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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 Experiment : Mobile-Ready – Cross-Platform DApp Awareness

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

ALGORITHM

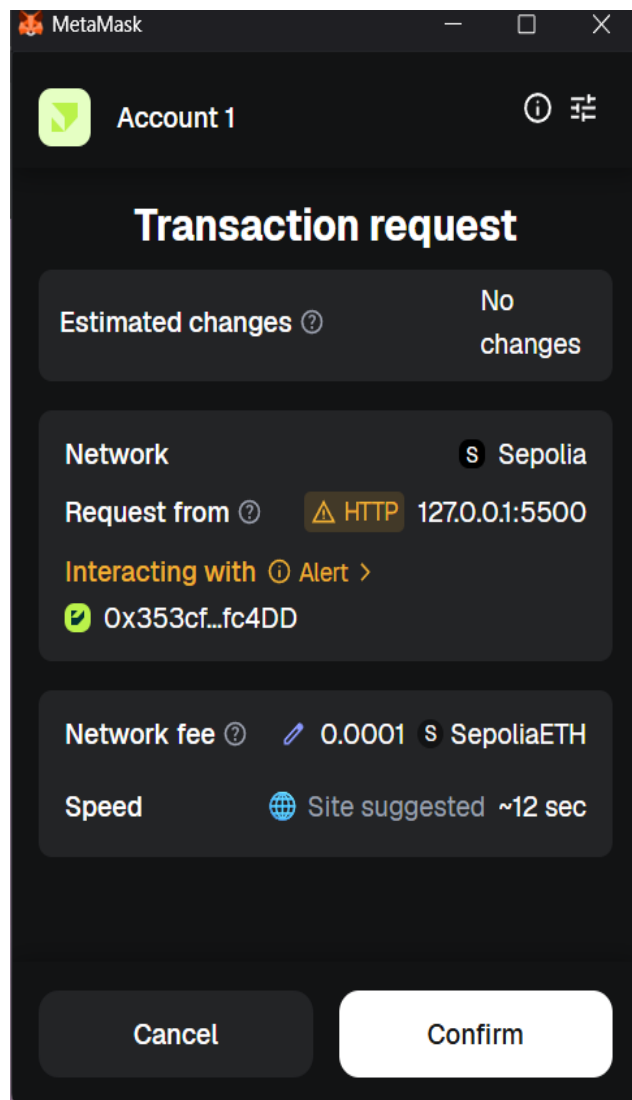
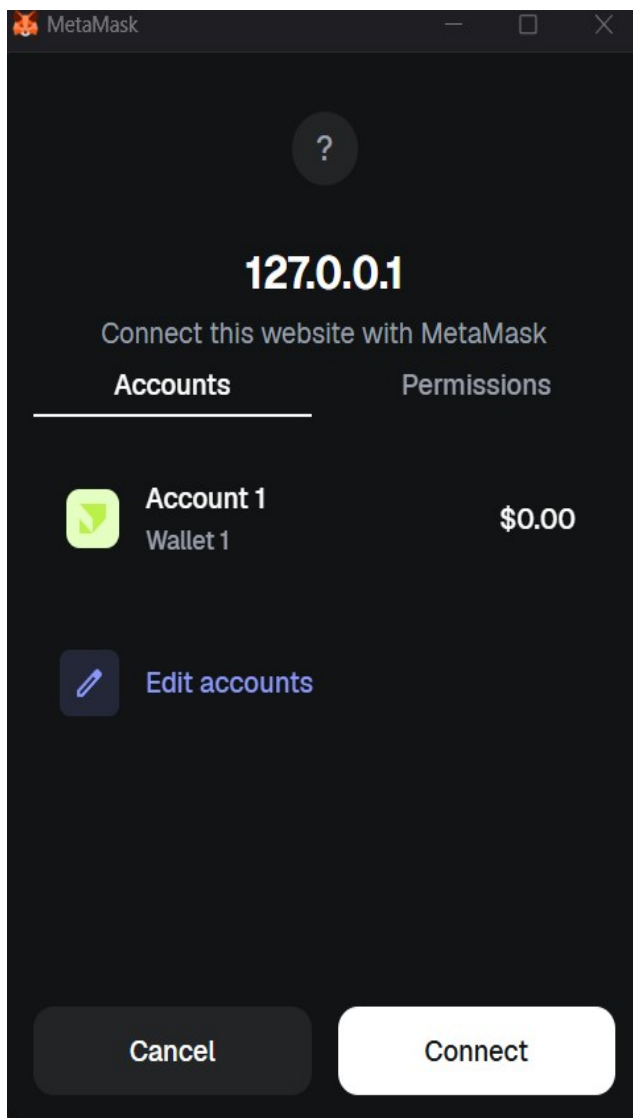
1. User Opens Dapp:
 - On Brave Browser
 - On Mobile Browser / App (e.g., MetaMask App)
2. Wallet Connection:
 - Desktop: MetaMask browser extension connects and injects Web3/Ethers
 - Mobile: MetaMask mobile app or WalletConnect QR enables connection
3. Smart Contract Interaction:
 - Frontend calls smart contract via Web3.js/Ethers.js
 - Both mobile and desktop run the same contract functions
4. Perform Transaction:
 - User triggers a read/write function (e.g., mint, vote, transfer)
 - Wallet asks for gas confirmation (popup appears)
5. Completion & Feedback:
 - Transaction is submitted and mined
6. DApp shows transaction hash, success or failure status

