Project Report
On

BLOCKCHAIN BASED SMART REAL ESTATE MANAGEMENT SYSTEM

Done By:
POKESH KUMAR 2020309028
POONGODI E 2020309029
POORNA R 2020309030
RAGAVI R P 2020309031
YUVANESH 2020309042

Alagappa College of Technology,
Anna University

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

The traditional real estate sector is evolving in the age of smart cities and homes. The "Block chain-Based Smart Real Estate Management System" redefines property transactions and ownership management. Leveraging block chain technology, we aim to enhance security, efficiency, and accessibility. This innovative system simplifies property transactions, minimises fraud risks, and reduces administrative burdens associated with traditional real estate processes. Powered by Ethereum smart contracts, it ensures transparent property records and secure ownership transfers. Cryptographic keys safeguard data, bolstering trust among stakeholders. By streamlining real estate operations and offering real-time property data access, our solution paves the way for a more secure and efficient future in real estate management, aligning with regulatory requirements.

1.2 PUPROSE

The purpose of real estate management using block chain is to enhance the security, efficiency and accessibility of real-estate records and information. Here are some key objectives and Block chain technology ensures that real estate data is stored in a tamper-proof and encrypted manner, reducing the risk of unauthorized access or data breaches. Data Integrity It provides a transparent and immutable ledger where real estate records can be verified and trusted, preventing the falsification of credentials and documentation.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM

"The current real estate management system lacks efficiency in tracking property maintenance and tenant requests, leading to delayed responses and increased operational costs. There is a need to develop a streamlined and automated solution that enhances property management, tenant satisfaction, and cost-effectiveness."

