<div align="center">**Project Design Phase**
Solution Architecture</div>

Date	2 November 2025
Team ID	NM2025TMID04665
Project Name	Calculating Family Expenses using ServiceNow
Maximum Marks	4 Marks

Solution Architecture:

Goals of the Architecture:

- Automate the calculation and tracking of daily and total family expenses.

- Maintain data integrity between Family Expenses and Daily Expenses tables.

- Eliminate manual calculations by using Business Rules for real-time updates.

- Provide a user-friendly interface for easy expense entry and analysis.

- Enable scalability for future enhancements like income tracking or reports.

Key Components:

- Family Expenses Table – Stores total expenses per date and detailed expense information.

- Daily Expenses Table – Captures daily entries made by each family member.

- Business Rule (Insert/Update) – Automatically updates the total amount in Family Expenses when new Daily Expenses are added or changed.

- Relationships – Links both tables based on the date field for data consistency.

- Form Customization – Configures forms with read-only and mandatory fields for better control.

Development Phases:

1. Create Tables: Build Family Expenses and Daily Expenses tables in ServiceNow.

2. Add Fields: Define necessary columns like Date, Amount, Expense Details, and Comments.

3. Configure Auto-Numbering: Set up auto-numbering for record identification.

4. Establish Relationships: Link Daily Expenses to Family Expenses using the date field.

5. Implement Business Rule: Automate total updates in Family Expenses when Daily Expenses are inserted or updated.

6. Form Customization: Set fields as mandatory or read-only and organize layout.

7. Testing: Add sample records to verify automated total updates and data accuracy.

❇️ **Solution Architecture Description**:

The solution architecture for Calculating Family Expenses using ServiceNow is designed to automate and streamline the management of household expenses. It uses two interlinked tables — Family Expenses and Daily Expenses — connected through a common

date field.

Whenever a new daily expense is added, a Business Rule triggers to automatically update or create the corresponding record in the Family Expenses table. This ensures that the total amount and expense details remain accurate without manual intervention.

The architecture focuses on maintaining data integrity, improving accuracy, and providing a smooth user experience. By leveraging ServiceNow's low-code automation, the system ensures real-time synchronization between daily entries and total summaries. It also supports scalability for advanced financial tracking features in the future, such as monthly reports or income-expense comparisons.
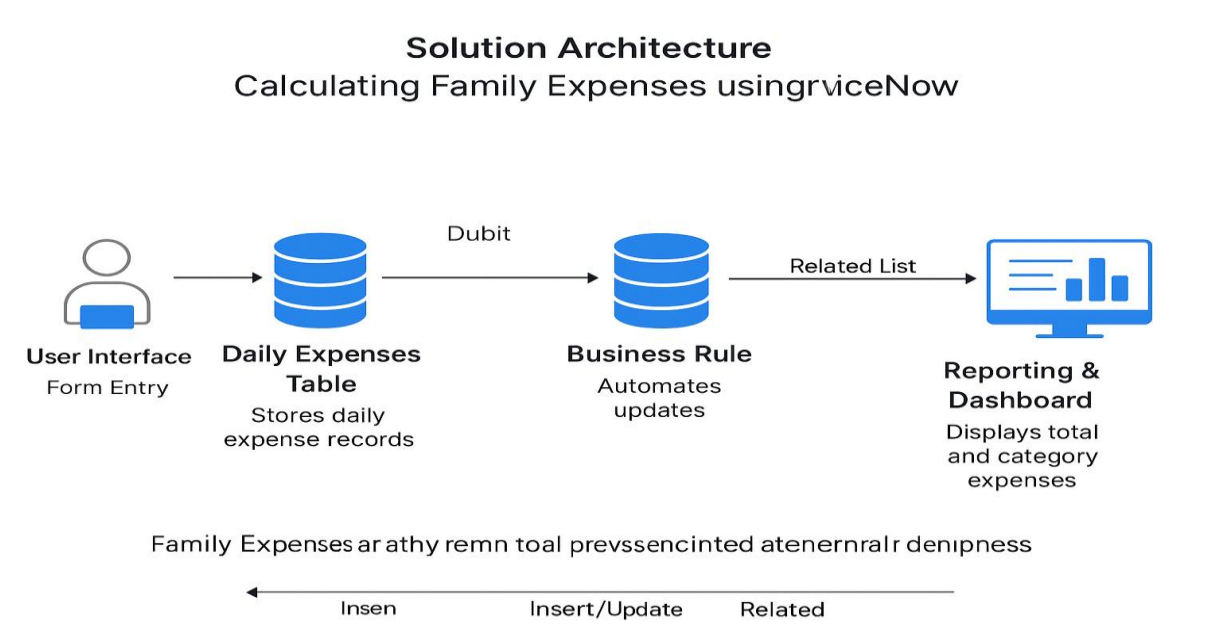
Example - Solution Architecture Diagram:

Figure 1: Architecture and data flow of the Calculating Family Expenses using ServiceNow