

Pune Institute of Computer Technology



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“UML Diagrams for Project Work”

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By

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Abstract

In today's technology world security is of utmost importance. Insurance, Medical records and other asset classes are facing fraud cases every day. Blockchain and NFTs can be used to solve these problems using smart contracts. Since blockchain is an immutable ledger, it cannot be tampered also Smart Contracts execute tasks automatically without human intervention. All assets like insurance, land, cryptos, stocks and even medical records can be put on the blockchain. In some unfortunate events like sudden death, disease or for will purposes Smart Contracts can be used to automatically complete the transfer of assets to the specified beneficiary without any hassle and it is done securely without being tampered.

Introduction

Crypto, Land and other asset classes are facing fraud cases every day. Blockchain can be used to solve these problems using smart contracts. Since blockchain is an immutable ledger, it cannot be tampered. Assets like insurance, land can be put on the blockchain. In some unfortunate events like sudden death, disease or for will purposes. Smart Contracts can be used to complete the transfer of assets to the specified beneficiary without any hassle and it is done securely without being tampered. Automating the will transfer process will eliminate the long period of days and documentation involved in the process. Many farmers need to use their land as collateral to take loans from banks. But many of them don't have proper documents with them and they are barred from the loan. But using blockchain the banks can just use the data on the blockchain and grant the loan within short period of time without any paperwork.

Problem with cryptocurrencies is that if someone dies or forgets password to the account there is no way to regain the assets. So to solve this problem we can write smart contracts to automatically transfer the assets after some period of time automatically.

Problem Statement

To develop a decentralized application (dApp) to ensure security and transfer (primarily will transfer) of assets, like crypto, land using Blockchain and draw UML diagrams.

Motivation

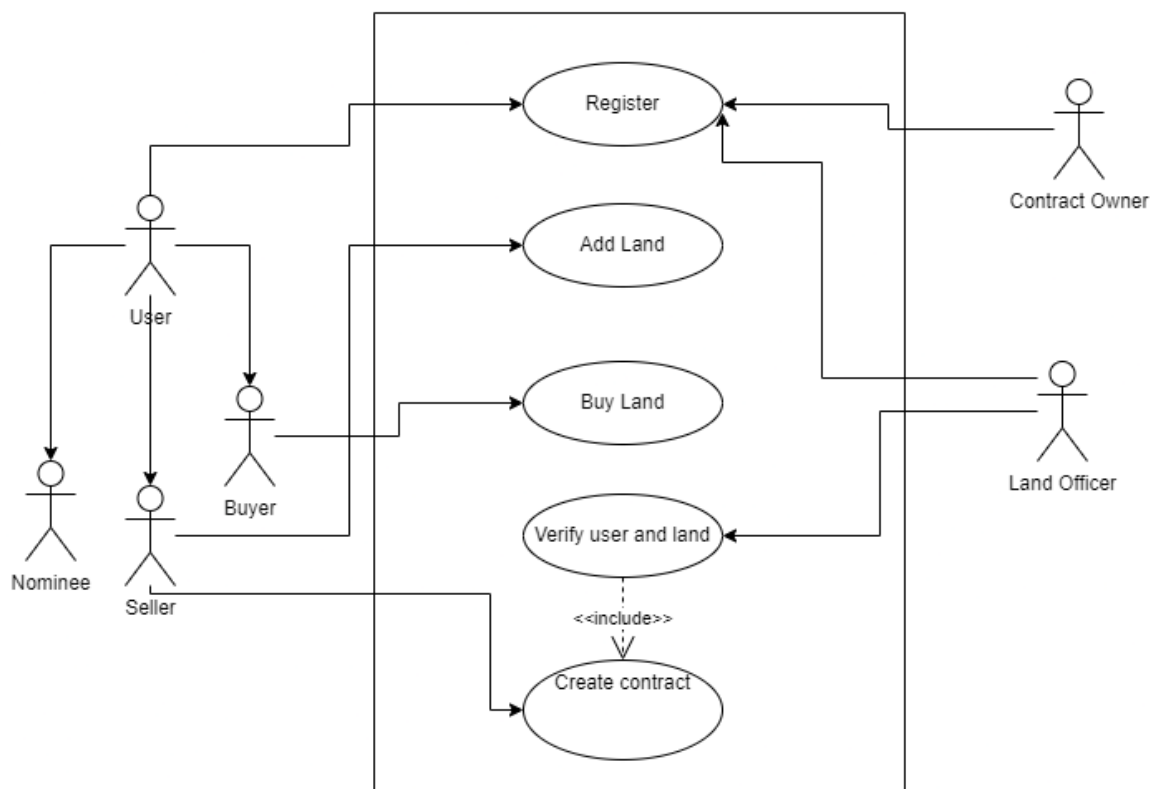
If a person dies, the assets like crypto, land on the blockchain go unclaimed. If a person wants to take a loan and has to keep land as collateral, it comprises of a

lot of hassle. There is too much of paperwork involved in current system of asset transfer. Purpose is to solve these problems.

