

Assignment No: - 4

Title: - Smart Contract Construction

Aim and Objective: - Smart Contract Construction using Solidity and Meta mask

Theory: -

Blockchain | Smart Contracts

A Smart Contract (or crypto contract) is a computer program that directly and automatically controls the transfer of digital assets between the parties under certain conditions. A smart contract works in the same way as a traditional contract while also automatically enforcing the contract. Smart contracts are programs that execute exactly as they are set up (coded, programmed) by their creators. Just like a traditional contract is enforceable by law, smart contracts are enforceable by code.

Idea behind smart contracts

The idea behind smart contracts is pretty simple. They are executed on a basis of simple logic, IF-THEN for example:

- **IF** you send me the object A, **THEN** the sum (of money, in cryptocurrency) will be transferred to you
- **IF** you transfer a certain amount of digital assets (cryptocurrency, for example, ether, bitcoin), **THEN** the A object will be transferred to you
- **IF** I finish the work, **THEN** the digital assets mentioned in the contract will be transferred to me

Features

- Trust:
The smart contract can't be lost as its embedded in the blockchain itself.
- Accuracy:
Smart contracts are accurate to the limit a programmer has accurately coded them for execution.
- Speed:

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- **Backup:**
Every node in the blockchain maintains the shared ledger, providing probably the best backup facility.
- **Autonomy:**
There is no third part involved.
- **Safety:**
Cryptography can make sure that the assets are safe and sound. Even if someone breaks the encryption, the hacker will have to modify all the blocks that come after the block which has been modified.
- **Savings:**
Smart contracts save money as they eliminate the presence of intermediaries in the process. Also, the money spent on the paperwork is minimal to zero.

Platforms using smart contracts

Many platforms that have come up allow for the use of smart contracts. Some are as follows: Ethereum, Bitcoin, Nxt. Today etc.

Code: -

Output: -

Conclusion: -

I successfully Implement Smart Contract in blockchain using meta mask and solidity and also demo using js and HTML