Data Flow Diagrams & User Stories

Date:	November 02, 2025
Team ID:	NM2025TMID05019
Project Name:	Calculating Family Expenses using ServiceNow
Maximum Marks:	4 Marks

1. Data Flow Diagram (DFD) – Level 0 (Context Diagram)
Family Members → Family Expense Automation System → ServiceNow Data Stores

2. Data Flow Diagram – Level 1 (Process Breakdown)
Entry → Validation → Business Rule → Update Family Expense → Dashboard

3. Data Dictionary

Data Element	Source	Destination	Description
u_number	Auto-number (MFE)	Tables	Unique expense ID
u_date	User input	Both tables	Date of expense
u_amount	User input	Aggregator Rule	Expense amount
u_family_member_name	Reference	Daily Expenses	Who spent the amount
u_comments	User input	Family Expenses	Description of purchase
u_expense_details	Business Rule	Family Expenses	Concatenated daily details
u_total_amount	Business Rule	Family Expenses	Sum of daily expenses

4. User Stories (Agile Format)

Story ID	Role	Goal	Acceptance Criteria
1	Family Member	Record daily expenses	Mandatory fields, Auto-number assigned
2	System User	Auto update totals	Business Rule triggers on Insert/Update
3	Family Head	View all expenses	Dashboard shows daily & total expenses
4	Developer	Maintain relationships	Linked Family & Daily tables
5	Family Member	Filter by member/date	Filter and export options

5. Non-Functional Requirements (NFRs)

NFR	Requirement
Performance	Expense update <3 sec
Scalability	Handle 1000+ records
Availability	99.9% uptime
Security	Role-based access
Maintainability	Low-code, easy to extend
Auditability	Track changes

6. Assumptions & Constraints
Assumptions:
- Users have ServiceNow access
- Entries made daily
- Business Rules run successfully

Constraints:
- Developer instance only
- Manual data entry
- No external integrations