Theory

Use Case Diagram:

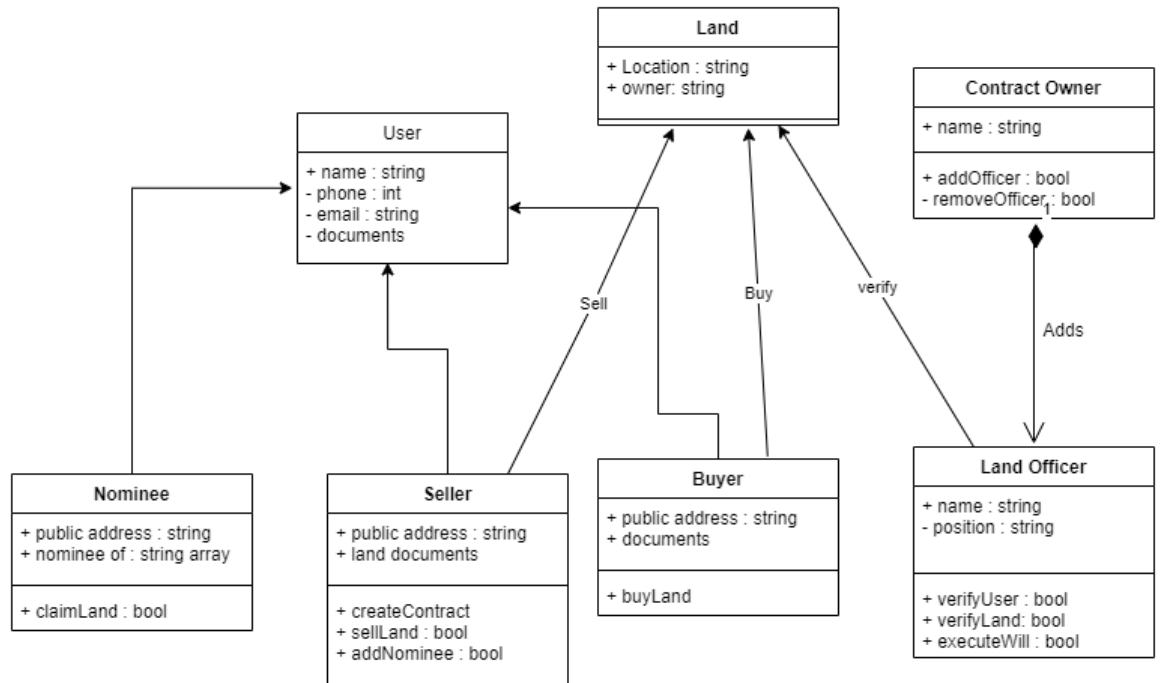
In the Unified Modeling Language (UML), a use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system. To build one, you'll use a set of specialized symbols and connectors



Class Diagram:

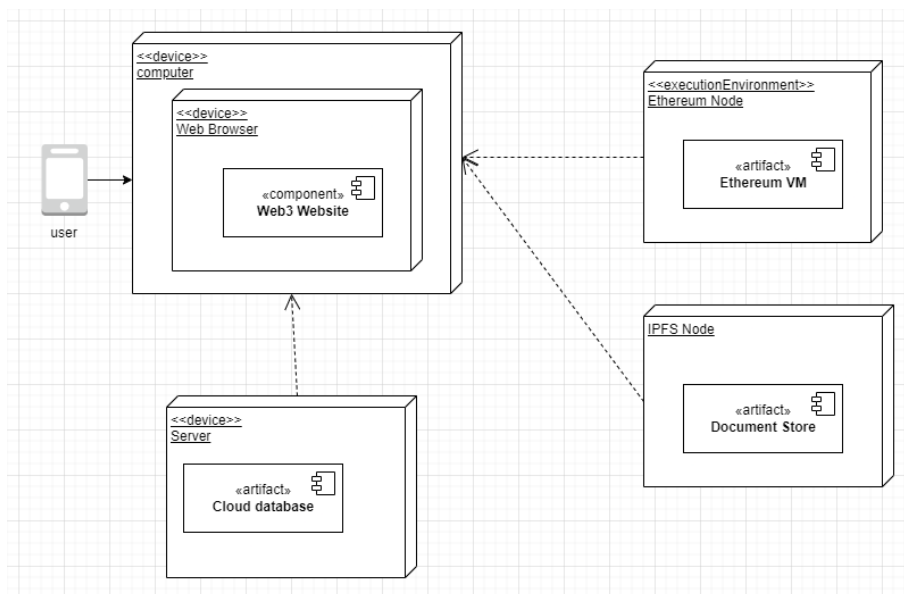
Class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing, and documenting different aspects of a system but also for constructing executable code of the software application.

Class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object-oriented systems because they are the only UML diagrams, which can be mapped directly with object-oriented languages.



Deployment Diagram:

A deployment diagram is a UML diagram type that shows the execution architecture of a system, including nodes such as hardware or software execution environments, and the middleware connecting them. Deployment diagrams are typically used to visualize the physical hardware and software of a system. Using it you can understand how the system will be physically deployed on the hardware.



Conclusion

Hence we learnt about UML diagrams and drew UML diagrams for our Project Asset Security and Transfer using Blockchain.

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