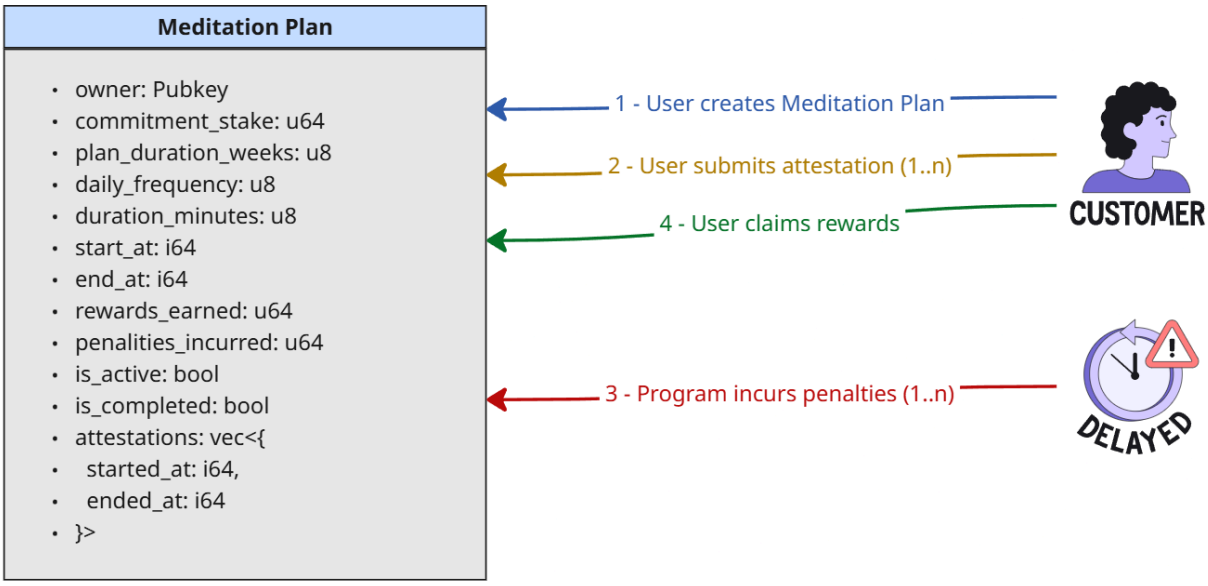
Assignment 3: Architecture Design

Protocol PoC Requirements

- **Meditation Plan Creation:**
    - The protocol shall allow a user to create a meditation plan, specifying:
        - Plan duration (1-4 weeks)
        - Meditation frequency per day (1-4 times)
        - Individual meditation duration (5-60 minutes)
        - Starting Date and Time (now or in the future)
        - Ending Date and Time (calculated using the plan duration)
        - Rewards earned from completed meditation sessions
        - Penalties incurred from missed meditation sessions
    - The protocol shall allow a user to deposit/stake USDC tokens
    - The protocol shall cap the deposit amount at $500
- **Meditation Session Attestation:**
    - The protocol shall allow a user to submit a meditation attestation, validating:
        - Session duration is greater than or equal to the commitment duration
        - All sessions for the current 24-hour period have not yet been completed
    - The protocol shall update the meditation account to release rewards for each session using a simple percentage calculation
- **Penalty Mechanism:**
    - The protocol shall update the meditation account *daily* to incur penalties for missed sessions using the same rewards percentage calculation
- **Meditation Plan Completion:**
    - The protocol shall allow a user to see final plan results
    - The protocol shall allow a user to claim rewards earned

Overview



- 1 - User creates mediation plan
  - On-chain mediation PDA created
  - USDC Tokens sent to vault
- 2 - User submits meditation attestation
  - Attestation PDA created
  - Mediation plan rewards earned increased by simple percentage
- 3 - Program incurs penalties daily
  - Cron runs daily checking for last meditation attestation
  - Mediation plan penalties incurred increased by same percentage used for rewards
- 4 - User claims rewards
  - If meditation plan completed
  - Program sends rewards to user address

