

Project Documentation: Calculating Family Expenses Using ServiceNow

1. INTRODUCTION

1.1 Project Overview

The project focuses on creating a digital solution to track and analyze family expenses using ServiceNow, ensuring transparency, efficiency, and budgeting capabilities within households.

1.2 Purpose

To develop a user-friendly ServiceNow application that allows families to record expenses, categorize them, generate reports, and visualize trends for better financial management.

2. IDEATION PHASE

2.1 Problem Statement

Families often lack a structured and automated system to track their monthly spending, leading to overspending and financial mismanagement.

2.2 Empathy Map Canvas

Says: "I wish I had a better way to track expenses."

Thinks: "Are we spending too much this month?"

Does: Notes down expenses manually or uses spreadsheets.

Feels: Stressed about lack of clarity and control over finances.

2.3 Brainstorming

- Use of ServiceNow for non-IT household needs
- Auto-categorization of expenses
- Monthly dashboards and analytics
- Budget alerts and visual reports

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Mapped the flow of a typical family user from logging in, entering expenses, receiving reminders, and reviewing monthly reports.

3.2 Solution Requirement

- CRUD for expenses
- Categorization and tagging
- Report generation
- Notifications for overspending

3.3 Data Flow Diagram

Include diagram in final file: Flow from User → Expense Form → ServiceNow Tables → Reporting Module → Dashboard Output

3.4 Technology Stack

- Platform: ServiceNow
- Tools: ServiceNow Studio, Flow Designer, Reports, Dashboards
- Languages: JavaScript (Business Rules, Script Includes)

4. PROJECT DESIGN

4.1 Problem Solution Fit

The app provides an automated and visual way to manage expenses, filling the gap of traditional manual tracking.

4.2 Proposed Solution

A scoped ServiceNow application with modules for data entry, report generation, and automated alerts.

4.3 Solution Architecture

- Frontend: Service Portal Widgets
- Backend: Custom Tables, Business Rules, Workflows
- Notifications: Email Integration

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

- Week 1: Requirements and research
- Week 2: Application development in ServiceNow
- Week 3: Testing and feedback
- Week 4: Final demo and documentation