2.2 PROBLEM STATEMENT DEFINITION

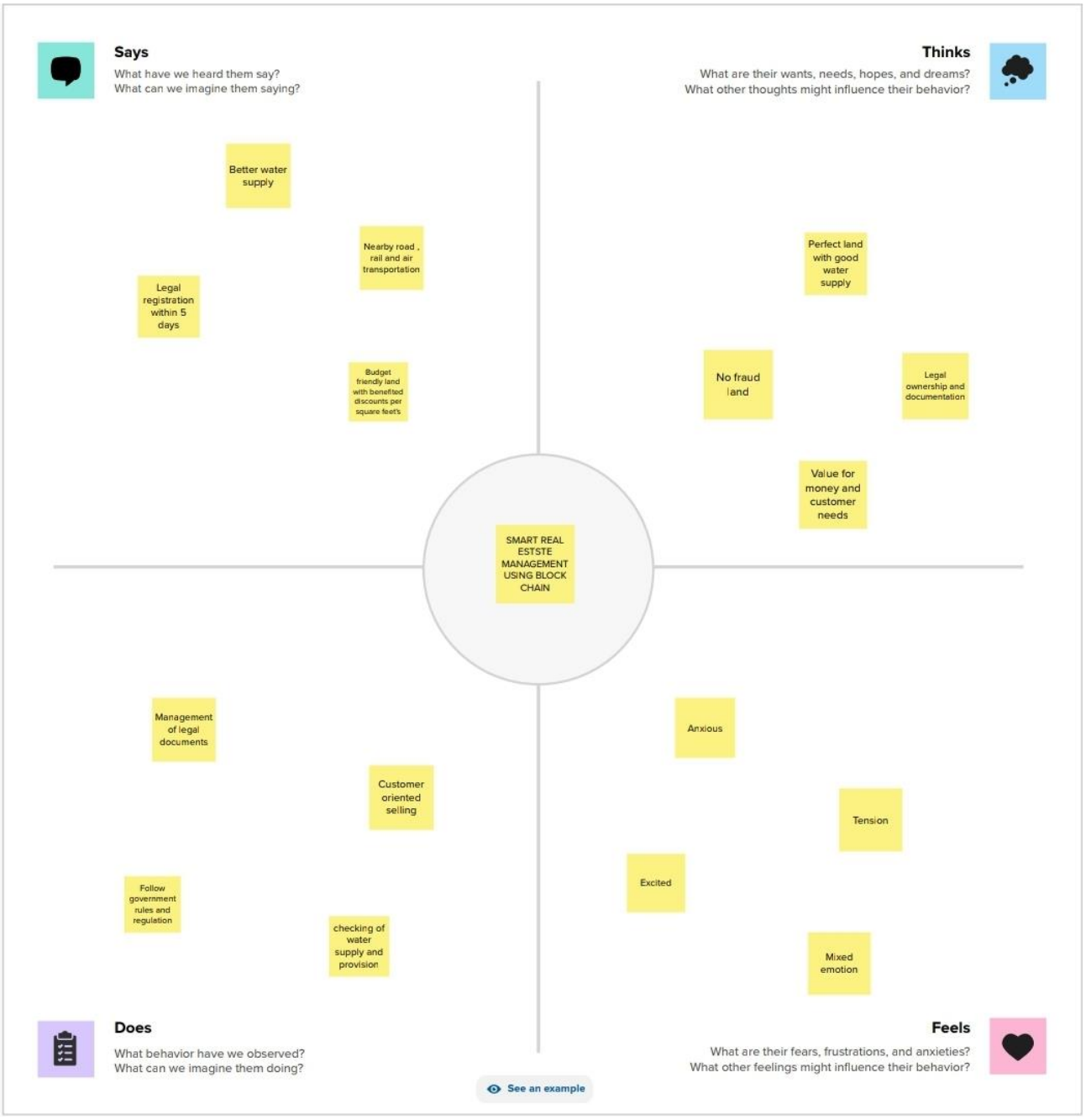
Problems with tenants such as late rent payments, property damage, or eviction procedures can be a recurring challenge. Managing property maintenance and repairs efficiently and cost-effectively can be a significant issue, especially for property owners with multiple units. Real estate market fluctuations can affect property values, rental income, and investment returns, making it challenging to plan for the long term. Navigating local, state, and federal regulations and ensuring compliance with laws related to property management can be complicated and time-consuming. High vacancy rates can impact a property's profitability, and finding and retaining quality tenants is an ongoing concern. Balancing income and expenses, budgeting, and ensuring positive cash flow can be challenging for property owners and managers. Keeping up with advancements in property management software and technology can be difficult, but it's crucial for efficiency and competitiveness. Addressing environmental issues, energy efficiency, and sustainability in property management is becoming more important due to changing regulations and tenant preferences. Ensuring the security and safety of tenants and properties can be a significant concern, especially in multi-unit or commercial real estate. Providing effective communication and excellent customer service to tenants and property owners is essential but can be challenging when dealing with multiple parties. Accurately assessing the value of properties for sale, purchase, or investment decisions is crucial and can be complicated in a changing market. Each of these problems may require specific strategies and solutions in real estate management to address effectively.