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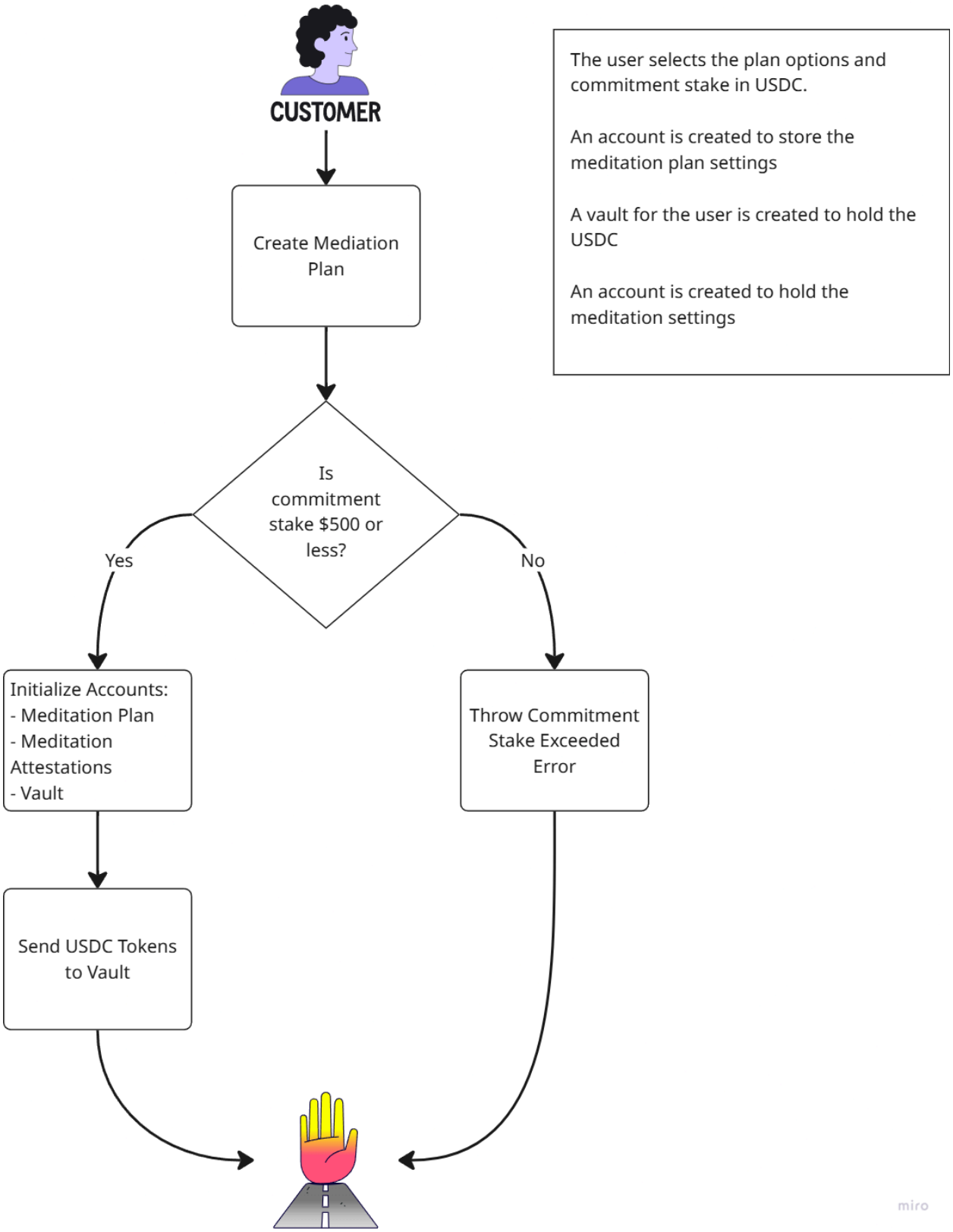
