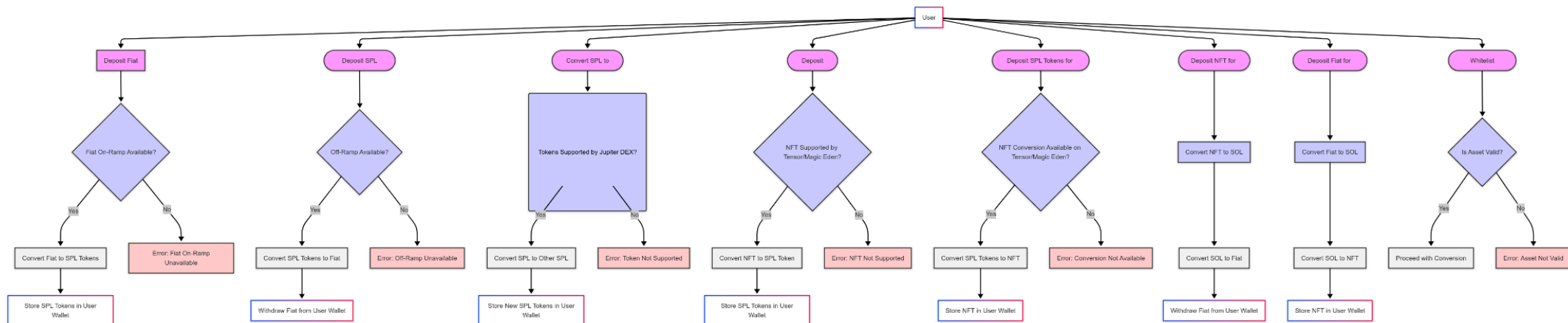


StateFi Protocol Requirements

Asset Deposits and Conversion

- **Fiat to SPL Tokens:** Users can deposit or convert fiat to SPL tokens via integrated fiat on-ramps (bank transfer).
- **SPL Tokens to Fiat:** Users can deposit/convert SPL tokens to fiat via integrated off-ramps.
- **SPL to SPL Conversion:** Users can convert SPL tokens to other SPL tokens via Jupiter DEX.
- **NFT to SPL Tokens:** Users can deposit/convert NFTs to SPL tokens via Tensor/Magic Eden.
- **SPL Tokens to NFTs:** Users can deposit/convert SPL tokens to NFTs via Tensor/Magic Eden.
- **NFT to Fiat:** Users can deposit or convert NFTs to fiat (NFT to Sol, then fiat).
- **Fiat to NFT:** Users can deposit/convert fiat to NFTs (fiat to Sol, then NFT).
- **Token & NFT Whitelist:** The protocol will maintain a whitelist of supported tokens and NFT collections for validation and security.

