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ESTATE DIGITIZATION USING BLOCKCHAIN

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Abstract:- Due to the numerous methodologies, courses of actions, policies, operations and techniques, people use the current land registration systems to defraud the public and the government. A secure land registry using blockchain and based on majority consensus is the subject of this paper. The security issue is substantially resolved by incorporating the land registry into blockchain. In the following report we will be discussing how this project will be efficient in securing the land registration process while maintaining the real time update of the document transfers and keeping the utmost transparency among the users, inspectors, investors and all the entities that will be contributing in globalising this project. We have created diagrams that will assist in comprehending the site's actual operation and the manner in which the Ethereum blockchain will operate in the background to accelerate record maintenance and transform transaction data. We will primarily be using the solidity programming language in the backend and design the front end majorly using *react.js*, along with developing smart contracts for the user transactions and storing it on the blockchain which will make the data immutable and will only be updated with maintaining utmost transparency between the end users and the tech developers.

1. Introduction

Blockchain put together domain digitization centres with respect to creating digitised exchanges utilising cryptographic forms of money like ethereum to purchase, sell, move land deeds and various different administrations by accelerating the methods with blockchain apparatuses and ideas like smart contracts, document tokenization that outcome into laying out unchanging nature, history and track of exchanges and tenderising most extreme straightforwardness to the framework and diminishing technique time span.

2. Review of Literature

1. "Land Registry Using Blockchain - A Survey of existing systems and proposing a feasible solution" - , IEEE [1].

In this paper, the basic working of the site is discussed along with various drawbacks, advantages and other aspects contributing to the project.

2."Securing Land Registration using Blockchain", IEEE [2].

A secure land registry using blockchain and based on majority consensus is the subject of this paper. It is linked to the hash of the block before it, the hash value that is calculated for each block will be unique. SHA256 is the algorithm that is used for hashing. In addition to SHA256, the Proof of Work (PoW) algorithm is utilised, enhancing the security of transaction-related data.

3."A secured land registration framework on Blockchain" [3].

Utilising a Blockchain-based framework that can change over actual resources into a permanent fluid symbolic resource, this paper proposes a protected record keeping component that tends to these issues.To address the previously mentioned issues, this new block chain token resource can now be utilised to keep a carefully gotten and specifically noticeable proprietorship record.

4."Real Estate Management System based on Blockchain", IEEE [4].

Straightforwardness, centralization, validity, unwavering quality, and different issues related with manual land enlistment systems are examined in this paper, alongside a superior methodology that utilises Blockchain Innovation to resolve these issues.

5."LandLedger: Blockchain-powered Land Property Administration System", IEEE [5].

In this paper, they discussed LandLedger, a blockchain-fueled executive framework that offers responsible, straightforward, productive, secure, and versatile land property the board, in this paper. LandLedger utilises the Merkle Patricia Tree to confirm proprietorship and check the historical backdrop of a property rapidly.

3. Report on Present Investigation

3.1 Existing System:

Frameworks existing in the ongoing bequest digitised framework significantly centre around following the information and safely putting away the information and exchanges on blockchain and upgrading the client experience and keeping up with protection. Frameworks liquidity is still in the creating stage and producing constant updates is complicated to refresh exchange straightforwardness among the clients.

As indicated by Baum, A. (2017), the land business has likewise encountered the 1.0-3.0 period, when new advancements (proptech) were presented frequently.The Web of Things (IoT), Man-made reasoning and AI, Circulated Record Innovation (DLT), 5G and Geospatial (GPS), and various other new advancements have been created and carried out in the land business at this time.C.W. Starr et al., 2021).

One of these is land tokenization on the blockchain, which is a kind of dispersed record innovation (DLT).Due for its potential benefits of expanding land liquidity, tokenization has stood out for individuals (Smith, J. et al.,(Colliers Worldwide, 2020), bringing down exchange costs, and expanding exchange effectiveness.

