



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 :

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

Flow of Cross-Platform DApp Usage:

1. User Opens Dapp:

- On Desktop Browser (e.g., Chrome, Brave)
- On Mobile Browser / App (e.g., MetaMask App, WalletConnect QR link)

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

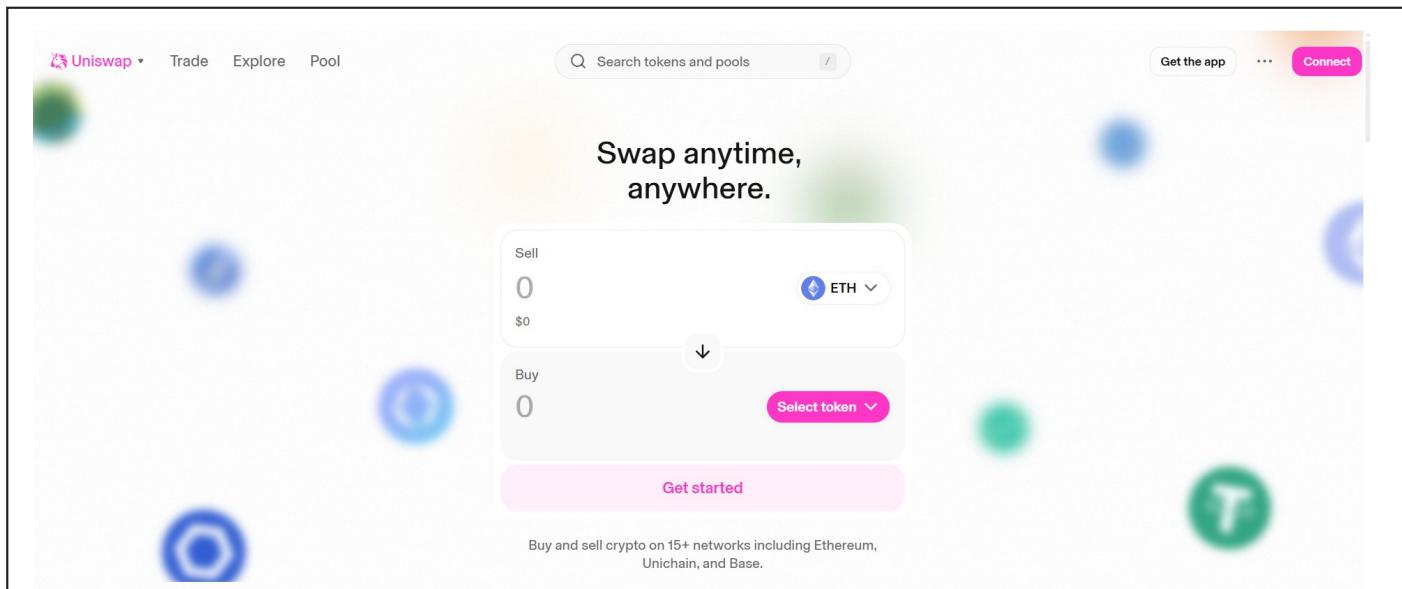
* Softwares used

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

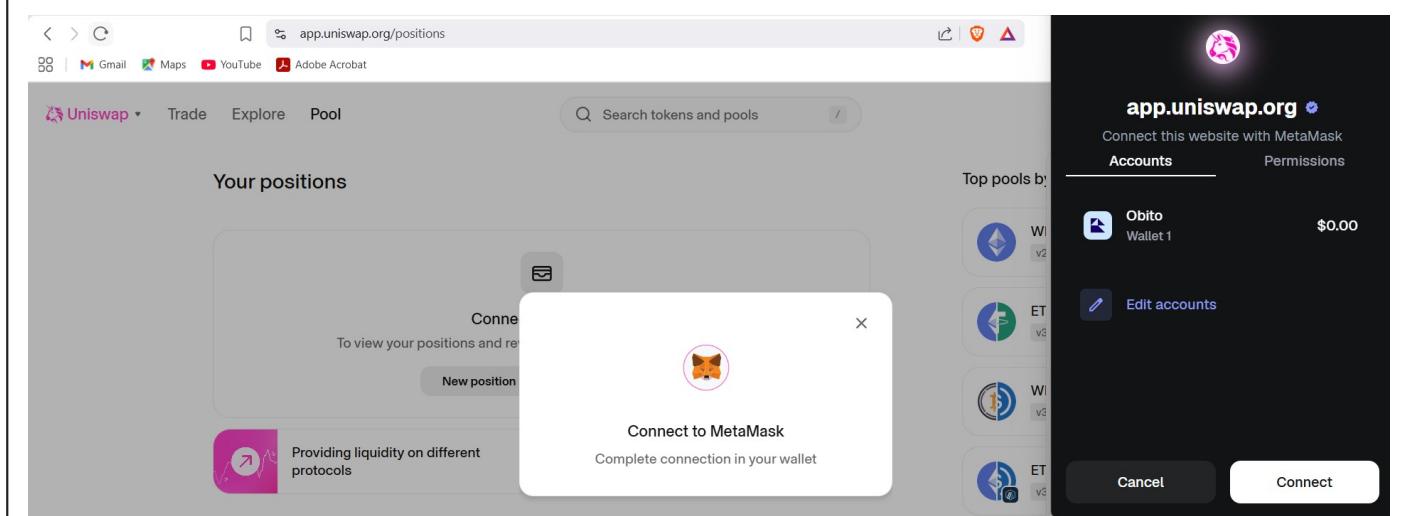
* Testing Phase: Compilation of Code (error detection)

