

ST.JOSEPH'S COLLEGE OF ENGINEERING AND TECHNOLOGY , THANJAVUR

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CALCULATING FAMILY EXPENSES USING SERVICE NOW

TEAM ID: NM2025TMID07857

TEAM SIZE: 3

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PROBLEM STATEMENT:

Managing household expenses manually often leads to errors, lack of clarity, and difficulty in budgeting. Families face challenges in tracking multiple categories of expenses such as food, rent, utilities, education, and healthcare. There is a need for a digital solution that automates expense calculation and provides real-time financial insights for better management.

OBJECTIVE:

The main objective of this project is to develop a comprehensive Family Expense Calculation System using ServiceNow.

This system aims to:

- Help users record, categorize, and track their daily or monthly expenses.
- Provide budget-setting and real-time expense tracking.
- Offer reporting and visualization tools for better financial decision-making.
- Ensure a user-friendly and scalable platform adaptable to families of different sizes and income levels.

SKILLS REQUIRED:

1. ServiceNow Development (Table creation, Form design, Flow Designer, UI Builder)
2. Scripting in ServiceNow using JavaScript/Glide Script
3. Data Management & Reporting (Report Designer, Performance Analytics)
4. Problem Solving and Analytical Thinking
5. User Interface Design

TASK INITIATION:

- ServiceNow Development (Table creation, Form design, Flow Designer, UI Builder)
- Scripting in ServiceNow using JavaScript/Glide Script
- Data Management & Reporting (Report Designer, Performance Analytics)
- Problem Solving and Analytical Thinking
- User Interface Design

FEATURES:

- Add, edit, and delete expense records.
- Categorize expenses (food, rent, travel, etc.).
- Automatic total expense calculation.
- Monthly and yearly expense reports.
- Budget limit alert system.
- Dashboard with charts and graphs.
- Secure data storage in ServiceNow.
- User-friendly interface for easy tracking.

MODEL IMPLEMENTED:

1. Data Model

- Table 1: u_family_expense → Stores family name, total expense, and monthly budget.
- Table 2: u_daily_expense → Stores date, amount, category, and description of each expense.
- Reference field links both tables (Family ID).
- Ensures structured data storage and easy retrieval.

2. Process Model

- User enters expenses through a ServiceNow form.
- Data is saved automatically in the u_daily_expense table.
- Flow Designer or Business Rule calculates total monthly expense.
- System compares total with budget and triggers alert if limit exceeded.
- Reports and dashboards update automatically with new data.

3. Logical Model

- Uses Flow Designer for automation and notifications.
- Business Rules handle calculations and validations.
- UI Policies control form visibility and mandatory fields.
- Client Scripts used for real-time calculations in the form.

4. Functional Model

- Expense entry and update.
- Monthly budget setup.
- Automatic total computation.
- Alert message or email when expenses exceed budget.
- Report and dashboard generation.

5. Output Model

- Dashboard showing total and category-wise expenses.
- Pie chart and bar chart visualizations.
- Monthly and yearly summary reports.
- Budget alert notifications.

IMPLEMENTATION STEPS:

STEP 1: Creation of New Update Set:



STEP 2: Creation of Table:

A screenshot of a ServiceNow update set creation page. The title is 'Update Set - Family Expenses'. The main form has fields for Name (Family Expenses), State (In progress), Parent (empty), Release date, Install date, Installed from, and Description. To the right, details like Application (Global), Created (2025-06-12 21:55:13), and Created by (admin) are shown. Below the form is a 'Related Links' section with 'Merge With Another Update Set' and 'Scan Update Sets'. At the bottom, tabs for 'Customer Updates (73)', 'Update Set Logs', 'Child Update Sets', and 'Install History' are visible. A table at the very bottom shows a single row: 'Created' (2025-06-15 16:00:03), 'Type' (Password Reset Process), 'View' (Service-Desk Password Reset for Local ServiceNow), 'Target name' (empty), 'Updated by' (admin), 'Remote update set' (empty), and 'Action' (INSERT_OR_UPDATE).

STEP 3:Creation of table(Family Expenses)

The screenshot shows the ServiceNow 'Tables' screen. A new table named 'Family Expenses' is being created. The table has the following columns:

Column label	Type	Reference	Max length	Default value	Display
Expense Details	String	(empty)	800		false
Amount	Integer	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Date	Date	(empty)	40		false
Number	String	(empty)	40	javascript.getNextObjNumberPadded();	false

The screenshot shows the ServiceNow 'Relationships' screen. A new relationship is being created between 'Family Expenses' and 'Daily Expenses'. The relationship is named 'Name'.

