

**Project Design Phase-II**  
**Data Flow Diagram & User Stories**

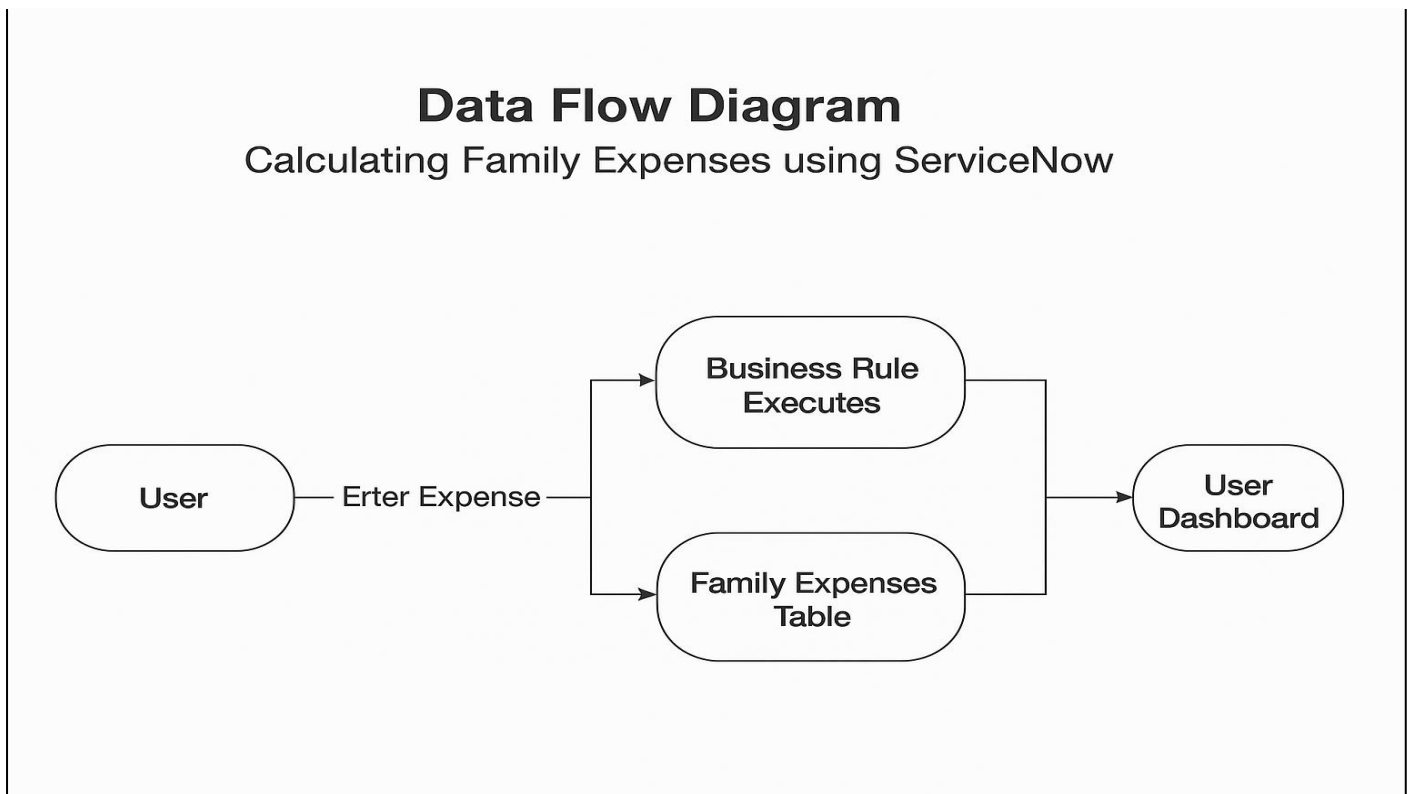
Date	06 November 2025
Team ID	NM2025TMI03184
Project Title	Calculating Family Expenses Using ServiceNow
Maximum Mark	4 Marks

**Data Flow Diagrams :**

A Data Flow Diagram (DFD) visually represents the movement of data within the *Family Expense Management System*. It illustrates how users input their expense details, how the system processes and categorizes them, and how reports or summaries are generated.

In the “*Calculating Family Expenses using ServiceNow*” project, the DFD shows how expense records flow between Daily Expenses and Family Expenses tables. The data from daily expenses are automatically aggregated into the family expense table through a Business Rule to calculate total spending per date, category, or family.

**Example Flow :**



**Data Flow Description:**

1. User Input: Family members record their daily expenses (date, amount, details).
2. System Process: The system validates and stores the expense in the *Daily Expenses* table.
3. Business Rule Trigger: On each insert or update, the *Family Expenses* table automatically updates the total expenses for that date.
4. Data Storage: Expense records and summaries are securely stored in ServiceNow tables.
5. Output: Users can view categorized reports and summaries to track spending and analyze trends.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Family Member	Expense Entry	USN-1	As a family member, I want to record my daily expenses so that I can track spending habits.	The system should allow users to input date, amount, and expense details successfully.	High	Sprint-1
System (Automation)	Expense Aggregation	USN-2	As a system, I should automatically update the total family expense when a new daily expense is added.	When a daily expense is inserted or updated, the total amount in Family Expenses should auto-update.	High	Sprint-1
Administrator	Data Validation & Management	USN-3	As an admin, I want to ensure all expense records are categorized and validated to maintain accurate reporting.	The system should verify required fields (date, amount) and prevent incomplete records.	Medium	Sprint-2
Family Head / User	Reporting and Visualization	USN-4	As a family head, I want to view total monthly expenses and detailed summaries.	The system should generate clear reports showing categorized and total expenses.	High	Sprint-3
System (Integration)	Relationship Management	USN-5	As a system, I should link daily and family expense tables for real-time data flow.	The relationship between Daily and Family Expenses must update automatically based on date.	High	Sprint-1