3.IDEATION AND PROPOSED SOLUTION

3.1 EMPATHY MAP

An empathy map is created with a sample consumer and is attached below

Figure 1: Empathy Map



3.2 BRAINSTORMING AND IDEATION

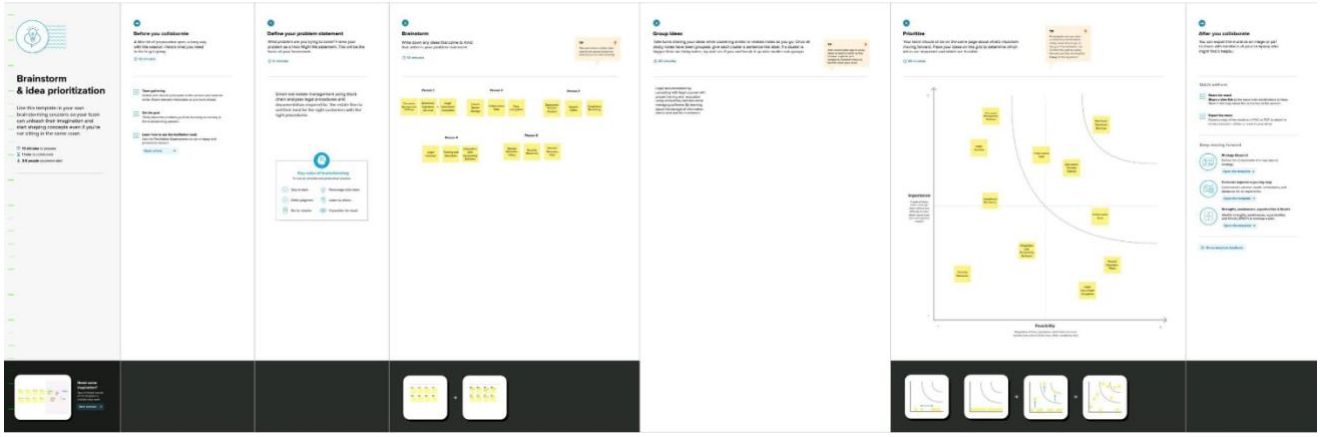
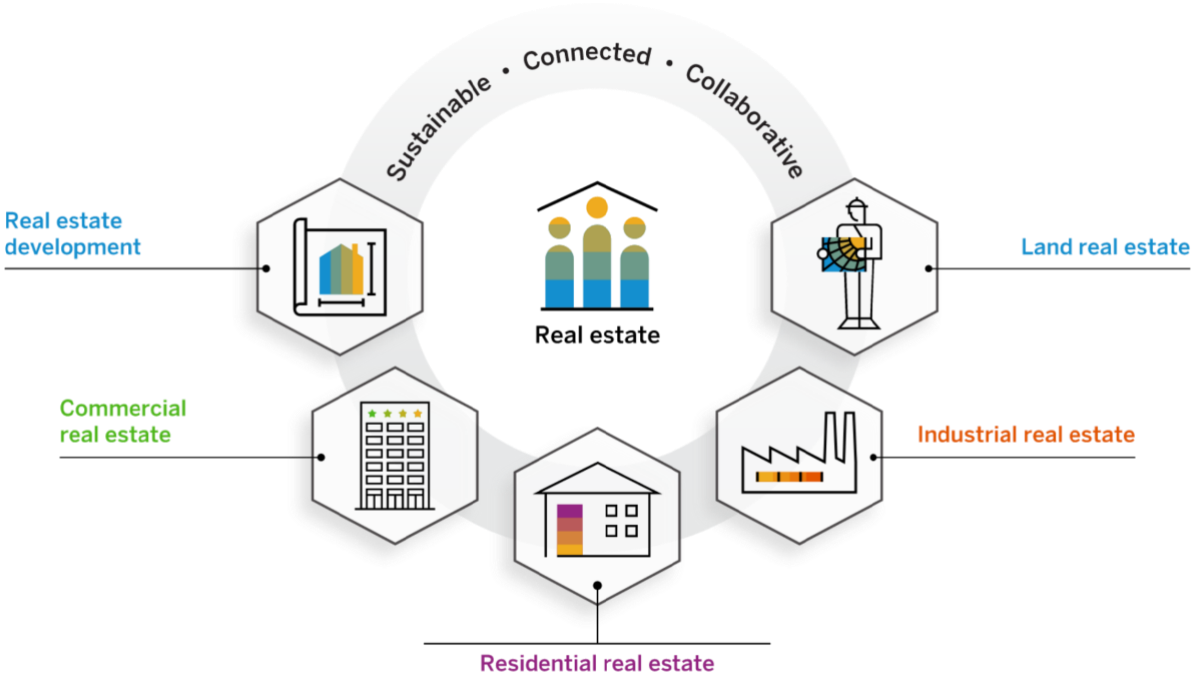


