Centurion University
Shaping Lives... Empowering Communities...

School: ..... Campus: .....

Academic Year: ..... Subject Name: ..... Subject Code: .....

Semester: ..... Program: ..... Branch: ..... Specialization: .....

Date: .....

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiement :Connect the Dots – Ethers.js and MetaMask UI

Objective/Aim:

- To learn how to connect a web application to the Ethereum blockchain using **Ethers.js**.
- To understand how to integrate **MetaMask** for account access and transactions.
- To interact with Ethereum smart contracts via a frontend UI.

Apparatus/Software Used:

- MetaMask
- Remix IDE
- Vs code

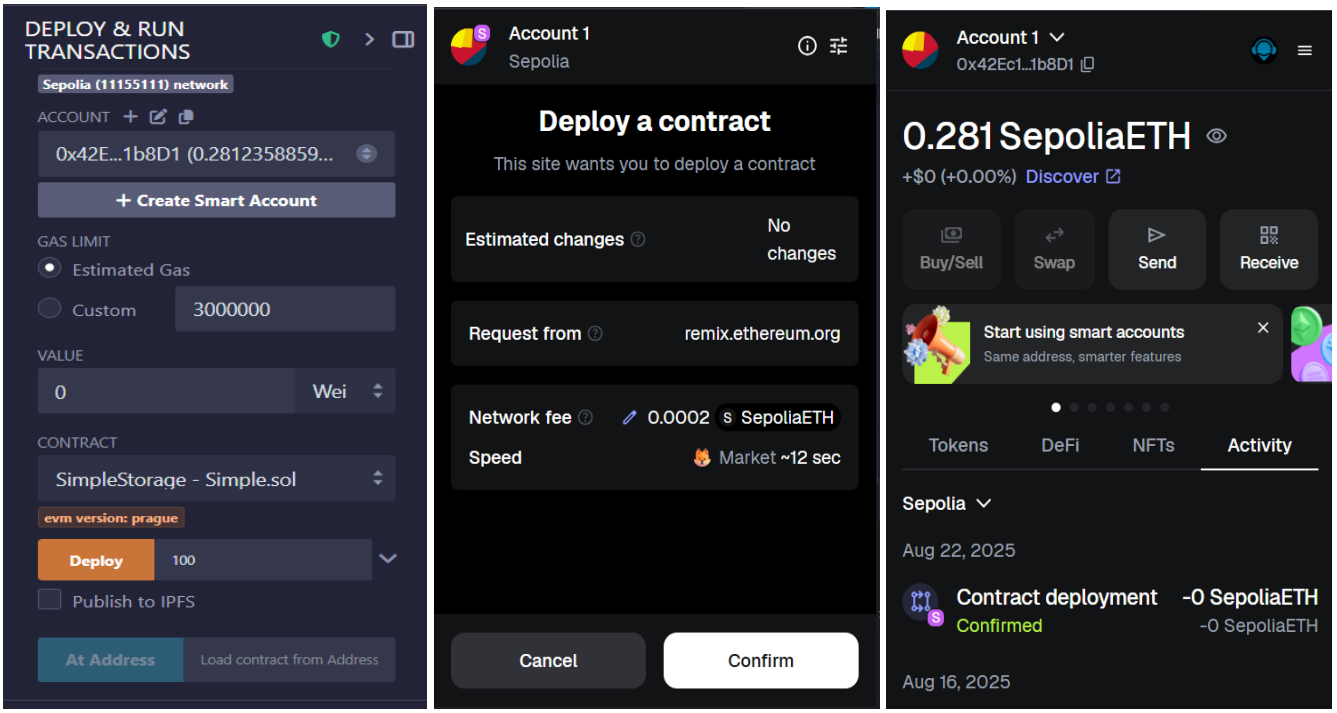
Procedure:

1. Open Remix IDE and write the SimpleStorage.sol smart contract.

```
1  //SPDX-License-Identifier:MIT
2  pragma solidity ^0.8.0;
3
4  contract SimpleStorage{
5      uint public storedData;
6
7      constructor(uint _data){    infinite gas 73800 gas
8          storedData = _data;
9
10     }
11
12     function set(uint x) public {    22514 gas
13         storedData = x;
14     }
15
16     function get() public view returns(uint){    2453 gas
17         return storedData;
18 }
19 }
```

Procedure:

2.After writing smart contract compile it and copy the abi .
3.Then go to the deploye section and delpoye it by giving some value and confirm it on MetaMask.



3. Now open Vs code and past the abi and write the frontend in app.js and ether.js after connecting our smart contract with frontend run the the code .

4.Now in the output section first connect the MetaMak.

5. After connecting MetaMask , We can store value by giving some value.

6. After giving value click on Update option and confirm transaction in MetaMask. Now the value is stored.

Observation:

- Successfully connected DApp to Ethereum using **Ethers.js** and **MetaMask**.
- Learned to request wallet access, read balances, and optionally interact with contract.
- Understanding these basics is essential for building functional Web3 applications.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	**50**		

Signature of the Student:

Name :

Signature of the Faculty:

Regn. No. :

**As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.