

## Project Design Phase – II

### Data Flow Diagram & User Stories

Date	02 November 2025
Team Id	NM2025TMID03181
Project Name	Calculating Family Expenses using Service Now
Maximum Marks	4 Marks

### Data Flow Diagrams

A **Data Flow Diagram (DFD)** represents how information moves through the system — showing data input, processes, storage, and output.

For this project, the DFDs visualize the way expense records, budgets, and calculations flow through the ServiceNow application.

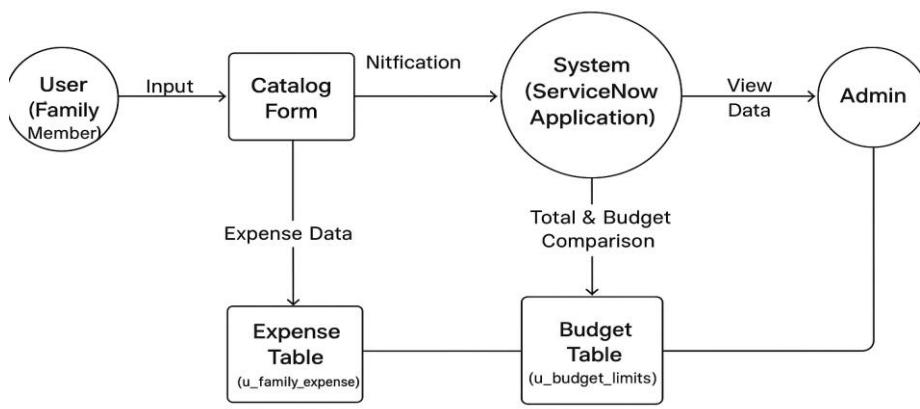
### Level 0 – Context Diagram

#### Actors:

- **User (Family Member):** Enters expenses and sets budgets
- **System (ServiceNow Application):** Processes, stores, and calculates expense totals
- **Admin:** Manages categories and reviews reports

#### Data Flow Overview:

1. The **User** inputs expense details through a **Catalog Form**.
2. The **System** stores data in the **Expense Table (u\_family\_expense)**.
3. The **Flow Designer** automatically updates totals and compares them with **Budget Table (u\_budget\_limits)**.
4. If budget limits are exceeded, **Notifications** are sent to the user.
5. The user and admin can view data through **Reports and Dashboards**.



## Level 1 – Detailed DFD

### Processes:

#### 1. Enter Expense Data

- Input: Amount, Category, Date
- Output: Record stored in Expense Table

#### 2. Calculate Total & Compare Budget

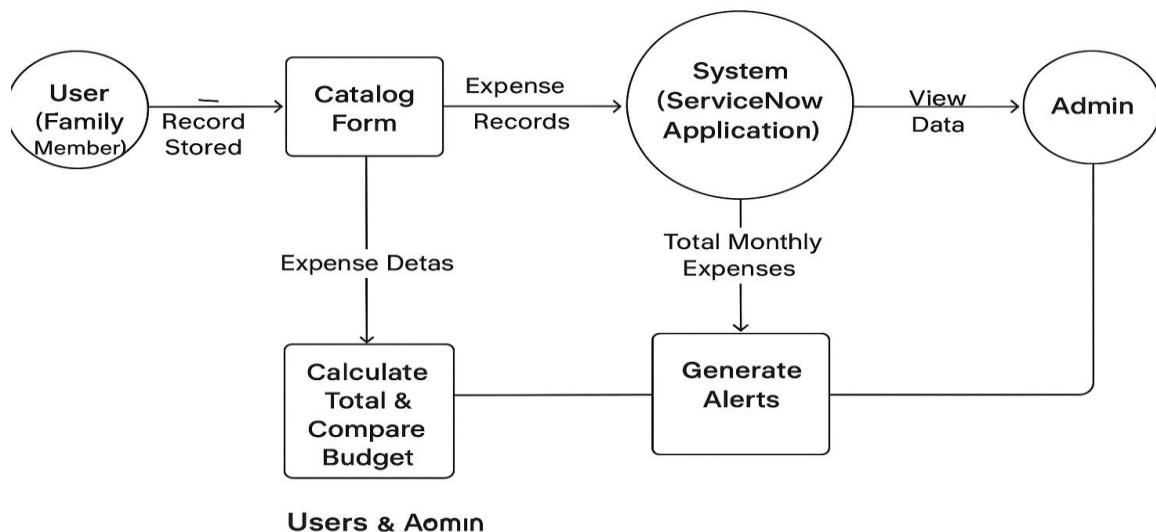
- Processed by: Flow Designer / Business Rule
- Input: Expense Records, Budget Data
- Output: Total Monthly Expenses, Budget Variance