Figure 2: Brainstorming and ideation

4. PROJECT DESIGN

4.1 SOLUTION ARCHITECTURE

Figure 3: Solution Architecture for the problem



4.2 DATA FLOW DIAGRAM

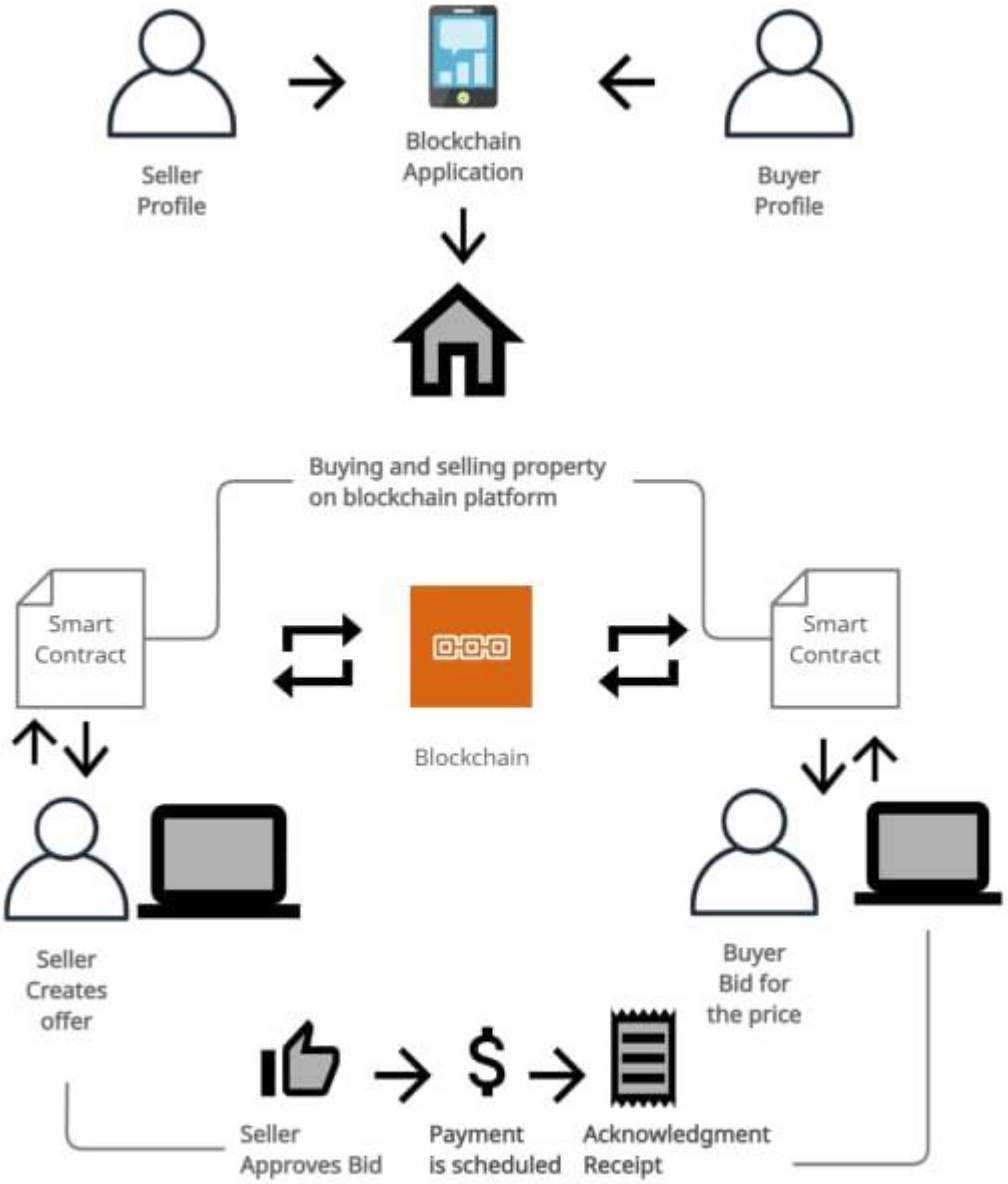


Figure 4: Data Flow Diagram

5. CODING AND SOLUTIONING

5.1 CODE

Figure 5: Solidity Code 1