3.2 Limitations:

1.Blockchains can't assess input information accuracy:Any info will be considered by the blockchain.
2.Substantial as long as the predetermined limitations are met
3.Swan distinguished seven blockchain innovation specialised drawbacks:size and data transfer capacity, asset waste, accessibility and form control, inertness, throughput, hard fork, and multichain
4.The secret key of a centre or hub may be taken or lost
5.Impact, which makes an exchange be switched. A 51% assault, egotistical mining, and an obscuration assault could all affect the whole framework.
6.Blockchain's legitimate foundation is still in its outset.
7.The Bitcoin organisation's huge number of PCs use power that is near what Norway and Ukraine utilise every year.

4. Implementation Plan

4.1 Hardware/Software Interface

The base equipment and programming necessities for running the framework successfully are recorded in the accompanying :

4.1.1 Hardware Requirements

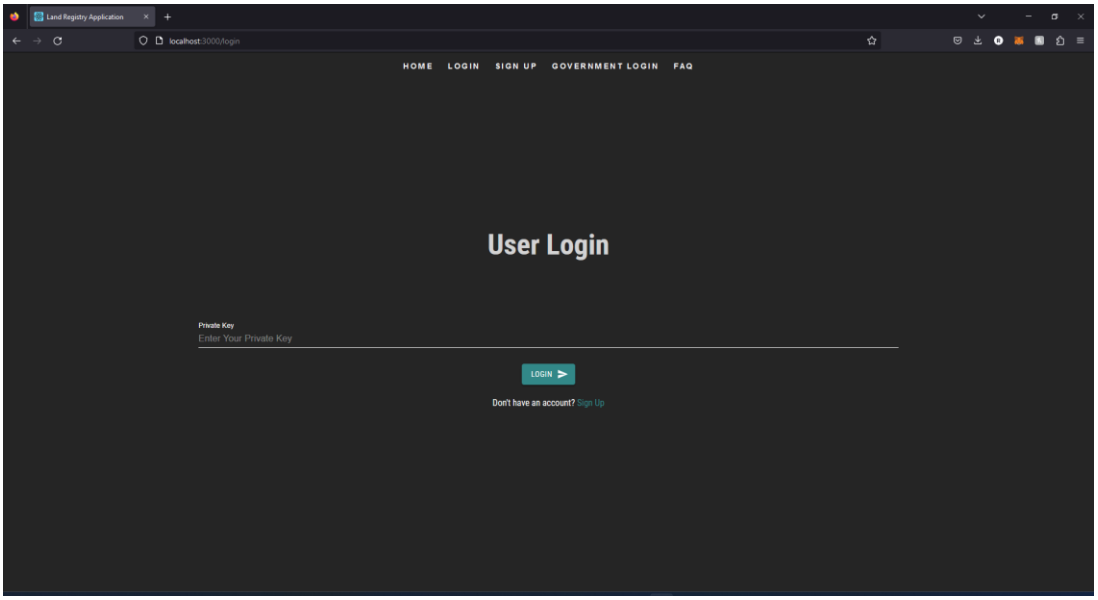
- User Operating System: Windows
- Development Operating System: Windows
- User System RAM: 8 GB and above
- Development RAM: 8 GB and above
- HDD: 500 GB and above
- Dev Processor: Intel i5 and above

4.1.2 Software Requirements

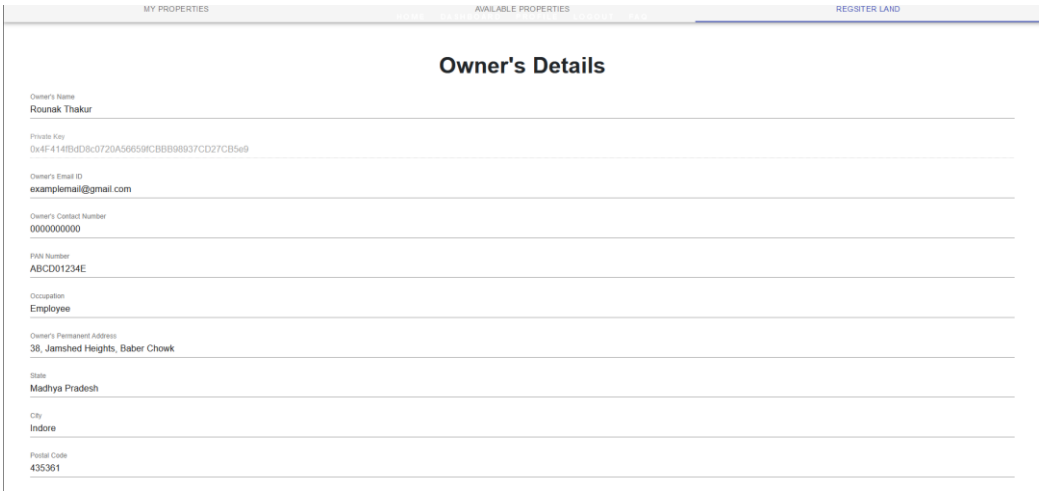
- Development Environment: VS code
- Language: react.js, Solidity v0. 8.17

