

## PROJECT DESIGN PHASE

## Problem – Solution fit

Managing and tracking family expenses manually is time-consuming and prone to errors. Families often struggle with categorizing expenses, setting budgets, and analyzing financial patterns, leading to poor financial decisions and stress.

## Proposed Solution

Develop a **ServiceNow-based Expense Management System** that automates expense tracking, categorization, and analysis. The system will allow users to:

- Add expenses under customizable categories (e.g., food, rent, transport).
  - Set monthly or yearly budgets.
  - Receive real-time updates and graphical expense reports.
  - Enable multiple family members to contribute data collaboratively.
- This ensures efficient financial tracking, transparency, and improved financial decision-making.

Parameter	Description
Platform	ServiceNow (leveraging its workflow automation and UI design).
Objective	To automate and streamline family expense tracking and budgeting.
Users	Family members, individuals, or small groups managing shared finances.
Features	Expense categorization, budgeting, expense reports, and family sharing.
Outcome	Efficient financial management and data-driven decision-making.
Technology Stack	ServiceNow, JavaScript, GlideRecord API, and ServiceNow UI Builder

## Conclusion

The **Family Expense Management System using ServiceNow** provides an efficient and user-friendly solution for managing and tracking household expenses. By incorporating features like expense categorization, budgeting, real-time tracking, and reporting, the system empowers families to make informed financial decisions and maintain better control over their spending. Leveraging ServiceNow's scalability and automation capabilities, the project ensures smooth integration, reliability, and adaptability for various financial needs. Overall, it promotes financial discipline, transparency, and well-being within the family, making it a valuable tool for effective personal finance management.

## Solution Architecture

### 1. Goals of the Architecture

- Provide seamless integration within ServiceNow's platform.
- Enable real-time expense tracking and categorization.
- Support user-friendly dashboards and automated workflows.
- Ensure scalability for various family sizes and expense complexities.

### 2. Key Components

- **User Interface (UI):** Built on ServiceNow's UI Builder for intuitive navigation.
- **Expense Entry Module:** Allows users to input and categorize expenses.
- **Budget Manager:** Enables users to set spending limits and track them dynamically.
- **Analytics & Reporting:** Generates visual reports and insights for better decisions.
- **Database (ServiceNow Tables):** Stores user data, categories, and expense details.
- **Notification Engine:** Alerts users for budget limits or unusual spending.

### 3. Development Phase

- **Requirement Analysis:** Identify routing rules, user roles, and automation needs.
- **System Design:** Plan architecture, workflows, and data flow structure.
- **Development:** Configure modules, scripts, and automated flows in ServiceNow.
- **Testing & Validation:** Verify routing accuracy, notifications, and SLA tracking.
- **Deployment:** Move configurations to the production environment.
- **Monitoring & Optimization:** Continuously analyze performance and refine rules.

## Solution Architecture Description

The **Solution Architecture** for the Family Expense Management System is designed to create an efficient, secure, and scalable platform that helps users track, manage, and analyze their household expenses. Built on the **ServiceNow** platform, the architecture integrates multiple components — user interface, database, workflow automation, and analytics — to deliver a seamless financial tracking experience.

## Solution Architecture Diagram

