

PROJECT REPORT FORMAT

1. INTRODUCTION

1.1 Project Overview

The “Calculating Family Expenses using ServiceNow” project is designed to help families track and manage their daily expenses efficiently. The system allows users to record expenses, categorize spending, calculate totals automatically, and generate reports.

This application is built on the ServiceNow platform, which provides a secure, scalable, and user-friendly environment for managing data and workflows. By digitizing expense tracking, the project reduces manual errors and improves financial awareness.

1.2 Purpose

The main purpose of this project is to:

- Provide a centralized system for managing family expenses
 - Track daily spending of each family member
 - Automatically calculate total expenses
 - Improve budget planning and financial control
 - Reduce manual record-keeping
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2. IDEATION PHASE

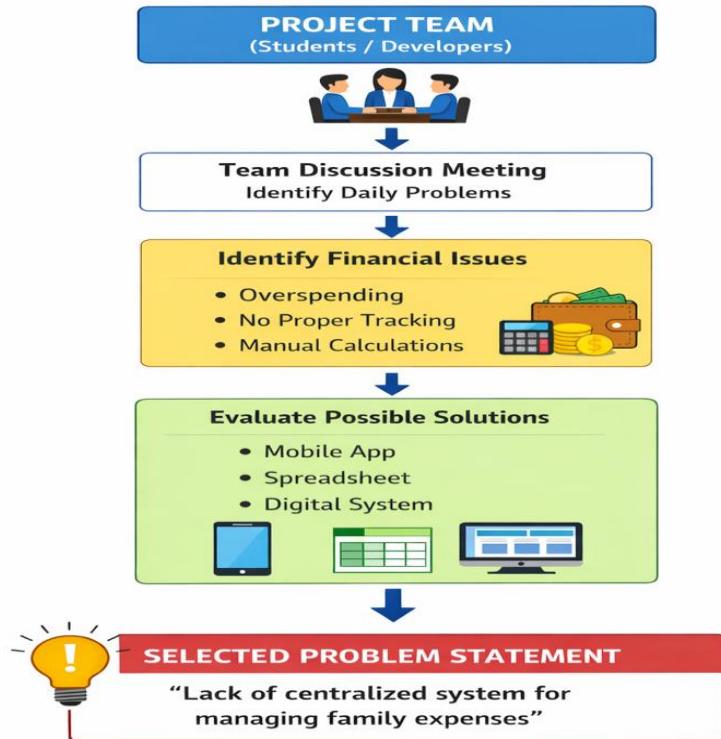
2.1 Problem Statement

Many families struggle to manage their daily expenses due to lack of proper tracking tools. Expenses are often recorded in notebooks or not recorded at all, leading to overspending and poor financial planning.

Therefore, there is a need for a simple digital system that can:

- Record expenses easily
- Calculate totals automatically
- Provide clear insights into spending patterns

Step 1: Team Gathering & Problem Selection



2.2 Empathy Map Canvas

User Thinks:

- “Where is my money going?”
- “I need to control my spending.”

User Feels:

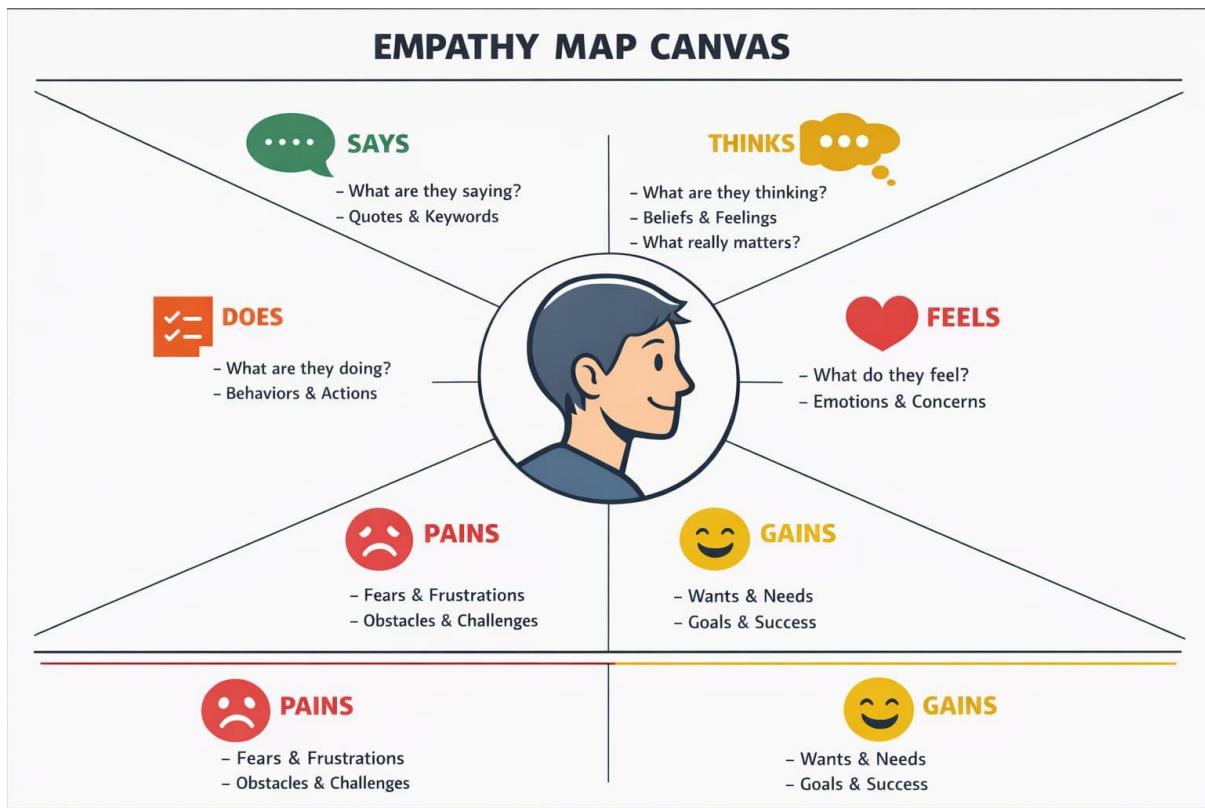
- Worried about rising expenses
- Confused about budget management