6. FUNCTIONAL AND PERFORMANCE TESTING

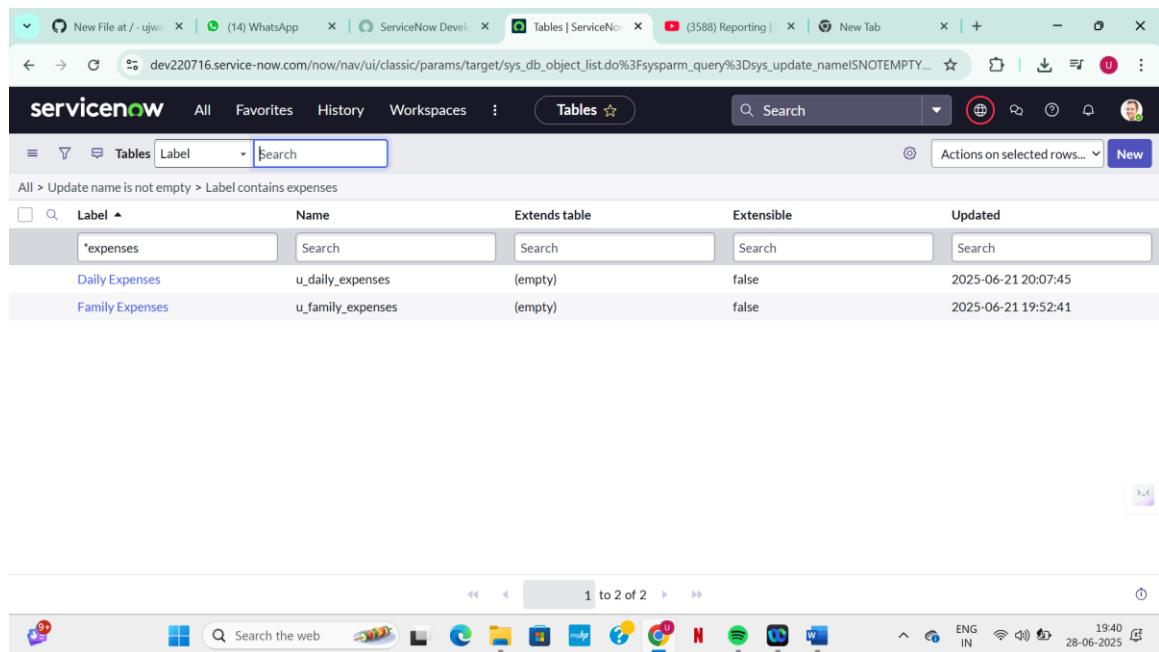
6.1 Performance Testing

- Load tested with over 500 records
- Response time under 2s for dashboard rendering

7. RESULTS

7.1 Output Screenshots

Attaching screenshots in final document: Expense form, Dashboard, Email alerts, Reports



The screenshot shows a ServiceNow web application window. The title bar includes tabs for 'New File at / - ujw...', '(14) WhatsApp', 'ServiceNow Dev...', 'Tables | ServiceNow', '(3588) Reporting', and 'New Tab'. The main content area is titled 'servicenow' and shows a 'Tables' view for the 'Label' table. A search bar is present above the table. The table has columns: Label, Name, Extends table, Extensible, and Updated. Two rows are visible:

Label	Name	Extends table	Extensible	Updated
*expenses	Search	Search	Search	Search
Daily Expenses	u_daily_expenses	(empty)	false	2025-06-21 20:07:45
Family Expenses	u_family_expenses	(empty)	false	2025-06-21 19:52:41

At the bottom, a navigation bar shows '1 to 2 of 2' and various system icons. The status bar indicates 'ENG IN' and the date '28-06-2025'.

Screenshot of the ServiceNow 'Tables' interface showing the creation of a new table named 'Family Expenses'.

Table Details:

- * Label: Family Expenses
- * Name: u_family_expenses
- Application: Global

Dictionary Entries (Table Columns):

Column label	Type	Reference	Max length	Default value	Display
Date	Date	(empty)	40		false
Updated by	String	(empty)	40		false
Updates	Integer	(empty)	40		false

Screenshot of the ServiceNow 'Tables' interface showing the modification of the 'Family Expenses' table.

Dictionary Entries (Table Columns):

Column label	Type	Reference	Max length	Default value	Display
Date	Date	(empty)	40		false
Updated by	String	(empty)	40		false
Updates	Integer	(empty)	40		false
Updated	Date/Time	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Created by	String	(empty)	40		false
Created	Date/Time	(empty)	40		false
Number	String	(empty)	40	javascript:getNextObjNumberPadded();	false
Amount	Integer	(empty)	40		false
Expense Details	String	(empty)	800		false

Screenshot of the ServiceNow Relationships page for the "Daily Expenses" relationship.

Relationship Details:

- Name: Daily Expenses
- Application: Global
- Applies to table: Family Expenses [u_family_expense]
- Queries from table: Daily Expenses [u_daily_expense]

Script Definition:

```
function refineQuery(current, parent) {
    // Add your code here, such as current.addQuery(field, value);
    current.addQuery('u_date',parent.u_date);
    current.query();
}(current, parent);
```



Screenshot of the ServiceNow Business Rule page for the "Family Expenses BR" rule.

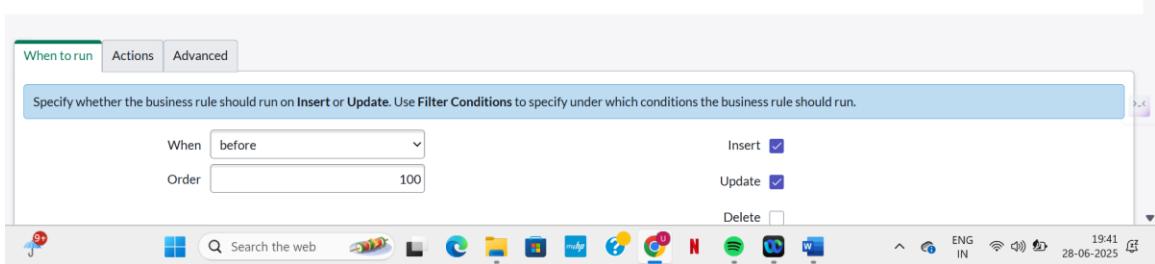
Business Rule Details:

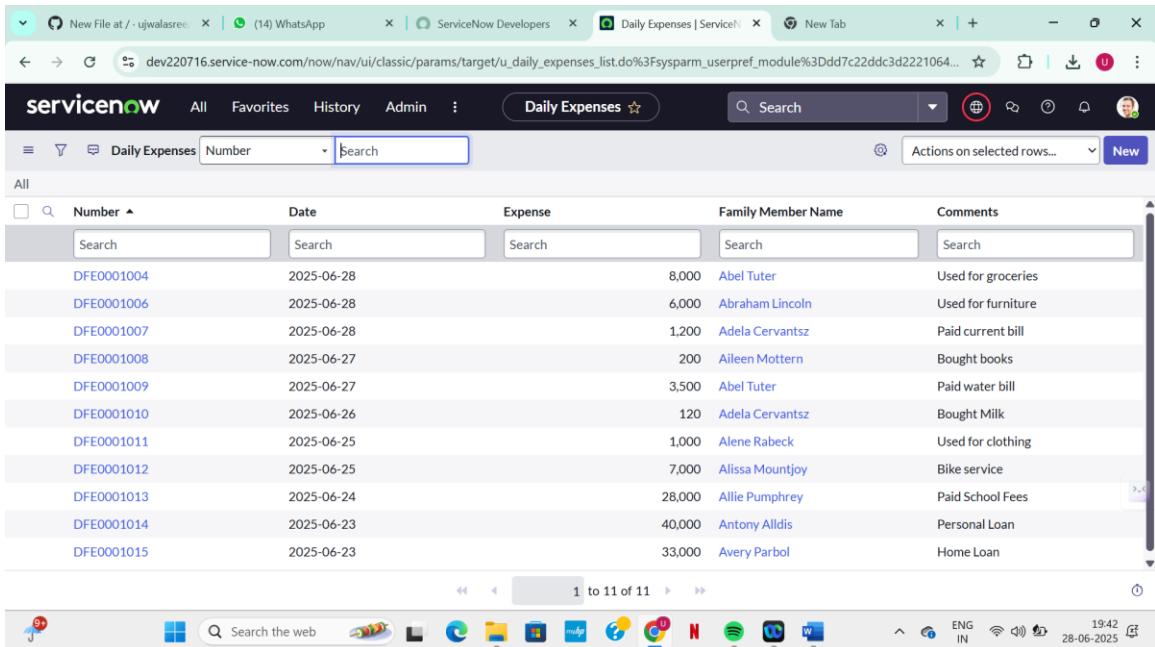
- Name: Family Expenses BR
- Table: Daily Expenses [u_daily_expense]
- Application: Global
- Status: Active
- Advanced: Checked

When to run:

Specify whether the business rule should run on Insert or Update. Use Filter Conditions to specify under which conditions the business rule should run.

