tax collection and ownership, have all been confirmed. In addition, we verify the histories client and merchant before transferring legal title. In addition, the data is continually updated. The Blockchain Network and the Smart Contract Engine are the two primary parts of the system. The memory component of the smart contract engine allows for the archiving of legally binding agreements. There are two types of users that can be accommodated by the interconnected User Module and User Interface. Two UN employees, one buyer and one seller, have expressed an interest in making a real estate transaction. In a user's Good Contract Engine account, details such as their name, address, phone number, and email address are kept. The goal behind the user's registration of their username is exploitative use. An additional layer of protection is provided by the blockchain, which is used to verify the legitimacy of the transactional papers. The public will be able to access data through the blockchain's straightforward interface.

Framework used:

A compelling react-js project could be the creation of a blockchain-based real estate register. React is an open-source front-end development toolkit written in JavaScript that was made for building user interfaces (UI) and UI components from plain text files.

Squares are important to most measuring methods and instruments.

MongoDB:

The MongoDB database is a NoSQL data is the format in which this information is supplied. This exhibits your ability to identify and work within the constraints of the data you're entering, even if the end result is something completely different. Therefore, a flexible approach is being used here.

Node js:

Creating JavaScript server-side scripts with the help of the Node JS tool is a common scenario. Scoped units have been quite useful for this project. Pairs of the most fundamental

JNAO Vol. 14, Issue. 1 : 2023 algorithms used by programs are arranged. Pre-agreement Algorithm Program **AES Algorithm Program**

A well-defined contract may take the form of an algorithmic program used in practice. If the vendor ID is not null, then the sale ID, name, and character will be returned. In the end, the sale's unique identifier must be disclosed. The client id, name, and characters should be retrieved, with the former two outputted if they are not null. There is also the option of the client id having no fixed value. Obtain the title ID and tax ID associated with this property ID if the aforementioned is not the case. The next steps are to give the owner's tax rate, public key, and payment status in that order. Therefore, the Deed ID may recognize the ID even if the Payment Status, Buyer/Seller, and Title ID are unknown. The IRS Tax ID and the Deed Document ID could be part of the Contract Number. A preliminary contract might include a contract ID in addition to a buyer ID, a seller ID, and a hash value (which provides additional assurance of the method's integrity). As a result, it often returns to the state before the contract was signed.

A Program to Do It Applying the Advanced Encryption Standard This includes a group of related processes. such as reordering (permuting) bits and rearranging (permuting) the input based on a desired result. One of these procedures includes randomly shuffling the input to produce a specific result. All calculations in the AES algorithm are executed in bytes rather than bits. Therefore, 128-bit blocks of plaintext are considered to be 16-byte blocks by AES. AES, or the Advanced Encryption Standard, is an algorithm used in several programs to encrypt sensitive data. Method of encoding and decoding information via a commonly used block cipher. As part of the encoding process, data is transformed into cipher text, which is unreadable to humans. Plaintext, the original form of the information, is restored throughout the decoding process. The flexibility in choosing a key length is a major strength of the AES encryption method, which is otherwise a sophisticated and theoretically successful algorithm for encrypting data. Users of AES can pick from three different key sizes: 128 bits, 192 bits, and 256 bits. The resulting keys are far safer than the 56-bit keys created by DES, by an order of 413

magnitude. When comparing algorithms with the same bit size, AES is more secure than RSA. AES encoding is a symmetrical approach. Despite widespread beliefs and the claims of many experts, AES has not been cracked because it is resistant to brute force attacks. Encoding keys need to be very huge so that the code can't be cracked.

3. CONCLUSIONS

Accounting repercussions stemming from the current systems' susceptibility to manipulation at every stage include keeping copious records, relying on paper resources, and worrying about the safety of these documents. There is also an indirect effect on the costs involved. The blockchain could be used to fix every issue that arises. This project laid the groundwork for a trustworthy and secure land registry. The technology would enable timely updates to property registrations and successfully solve the critical issues of counterfeiting and redundant issuing. The low amount of maintenance needed and the proven dependability of the proposed system make it a good value. We also presented an algorithm for negotiating a first deal between prospective buyers and sellers. Our current priority is to get rid of any and all middlemen. However, we may also use geolocation, latitude, and longitude to uniquely identify countries in order to make the most of blockchain This not only increases the technology. reliability of the transactions, but also reduces the likelihood that fraudulent ones will take place. Implementing this on a larger scale is one of our long-term aims.

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