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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)

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- 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

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- 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

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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

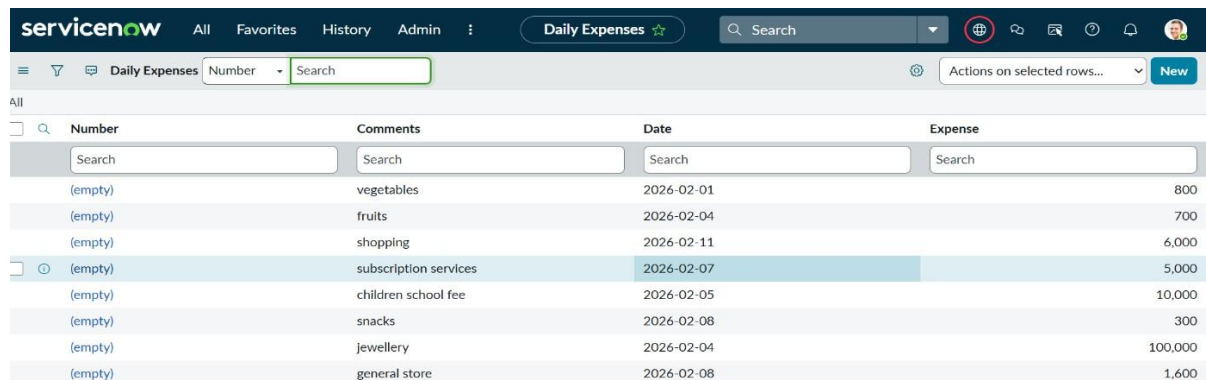
### Formula used:

Total Expenses = Sum of all expense records

Total Income = Sum of all income records

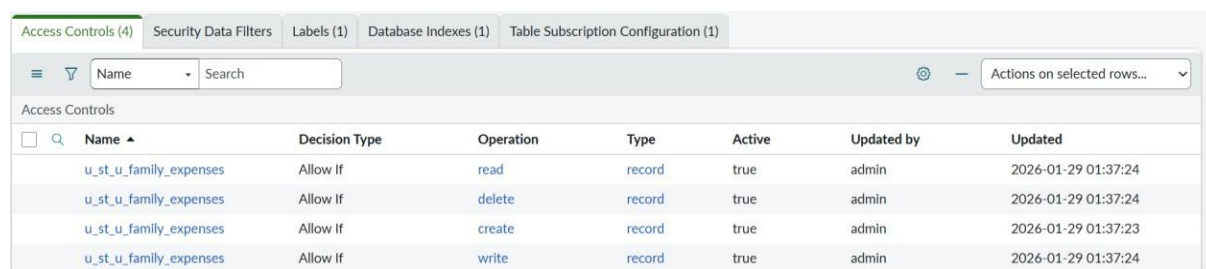
Balance = Total Income – Total Expenses

Category-wise totals are calculated using filters in reports.



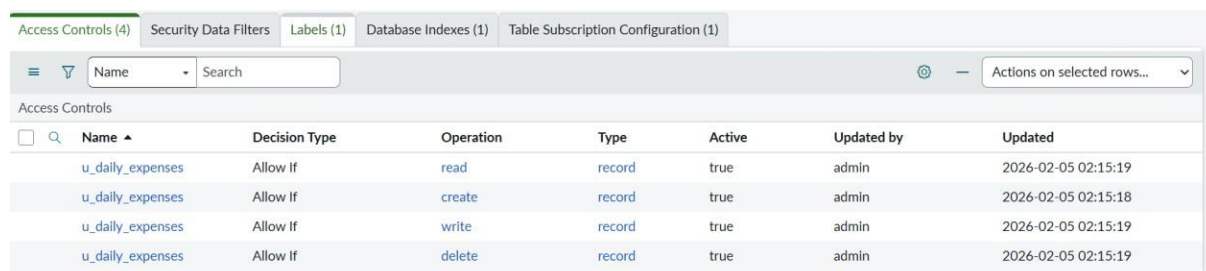
This screenshot shows the 'Daily Expenses' table in ServiceNow. The table has columns for Number, Comments, Date, and Expense. The 'Number' column contains search filters, and the 'Expense' column contains numerical values. The table is filtered to show records from 2026-02-01 to 2026-02-08.

Number	Comments	Date	Expense
(empty)	vegetables	2026-02-01	800
(empty)	fruits	2026-02-04	700
(empty)	shopping	2026-02-11	6,000
(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



This screenshot shows the 'Access Controls' table in ServiceNow. The table has columns for Name, Decision Type, Operation, Type, Active, Updated by, and Updated. The table is filtered to show records for 'u\_st\_u\_family\_expenses'.

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



This screenshot shows the 'Access Controls' table in ServiceNow. The table has columns for Name, Decision Type, Operation, Type, Active, Updated by, and Updated. The table is filtered to show records for 'u\_daily\_expenses'.

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