5 . Results and Discussions

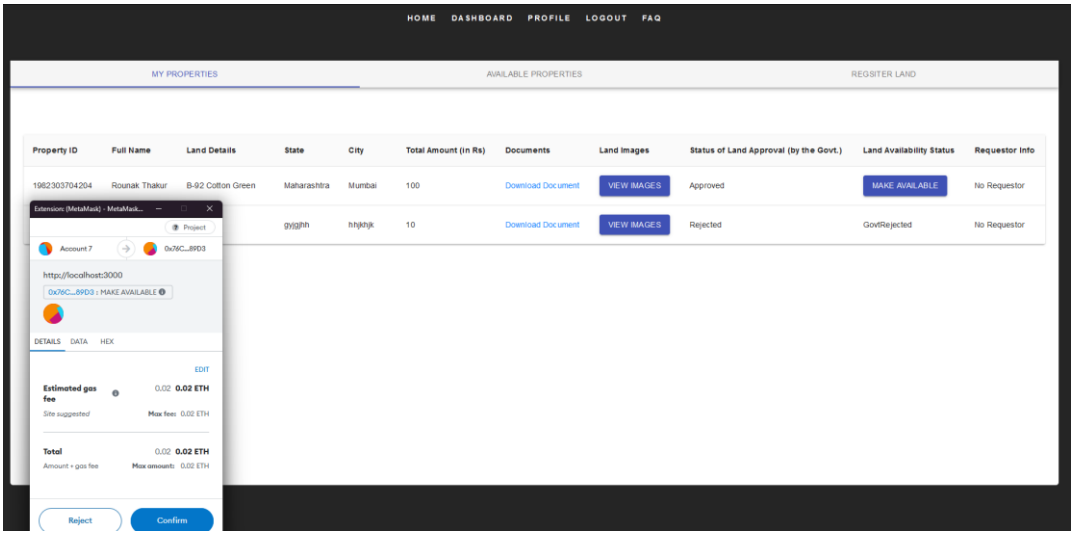
1.Login framework utilising approved login accreditations.

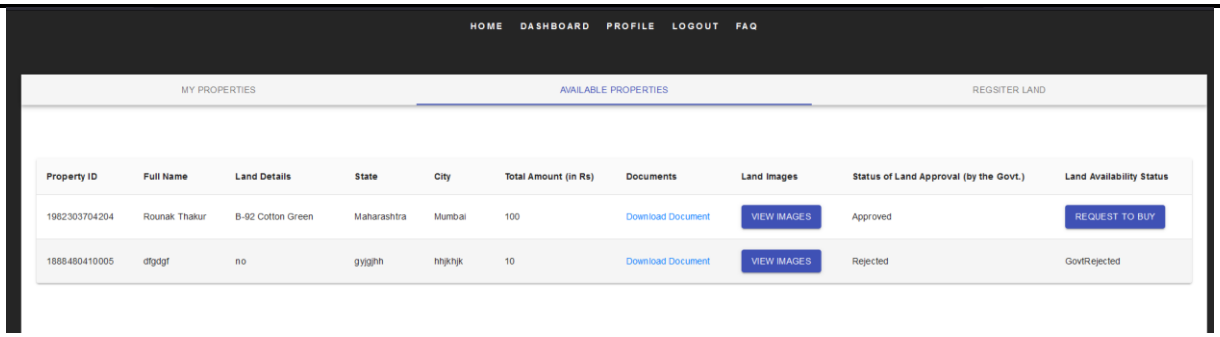


2.Select the stage/job and explore through the job.

