LlamaRollup

Data Model Overview

This data model supports the logic of a DeFi AI Agent capable of processing conversational commands, recommending yield strategies, and executing on-chain actions on Scroll, using aggregated market data from DeFiLlama.

1. Core Entities and Attributes

USER

Represents a user interacting with the Chatbot/Wallet system.

Attribute	Type	Description
userID (PK)	STRING	Unique system-generated identifier (e.g., UUID).
walletAddress	STRING	Primary on-chain wallet address (0x...).
telegramID	STRING	User identifier on the messaging platform (e.g., for Telegram bot).
createdAt	TIMESTAMP	Date when the user was registered.
preferChain	STRING	Preferred blockchain for deposits (e.g., "Scroll", "Ethereum").
riskProfile	STRING	User's risk preference ("Low", "Medium", "High").

CONTACT

Stores trusted contacts added by the user for quick transactions.

Attribute	Type	Description
contactID (PK)	STRING	Unique contact ID.
userID (FK)	STRING	Reference to the user who owns this contact (1:N).
name	STRING	Human-readable contact name (e.g., "Juan Advisor").
address	STRING	Wallet address of the contact (0x...).

TRANSACTION

Represents any on-chain interaction triggered by the chatbot, from transfers to yield deposits.

Attribute	Type	Description
txID (PK)	STRING	Blockchain transaction hash.
userID (FK)	STRING	User who initiated the transaction.

type	STRING	Transaction type: "Transfer", "DepositYield", "Swap", "Withdraw".
chain	STRING	Blockchain where the transaction occurred (e.g., "Scroll", "Sepolia").
status	STRING	Transaction state: "Pending", "Success", "Failed".
amount	DECIMAL	Amount of token transferred.
tokenSymbol	STRING	Token symbol (e.g., "USDC", "ETH").
protocolUsed	STRING	Protocol involved (e.g., "Aave", "Compound", "LlamaRollupVault").
timestamp	TIMESTAMP	Moment when the transaction occurred.

YIELD_DATA

(*Source: DeFiLlama API*)
Represents a snapshot of yield data used by the AI Agent for strategy recommendations.

Attribute	Type	Description
dataID (PK)	STRING	Unique identifier for the yield data snapshot.
protocolName	STRING	Protocol name (e.g., "Aave V3", "Compound").
chain	STRING	Chain where the pool exists (e.g., "Scroll", "Polygon").
tokenSymbol	STRING	Token used in the pool (e.g., "USDC", "DAI").
apr	DECIMAL	Current APR (Annual Percentage Rate).
tvlUsd	DECIMAL	Total Value Locked in USD (used for liquidity/risk assessment).
isStablecoin	BOOLEAN	Indicates whether the pool uses stablecoins (useful for filtering by risk).
lastUpdated	TIMESTAMP	Timestamp of the last information update from DeFiLlama.

AGENT_ACTION

Represents a decision made by the AI Agent based on user intent and yield data.

Attribute	Type	Description
actionID (PK)	STRING	Unique AI action identifier.
userID (FK)	STRING	User who triggered the action/query.
txID (FK)	STRING	Resulting transaction (1:1 relationship with TRANSACTION).
userQuery	TEXT	User's original message (e.g., "Where should I put my USDC?").
bestYieldID (FK)	STRING	Yield data snapshot used for the decision.
rationale	TEXT	Explanation of why the agent recommended the strategy (e.g., "Highest APR + high TVL").
isExecuted	BOOLEAN	Whether the recommendation resulted in a signed transaction.

2. Overview (Conceptual)

Relationships:

Relationship	Entities	Type	Description
User saves contacts	USER → CONTACT	1:N	One user may have many contacts.
User initiates transactions	USER → TRANSACTION	1:N	One user may generate multiple on-chain actions.
AI decision uses yield data	YIELD_DATA → AGENT_ACTION	1:N	A yield snapshot can inform many user-specific decisions.
AI decision results in a transaction	AGENT_ACTION → TRANSACTION	1:1	One AI action results in one blockchain transaction.
User queries AI Agent	USER → AGENT_ACTION	1:N	A user can generate multiple AI-driven recommendations.