* Softwares used

1. Remix IDE
2. MetaMask Wallet (Desktop & Mobile)
3. WalletConnect
4. A responsive web frontend built using React.js with Web3/Ethers.js.

* Testing Phase: Compilation of Code (error detection)

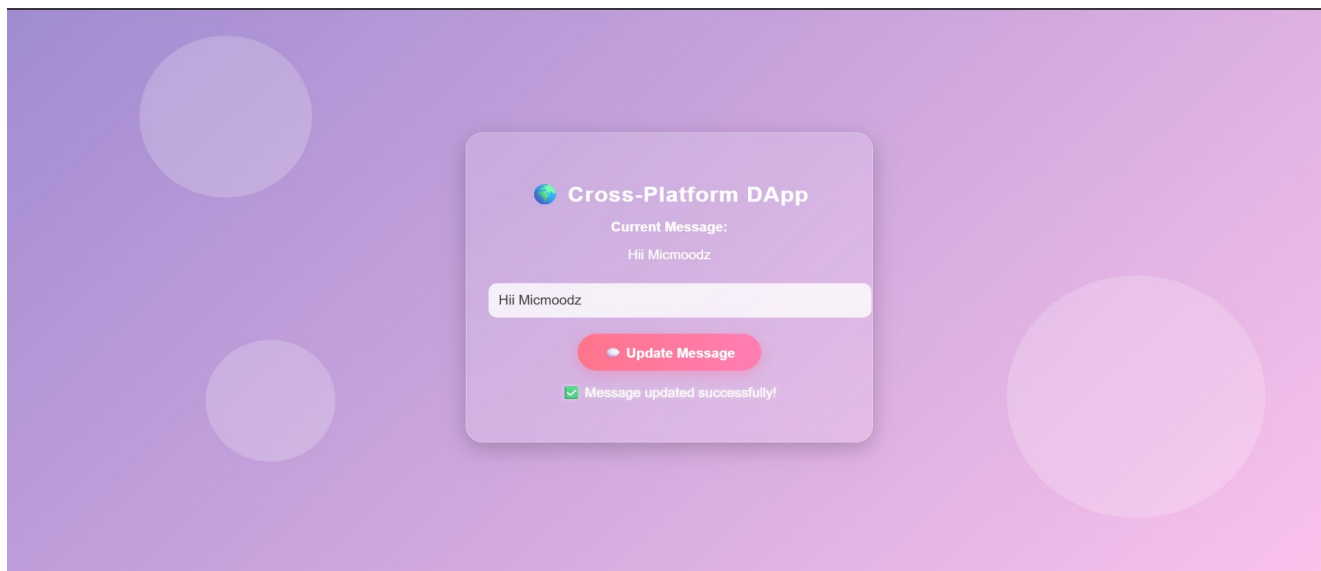
- 1.The DApp was tested on both desktop and mobile devices to ensure cross-platform compatibility.
- 2.On desktop, the DApp was accessed via brave browser with the MetaMask extension installed, and smart contract interactions were successfully performed.
- 3.On mobile, the same DApp URL was opened using the MetaMask mobile app browser, and WalletConnect was used to verify wallet integration for other mobile browsers.
- 4.Functional testing was conducted by performing basic read and write operations (e.g., invoking smart contract functions) on both platforms.
- 5.Responsive behavior of the user interface was checked using browser developer tools to confirm proper layout rendering on different screen sizes.
- 6.No errors or connection issues were found in smart contract execution across devices, validating the success of cross-platform functionality.



* Implementation Phase: Final Output (no error)

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- 1.DApp frontend opens properly on both desktop and mobile devices
- 2.Wallet connected and smart contract methods executed successfully
- 3.No change in contract code required for cross-platform support
- 4.Final UI previewed on Chrome, Firefox (desktop), and MetaMask app (mobile)



* Observations

- 1.The same smart contract seamlessly works across mobile and desktop without code modifications.
- 2.WalletConnect is essential for mobile wallet integration, especially when browser extensions cannot be installed.
- 3.UI responsiveness is necessary for smooth user experience on mobile screens.
- 4.Cross-platform DApps improve accessibility and enable true decentralization by lowering device barriers.

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 :

Regn. No. :

Signature of the Faculty:

Page No.....

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