User Says:

- “Expenses are increasing every month.”

User Does:

- Keeps bills or rough notes
- Forgets to track small expenses



2.3 Brainstorming

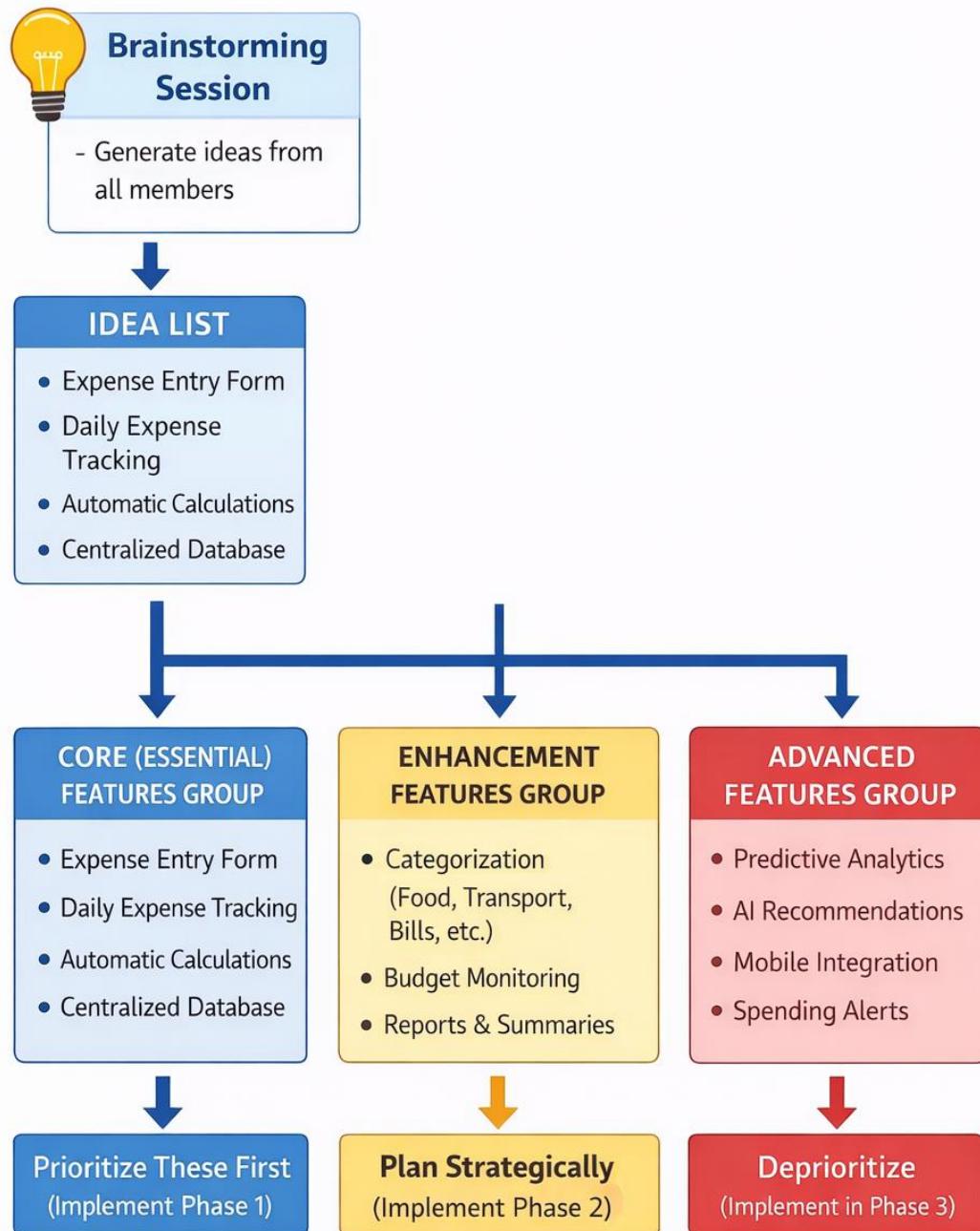
Different ideas were discussed to solve the problem:

- Mobile expense tracking app
- Spreadsheet-based system
- Manual ledger system
- Web-based expense management portal

Finally, ServiceNow was selected due to:

- ✓ Built-in database
- ✓ Workflow automation
- ✓ Easy form creation
- ✓ Secure cloud platform

Step 2: Brainstorming & Idea Grouping



3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

1. User logs into the system
 2. Enters daily expense details
 3. System stores the data
 4. Total expenses are calculated automatically
 5. User views reports and summaries
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3.2 Solution Requirement

Functional Requirements

- Add daily expenses
- Store expense data
- Auto-generate expense numbers
- Calculate total expenses
- Display expense details

FR-1	User Registration	Register family members through a form
FR-2	User Authentication	Login using username/password or email verification
FR-3	Expense Entry	Add daily expenses with date, amount, category, and details
FR-4	Expense Management	Edit or delete existing expense records
FR-5	Expense Categorization	Assign categories such as food, bills, travel, education, etc.
FR-6	Family Member Tracking	Record expenses linked to specific family members
FR-7	Expense Aggregation	Automatically calculate total expenses per day/month
FR-8	Reporting	Generate daily, weekly, and monthly expense reports
FR-9	Budget Management	Set spending limits and monitor budget usage
FR-10	Notifications	Alert users when expenses exceed the budget
FR-11	Data Storage	Store all expense data securely in the system database
FR-12	Dashboard Display	Show real-time summaries, totals, and insights

Non-Functional Requirements

- Easy to use interface
- Secure data storage
- Fast response time
- Scalable for multiple users

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system should have a simple, intuitive interface so all family members can use it easily.
NFR-2	Security	Sensitive financial data must be protected from unauthorized access.
NFR-3	Reliability	The system should operate consistently without data loss or failures.
NFR-4	Performance	Expense entry, retrieval, and report generation should be fast and responsive.
NFR-5	Availability	The system should be accessible anytime for recording expenses.
NFR-6	Scalability	The system should handle increasing users, expenses, and data over time.
NFR-7	Data Accuracy	Calculations and reports must be accurate and error-free.
NFR-8	Maintainability	The system should allow easy updates and modifications.

