Unified Family Finance Tracker

In today's fast-paced world, managing finances can often feel overwhelming, especially for families juggling multiple expenses and financial goals. **Unified Finance Tracker** is designed to simplify this process, providing a comprehensive platform where families can collaboratively manage their finances with ease and transparency. It empowers users to track expenses, set budgets, set alerts, achieve savings goals, visualize patterns—all in one centralized hub.

"Financial freedom is available to those who learn about it and work for it."

— Robert Kiyosaki

Modules to Roll Out

1. **User Account Management:** Secures registration and login for *individual* users and *family* accounts, ensuring privacy and data security.
2. **Expense Tracking and Management:** Logs and categorizes both personal and shared expenses and expense manipulations, allowing families to keep detailed records of their financial activities.
3. **Budget Management and Alerting:** Sets and monitors budgets for various categories, helping families stay on track with their spending limits and sending alerts.
4. **Savings Goals and Management:** Creates and tracks shared savings goals, encouraging family members to contribute towards common financial aspirations.
5. **Reports Generation**: Generates custom reports to analyze spending patterns and budget adherence.
6. **Data Visualization**: Utilizes charts and graphs to engage visual insights into financial data and trends.

1. User Account Management

The User Account Management module is crucial for ensuring secure and efficient access to the **Unified Finance Tracker**. This module facilitates user authentication and supports both individual and family accounts.

Key features include:

- **Secure Registration and Login:** Users can create accounts with secure email and password authentication, including multi-factor authentication (SMS code/Captcha etc.) for added security.
- **Family Account Creation/Deletion:** Primary users can set up and delete family accounts. After logging in, the primary user will have access to a dedicated section for this. To create a family account, they will need to enter the following details to complete the setup: *Unique User's Name, Email Address, Phone Number, Family Account Name, and Member Invitations.* This process ensures that all family accounting activities are initiated through the person with main access.
- **Role-Based Access Control:** Different access levels for managers (primary users) and family members (viewers), allowing for tailored permissions based on responsibilities.
- **Password Recovery and Notifications:** Secure password recovery options and alerts for important account activities, ensuring transparency and accountability within the family.

2. Expense Tracking and Management

Once logged in, users can effectively log and categorize their expenses and see the summary of expenses, add, edit and delete expenses as per the privileges.

Add Expenses: Users can enter expenses with specific details, including:

- **Unique Expense ID:** To be referenced wherever required.
- **Amount**: Total cost of the expense.
- **Category**: Dropdown menu to select a category (e.g., Food, Entertainment) with an option to add custom categories. Every category will have a unique ID to be used for budget management.
- **Date**: Calendar picker to select the date of the expense.
- **Description**: Optional text field for additional context (e.g., "Dinner at restaurant" or "Monthly internet bill").
- **Receipt Upload**: Option to attach images or files of receipts for accurate record-keeping.

Month and Year Selector: An option to select the duration of expenditure. By default, it will be the current month.

Expense Overview Section

- **Quick Stats**: Summary cards like Total Spent, Number of Expenses Logged, Average Expense Amount, Highest Spent Category

Expense List with Edit, Delete, Filter

- **Table View**: Structured table that displays logged expenses for the selected month/year, with all details.
- **Filter**: Users can filter expenses by category, date range, or amount to quickly find specific entries.
- **Edit**: Users can select an expense entry to modify its details, such as changing the amount, category, or description.
- **Delete**: Users can delete an expense entry directly from the table, with a confirmation prompt to prevent accidental deletions.

3. Budget Management and Alerting

The Budget Management module empowers users to manage their finances by setting and tracking budgets across categories.

Set Monthly Budgets

- **Category Selection**: Creates budgets for categories which are available from expense management.
- **Custom Budget Amounts**: Inputs specific spending limits for each category based on family needs.
- **Expense Linking**: Each budget is linked to expenses based on category, allowing the system to *continuously monitor* spending against the set limits and provide alerts.
- **Recurring Budgets**: Sets budgets that are automatically renewed each month for consistent financial planning.

Alerts and Notifications

- Customizable alerts when approaching or exceeding budget limits.

- **Summary Alerts**: Receive regular summaries of budget performance, highlighting under or over-budget areas over e-mail.

