

# Secure Real Estate Registry System using Blockchain

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**Abstract:** *There are several issues with the current land registry systems that require attention. Firstly, the land registry and transfer process is currently done manually, with only some records and procedures digitized. However, this centralized system is riddled with issues, such as the inability to maintain a complete land history and the lack of a mechanism for detecting record tampering. Addressing these problems through a centralized system is not feasible, but decentralized systems such as Blockchain offer a solution with built-in tamper detection features. In this proposal, we aim to tackle the issues mentioned earlier by implementing a smart contract on the Blockchain network for registering lands. This proposed solution offers various benefits to stakeholders, including enhanced efficiency, transparency, trustworthiness, and integrity throughout the buying and selling process. Additionally, the framework provides a detailed history of the property, ensuring that records remain untampered and reliable. Furthermore, our proposed system is accessible via a Restful external link to traditional property dealing apps, allowing them to extract real-time information on the property, such as its dimensions, location, and price. Ultimately, our solution aims to instill confidence in conducting real estate transactions online.*

**Keywords:** Secure, Transparency, Blockchain, Real estate

## I. INTRODUCTION

Real estate transactions are known to be complex, involving multiple third parties and extensive documentation. The traditional process of buying and selling properties is time-consuming and error-prone, leading to significant costs and delays for all parties involved. However, the advent of blockchain technology in the real estate industry has the potential to revolutionize the way property transactions are conducted, bringing in greater transparency, security, and efficiency. With the introduction of blockchain technology, a decentralized and tamper-proof ledger can be utilized, which can be digitally verified and accessed by all parties involved in a transaction, thereby reducing the need for a lengthy process. Additionally, smart contracts can automate certain aspects of the transaction process, such as title transfers, making the process simpler for both buyers and sellers. This paper proposes a blockchain-based system for real estate transactions that leverages the benefits of blockchain technology to create a secure, efficient, and streamlined process for property transactions. By utilizing blockchain, the system can be made immutable, reducing the risk of fraud and saving time. Overall, the use of blockchain technology in real estate transactions has the potential to bring in significant benefits, including enhanced security, transparency, and efficiency, while also reducing costs and delays for all parties involved.

## II. LITERATURE SURVEY

### 2.1 Blockchain for Real Estate

In the present situation, no matter who you are, someone is tricked one way or the other, whether you purchase or offer a property. Despite the importance of real estate in the economy of a country there are many loopholes in the current system from searching for a property, lease agreements, sale and purchase, money transactions, involvement of middlemen and so on. The blockchain and real estate can go hand in hand. The business process for land adopts the blockchain model, to strongly put the real estate premise up in more than one of the components of its donning exercises. The fundamental goal of this undertaking is to make a stage to keep up transparency in the real estate sector

with the goal that no fake exercises can occur because of bogus agreements and to introduce the transparency through the process.

**2.2 The Blockchain Technology in Real Estate Sector**

The current system for managing property transactions involves a significant amount of paperwork, a risk of property rights being lost, and time wasted in multiple trips to get updates about the property. These processes can take several weeks, or even months. To address these issues, the proposed solution is to adopt secure electronic transactions using blockchain technology. This will result in increased transparency, the elimination of fraud, and faster and more flexible processes.

**2.3 Land Registry Using Blockchain - A Survey of Existing Systems and Proposing a Feasible Solution**

We propose a decentralized system using blockchain technology for the secure storage of sensitive information like property papers. The current centralized systems have several drawbacks, including performance bottlenecks and a single point of failure. To address this issue, our system stores documents in the InterPlanetary File System (IPFS), a decentralized database. When a person buys a piece of land, the government authority provides them with a hard copy of the property papers. The IPFS network generates a hash of the document, which is securely stored in the Ethereum blockchain after satisfying the conditions of the smart contracts. The smart contracts validate and verify the documents from the government authorities, creating a tamper-proof ledger that allows us to easily retrieve the stored data. By using this system, we provide a more secure and efficient way to store sensitive information.

**III. SYSTEM DESIGN**

- The admin registers the land belonging to the seller using the seller's wallet address.
- The seller can then view their land as available in their property list.
- The seller can mark the land as available for others to buy.
- A buyer can search for the property and send a request to the seller.
- The seller receives the request and has the option to accept or reject it.
- If the seller accepts the request, the buyer can proceed to buy the land.