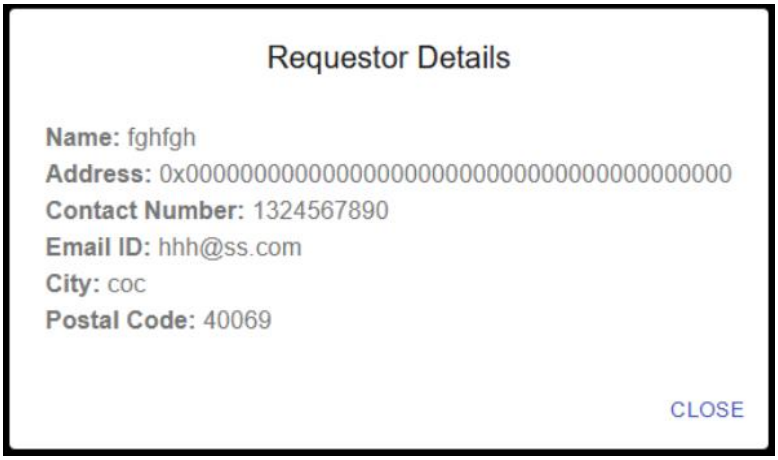


3.Survey the purchasers, dealers and different substances accessible.

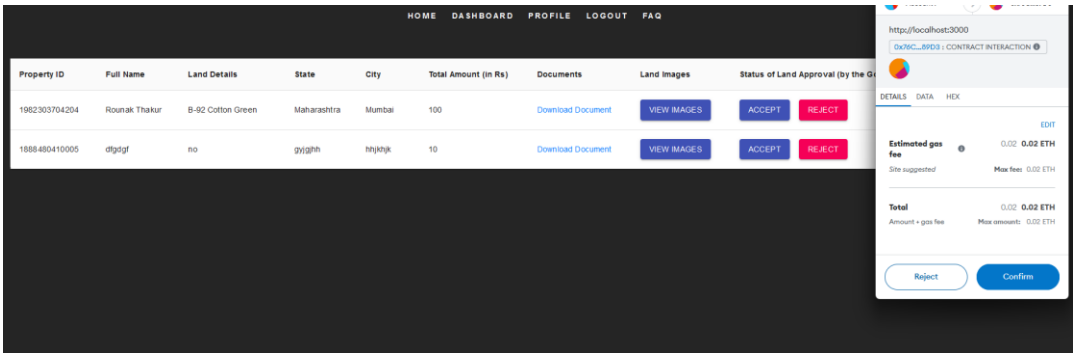




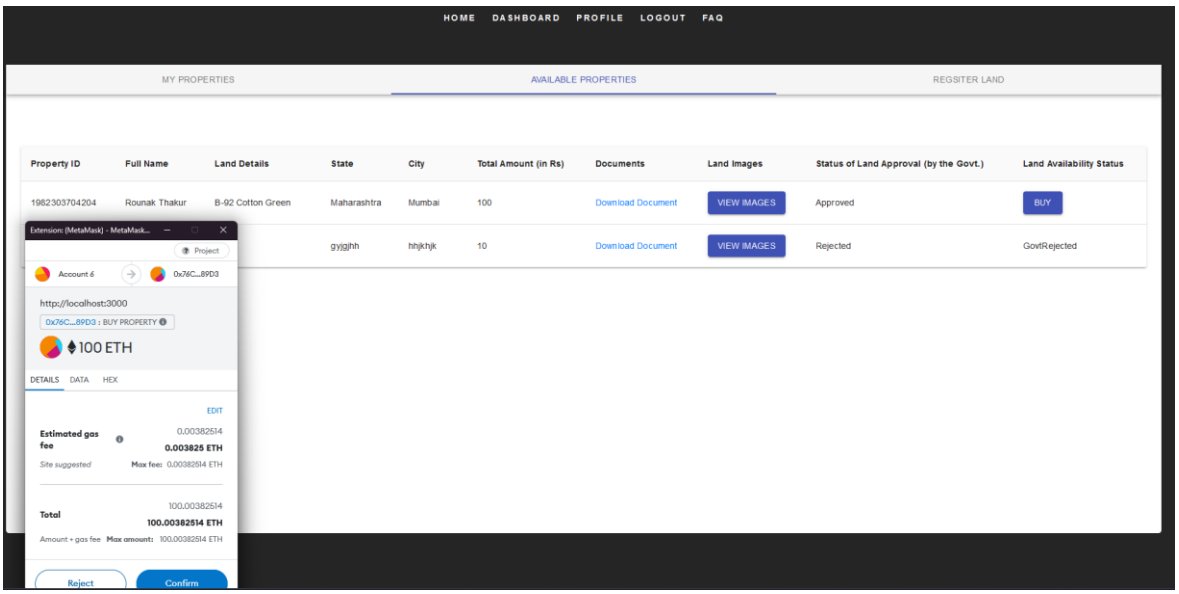
4.Purchaser will send a solicitation to make an acquisition of property available to be purchased.