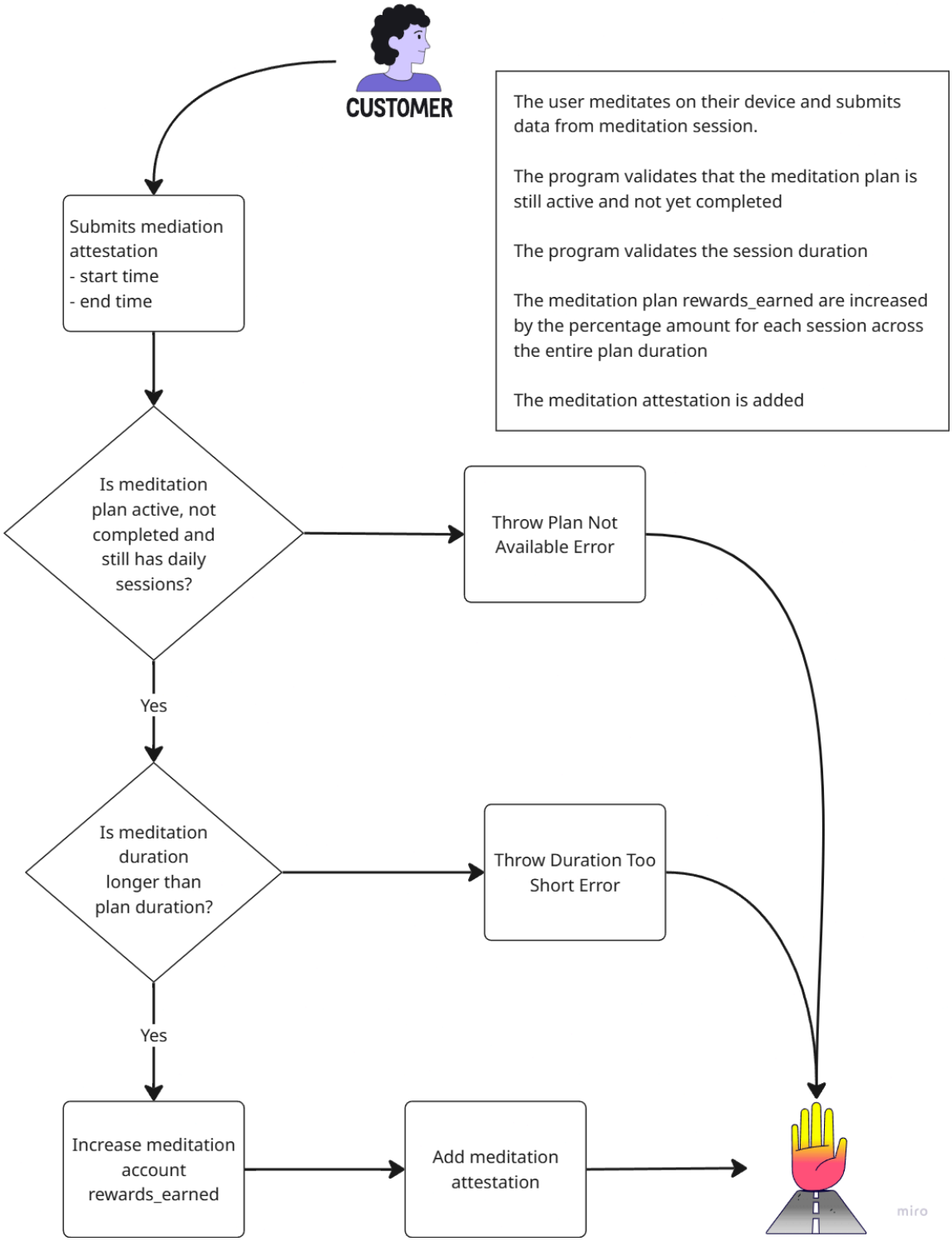
Create Meditation Plan