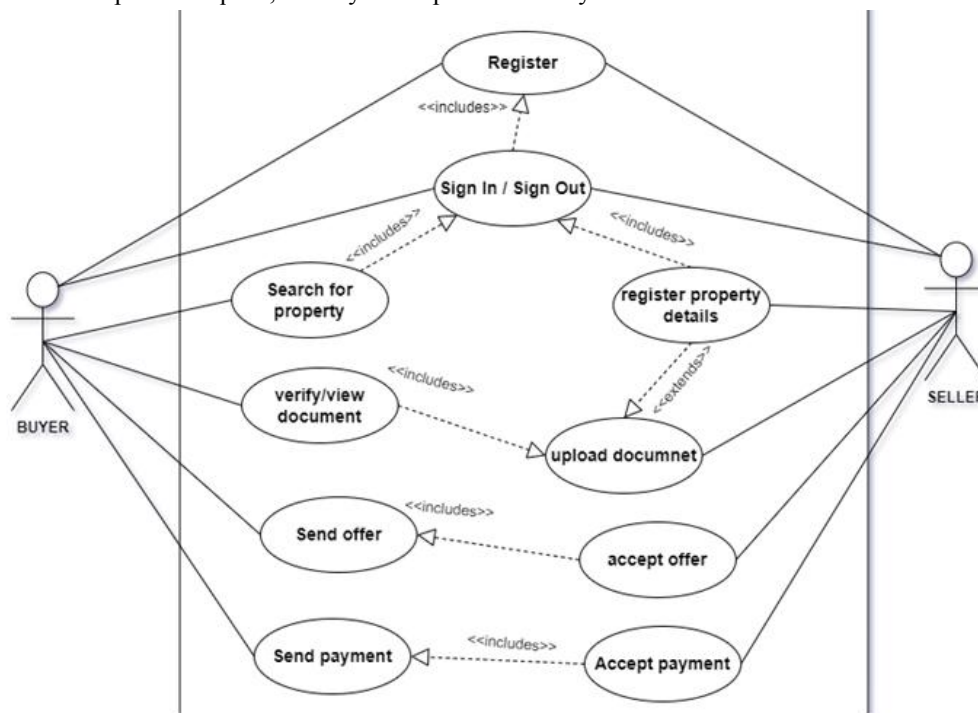
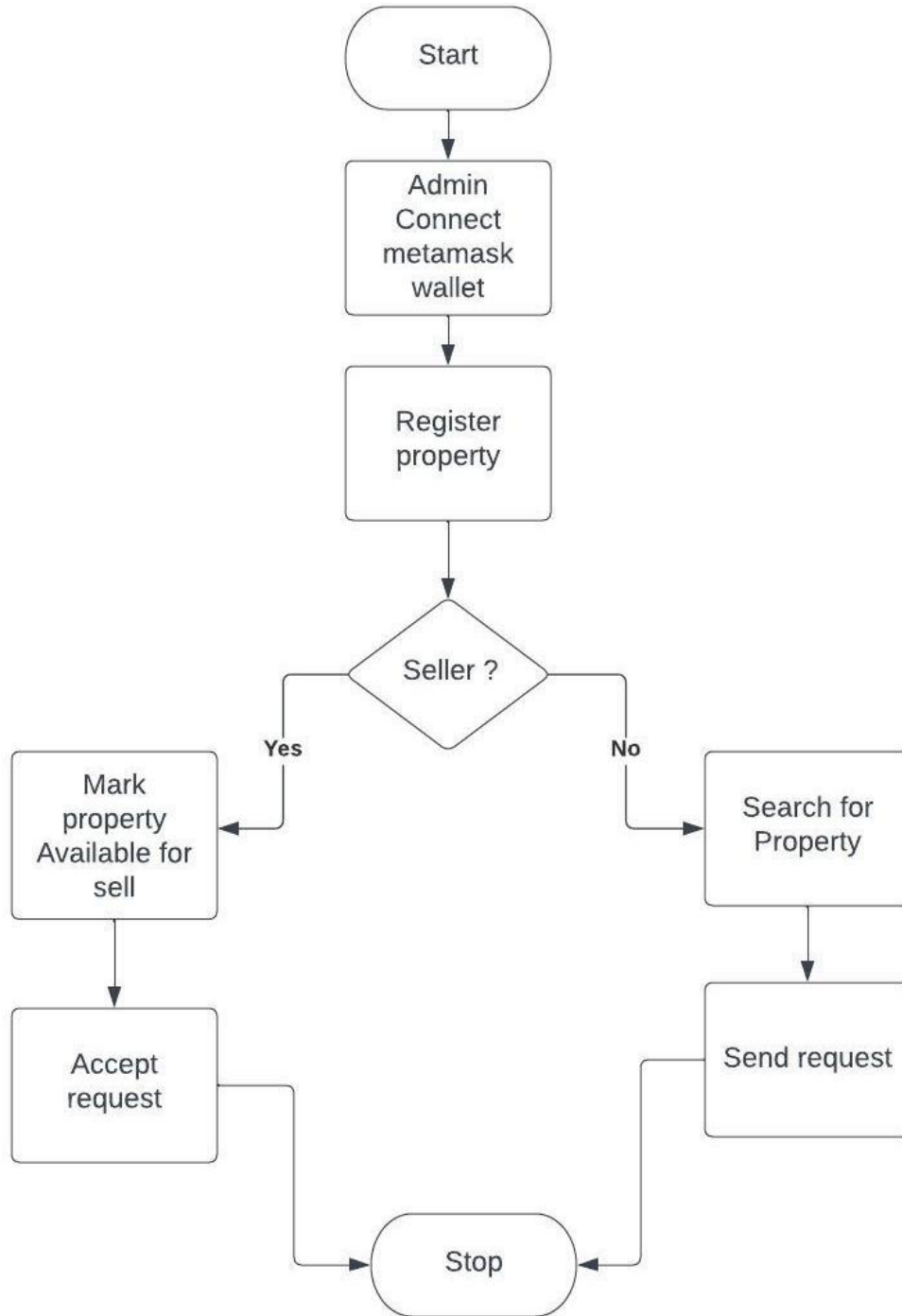


