Cash Flow Tracker Documentation

Overview

The Cash Flow Tracker is a web application designed to help users monitor their income and expenses. It provides a comprehensive dashboard with transaction management, financial summaries, and visual charts to analyse spending patterns.

Features

1. **Transaction Management**

- Add new income or expense transactions.
- View all transactions in a list.
- Filter transactions by type (All/Income/Expense).
- Delete transactions.

2. **Financial Overview**

- Current balance display with color-coded status (green for positive, red for negative).
- Total income calculation.
- Total expenses calculation.

3. **Data Visualization**

- Bar chart comparing income vs expenses.
- Pie chart showing expense breakdown by category.
- Monthly line chart tracking income and expenses over time.

4. **Data Export**

- Generate PDF reports of all transactions.

5. **Data Persistence**

- All transactions are saved to localStorage.
- Data persists between browser sessions.

Technical Implementation

Frontend Technologies

- HTML5, CSS3, JavaScript.
- Tailwind CSS for styling.
- Chart.js for data visualization.
- jsPDF for PDF generation.

Architecture

- Single-page application with responsive design.
- Mobile-friendly interface with collapsible menu.
- Dark theme with modern UI elements.

Data Structure

Transactions are stored as objects with the following properties:

```javascript
{
  id: Number (timestamp),
  description: String,
  amount: Number,
  type: String ("income" or "expense"),
  date: ISO String
}
```

Usage Guide

Adding a Transaction

1. Fill in the description field.

2. Enter the amount.

3. Select the date (defaults to current date).

4. Choose transaction type (Income/Expense).

5. Click "Add Transaction".

Filtering Transactions

Use the filter buttons above the transaction list:

- All: Shows all transactions
- Income: Shows only income transactions
- Expenses: Shows only expense transactions

Deleting a Transaction

Click the trash can icon next to any transaction to remove it.

Generating Reports

Click the "Download PDF" button to generate a comprehensive report containing:

- Current financial summary.
- Detailed transaction list.

Customization Options

Styling

The application uses Tailwind CSS for styling. You can modify:

- Colour scheme in the `bg-gradient-*` and `text-*` classes.
- Layout in the grid and flex classes.
- Animation effects in the custom CSS section.

Chart Configuration

Chart settings can be adjusted in the `initializeCharts()` function:

- Chart types (bar, pie, line).
- Colour schemes.
- Data display options.

Local Storage

The application stores data in the browser's localStorage with these keys:

- `cashFlowTransactions`: Array of transaction objects.
- `cashFlowBalance`: Current balance.
- `cashFlowTotalIncome`: Total income.
- `cashFlowTotalExpenses`: Total expenses.

Browser Compatibility

The application should work on all modern browsers that support:

- ES6 JavaScript.
- CSS Grid and Flexbox.
- localStorage API.
- Canvas API (for charts).

Known Limitations

- Simple expense categorization (based on first word of description).
- No multi-user support.
- No cloud synchronization.
- No advanced reporting filters.

Future Enhancements

1. User authentication.
2. Cloud synchronization.
3. Advanced reporting with custom date ranges.
4. Budget tracking features.
5. Recurring transactions.
6. Export to CSV/Excel.
7. Multi-currency support.

Deployment

The application is client-side only and can be deployed by:

1. Uploading the HTML file to any web server.
2. Opening the file directly in a browser (with localStorage support).

License

This project is open-source and can be modified for personal or commercial use.