3.3 Data Flow Diagram (DFD)

Input: Expense details from users

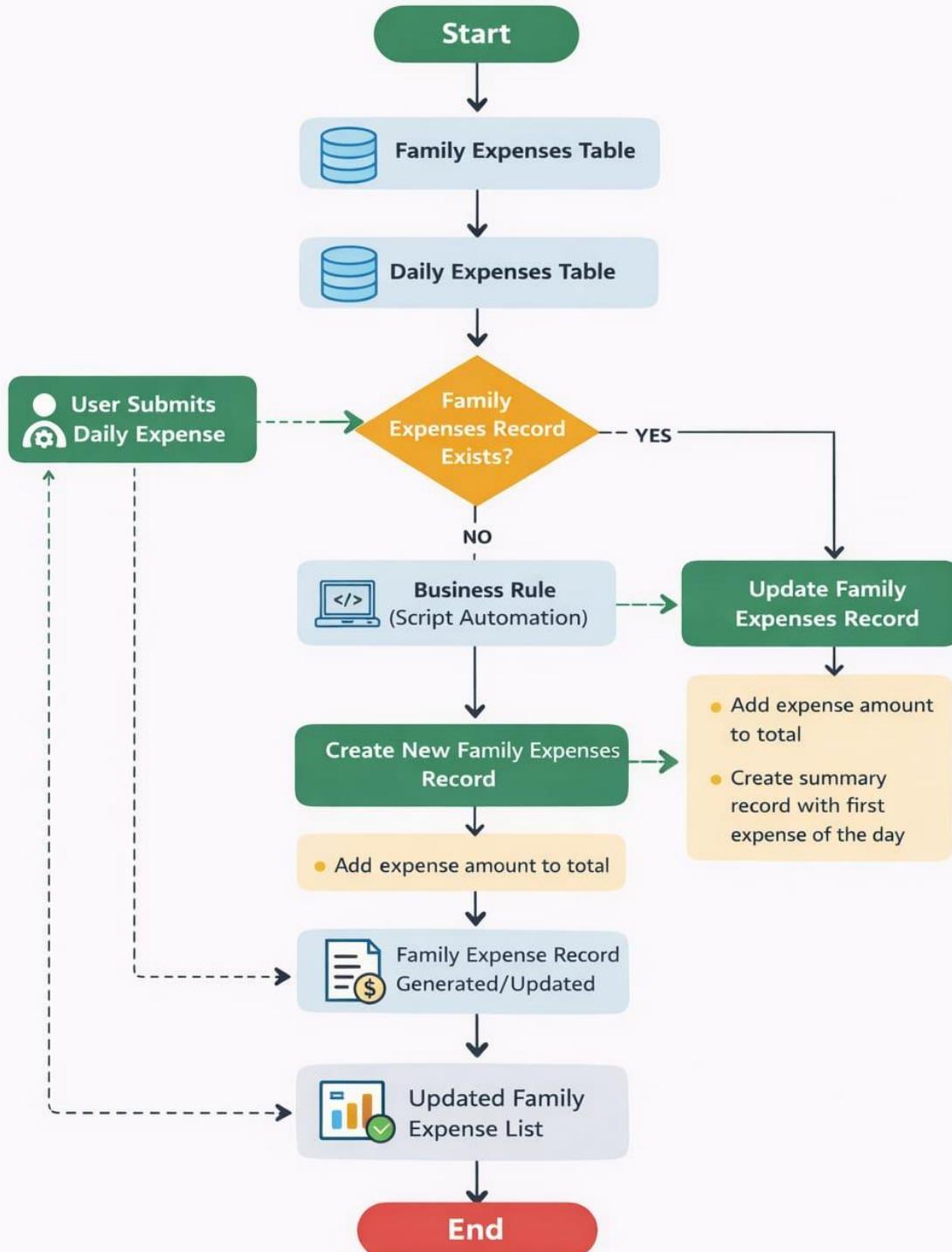
Process: Store and calculate expenses

Output: Total expenses and reports

Flow:

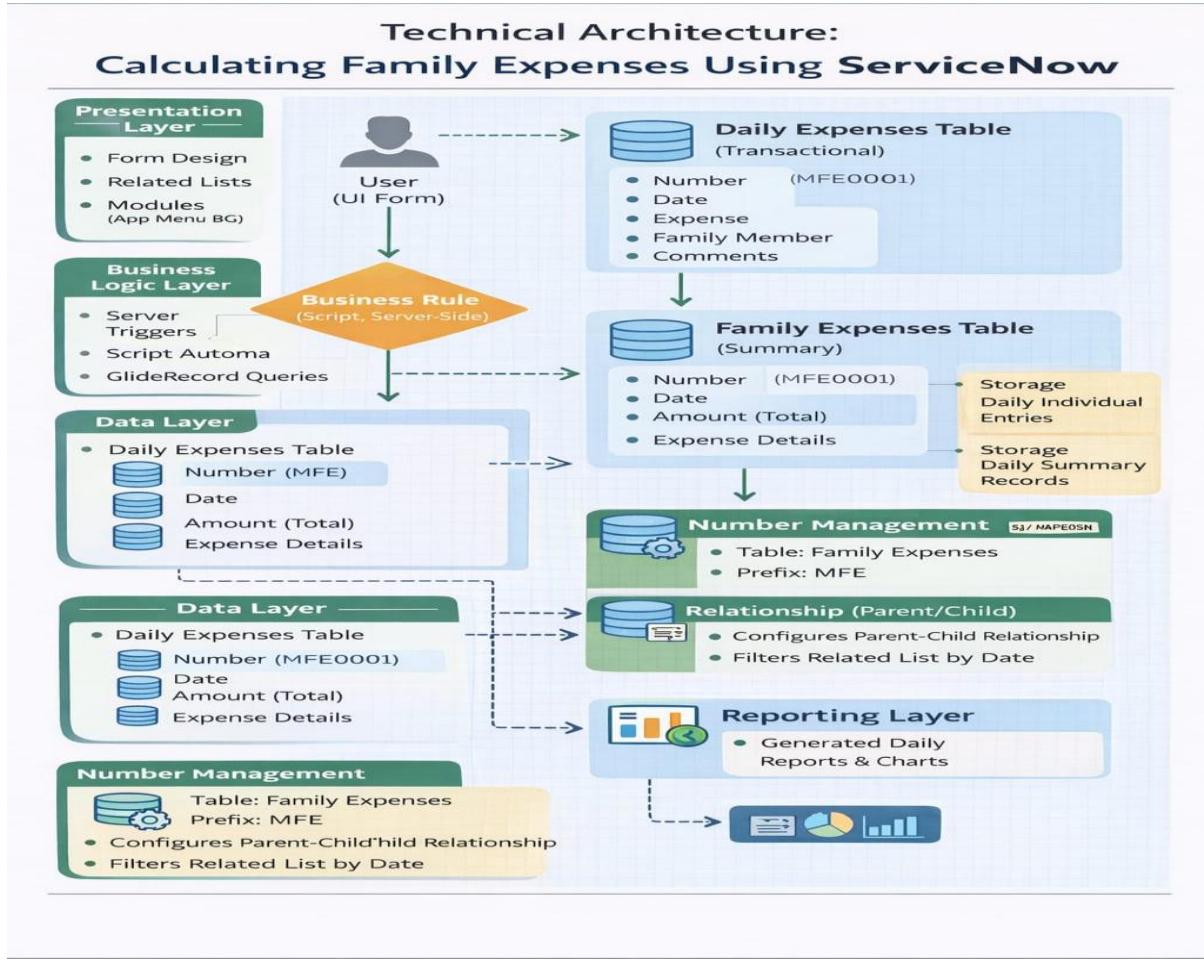
User → Expense Entry Form → Database → Calculation → Display Results