4. Savings Goals and Management

This module enables users to collaboratively create and track savings goals:

- **Create Savings Goals**: Users can establish goals with specified target amounts and deadlines.
- **Edit Savings:** Users can make changes to the goal based on privileges.
- **Track Progress**: Visual indicators provide insights into how much progress has been made towards each savings goal.

5. Reports and Export Functionality

Generates monthly summaries of spending and savings activities, with options to filter by date range and categories, and provides export options for downloading financial data in CSV or PDF formats.

6. Visualizations

The Visualization module provides users with graphical representations of their financial data, enhancing their understanding and management of finances.

Expense Visualization

- Displays the distribution of total expenses by category with appropriate charting.
- Illustrates monthly spending trends over time (past 12 months) with appropriate charting.

Budget Visualization

- **Budget Status**: Represents the percentage of budget used for each category, with color coding to indicate spending status (green for under budget, yellow for nearing the limit, red for over budget) with appropriate charting.
- **Allocation Insights**: Illustrates budget allocation across different categories for a clear overview of spending plans.

Savings Goals Visualization

- **Progress Bars**: Indicates how close users are to achieving each savings goal.
- **Comparison Charts**: Allows users to visually compare multiple savings goals side by side.
- **Stacked Bar Graphs**: Displays total contributions towards each goal, breaking down individual contributions from family members.

Sample Figma Screens:

Note: The attached sample wireframes are provided **for reference only**, **and not all screens are included.** You are encouraged to incorporate your own creativity and innovation in the design.
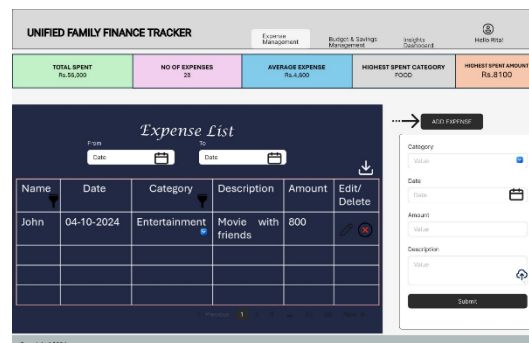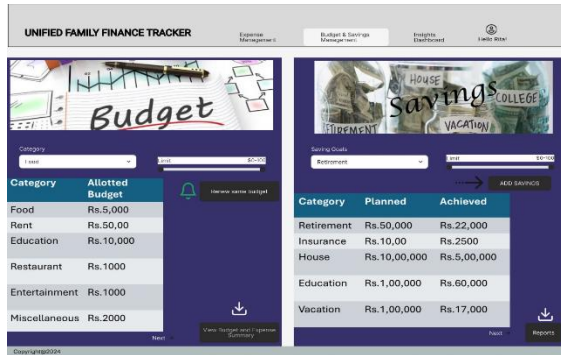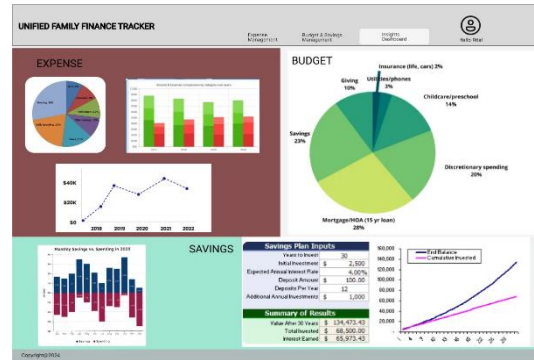

Fig.1

Fig.2

Fig.3

Fig.4

Artifacts to be Done During the Project Phase

Project Launch Document

- Objectives and Business Scope
- Project Team
- UI Design Mockups
- Database Design
- Use case Diagrams
- Class Diagram
- Test Cases

Technology Stack

- **Framework:** Flask
- **Frontend:** HTML, CSS, JavaScript
- **Backend:** Python, Pandas
- **Visualization:** Matplotlib/Seaborn/Plotly
- **Database:** SQLAlchemy
- **Testing:** unittest/pytest

Milestones

Week	Milestone	Deliverables
1	Project Launch Document	Completed document
2	Flask Setup & Database Design	Basic page, database tables
3	Frontend UI Design	Design mockups
4	User Account Management	Registration and login functionality
5	Expense Management	Expense logging feature operational
6	Budget Management & Savings Goals Management	Budget setting, saving goals, tracking functionality
7	Data Visualization and Reports	Visualization and reporting functionality
8	Testing and Deployment	Application operational and deployed