

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

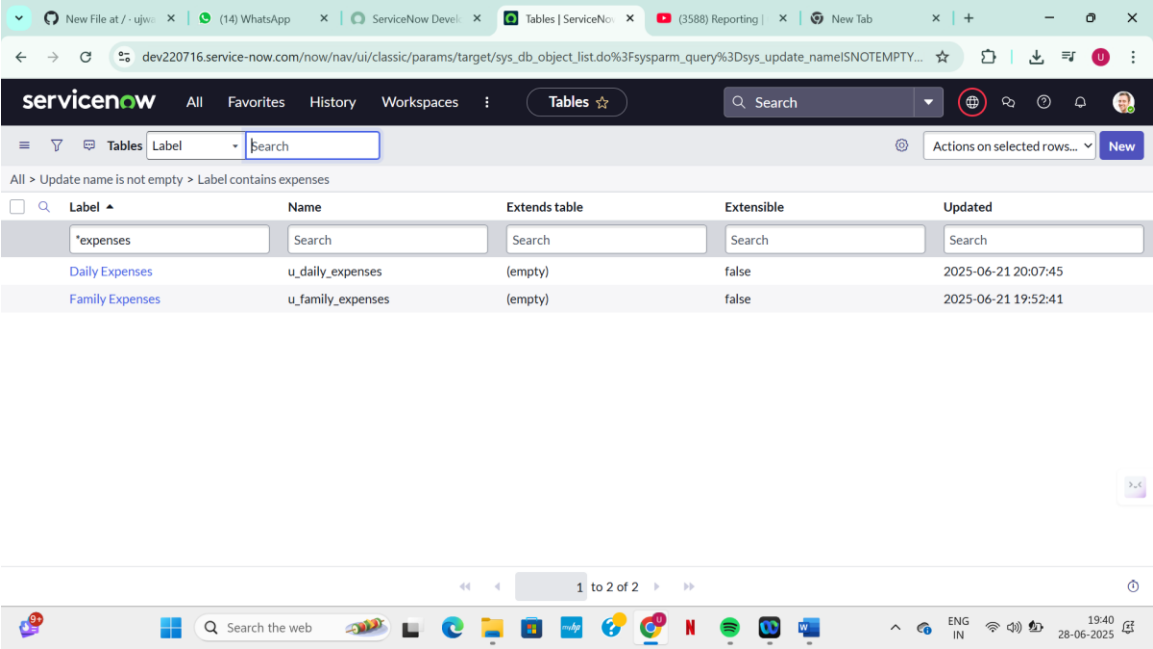
6.1 Performance Testing

- 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 displays the ServiceNow 'Tables' interface. The browser address bar shows the URL: dev220716.service-now.com/now/nav/ui/classic/params/target/sys_db_object_list.do%3Fsysparm_query%3Dsys_update_name%5BNOTEMPTY%5D. The interface includes a search bar, a filter dropdown set to 'Label', and a 'Search' button. Below the search bar, a table lists database objects. The table has columns for 'Label', 'Name', 'Extends table', 'Extensible', and 'Updated'. Two rows are visible: 'Daily Expenses' and 'Family Expenses'. The 'Daily Expenses' row shows 'u_daily_expenses' as the name, '(empty)' as the extends table, 'false' as extensible, and '2025-06-21 20:07:45' as the updated date. The 'Family Expenses' row shows 'u_family_expenses' as the name, '(empty)' as the extends table, 'false' as extensible, and '2025-06-21 19:52:41' as the updated date. The bottom of the screenshot shows a Windows taskbar with various application icons and a system clock indicating 19:40 on 28-06-2025.

| 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 |

dev220716.service-now.com/now/nav/ui/classic/params/target/sys_db_object_list.do%3Fsysparm_query%3Dsys_update_name%5BNOTEMPTY%5D

servicenow All Favorites History Workspaces Tables Search

Table Family Expenses Delete Update Delete All Records

* Label Application Global ⓘ

* Name

Columns Controls Application Access

Table Columns for text Search 1 to 10 of 10 New

Dictionary Entries

| 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 |

Search the web 19:40 28-06-2025

dev220716.service-now.com/now/nav/ui/classic/params/target/sys_db_object.do%3Fsys_id%3D0759a2d9c3d221064bab92ed4013117%26sysparm_query%3Dsys_update_name%5BNOTEMPTY%5D

servicenow All Favorites History Table - Family Expenses Search

Table Family Expenses Delete Update Delete All Records

Table Columns for text Search 1 to 10 of 10 New

Dictionary Entries

| 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 |
| Insert a new row... | | | | | |

Delete Update Delete All Records 19:40 28-06-2025

servicenow All Favorites History Admin Relationships Search

Relationship Daily Expenses Update Delete

Name Application Global

Advanced ☐ Applies to table Family Expenses [u_family_expe...]

Queries from table Daily Expenses [u_daily_expens...]

This script refines the query in current that will populate the related list. For more information about it, its parameters and control variables, see [the documentation](#). See also the article about the [recommended form of the script](#).

Query with ☐ Turn on ECMAScript 2021 (ES12) mode

```
1 function refineQuery(current, parent) {
2
3     // Add your code here, such as current.addQuery(field, value);
4     current.addQuery('u_date', parent.u_date);
5
6     current.query();
7
8 }(current, parent);
```

servicenow All Favorites History Business Rule - Family Expenses BR Search

Business Rule Family Expenses BR Update Delete

A business rule is a server-side script that runs when a record is displayed, inserted, deleted, or when a table is queried. Use business rules to automatically change values in form fields when the specified conditions are met. [More Info](#)

Name Application Global

Table Active ☒

Advanced ☒

When to run Actions Advanced

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

Order

Insert ☒

Update ☒

Delete ☐

servicenow All Favorites History Admin Daily Expenses Search

Daily Expenses Number Search Actions on selected rows... New

All

| 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 Rabeck | 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 |

1 to 11 of 11

servicenow All Favorites History Admin Family Expenses Search

Family Expenses Date Search Actions on selected rows... New

All

| 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... |

1 to 6 of 6

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-dZXEQOVuC0pfcD0h/view?usp=sharing>