Calculating Family Expenses Using ServiceNow



3.4 Technology Stack

- Platform: ServiceNow
- Programming/Scripting: Glide scripting (Business Rules)
- Database: ServiceNow internal database
- Interface: Web-based forms

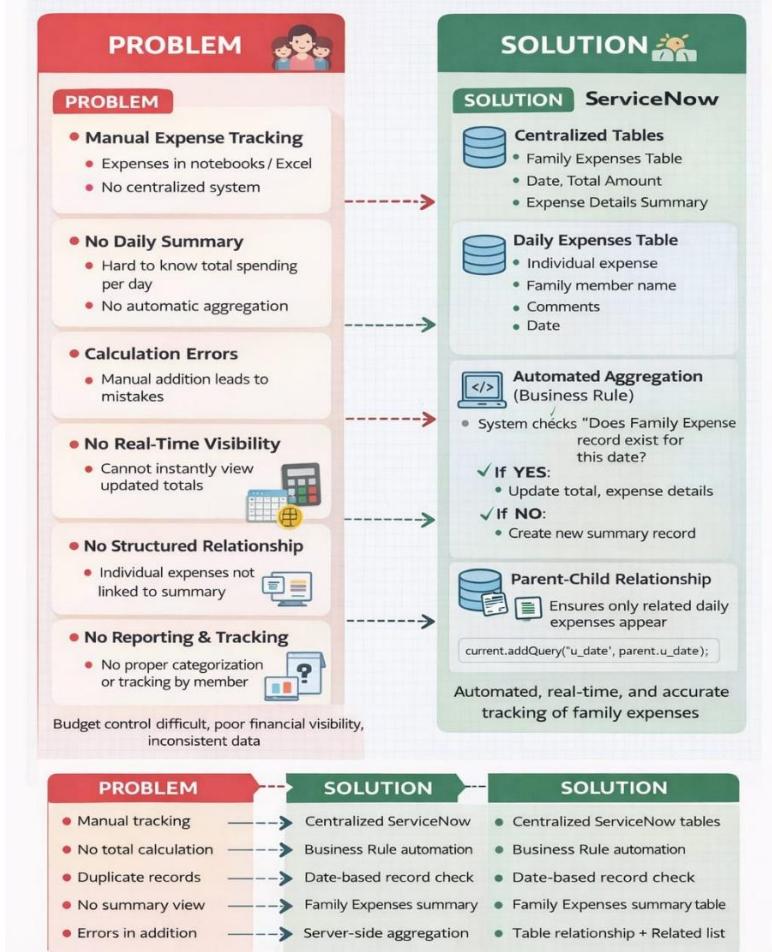


4. PROJECT DESIGN

4.1 Problem Solution Fit

The proposed solution directly addresses the problem of poor expense tracking by providing an automated system that records and summarizes expenses in real time.

Problem-Solution Fit: Calculating Family Expenses Using ServiceNow



4.2 Proposed Solution

The system consists of two main modules:

- 1. Daily Expenses Module**
Records individual expenses of family members
- 2. Family Expenses Module**
Calculates and displays total expenses per day

A Business Rule automatically updates the total when new expenses are added.

