



Computer Engineering Department

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UNIVERSITY OF MUMBAI

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A Project Report on
Decentralized Real Estate Application Using Blockchain

Submitted in partial fulfillment of the degree of
Bachelor of Engineering(Sem-7)

in
Computer Engineering

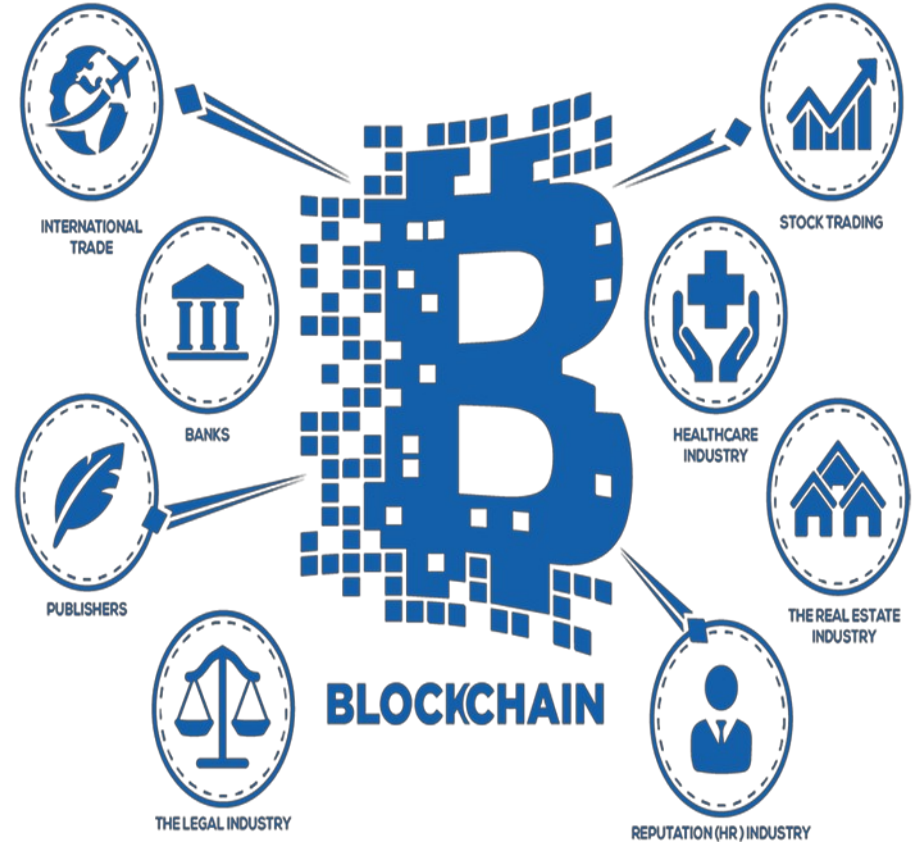
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Under the Guidance of
Prof.Sachin Malve

1. Project Conception and Initiation

1.1 Abstract

- What is blockchain?
- Why it makes sense for Land Records?



1.2 Objectives

- Enables an ‘unhackable’ public record
- Restore faith in Govt.
- Paperless transactions

1.3 Literature Review

- Self-Managing Real Estate - 10.1109/MC.2018.1151007
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- Blockchain-Enabled Smart Contracts: Architecture, Applications, and Future Trends
-10.1109/TSMC.2019.2895123
- Commercial Property Tokenizing With Smart Contracts-10.1109/IJCNN.2018.8489534

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1.4 Problem Definition

- Time Delays
- Human Intervention
- Fraud Realtors
- Involvement of middlemen

1.5 Scope

- Blockchain based website.
- Establish land record transparency.

Blockchain

Could Change the Real Estate
Investment Landscape



1.6 Technology stack

- Ethereum Test Network (Ropsten)
- NodeJs
- Solidity
- Ethers.js
- TestNets
- MetaMask
- React.js