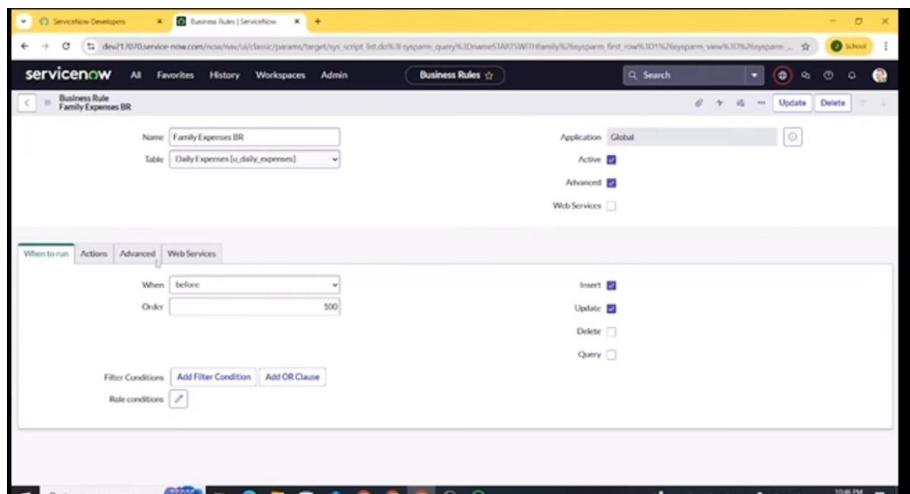
Name	Advanced	Apply to	Applies to table	Queries from table	Insert callback	Query from	Query with	Updated
Daily Expenses	false		Family Expenses [x_st_x_family_expenses]	Daily Expenses [x_st_x_daily_expenses]			(function refineQueryCurrent, parent){...}	2025-09-29 01:08:15
Data Conflicts	false		Execution History [sys_rollback_run]	Rollback Conflict [sys_rollback_conflict]			(function refineQueryCurrent, parent){...}	2015-12-04 16:44:53
Data Sources	false		LDAP Server [sys_server_config]	Data Source [sys_data_source]			var script = "var recordId = new LDAPURL(...);"	2008-03-20 12:25:15
Database Table Copies	false		Database Table Clone [clone_table]	Database Table Clone [clone_table]			current.addQuery('clone', parent.sys_id);	2011-11-09 20:07:07
Default Children Skins	false		UX Component Definition [sys_xc_ib_component]	Children Skin [sys_xc_children_skin]			(function refineQueryCurrent, parent){...}	2019-02-01 09:37:09
Default Form Sections	false		View Role [sysrole_view_workspace]	Default Form Section [sys_xc_form_default_section]			(function refineQueryCurrent, parent){...}	2019-08-10 22:31:35
Deflection Metrics	false		Deflection Configuration [sys_deflection_configuration]	Deflection Metric [sys_deflection_metric]			(function refineQueryCurrent, parent){...}	2020-03-29 00:55:08
Deleted Data	false		Deleted Application File [sys_metadata_deleted]	Audit Deleted Record [sys_audit_deleted]			var id = \$; var gr = new GlideRecord(...);	2014-07-09 16:49:36

STEP 3:Creation of relationship

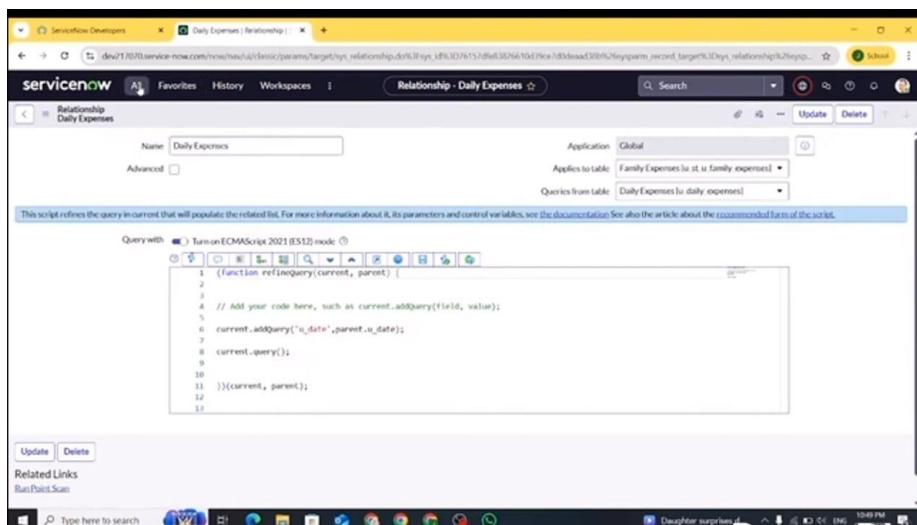
Configuring Related List on Family Expense

The screenshot shows the 'Configure related lists' screen for the 'Family Expenses' form. The 'Attachments' list is selected as a related list.

STEP 4: Creation of business roles



STEP 5: Configure the Relationship



OUTCOME:

The project “Calculation of Family Expenses using ServiceNow” successfully developed an automated system to manage and monitor family expenses efficiently. The application allows users to record daily expenses, categorize them, and automatically calculate monthly and yearly totals. Reports and dashboards were created to display category-wise spending and overall budget usage. The system also provides alerts when expenses exceed the set budget limit, helping users control their spending. This project improved the accuracy, speed, and organization of expense tracking while providing a user-friendly interface. It also enhanced practical knowledge of ServiceNow tools such as table creation, form design, Flow Designer, and report generation.

CONCLUSION:

The Family Expense Calculation System on ServiceNow offers an easy and efficient way to manage household finances. With features like expense tracking, budget setting, and reporting, it helps users monitor spending and make informed financial decisions. The system's scalability and user-friendly interface ensure it supports families of all sizes, promoting better financial planning and control.