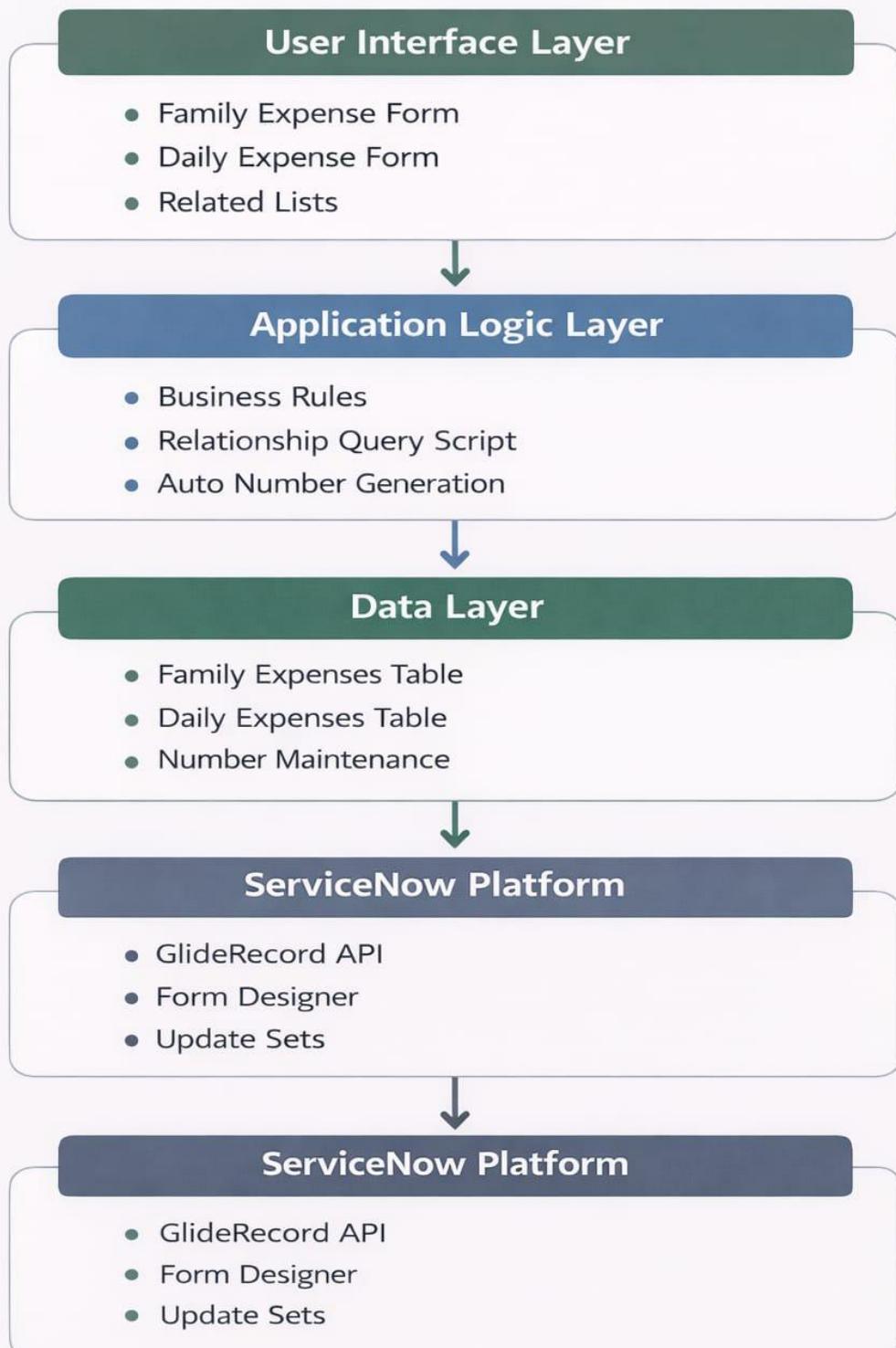
S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	Traditional methods of tracking family expenses using notebooks or scattered spreadsheets are inefficient, error-prone, and difficult to maintain. This leads to poor financial visibility, forgotten entries,

		inaccurate calculations, and overspending. Families struggle to get a clear picture of their overall financial situation.
2	Idea / Solution Description	Implementation of a centralized digital expense management system using the ServiceNow platform. The system allows family members to record expenses in real time, categorize spending, automatically calculate totals, and generate reports through a user-friendly interface.
3	Novelty / Uniqueness	Integration of automated aggregation using ServiceNow Business Rules to combine individual daily expenses into consolidated family records. Provides real-time dashboards, member-wise tracking, and automated reporting without manual calculations.
4	Social Impact / Customer Satisfaction	Improves financial awareness and discipline within families. Reduces stress caused by financial uncertainty and promotes responsible spending habits. Helps parents teach children about money management and budgeting.
5	Business Model (Revenue Model)	Can be offered as a SaaS (Software as a Service) solution for households, financial planners, or small communities. Premium features may include advanced analytics, budgeting tools, and integration with banking systems.
6	Scalability of the Solution	Highly scalable due to ServiceNow's cloud-based infrastructure. The system can support increasing users, expense records, and additional features such as mobile access, financial forecasting, or integration with external financial applications.

