



RV College of
Engineering®

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

BLOCKCHAIN ARCHITECTURE DESIGN AND USE CASE (18IS7F2) **7th Semester BE**

Web 3.0 Real Estate App
Evaluation- Phase-1
Academic Year – 2023-24



Carried Out By:

Aryan Wani (1RV20IS012)

Faculty Incharge :

Sharadadevi K ,Assistant Professor ,Dept. Of ISE,RVCE

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Introduction

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In the ever-evolving landscape of real estate, the traditional industry faces challenges related to transparency, accessibility, and efficiency. The need for a paradigm shift is evident as we witness the limitations of centralized systems. The Web3.0 Real Estate App is conceived to address these challenges by leveraging blockchain, smart contracts, and decentralized technologies. This innovative platform aims to bring about a transformative change, offering transparency, accessibility, and security in property transactions.

Through a user-friendly interface and wallet integration, the app provides a seamless experience, allowing users to browse properties, track their portfolio, and engage in transactions directly from their wallets. The decentralized storage infrastructure ensures the security and accessibility of property-related data. The Web3.0 Real Estate App marks a pivotal step towards a future where property transactions are not just transactions but an experience in decentralized innovation.



- ❖ ***Immutable Ownership Records:***
 - Blockchain ensures a secure and tamper-proof ledger of property ownership, preventing fraudulent activities and disputes.
 - Immutability of records establishes a transparent and trustworthy history of property transactions.
- ❖ ***Smart Contracts for Automated Transactions:***
 - Smart contracts automate various real estate processes, such as property transfers, lease agreements, and payments.
 - Automation reduces reliance on intermediaries, streamlining processes and minimizing the risk of errors.
- ❖ ***Tokenization for Fractional Ownership:***
 - Blockchain enables the tokenization of real estate assets, allowing for the creation of tradable, divisible tokens.
 - Fractional ownership through tokens makes real estate investments accessible to a wider audience, promoting liquidity in the market.
- ❖ ***Decentralized Identity Management:***
 - Blockchain-based identity solutions enhance security and privacy by giving users control over their identities.
 - Property-related transactions are securely linked to decentralized identities, reducing the risk of identity theft.
- ❖ ***Reduced Intermediaries and Cost Efficiency:***
 - Blockchain eliminates or minimizes the need for intermediaries in real estate transactions.
 - By reducing the number of intermediaries, transaction costs are lowered, providing cost efficiency for buyers, sellers, and investors.



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- ❖ ***Implement Decentralized Property Ownership Records:*** Utilize blockchain technology to establish a decentralized and tamper-proof system for property ownership records, enhancing transparency and reducing the risk of fraudulent transactions.
- ❖ ***Leverage Blockchain Transparency for Authenticity:*** Leverage the immutability of blockchain to boost transparency in the real estate market. Provide consumers with awareness of authentic property details, preventing the proliferation of misinformation and fraudulent activities within the real estate ecosystem.
- ❖ ***Enable Fractional Ownership through Tokenization:*** Utilize blockchain tokenization to enable fractional ownership of real estate assets. By creating non-fungible tokens (NFTs) representing portions of properties, increase accessibility for a broader range of investors, fostering liquidity and diversification in the real estate market.

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Technology used

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- ❖ Solidity
- ❖ Javascript
 - Ether.js
 - React.js
 - NodeJS
- ❖ CSS
- ❖ HTML
- ❖ Metamask
- ❖ Hardhat

HTML



CSS



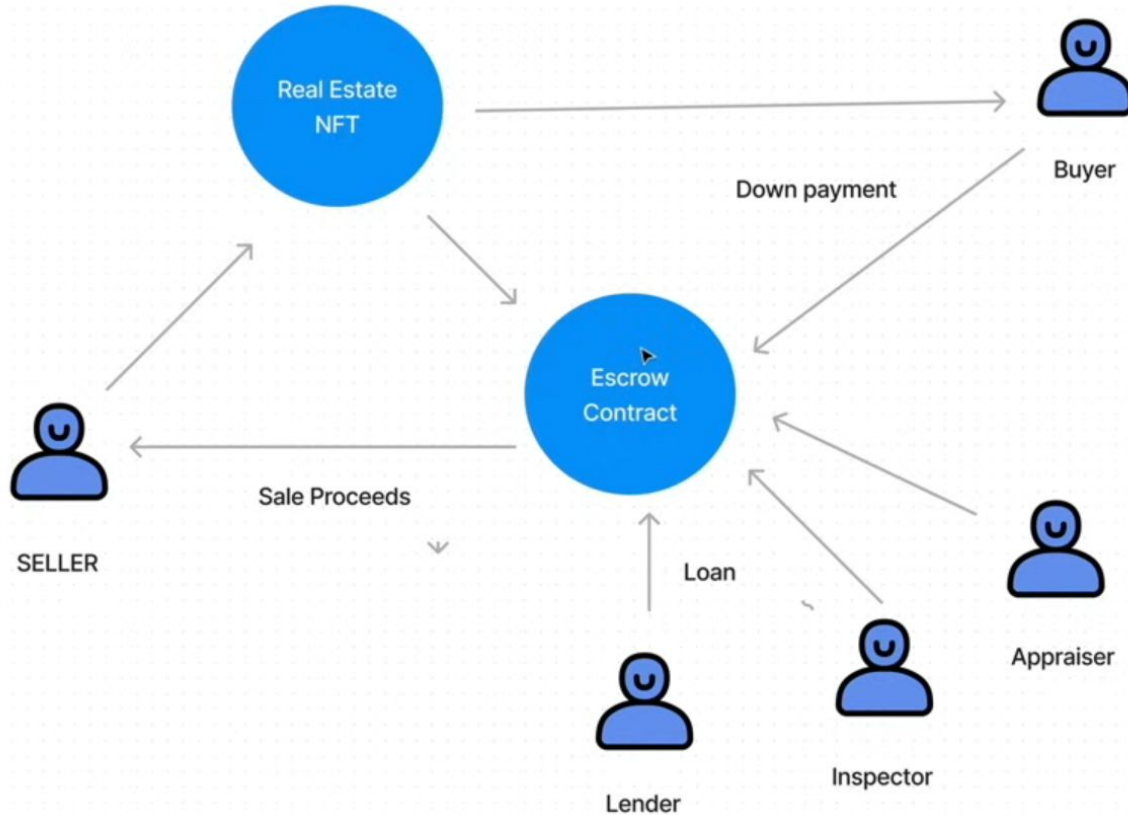
SOLIDITY

JS



Architecture

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- Seller lists property
- Buyer deposits earnest
- Appraisal
- Inspection
- Lender approves
- Lender funds
- Transfer Ownership
- Seller gets paid



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References

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4. <https://www.mdpi.com/2220-9964/10/1/35>
5. <https://docs.soliditylang.org/en/v0.8.23/>



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Thank
you!