PROJECT DESIGN PHASE

SOLUTION ARCHITECTURE

Date:	2 NOVEMBER 2025
Team ID:	NM2025TMID00668
Project Name:	Calculating Family Expenses using ServiceNow
Maximum Marks:	4 Marks

Solution Architecture:

Goals of the Architecture:

- Provide a centralized expense tracking system accessible to all family members
- Ensure data accuracy and consistency through automated validation
- Enable real-time expense calculation and financial insights
- Support comprehensive reporting and analytics for budget planning

Key Components:

- Family Expenses table (stores family-level expense records)
- Daily Expenses table (stores individual daily expense entries)
- Member Data table (stores family member profiles)
- Business Rules for data validation and calculations
- ServiceNow Web UI for data entry and viewing
- Reporting Engine for generating charts and summaries
- Workflow automation for scheduled tasks

Development Phases:

1. Create custom tables (Family Expenses, Daily Expenses, Member Data)
2. Design and develop data entry forms with validation
3. Implement business rules for automated calculations
4. Build reporting dashboards and analytics
5. Test with sample data across multiple scenarios
6. Deploy to production and train family members

Solution Architecture Description:

The solution architecture is designed to provide families with a robust, user-friendly expense tracking system built on the ServiceNow platform. The architecture consists of multiple layers: a User Layer where family members interact through web forms, an Application Layer that handles data processing and business logic, a Data Layer with custom tables for storing expense information, and an Output Layer that delivers dashboards and reports. The system implements automated data validation to ensure accuracy, performs real-time expense calculations by member and category, and generates comprehensive reports for financial planning. The development process involves creating custom ServiceNow tables, implementing validation rules, building intuitive forms, developing calculation logic, and creating visual dashboards. This architecture eliminates manual expense tracking, reduces errors, provides instant financial insights, and promotes better budget management for families.
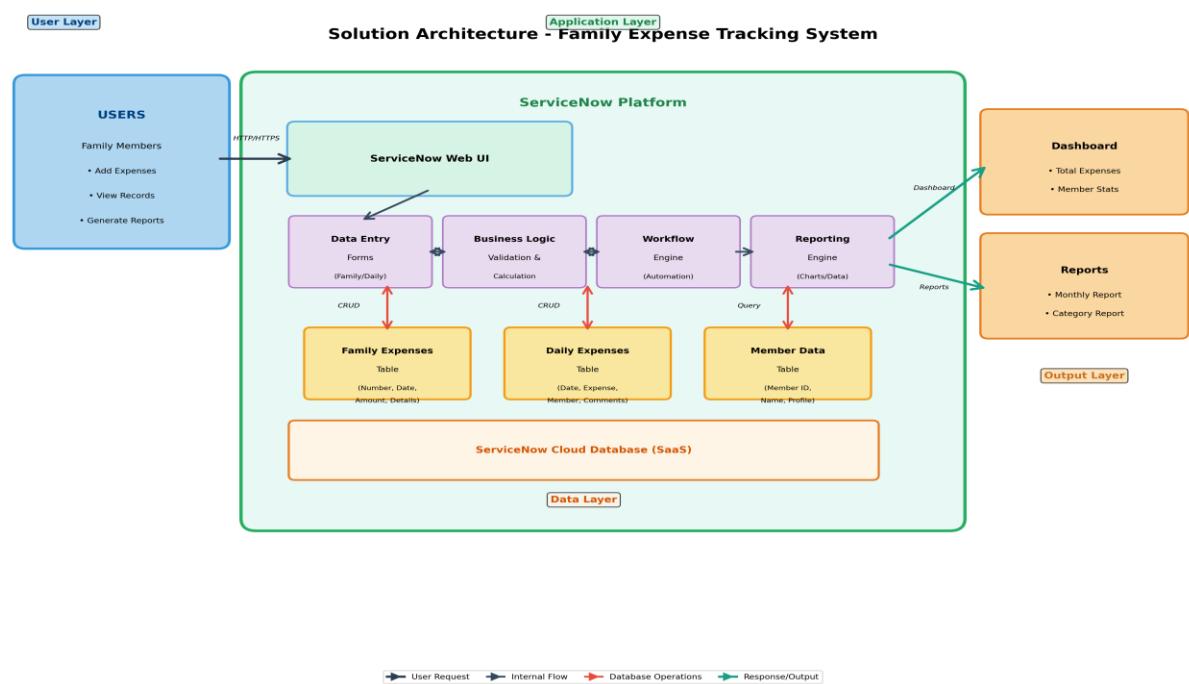
Example: Solution Architecture Diagram:

Figure 1: Architecture and data flow of the Family Expense Tracking System

Reference: Architecture diagram created for Family Expense Tracking System using ServiceNow best practices.