

# Proposed Solution Document

Date:	November 02, 2025
Team ID:	NM2025TMID05019
Project Name:	Calculating Family Expenses using ServiceNow
Maximum Marks:	4 Marks

## 1. Solution Overview

**Solution Name:** Family Expense Automation System (FEAS). A ServiceNow-native application designed to automate tracking, calculation, and reporting of family expenses. It replaces manual recordkeeping with digital forms, relationships, and automated Business Rules that aggregate expenses in real time. The goal is to simplify daily and monthly expense tracking, reduce human error, and enhance transparency.

## 2. Current State vs. Proposed State

Aspect	Current State	Proposed State (FEAS)
Expense Tracking	Manual notebooks or spreadsheets	Automated via ServiceNow tables
Data Entry	Individual & inconsistent	Centralized, mandatory fields
Calculations	Manual totals	Auto-summed using Business Rules
Reporting	Static summaries	Dynamic dashboards and analytics
Record Linking	None	Daily–Family Expense relationship
Expense ID	Manual or missing	Auto-generated (Number Maintenance)
Error Handling	High probability	Controlled with validations

## 3. Key Solution Components (ServiceNow Modules)

Component	Description	ServiceNow Feature
Family Expenses Table	Stores total amount and details	Custom Table (u_family_expenses)
Daily Expenses Table	Records each member's daily spending	Custom Table (u_daily_expenses)
Business Rule	Automates total and details update	Advanced Business Rule
Relationship Mapping	Links Daily Expenses to Family Expenses	Table Relationship
Number Maintenance	Generates unique IDs (MFE prefix)	Auto-number setup
Reports & Dashboards	Displays expense trends	Performance Analytics

## 4. Technical Architecture

**Process Flow:** Daily Expense Entry → Business Rule Trigger → Family Expense Auto-update → Dashboard Reporting.

**Triggers:** onInsert/onUpdate of Daily Expenses

**Data Sources:** u\_family\_expenses, u\_daily\_expenses, sys\_user

**Integration:** Optional export to Excel or Google Sheets

**Scalability:** Works for any family size using table extensions.

## 5. Implementation Roadmap

Phase	Duration	Deliverables	Owner
Phase 1: Setup	1 week	Create tables and number maintenance	Lavanya Rajamani
Phase 2: Automation	2 weeks	Develop Business Rules	Lavanya Rajamani
Phase 3: UI & Dashboard	2 weeks	Configure forms and reports	Team
Phase 4: Testing & Optimization	1 week	Validate and optimize scripts	Team

**Total Timeline:** 6 weeks → MVP Live: December 15, 2025

**6. Expected Benefits & ROI**

Metric	Current	Target	Projected ROI
Manual Effort per Entry	5 min	<1 min	80% time saved
Error Rate in Totals	15%	<1%	Improved accuracy
Monthly Calculation Time	2 hrs	5 min	95% faster
Transparency	Low	High	Family-wide visibility
Data Availability	Local	Cloud	Anytime access

**Annual Savings:** ~60+ hours saved per family via automation.

**7. Risks & Mitigations**

Risk	Impact	Mitigation
Incorrect Business Rule logic	High	Validate rule before production deployment
Duplicate expense entries	Medium	Use unique auto-number and date checks
Data visibility issues	Medium	Configure access controls
Adoption resistance	Low	Provide user training

**8. Success Metrics (KPIs)**

KPI	Target	Measurement
Expense Entry Accuracy	100%	Cross-check totals per day
Auto-calculation Speed	<3 sec	Time from entry to aggregation
Error Rate	<1%	Failed record count
User Satisfaction	>90%	Feedback survey
Monthly Summary Generation	Instant	Report generation time

**9. Conclusion & Recommendation**

The Family Expense Automation System (FEAS) leverages ServiceNow’s low-code capabilities to automate financial tracking. It eliminates manual entry errors, provides real-time insights, and improves collaboration among family members. Recommendation: ■ **APPROVE & PROCEED** with full implementation.