- 1.The DApp was tested on both desktop and mobile devices to ensure cross-platform compatibility.
- 2.On desktop, the DApp was accessed via a browser (Chrome) 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.

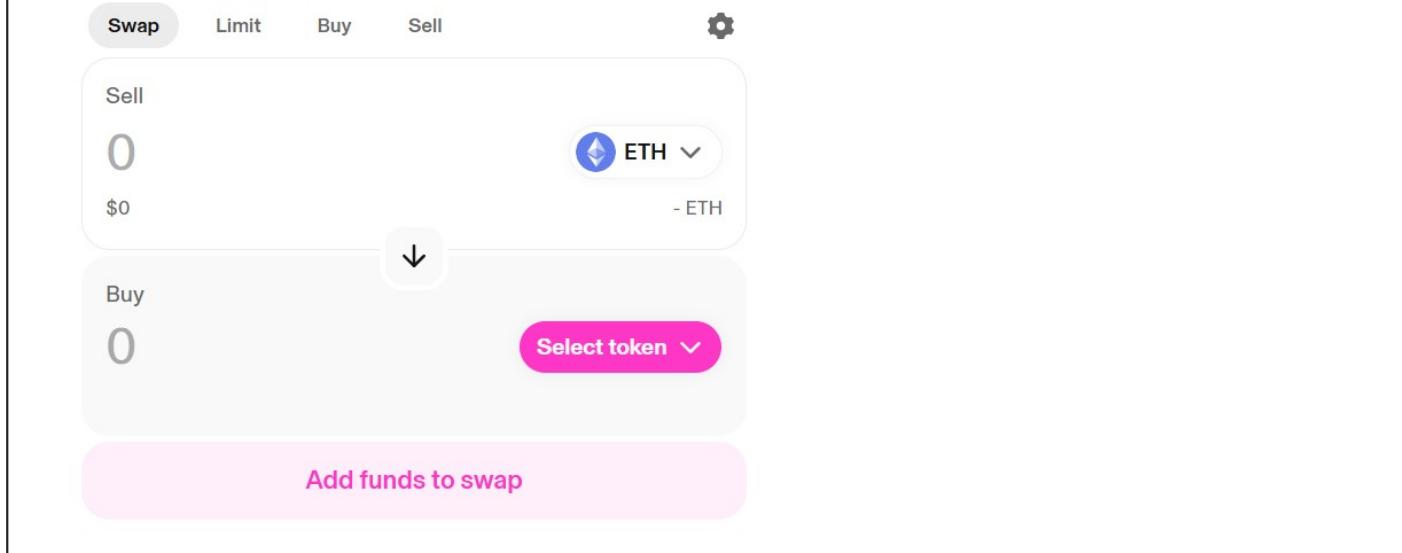
* Implementation Phase: Final Output (no error)



The screenshot shows the Uniswap homepage. At the top, there are navigation links for "Uniswap", "Trade", "Explore", and "Pool". A search bar says "Search tokens and pools". On the right, there are buttons for "Get the app", "Connect", and a three-dot menu. The main headline reads "Swap anytime, anywhere." Below it is a swap form with "Sell" and "Buy" fields set to 0, and a dropdown for "Select token". A pink "Get started" button is at the bottom. A note below the form says "Buy and sell crypto on 15+ networks including Ethereum, Unichain, and Base." There are blurred background icons of various cryptocurrencies.



The screenshot shows the "Your positions" page on app.uniswap.org. It features a "New position" button and a note about providing liquidity on different protocols. A central modal window prompts the user to "Connect to MetaMask" with a "Complete connection in your wallet" instruction. In the background, a dark sidebar shows "Top pools by volume" and "Accounts" (listing "Obito Wallet 1" with \$0.00). Buttons for "Edit accounts", "Cancel", and "Connect" are visible.



The screenshot shows the swap interface. The "Swap" tab is selected. The "Sell" section shows 0 ETH with a dropdown for "Select token". The "Buy" section shows 0 with a "Select token" button. A pink "Add funds to swap" button is at the bottom. The background is light gray with some UI elements visible.

* Implementation Phase: Final Output (no error)

Applied and Action Learning

- 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. :

Page No.....

Signature of the Faculty:

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