Treasury Movement Simulator

Product Requirements, Assumptions, and Scope

Overview

The Treasury Movement Simulator is a web application for managing virtual accounts across three currencies (KES, USD, NGN). It enables treasury teams to move funds between accounts, perform FX conversions, schedule future-dated transfers, and maintain a complete transaction log. The app is designed for simulation and demo purposes, not for real banking.

Core Features

- Account Management: View all 10 virtual accounts, each with a unique name, currency, and real-time balance. Accounts are grouped by currency for clarity.
- Transfers: Move money from one account to another. Specify amount and optional note. Real-time validation for sufficient source balance. Support for future-dated (scheduled) transfers (UI only).
- FX Conversion: Automatic currency conversion when transferring between different currencies. Static FX rates are used for simulation.
- Transaction Log: All transfers are logged in a searchable, filterable transaction table. Filter by account, direction, or currency. View transaction details, including FX info and scheduled status.

Assumptions

- Static FX Rates: FX rates are hardcoded for demo purposes and do not reflect real market rates.
- No Real Bank Integration: All accounts and transactions are virtual and for simulation only.
- Single User: The app is designed for a single treasury manager role.
- Future Transfers: Scheduling is UI-only; no backend job runs at the scheduled time.

Scope

In Scope: Account listing, transfer, FX, transaction log, filtering, and scheduling (UI). Responsive, modern UI with dark mode support. Error handling and validation.

Out of Scope: Real money movement or integration with financial institutions. Multi-user authentication or permissions. Real-time FX updates or external API integration.

API Endpoints

- GET /api/accounts: List all accounts with balances and currency.
- POST /api/transfer: Create a new transfer (validates balance, applies FX if needed).
- GET /api/transactions: List all transactions, with optional filters (account, currency, direction).
- GET /api/accounts/summary: Get total balances by currency.
- GET /api/accounts/currency/:currency: List accounts by currency.

Database

- SQLite is used for persistent storage of accounts and transactions.
- Schema includes: accounts table: id, name, currency, balance, created_at, updated_at; transactions table: id, from_account, to_account, amount, currency, exchange_rate, note, status, created_at, transfer_date.

Demo & Deployment

- Live Demo: [Your live link here]
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