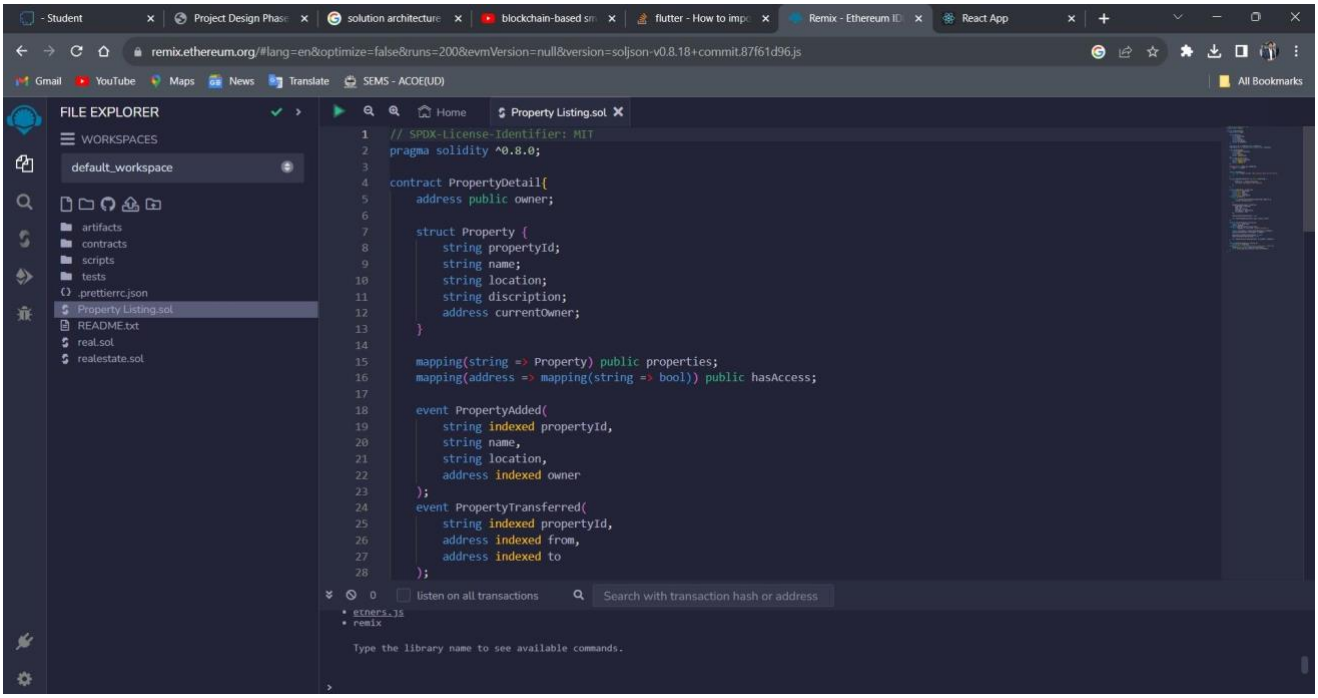


Figure 6: Solidity Code 2

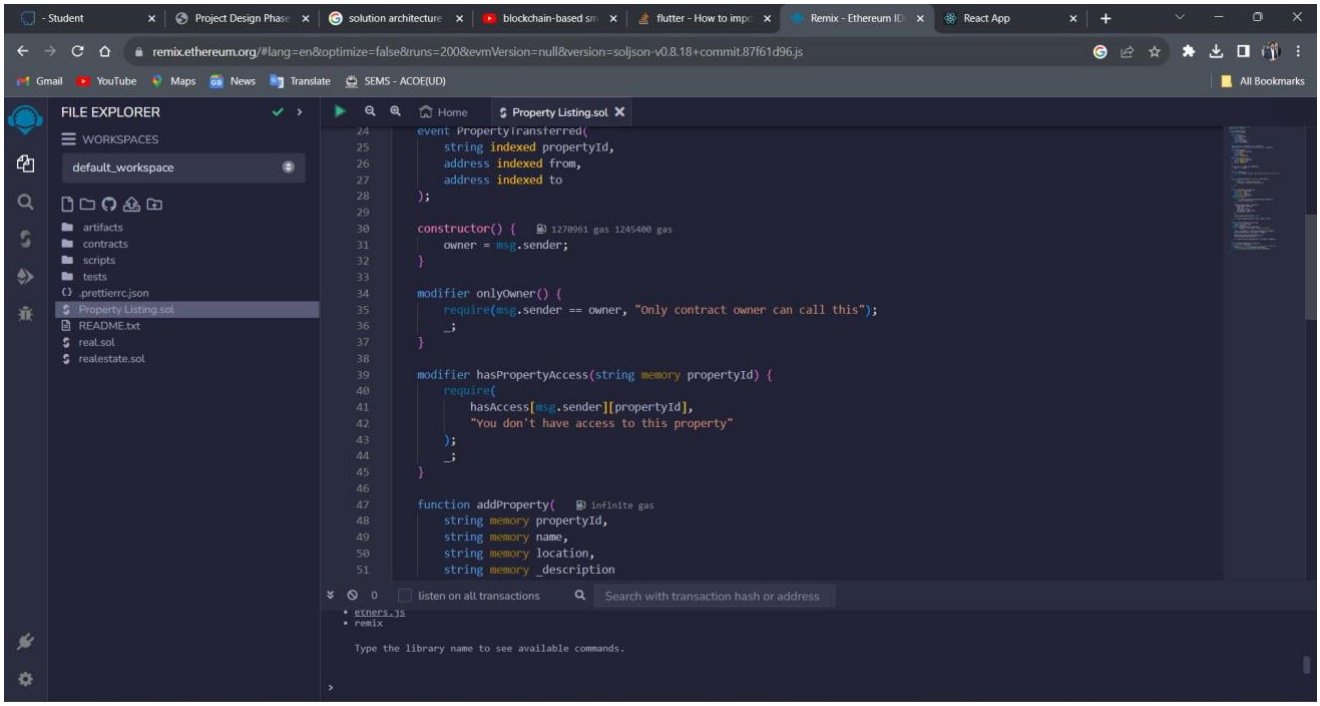
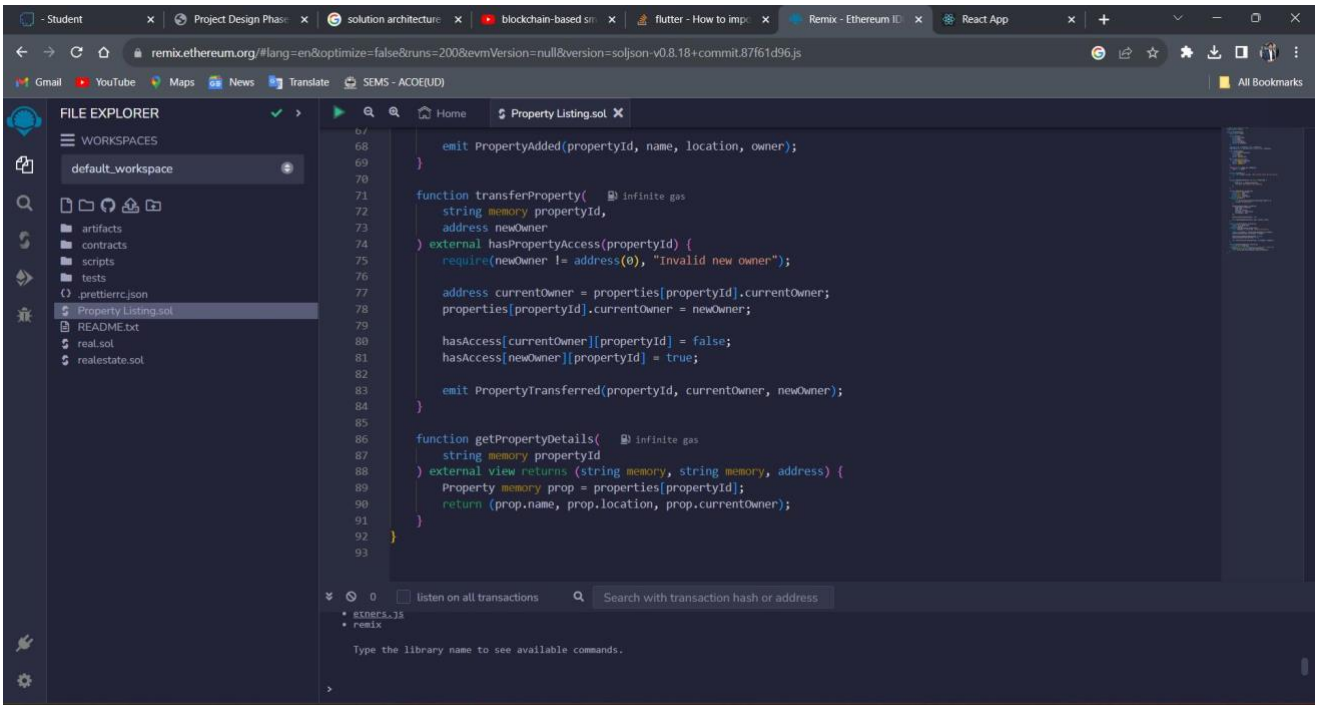


