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## **Calculating Family Expenses using Service now Documentation format**

### **1. Introduction**

**Project Title: Calculating Family Expenses using Service now**

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### **2. Project Overview:**

The **Family Expense Management System** is designed to help families track, manage, and analyze their daily expenses using the **ServiceNow platform**.

The system allows users to:

- Add daily expenses (food, travel, bills, education, medical, etc.)
- Categorize expenses
- Calculate total monthly expenses
- Compare income vs expenses
- Generate reports and dashboards

This helps families **control overspending, plan budgets, and save money**.

**Purpose:**

- To maintain a centralized record of all family expenses
- To automatically calculate total daily, monthly, and yearly expenses
- To categorize spending for better financial planning
- To generate real-time reports and dashboards
- To reduce manual calculations and errors
- To help families make better financial decisions

**Features:**

- Expense entry form (date, category, amount, description)
- Income entry form
- Auto calculation of total expenses
- Balance calculation (Income – Expenses)

- Monthly expense report
- Category-wise spending chart
- ServiceNow dashboard with widgets
- User roles (Admin, Family Member)
- Secure data storage in ServiceNow tables

### **3. Architecture:**

#### **Frontend (ServiceNow Portal / Form UI)**

- Users interact through **ServiceNow forms**
- They can add expenses and income using catalog items
- Data is submitted and stored in ServiceNow tables
- Dashboards display charts and totals

User Actions:

1. Enter expense details
2. Select category
3. Submit form
4. View reports

#### **Backend (ServiceNow Logic)**

Backend is implemented using:

- Business Rules
- Script Includes
- Flow Designer / Workflows
- GlideRecord for calculations

System Functions:

- Store expense records
- Calculate total expenses
- Calculate total income
- Compute remaining balance
- Generate monthly summary

### **4. Setup Instructions:**

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## **Prerequisites**

- ServiceNow Personal Developer Instance (PDI)
- Basic knowledge of tables and forms
- Roles: admin or developer

## **Installation / Configuration Steps**

1. Create a custom application → **Family Expense Management**
2. Create tables:

### **Family Expense Table**

- Date
- Category
- Amount
- Description
- Entered by

### **Family Income Table**

- Date
- Source
- Amount

3. Create forms for both tables
4. Create Business Rule to calculate totals
5. Create Script Include for expense calculation
6. Create Dashboard for reports

## **5. Folder Structure (ServiceNow Application Structure) :**

Since this is built in ServiceNow, components are organized as:

**Application:** Family Expense Management

### **Contains:**

- Tables – Expense, Income
- Forms – Expense Form, Income Form
- Business Rules – Total Calculation Rule
- Script Includes – ExpenseCalculator

- Reports – Monthly Expense Report
- Dashboard – Family Finance Dashboard

## 6. Running the Application

### Steps to Use:

1. Login to ServiceNow instance
2. Open Family Expense Application
3. Click Add Expense
4. Enter details and submit
5. Click Add Income
6. Open Dashboard to view:
  - Total Expenses
  - Total Income
  - Balance
  - Category-wise chart

## 7. API Documentation

### Script Include: ExpenseCalculator

Purpose: Calculate total expenses and balance

#### Functions:

- getTotalExpenses() → Returns sum of all expense amounts
- getTotalIncome() → Returns sum of all income amounts
- getBalance() → Income – Expenses

#### Example Logic (concept):

- Fetch all expense records using GlideRecord
- Sum the amount field
- Return total

- Business Rule  
Trigger: After Insert / Update on Expense table  
Action:
  - Recalculate total expenses
  - Update dashboard values

## 8. Authentication

ServiceNow uses **role-based access control (RBAC)**

**Roles:**

**Admin:**

- Create categories
- View all records
- Manage users

**Family Member:**

- Add expenses
- View reports
- Cannot delete others' data

## 9. User Interface

The UI is built using:

- ServiceNow Forms for data entry
- Service Portal for user-friendly interface
- Dashboard widgets for visualization

Dashboard Widgets:

- Total Expense
- Total Income
- Remaining Balance
- Pie chart – Category-wise spending
- Bar chart – Monthly expenses

## 10. Testing

**Testing Strategy:**

- Manual testing of expense entry
- Verified calculations for totals
- Tested different categories
- Checked balance calculation
- Verified dashboard updates in real time
- Tested role-based access

## Tools Used:

- ServiceNow PDI
- Test records
- Debug Business Rules

## 11. Screenshots / Demo

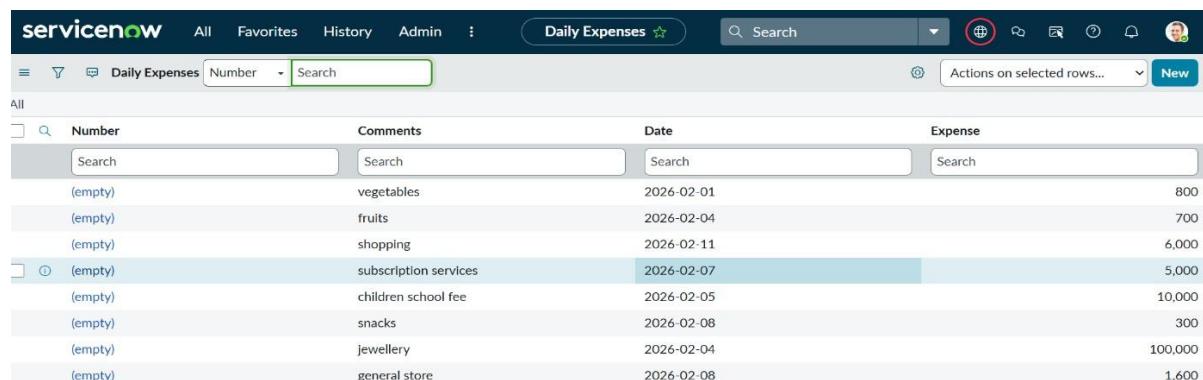
### Formula used:

Total Expenses = Sum of all expense records

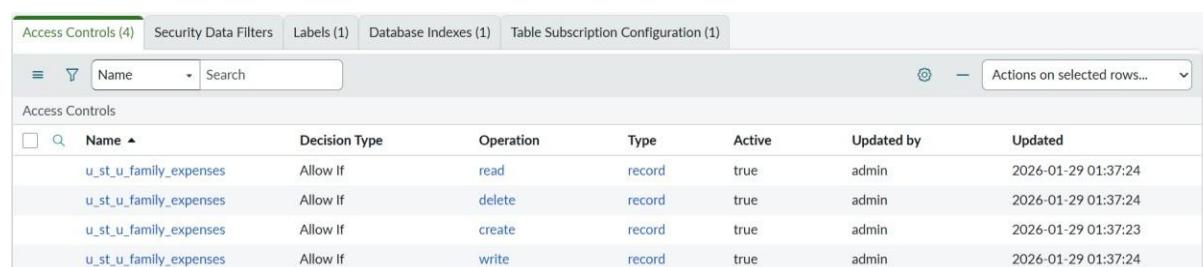
Total Income = Sum of all income records

Balance = Total Income – Total Expenses

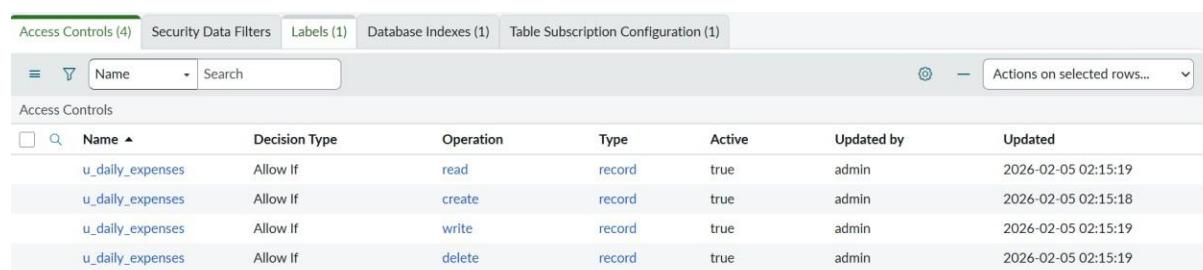
Category-wise totals are calculated using filters in reports.



All	Number	Comments	Date	Expense
	Search	Search	Search	Search
(empty)		vegetables	2026-02-01	800
(empty)		fruits	2026-02-04	700
(empty)		shopping	2026-02-11	6,000
① (empty)		subscription services	2026-02-07	5,000
(empty)		children school fee	2026-02-05	10,000
(empty)		snacks	2026-02-08	300
(empty)		Jewellery	2026-02-04	100,000
(empty)		general store	2026-02-08	1,600



All	Name	Decision Type	Operation	Type	Active	Updated by	Updated
	u_st_u_family_expenses	Allow If	read	record	true	admin	2026-01-29 01:37:24
	u_st_u_family_expenses	Allow If	delete	record	true	admin	2026-01-29 01:37:24
	u_st_u_family_expenses	Allow If	create	record	true	admin	2026-01-29 01:37:23
	u_st_u_family_expenses	Allow If	write	record	true	admin	2026-01-29 01:37:24



All	Name	Decision Type	Operation	Type	Active	Updated by	Updated
	u_daily_expenses	Allow If	read	record	true	admin	2026-02-05 02:15:19
	u_daily_expenses	Allow If	create	record	true	admin	2026-02-05 02:15:18
	u_daily_expenses	Allow If	write	record	true	admin	2026-02-05 02:15:19
	u_daily_expenses	Allow If	delete	record	true	admin	2026-02-05 02:15:19

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#### **Demo Link:**

[https://drive.google.com/file/d/1DiMr6-XVSVD3Dce03oM93nY-xelo6lfo/view?usp=drive\\_link](https://drive.google.com/file/d/1DiMr6-XVSVD3Dce03oM93nY-xelo6lfo/view?usp=drive_link)

#### **12. Known Issues**

- No mobile responsive portal (if not configured)
- Manual category creation required
- No notification when budget exceeds limit
- No multi-family support (single family data only)

#### **13. Future Enhancements**

- Budget limit alerts (email notification)
- Mobile app integration
- Multi-family account support
- AI-based expense prediction
- Auto bank statement import
- Monthly savings recommendation
- Voice-based expense entry