

## Wallet Connect Flow - Assignment Submission Explanation

### Objective

Integrate MetaMask wallet connection as a **mandatory step before user authentication**, without modifying the existing login and signup logic. This satisfies the requirement of "gating the sign-in flow behind a wallet connection."

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### Implementation Summary

- A new React component named `WalletGate` was introduced in the frontend.
  - It is responsible for:
    - Checking for MetaMask installation ( `window.ethereum` )
    - Prompting wallet connection via `eth_requestAccounts`
    - Managing UI based on wallet connection status
  - Existing sign-in and sign-up flows (using sockets and user state) remain unchanged.
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### How It Works

#### 1. Wallet Detection

2. `useEffect()` checks if `window.ethereum` is available.
3. If not, user sees a styled message and an `Install MetaMask` button.

#### 4. Wallet Connection Prompt

5. If MetaMask is installed but not connected, the UI shows a `Connect Wallet` button.
6. On click, it triggers `eth_requestAccounts`.

#### 7. Post-Connection Behavior

8. Once a wallet is connected, the user gains access to the existing `<Sign />` component.
9. No changes are made to `signIn.js`, `signup.js`, or socket communication.

#### 10. Integration Point

11. In `page.js`, the following change was made:

```
<WalletGate>
  <Sign {...props} />
</WalletGate>
```

12. This ensures the gating only wraps the sign-in UI and nothing else.

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### Styling & UX

- Styled using existing classes such as `sign_container`, `sign_box`, and `mybutton` to match the casino theme.
  - Messages and buttons follow the same UX structure as the original sign-in page.
  - Supports internationalization ( `react-i18next` ) for all texts shown.
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### Summary

- Wallet gating added as a non-intrusive layer
  - Fully compliant with assignment requirement
  - No disruption to authentication logic or backend
  - Clean, maintainable, and user-friendly
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This solution is now committed to the public repository: [🔗 github.com/anandchandramohan/casino-game-assignment-submission](https://github.com/anandchandramohan/casino-game-assignment-submission)