Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	02 November 2025
Team ID	NM2025TMID08531
Project Name	Calculating Family Expenses using Service Now
Maximum Marks	4 Marks

Technical Architecture

The "**Calculating Family Expenses using ServiceNow**" project is built on the **ServiceNow SaaS platform**, utilizing its robust table management, scripting, and workflow capabilities to create a dynamic expense management system.

The architecture consists of **user interfaces, application logic layers, relational tables, business rules, and automated data synchronization** between related tables.

Users interact through **ServiceNow's web interface**, where they can record, categorize, and review expenses. The **Family Expenses** table aggregates total spending per day, while the **Daily Expenses** table stores individual expense records for each family member.

Business rules automatically update the **Family Expenses** table when new daily expenses are inserted or modified, ensuring real-time synchronization. Relationships and related lists are configured to link both tables seamlessly.

All data is stored securely within ServiceNow's **cloud-hosted database**, with built-in access controls ensuring only authorized users can view or modify data. The system is designed for scalability, allowing additional tables or reports to be added for advanced budgeting and analytics.

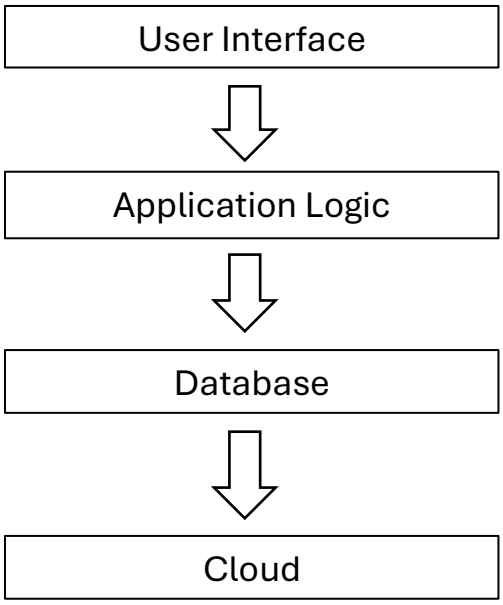

Table-1: Components & Technologies

S.No	Component Description	Technology
1.	**User Interface** – Users interact through ServiceNow's web dashboard to add, view, and manage family expenses.	ServiceNow Web UI
2.	**Application Logic-1** – Handles creation and management of Family Expenses and Daily Expenses tables.	ServiceNow Table Configuration
3.	**Application Logic-2** – Automates total expense updates using Business Rules and Scripts.	ServiceNow Business Rules, GlideRecord
4.	**Application Logic-3** – Maintains relationships between tables for linked data display.	ServiceNow Relationships, Related Lists
5.	**Database** – Stores family and daily expense details in relational tables.	ServiceNow Table Schema
6.	**Cloud Database** – Managed and hosted within ServiceNow's secure cloud environment.	ServiceNow Cloud Database
7.	**File Storage** – Stores logs, configuration data, and update sets internally.	ServiceNow System Logs
8.	**External API-1 (Optional)** – Could integrate with third-party finance or budgeting apps for analytics.	ServiceNow REST API Integration
9.	External API-2	Not Applicable
10.	Machine Learning Model	Not Applicable (future enhancement possible for expense prediction)
11.	**Infrastructure (Server / Cloud)** – Fully hosted and maintained on ServiceNow SaaS platform.	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Not applicable, since ServiceNow is a proprietary low-code SaaS platform.	
2.	Security Implementations	Implements ACLs and role-based permissions for controlled data access.	Access Control Lists (ACL), Scoped Applications
3.	Scalable Architecture	Scalable via ServiceNow's multi-instance cloud design supporting multiple families.	ServiceNow Cloud Architecture
4.	Availability	High availability through ServiceNow's load-balanced and fault-tolerant infrastructure.	Load-Balanced ServiceNow Instances
5.	Performance	Optimized using background scripts and efficient GlideRecord queries for faster updates.	GlideRecord, Business Rules, Indexed Tables