Submit Attestations

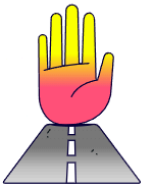


Incur Penalties

Cron scans for meditation plans that are active and incomplete

Calculate penalties for missed meditation sessions during the previous day

Update penalties_incurred on meditation plan account



A cron job executes daily to scan through all active and not completed meditation plans

Each plan is updated with penalties_incurred for any meditation sessions missed during the previous day

The same percentage for rewards is used for each missed session

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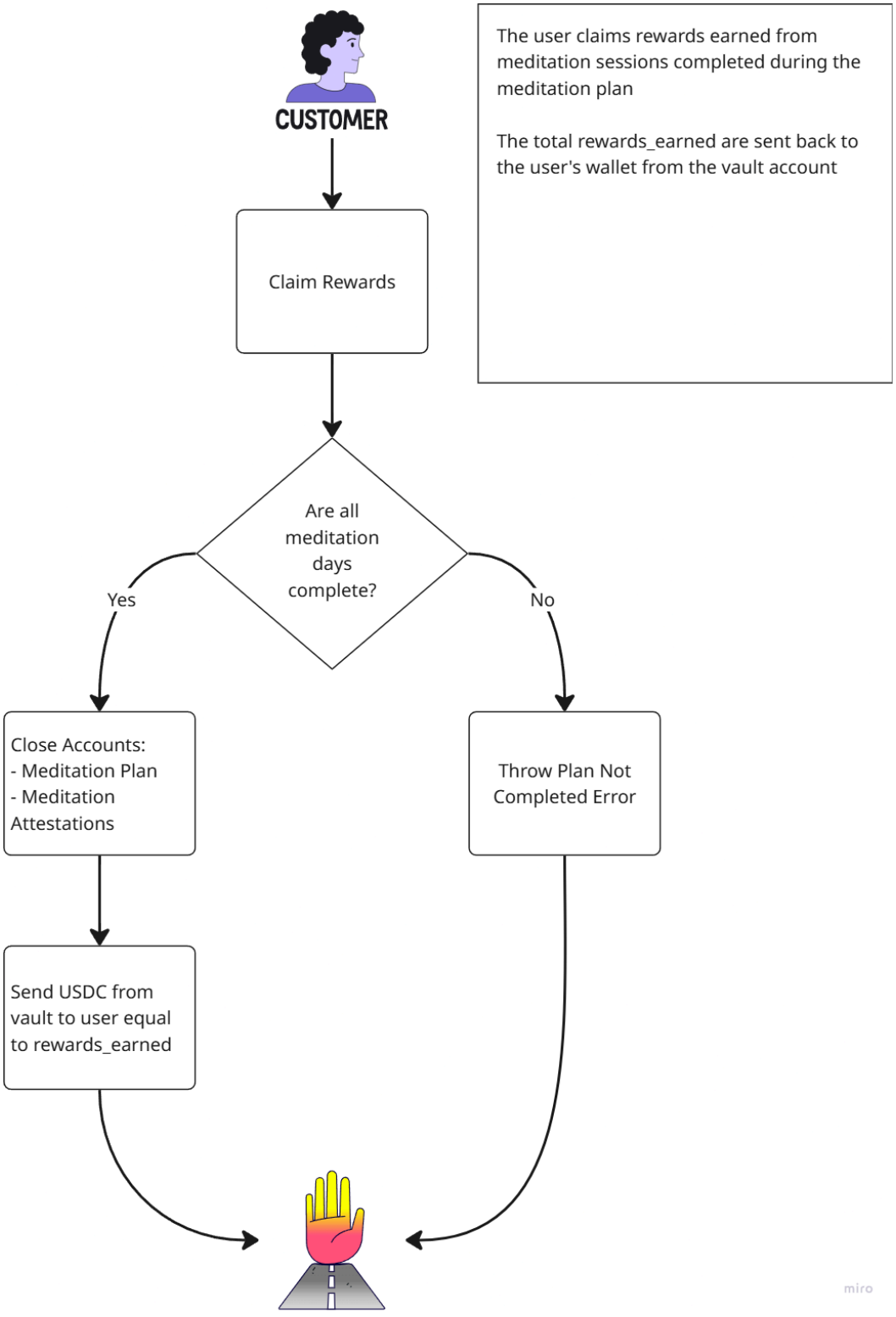
Claim Rewards