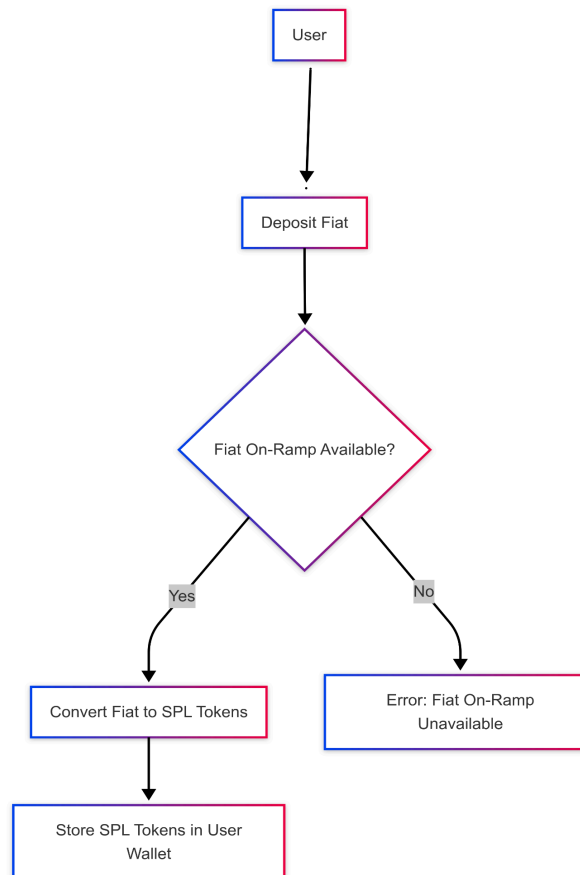
1. Figure: Overview of the Arch Diagram



User Flow Protocol

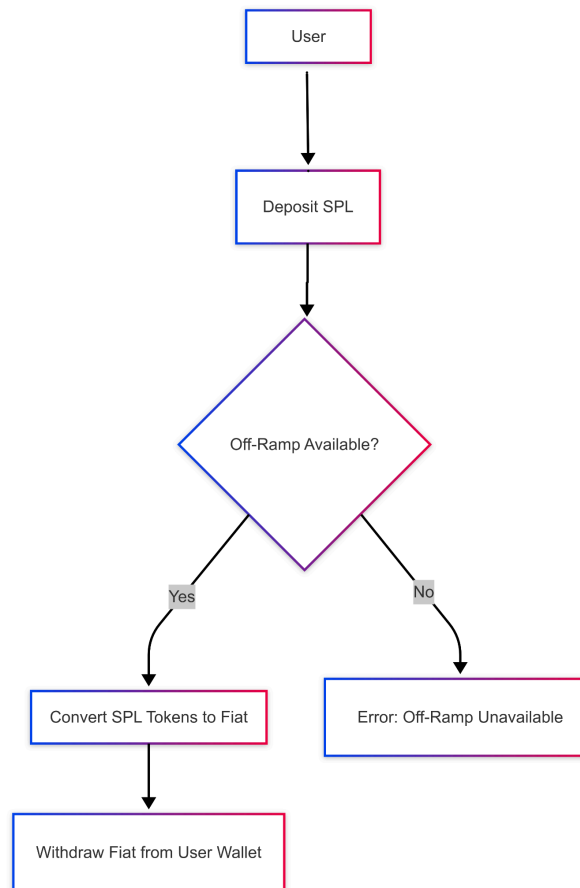
Fiat to SPL Tokens (On-Ramp)

- Users initiate a fiat deposit via an integrated on-ramp (e.g., bank transfer).
- The on-ramp service sends a signed transaction to create a FiatDeposit account.
- The protocol validates the deposit and mints the corresponding SPL tokens to the user's vault.
- Users can withdraw SPL tokens to their wallets.



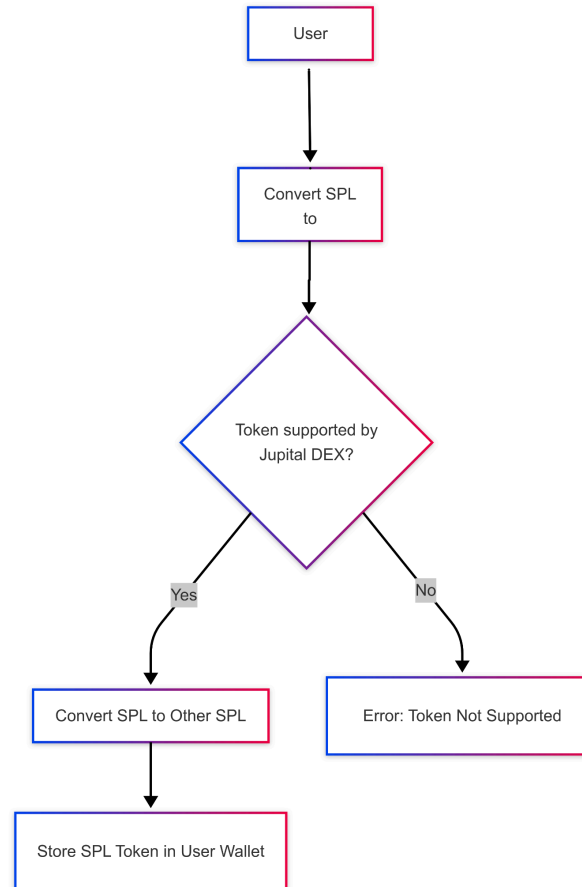
SPL Tokens to Fiat (Off-Ramp)

- Users initiate a fiat withdrawal by specifying the amount and SPL token.
- The protocol creates a FiatWithdrawal account and locks the SPL tokens in the vault.
- Off-ramp service processes the withdrawal and sends fiat to the user's bank account.



SPL to SPL Conversion

- Users initiate an SPL-to-SPL conversion via Jupiter DEX integration.
- The protocol creates a Conversion account and swaps tokens using Jupiter's API.
- Swapped tokens are deposited into the user's vault.



NFT to SPL Tokens

- Users deposit an NFT into their vault.
- The protocol creates a Conversion account and uses Tensor/Magic Eden to fetch the NFT's value in SPL tokens.
- SPL tokens are minted and deposited into the user's vault.

SPL Tokens to NFTs

- Users initiate an SPL-to-NFT conversion by specifying the target NFT collection.
- The protocol creates a Conversion account and uses Tensor/Magic Eden to purchase the NFT.
- NFT is deposited into the user's vault.

NFT to Fiat

- Users initiate an NFT-to-fiat conversion.
- Protocol converts the NFT to SOL using Tensor/Magic Eden.
- SOL is converted to fiat via the off-ramp service.

Fiat to NFT

- Users initiate a fiat-to-NFT conversion.
- Fiat is converted to SOL via the on-ramp service.
- SOL is used to purchase the NFT via Tensor/Magic Eden.