

Data Flow Diagram & User Stories

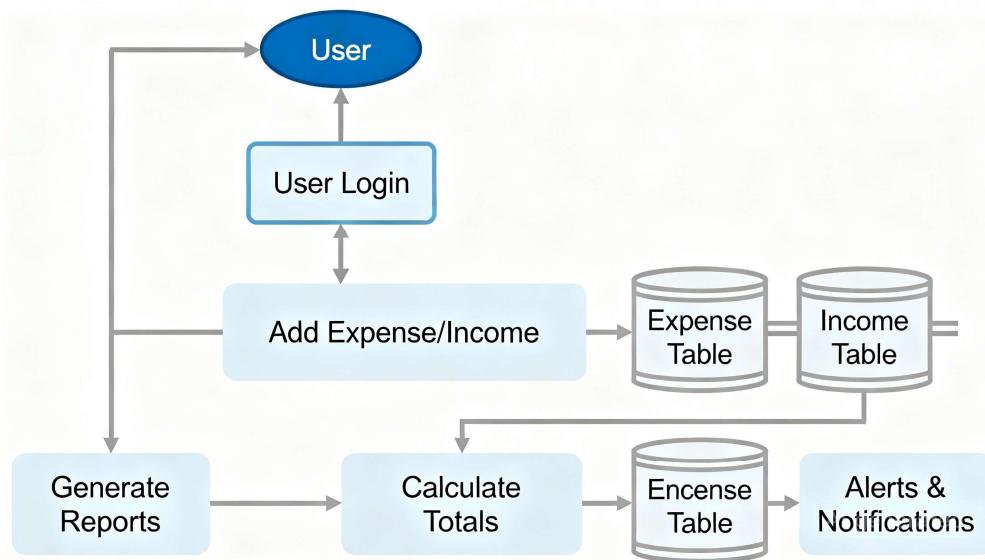
Data Flow Diagram (DFD)

A **Data Flow Diagram (DFD)** is a graphical representation that shows how data moves through a system.

In the *Calculating Family Expenses using ServiceNow* project, the DFD illustrates how users input income and expenses, how the system processes and stores this data, and how it generates reports and alerts.

It highlights the interaction between users, processes, and the ServiceNow database to ensure smooth and efficient expense management.

Example



Description:

- The **User** interacts with the **Family Expense Application** to add or view data.
- The system stores and retrieves information from the **ServiceNow Database**.

DFD – Level 0 (Context Level)

Entity	Process	Data Flow	Data Store
User interacts with the system	Family Expense System	Users submit income/expense data	Stored inside Expense and Income Tables (ServiceNow DB)
System displays summary, reports, and remaining balance to user			

Description:

The user logs into the Family Expense Tracking System and enters financial data such as expenses or income. The system stores this information in the database. It then processes the data to calculate totals and display reports back to the user.

DFD – Level 1

Process	Description	Input	Output	Data Store
1.0 User Login & Access	Authenticates users	Login details	Successful login	User Table
2.0 Add Expense/Income	User enters finances	Category, Amount, Date	Stored transaction	Expense Table/Income Table
3.0 Calculate Totals	System calculates remaining balance	Stored expenses/income	Total Expense, Total Income, Balance	Calculated results (live)
4.0 Generate	System	Stored data	Graphs, Charts, Uses	

Reports	displays analytics		Category-wise spending	existing tables
5.0 Alerts & Notifications	Checks overspending	Total expenses > Budget	Alerts on dashboard/email	Notification logs (optional)

User Stories

User stories describe the system's functionality from the perspective of end users.

User Story ID	Role	Requirement (User Story)	Priority
US-01	As a family member	I want to log into the system securely so that only authorized users can access expense data.	High
US-02	As a family member	I want to add new expenses with category, amount, and date so I can track spending accurately.	High
US-03	As a family member	I want to record income entries so the system can calculate remaining balance.	High
US-04	As a user	I want to edit or delete my records in case I need corrections.	Medium
US-05	As a user	I want to view total monthly spending so I can understand how much was spent.	High
US-06	As a user	I want category-wise reports (Groceries, Rent, Fuel, etc.) so I can manage budgeting better.	High

US-07	As a user	I want graphical dashboards so the financial summary becomes easy to understand.	Medium
US-08	As a user	I want the system to show remaining balance (Income – Expenses) automatically.	High
US-09	As a user	I want alerts if expenses go beyond my budget so I can control overspending.	Medium
US-10	As an admin	I want to manage user access and roles so each family manages only their own data.	High
US-11	As a tester	I want to verify that financial totals are correctly updated after each entry.	Medium
US-12	As a user	I want the application to be simple and easy to use so even non-technical members can operate it.	