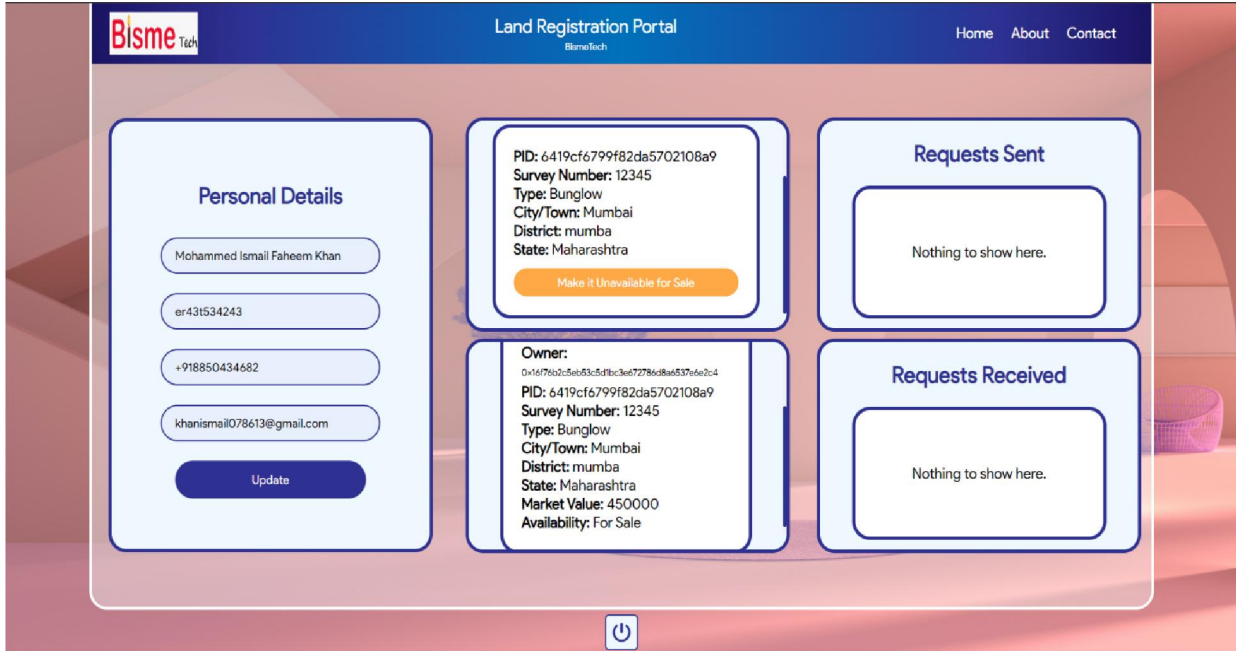
Figure 1: Use Case Diagram



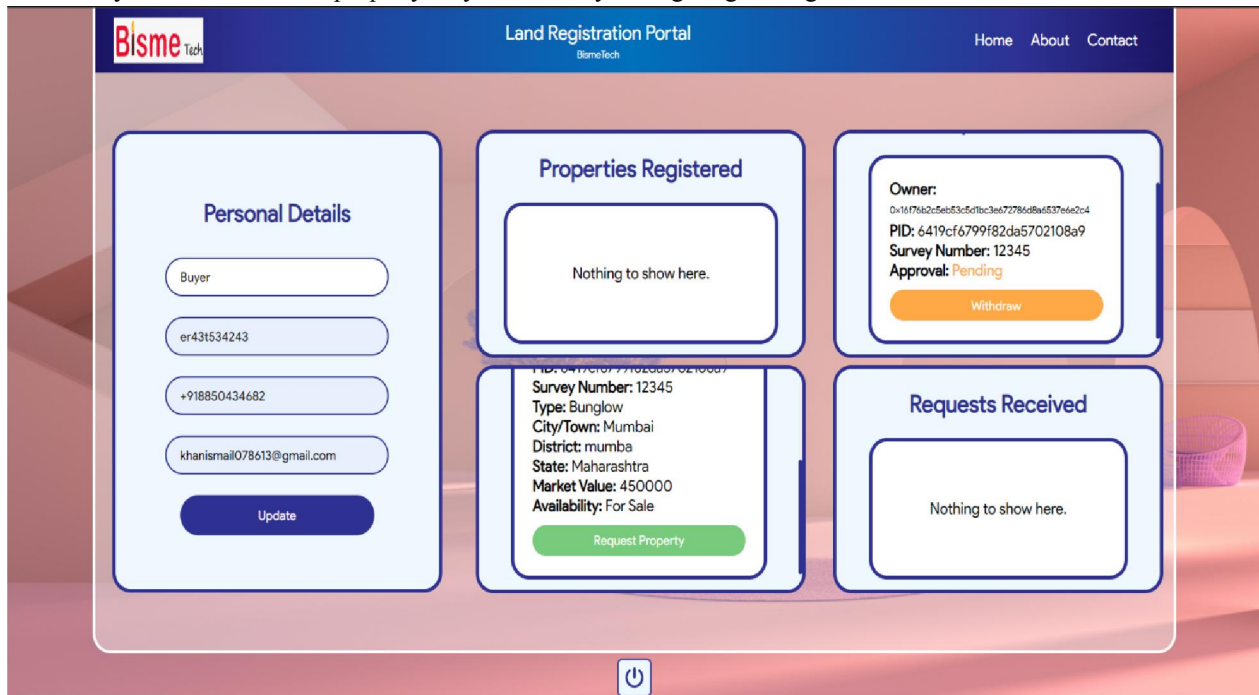
**Figure 2:** Flow Chart Diagram

**IV. SYSTEM IMPLEMENTATION**

The project contains different sections where Seller and Buyer registered themselves and also the property details.



Here the buyer will look for the property they need to buy through registering themselves.



**V. FUTURE SCOPE**

The future scope of this project is not limited. A blockchain-based real estate platform has the potential to revolutionize the industry by introducing greater transparency, security, and efficiency to property transactions. By utilizing blockchain technology, the platform can provide a tamper-proof ledger of all property-related data, such as ownership records, transaction history, and title deeds, making the process more trustworthy and reducing the need for

intermediaries. The future scope of this platform lies in its ability to streamline property transactions and provide greater access to real estate investments for individuals and businesses around the world.

#### VI. CONCLUSION

The main objective for building this project is to provide a real estate platform for secure transactions between seller and buyer without the intervention of real estate agents. Our main aim is the integration of smart contracts, decentralized identity management and payment systems which provide a comprehensive solution for real estate transactions.

#### VII. ACKNOWLEDGMENT

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