Expense Tracker with Visuals

Project Report

❖ Introduction:

- Managing personal finances is a crucial life skill, yet many individuals struggle to keep track of their daily expenses. To address this challenge, this project presents a **Personal Expense Tracker** built using **Python and Streamlit**, enabling users to add, monitor, and manage expenses in a user-friendly and interactive web interface.

❖ Abstract:

The Expense Tracker project allows users to:

- Manually add and categorize expenses with date, amount, and description.
- Automatically store and retrieve expenses from a CSV file.
- Visualize monthly spending trends using bar charts.
- View summary statistics like total expense and top spending categories.
- Delete individual entries directly from the interactive table.
- Filter the expenses by filters like Date range selecter, Category filter.
- One click download of the filtered expenses to Excel for records.
- Find the budget alerts if the expenses exceed the set budget per month.

This application combines data persistence, data visualization, and interactive UI elements in a streamlined, browser-based interface.

❖ Tools Used:

- Python – Core programming logic.
- Streamlit – Interactive web app framework for front-end.
- Pandas – Data manipulation and analysis.
- Matplotlib – Data visualization (bar & pie charts).
- OpenPyXL – Excel file report.
- VS Code – Development environment.

❖ Steps Involved in Building the Project:

➢ Step 1: Setup Environment
- Install required libraries: streamlit, pandas, matplotlib.

➢ Step 2: Create UI with Streamlit
- Add form for user inputs: Date, Category, Amount, Description.

Expense Tracker with Visuals

- Store submitted data in a CSV file and use st.session_state for temporary caching.

➢ Step 3: Data Handling
- Load and display CSV using pandas.
- Filter by month, date range, or category (optional).
- Allow row-wise deletion using dynamic st.columns() and buttons.

➢ Step 4: Data Visualization
- Plot a bar chart showing monthly expenses using matplotlib.
- Display a top 5 spending categories table.

➢ Step 5: Budget Alert
- Compare total monthly expense against a user-defined budget.
- Show warning if budget exceeded, else show success message.

➢ Step 6: UI Enhancements
- Added icons, clean layout using containers, styled headers.

❖ Conclusion:

- This Expense Tracker project serves as a practical solution for users to track and analyse their spending habits effectively. The intuitive interface and real-time updates make it simple for non-technical users to manage personal budgets. With future enhancements like multi-user support, data export in PDF, or cloud storage, this project can evolve into a complete finance management application.