

Project Design Phase – II
Data Flow Diagram & User Stories

Date	2 November 2025
Team ID	NM2025TMID03101
Project Name	Calculating Family Expenses using Service Now
Maximum Marks	4 Marks

Data Flow Diagrams:

A **Data Flow Diagram (DFD)** represents how information moves within the *Family Expense Tracker* system. It illustrates data inputs from users, how the system processes them, and how data is stored and retrieved for reporting.

In this project, the DFD depicts how daily expense details are entered by users, validated, linked with family members, stored in the database, and later fetched for visualization and reporting.

DFD Level 1 – Process Breakdown:

1. **Process 1: Expense Entry**

- User inputs expense details (amount, category, date).
- System validates the data before submission.

2. **Process 2: Member Reference**

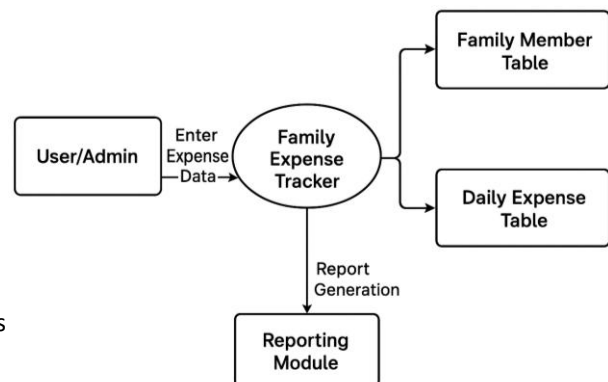
- User selects a family member from the reference field.
- System ensures the member exists in the Family Member table.

3. **Process 3: Data Storage**

- Expense data is stored in the u_daily_expenses table.
- Linked via reference field to u_family_members.

4. **Process 4: Reporting & Visualization**

- System retrieves data for reports and dashboards.
- Admin views category-wise and member-wise spending patterns.



User Stories

User stories define the specific needs of system users in the Family Expense Tracker project, ensuring smooth expense recording, association, and reporting workflows.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
User	Expense Entry	USN-1	As a user, I want to add a new expense record with date, category, and amount.	System should allow expense creation only if mandatory fields are filled.	High	Sprint-1
User	Family Member Association	USN-2	As a user, I want to link each expense to a specific family member.	System must validate that selected family member exists in the reference table.	High	Sprint-1
Admin	Expense Review	USN-3	As an admin, I want to view all expenses categorized by family member and date.	System should display aggregated expense data filtered by date or member.	Medium	Sprint-2
System	Data Validation	USN-4	As a system, I must validate all fields and reject incomplete entries.	Entries missing amount or member should not be saved.	High	Sprint-1
Admin	Reporting & Analytics	USN-5	As an admin, I want to generate a report showing total spending by category.	Reports should summarize expenses dynamically using ServiceNow reporting.	High	Sprint-3