4.3 Solution Architecture

User Interface → ServiceNow Forms → Tables (Database) → Business Rules → Output Display

Calculating Family Expenses Using ServiceNow



5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Phase	Activity
Planning	Requirement analysis
Design	Database and forms design
Development	Table creation and scripting
Testing	Functional testing
Deployment	Final implementation

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Expense Recording Setup	USN-1	As a family member, I want to record my daily expenses so that they are not forgotten.	2	High	Team
Sprint-1	Expense Recording Setup	USN-2	As a user, I want to enter amount, date, and details for each expense.	1	High	Team
Sprint-2	Expense Data Management	USN-3	As a family member, I want expenses categorized (food, bills, travel) for better tracking.	2	High	Team
Sprint-2	Expense Data Management	USN-4	As a user, I want to edit or delete incorrect expense entries.	2	Medium	Team
Sprint-3	Admin & Monitoring	USN-5	As the head of the family, I want to view total daily and monthly expenses.	3	High	Team
Sprint-3	Admin & Monitoring	USN-6	As the head of the family, I want to track expenses of each family	2	High	Team

			member separately.			
Sprint-4	Reporting & Analytics	USN-7	As a user, I want to generate reports to understand spending			

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed	Sprint Release Date (Actual)
Sprint-1	20	6 Days	01 Mar 2026	06 Mar 2026	20	06 Mar 2026
Sprint-2	20	6 Days	08 Mar 2026	13 Mar 2026	—	—
Sprint-3	20	6 Days	15 Mar 2026	20 Mar 2026	—	—
Sprint-4	20	6 Days	22 Mar 2026	27 Mar 2026	—	—

Velocity

Assume the Family Expense Management project has a 10-day sprint, and the team completes 20 story points in one sprint.

Velocity = 20 Story Points per Sprint

👉 This means the team can complete approximately 2 story points per day.

Velocity helps estimate how many features (expense recording, reports, automation, dashboards) can be delivered in future sprints.

Burndown Chart (Explanation)

A Burndown Chart in the Family Expense Management project shows the remaining story points versus time during a sprint.

It helps the team track whether key features such as:

- Expense entry forms

- Automated calculations
- Family expense aggregation
- Reporting dashboards

are progressing as planned and will be completed on schedule.

As work is completed each day, the remaining story points decrease until they reach zero at the end of the sprint.

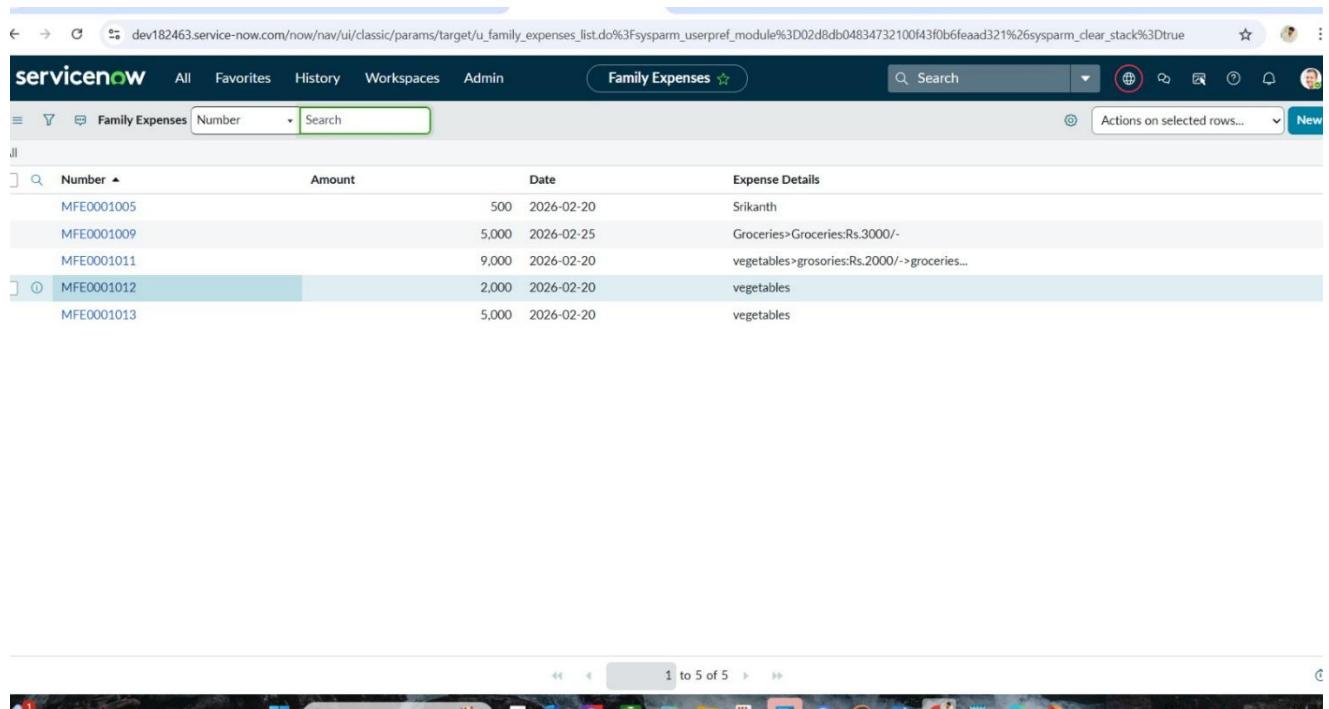
6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