1.7 Benefits for environment & Society

- Accelerate the process
- Reduces fraud cases
- Avoids broker charges

2. Project Design

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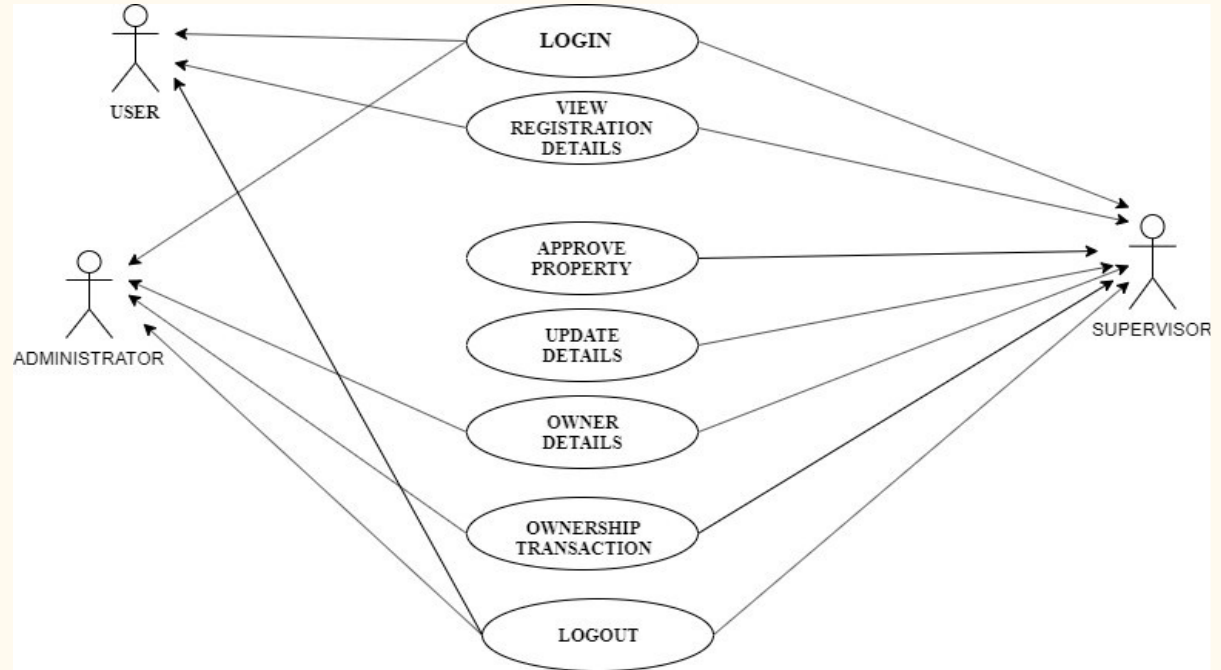
2.1 Proposed System

- Land Records on blockchain
- Include an Ethereum wallet

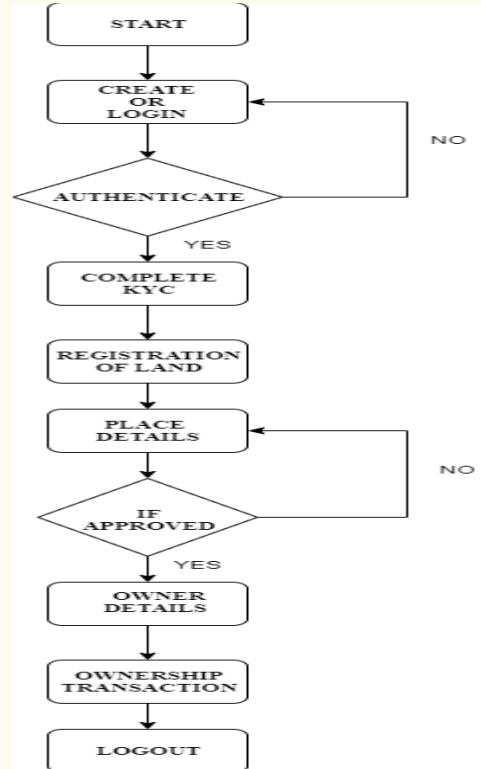
2.2 Design(Flow Of Modules)

- Module 1:- Ethereum Wallet
- Module 2:- KYC
- Module 3:- Land Registration (Land Records)
- Module 4:- Ownership Transaction

2.3 Description Of Use Case



2.4 Activity diagram



2.6 Module-1

Ethereum Wallet:

- What is Ethereum wallet?
- How to create a Ethereum wallet?

Module-2

KYC:

- KYC means 'Know Your Customer'.
- It is the process of a business verifying the identity of its clients and assessing their suitability, along with the potential risks of illegal intentions towards the business relationship.

Module-3

Land Registration:

- The land registration module is the key module of the entire project
- The user can actually register his/her land on an authenticated person's name without the need of any intermediaries

Module-4

Ownership Transaction

- The seller can give the ownership to the buyer and at that moment ownership transaction will take place in the form of token .
- The seller in a very authenticate way gives the land ownership to the buyer using a blockchain platform.

2.7 References

[1]Nathan Shedroff “Self-Managing Real Estate”, IEEE 2018.

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[2]Shuai Wang , Liwei Ouyang, Yong Yuan , Senior Member, IEEE, Xiaochun Ni, Xuan Han,and Fei-Yue Wang ”Blockchain-Enabled Smart Contracts: Architecture, Applications, andFuture Trends”

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[3]Alex Norta, Chad Fernandez and Stefan Hickmott “Commercial Property Tokenizing With Smart Contracts”, IEEE 2018

3.Planning for next — semester

Planning

- Wallet
- Land Registration
- Ownership Transaction

Thank You

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