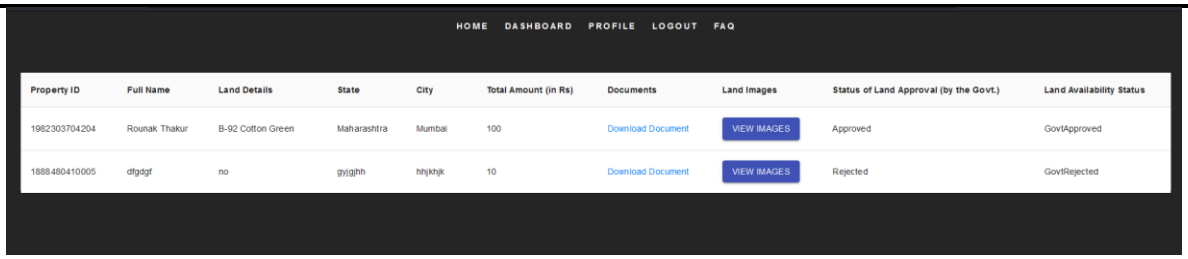


5.Approved land examiner and the merchant/proprietor of the property will be delegated.

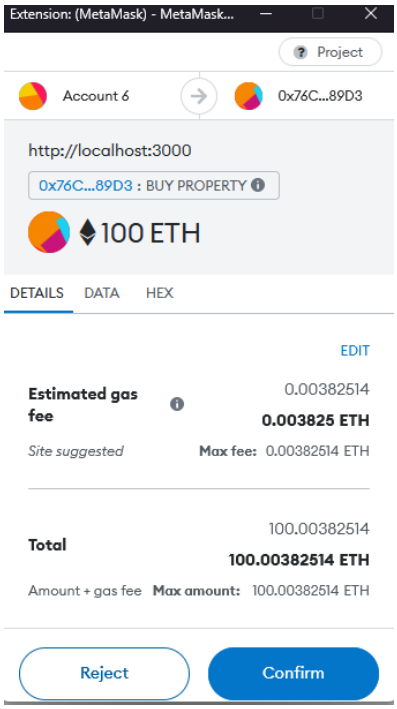


6.When every one of the archives are confirmed consistent with its inclination/information by the delegated land overseer, the smart contract will be handled and the proprietorship will be sent to the legitimate owner and its position. Smart Contracts might be refreshed by the new land proprietors necessities or requirements.