The system was tested for:

- Correct data entry
- Automatic calculation accuracy
- Response time
- Data storage reliability

Results showed that the system performs efficiently with minimal delay.



A screenshot of a ServiceNow web interface titled "Family Expenses". The page shows a list of five expense entries. The columns are "Number", "Amount", "Date", and "Expense Details". The entries are:

Number	Amount	Date	Expense Details
MFEO0001005	500	2026-02-20	Srikanth
MFEO0001009	5,000	2026-02-25	Groceries>Groceries:Rs.3000/-
MFEO0001011	9,000	2026-02-20	vegetables>groceries:Rs.2000/->groceries...
MFEO0001012	2,000	2026-02-20	vegetables
MFEO0001013	5,000	2026-02-20	vegetables

7. RESULTS

7.1 Output Screenshots

The application successfully displays:

- Daily expense entries
- Total family expenses
- Detailed expense descriptions
- Auto-generated expense numbers

A screenshot of a mobile application interface titled "Family Expenses". The top navigation bar includes "All", "Favorites", "History", "Workspaces", and "Admin". A search bar is present at the top right. Below the header, there are two sections: "FAVORITES" (No Results) and "ALL RESULTS" under "Family Expenditure". The "Family Expenses" section is selected. The main content area displays a table with columns: "Number", "Amount", "Date", and "Expense Details". The data shows several entries, such as a 500 amount on 2026-02-20 by Srikanth for groceries, and a 9,000 amount on 2026-02-20 for vegetables.

Number	Amount	Date	Expense Details
	500	2026-02-20	Srikanth
	5,000	2026-02-25	Groceries>Groceries:Rs.3000/-
	9,000	2026-02-20	vegetables>groceries:Rs.2000/->groceries...
	2,000	2026-02-20	vegetables
	5,000	2026-02-20	vegetables

A screenshot of a web browser displaying the "Family Expenses" list. The URL is dev102463.service-now.com/nav/u/ui/classic/params/target/u_family_expenses_list.do?%3Fsysparm_userpref_module%3D02cf6db04834732100f43fb6fead321%26sysparm_clear_stack%3Dtrue. The page has a similar header and navigation as the mobile version. The "Family Expenses" section is selected. The main content area shows a table with columns: "Number", "Amount", "Date", and "Expense Details". The data includes entries like MFE0001005 (500, 2026-02-20, Srikanth, groceries), MFE0001009 (5,000, 2026-02-25, groceries, vegetables), and MFE0001012 (2,000, 2026-02-20, vegetables). The bottom of the screen shows a Mac OS X desktop taskbar.

Number	Amount	Date	Expense Details
MFE0001005	500	2026-02-20	Srikanth
MFE0001009	5,000	2026-02-25	Groceries>Groceries:Rs.3000/-
MFE0001011	9,000	2026-02-20	vegetables>groceries:Rs.2000/->groceries...
MFE0001012	2,000	2026-02-20	vegetables
MFE0001013	5,000	2026-02-20	vegetables

8. ADVANTAGES & DISADVANTAGES

Advantages

- ✓ Easy to use
- ✓ Automatic calculations
- ✓ Centralized data storage
- ✓ Reduces manual errors
- ✓ Real-time expense tracking

Disadvantages

- ✗ Requires internet access
 - ✗ Requires ServiceNow account
 - ✗ Limited customization in free developer instance
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9. CONCLUSION

The project successfully demonstrates how the ServiceNow platform can be used to build an efficient family expense management system. It simplifies expense tracking, improves financial awareness, and helps families make informed decisions.

10. FUTURE SCOPE

Future improvements may include:

- Mobile application integration
 - Budget alerts and notifications
 - Expense category analysis
 - Graphical reports and dashboards
 - Multi-family support
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11. APPENDIX

Source Code

Includes Business Rules and configuration scripts used in the project.

Dataset Link

Not applicable (data entered manually by users).

GitHub & Project Demo Link

GitHub Link: <https://github.com/kanth7137-afk/Calculating-Family-Expenses->

Project Demo Link:

<https://drive.google.com/file/d/1YqG1gwdIke-Cz8TZNoM1ts40ek2i7Evo/view?usp=drivesdk>