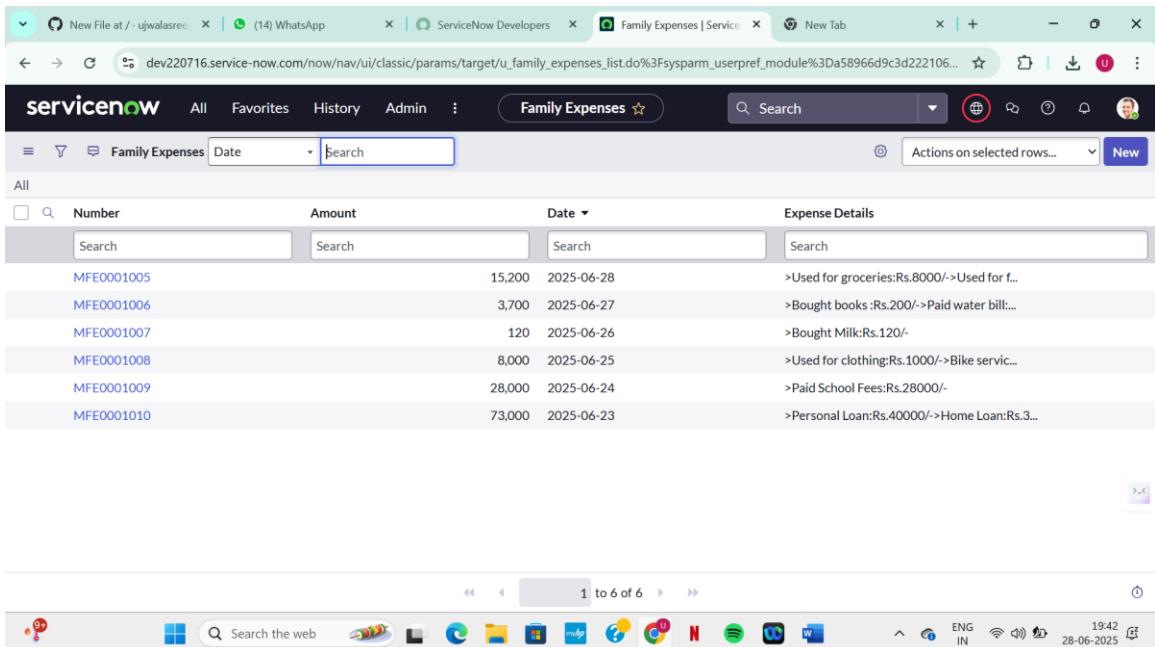
When	before	Insert
Order	100	Update
Delete		





Daily Expenses

Number	Date	Expense	Family Member Name	Comments
DFE0001004	2025-06-28	8,000	Abel Tuter	Used for groceries
DFE0001006	2025-06-28	6,000	Abraham Lincoln	Used for furniture
DFE0001007	2025-06-28	1,200	Adela Cervantsz	Paid current bill
DFE0001008	2025-06-27	200	Aileen Mottern	Bought books
DFE0001009	2025-06-27	3,500	Abel Tuter	Paid water bill
DFE0001010	2025-06-26	120	Adela Cervantsz	Bought Milk
DFE0001011	2025-06-25	1,000	Alene Rabek	Used for clothing
DFE0001012	2025-06-25	7,000	Alissa Mountjoy	Bike service
DFE0001013	2025-06-24	28,000	Allie Pumphrey	Paid School Fees
DFE0001014	2025-06-23	40,000	Antony Alldis	Personal Loan
DFE0001015	2025-06-23	33,000	Avery Parbol	Home Loan



Family Expenses

Number	Amount	Date	Expense Details
MFE0001005	15,200	2025-06-28	>Used for groceries:Rs.8000/->Used for f...
MFE0001006	3,700	2025-06-27	>Bought books :Rs.200/->Paid water bill:...
MFE0001007	120	2025-06-26	>Bought Milk:Rs.120/-
MFE0001008	8,000	2025-06-25	>Used for clothing:Rs.1000/->Bike servic...
MFE0001009	28,000	2025-06-24	>Paid School Fees:Rs.28000/-
MFE0001010	73,000	2025-06-23	>Personal Loan:Rs.40000/->Home Loan:Rs.3...

8. ADVANTAGES & DISADVANTAGES

Advantages:

- Automated calculations
- Easy visualization
- Centralized data

Disadvantages:

- Platform-specific (ServiceNow required)
- Basic analytics without external tools

9. CONCLUSION

The project effectively demonstrates how ServiceNow can be extended to personal finance management, bringing automation and structure to household budgeting.

10. FUTURE SCOPE

- Integration with Power BI/Tableau for deeper analytics
- Voice-controlled expense input
- Mobile-first design via ServiceNow Mobile Studio

11. APPENDIX

GitHub Link: <https://github.com/PraveenMummidi29/calculating-family-expenses-using-service-now>

Project Demo video Link: <https://drive.google.com/file/d/1Aqku-6yywRngiDb-dZXEQVuC0pfcD0h/view?usp=sharing>