

<b>Date:</b>	<b>2 November 2025</b>
<b>Project Title:</b>	<b>Calculating Family Expenses using ServiceNow</b>
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# Data Flow Diagram (DFD) and User Stories

## Phase: Requirement Analysis

### 1. Data Flow Diagram (DFD)

#### Level 0: Context Diagram

- Represents the system as a single process interacting with external entities.
- **Entities:** User, System (ServiceNow), Administrator.
- **Data Flows:**
  - User → Expense Details → System
  - System → Summary Reports → User
  - Admin → Configuration → System

#### Level 1: Detailed Data Flow

1. Input Expense Data – User enters expense details (amount, category, date).
2. Categorize Expense – System automatically assigns a category.
3. Budget Tracking – Compares total expenses with set budget; sends alerts.
4. Generate Reports and Dashboard – Displays visual summaries and downloadable reports.

#### Main Data Stores:

- User Table – Stores user credentials and profile info.
- Expense Table – Stores expense records.
- Budget Table – Stores budget limits.

### 2. User Stories

User Role	User Story	Acceptance Criteria
As a user	I want to log in securely to the ServiceNow portal	User can access after authentication
As a user	I want to add daily expenses with category and amount	System saves expense data correctly
As a user	I want to set a monthly budget	System stores and tracks the defined budget
As a user	I want to view categorized expenses	Dashboard displays categorized expense data
As a user	I want to receive alerts when exceeding my budget	System triggers notifications automatically
As a user	I want to generate and download reports	Reports available in PDF or Excel format
As an admin	I want to view all user expense data	Admin can see all user records
As an admin	I want to manage user accounts and permissions	Admin can add or deactivate users

### 3. Summary

The Data Flow Diagram provides a visual overview of how data moves between the user, system, and database, while the User Stories outline clear functional expectations and acceptance criteria to guide the system's development in ServiceNow.