Figure 7: Solidity Code 3



6. RESULT

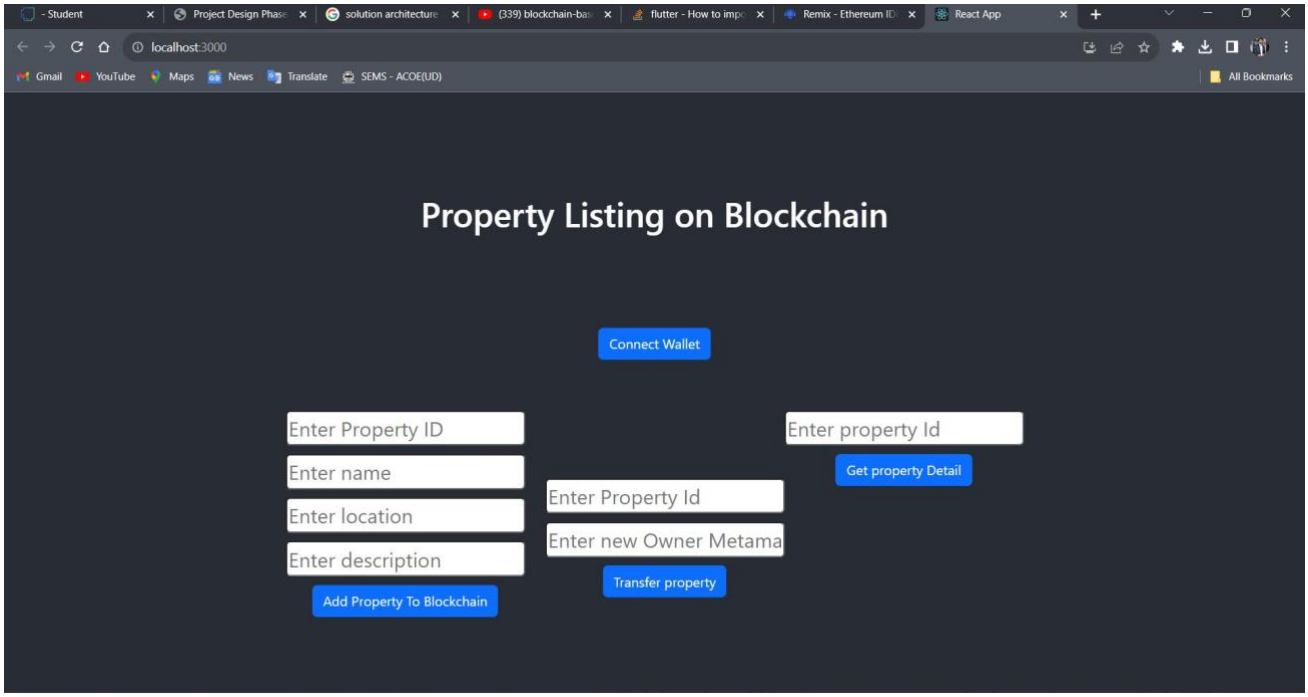


Figure 8: Project Frontend

7. ADVANTAGES AND DISADVANTAGES

7.1 ADVANTAGES

1. Data Security
2. Data Integrity
3. Verification and Authentication
4. Global Accessibility

7.2 DISADVANTAGES

1. Privacy Concerns
2. Misinterpretation
3. Data Overload
4. Compliance and Legal Issues

8. CONCLUSION

In conclusion, real estate data management using block chain technology offers several advantages. It provides a secure and immutable ledger for academic records, making it difficult for unauthorized parties to tamper with or falsify data. This can enhance trust in real-estate and documentation processes such as credential verification. Additionally, block chain have more control over their own accessible records and share them with relevant parties when needed.