

Ideation Phase-Automated totals and Alerts

Date	1-11-2025
Team id	NM2025TMID05401
Project name	Calculating Family Expenses using service now
Maximum mark	4marks

Automated Totals

Objective

Automatically calculate and update **total expenses**, **per-category totals**, and **per-member totals** without manual data entry or reports.

Automation Design

Trigger:

- Whenever a new expense record is created, updated, or deleted.

Process (Flow Designer / Scripted Flow):

- On insert/update/delete in the `x_family_expense` table → trigger flow.
- Fetch all *Approved* expenses for the same:
 - Month
 - Category
 - Member
- Calculate totals using ServiceNow aggregate functions.
- Update relevant summary fields in:
 - Budget Table** (`x_family_budget`) → update *total_spent*.
 - Family Member Table** (`x_family_member`) → update *total_expenses*.
 - Overall Dashboard Table** (`x_family_summary`) → update *monthly_total*.

Sample Fields

Table	Field	Calculation Example
<code>x_family_budget</code>	<code>total_spent</code>	SUM of all Approved expenses under that category
<code>x_family_member</code>	<code>total_expenses</code>	SUM of all expenses submitted by that member
<code>x_family_summary</code>	<code>monthly_total</code>	SUM of all Approved expenses for current month

⚡ Flow Designer Example Steps

- Trigger: Expense record is inserted or updated.
- Get Category and Month.
- Query all related expenses.
- Calculate SUM(Amount).

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5. Update Budget and Summary tables.
6. If `total_spent > budget` → trigger alert flow (see below).

Benefit

- Always up-to-date totals across all dashboards.
- Reduces manual calculations.
- Enables real-time alerts and reports.

2. Alerts (Automated Notifications)

Objective

Notify family members about **important financial events** like:

- Budget overspending
- High-value expenses
- Pending approvals
- Monthly summary reports

Alert Triggers and Flows

Trigger	Condition	Action	Recipient
Budget Limit Warning	Total \geq 80% of Budget	Send “Warning” email/push	Parent(s)
Over Budget	Total > 100% of Budget	Send “Critical” alert + dashboard flag	Parent(s), all members
High Expense Entry	Expense > set threshold (\$200)	Request approval	Parent(s)
End of Month Summary	Scheduled (1st of next month)	Send report email	All members
Allowance Running Low	Allowance \leq 10% remaining	Send warning message	Individual member

Automation Setup

Use **Flow Designer** + **Notifications**:

- Flows triggered by **record change or scheduled job**.
- Notification templates: dynamic email subjects like

“⚠️ You’ve used 90% of your Grocery Budget!”

Optional Table:

`x_family_alert_log` — stores all generated alerts for history and dashboards.

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Field	Example
Alert ID	ALRT-00045
Alert Type	Budget Overrun
Message	“Utilities exceeded budget by \$45”
Severity	Critical
Recipient	Parent
Created	2025-10-31

3. Referral Link System (Gamified Feature)

Objective

Encourage family members or friends to **refer** the app or system to others — a **gamified engagement feature** that could also simulate a **rewards or allowance bonus** workflow.

This can be designed to demonstrate ServiceNow’s **record generation, link sharing, and workflow automation**.

How It Works

1. Each **Family Member** record gets a unique **Referral Link** generated automatically.
 - o Format:
 - o `https://familyexpense.servicenow.com/referral.do?code=REF12345`
 2. When someone clicks the link and “joins” (submits form), the system:
 - o Creates a new Family Member record (status: “Pending Approval”).
 - o Links it to the referring member via `referred_by` field.
 - o Sends both parties a confirmation message.
 3. When admin/parent approves:
 - o The referring member gets **reward points or allowance bonus**.
 - o Both members get a “Welcome” alert.
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Automation Flow

Flow Designer Steps:

1. On new record in `x_family_referral` table.
2. Validate referral code.
3. Update referral status → “Pending Approval.”
4. Notify parent (approval required).
5. On approval:
 - o Create new family member record.
 - o Update referrer’s reward points (+50 points).
 - o Send success alerts to both.

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6. Benefits Summary

Feature	Benefit
Automated Totals	Eliminates manual reporting and ensures real-time accuracy
Alerts	Keeps members informed and prevents overspending
Referral Link System	Engages users, promotes collaboration, and demonstrates workflow creativity
Integration Ready	Easily extendable to predictive forecasting and gamification

Referral link :

<https://familyexpense.servicenow.com/referral.do?code=REF-101>