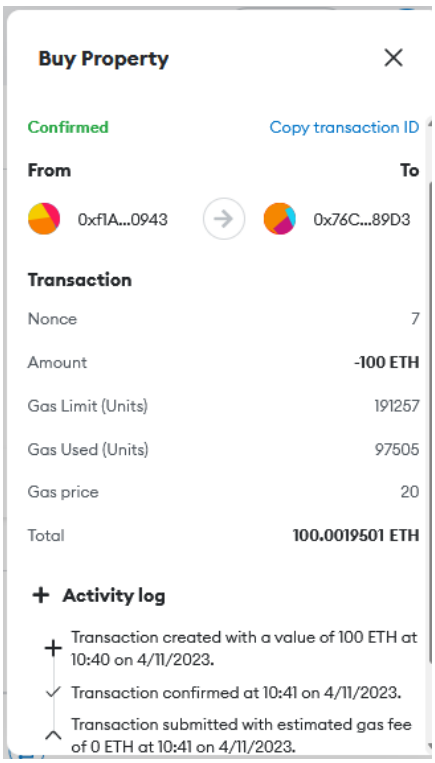


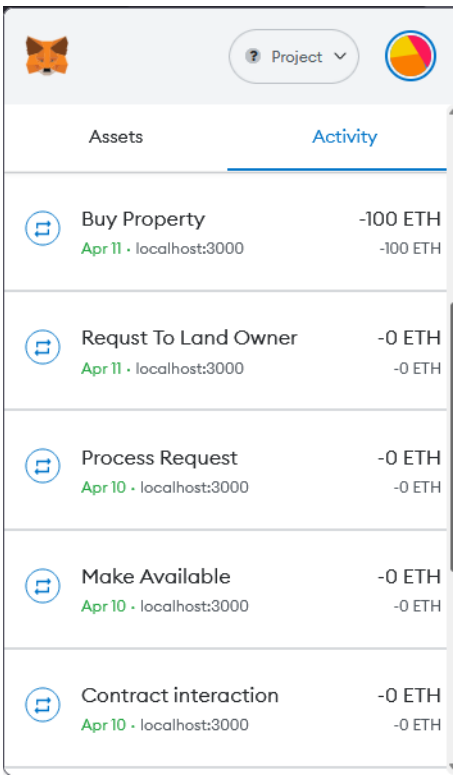


7.The recorded invoice will be generated and sent to all the entities parallel to the procedures taking action or while getting executed.



8.All these results will be displayed to the entities or users dashboard.





6. Conclusions

We are as of now dealing with exploring any peculiarities in the framework and how might the framework be continually improved to perform WEB3 based tasks. We are finding finished straightforwardness among the clients and effectively speeding up the home digitization process by breaking errands and staying aware of continuous updates, and suggesting land proprietors, financial backers, purchasers or dealers on the territorial territory necessities and requirements that can be help to assemble in building foundation that will help in general improvement of the locale. Up to this point we are chipping away at fostering the webpage, making it more achievable and befitting for client experience and to create more traffic and accentuation on compromises carefully and making purchasing, selling and other immense property manages appropriate strategies and methods following severe legitimate guidelines and requirements with keeping up with severe approaches, rules for better and effective utilisation of the current crypto tech WEB3.

7. Acknowledgement

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8. References

[1] “Role of Blockchain Technology in Digitization of Land Records in Indian Scenario”

P Singh -Department of Civil Engineering, Amity School of Engineering & Technology, Amity University Uttar Pradesh, Noida, India.

[2] I. Mishra, Supriya, A. Sahoo and M. Vivek Anand, "Digitization of Land Records using Blockchain Technology," 2021 International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), 2021, pp. 769-772, doi: 10.1109/ICACITE51222.2021.9404678.

[3] “Digitization of Land Record Through Blockchain-based Consensus Algorithm” April 2021
-Amrendra Singh Yadav & Dharmender Singh Kushwaha, Department of Computer Science Engineering, Motilal Nehru National Institute of Technology Allahabad, Prayagraj 211004, India.

[4] “Usage of block chain in real estate business for transparency and improved security” IEEE April 2022
- K Madhura CSE department, Presidency University, Bangalore, India,
- R Mahalakshmi CSE department, Presidency University, Bangalore, India

[5] "The Real Estate Transaction Trace System Model Based on Ethereum Blockchain Platform", IEEE, 2022

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Vietnam National University, Ho Chi Minh City, Vietnam.

Thu Nguyen - University of Information Technology, Ho Chi Minh City, Vietnam

Vietnam National University, Ho Chi Minh City, Vietnam.

[6] "Digitising Invoice and Managing VAT Payment Using Blockchain Smart Contract", IEEE 2019 by Van-Cam NGUYEN - University of Science, Vietnam National University, Ho Chi Minh City, Vietnam and Hoai-Luan PHAM - Graduate School of Information Science, Nara Institute of Science and Technology (NAIST), Ikoma, Nara, Japan