#### 3. Generate Alerts

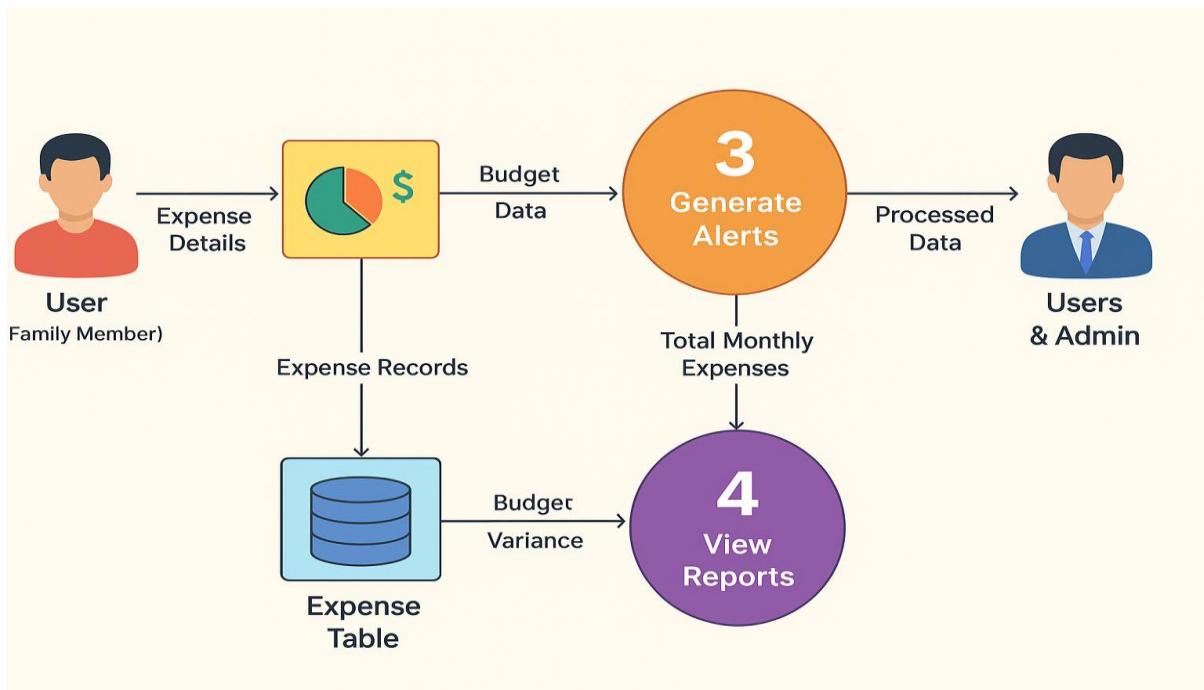
- Trigger: Expense > Budget
- Output: Notification to User

#### 4. View Reports

- Input: Processed expense data
- Output: Monthly, Category-wise Reports & Dashboards



## Flow:



- Expense Details → entered by User
- Stored in Expense Table → via Catalog Form
- System → Calculates Totals and Budget Comparison
- Alerts → Generated when expenses exceed budget
- Reports → Created for Users & Admin to view insights

## User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
User	Data Entry	USN-1	As a user, I can record daily expenses using a form.	Expense is saved with amount, date, and category.	High	Sprint-1
Admin	Budget Setup	USN-2	As an admin, I can set monthly budgets for each category.	Budget data stored in system tables.	High	Sprint-1
System	Automation	USN-3	As a system, I calculate totals and	Total expenses and over-budget alerts generated.	High	Sprint-2

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
			compare with budget limits.			
System	Notifications	USN-4	As a system, I send alerts when spending exceeds budgets.	Alert message sent automatically.	High	Sprint-3
User	Reports	USN-5	As a user, I can view reports of monthly and category expenses.	Reports show accurate totals and trends.	Medium	Sprint-3