



Project Design Phase :

1. Purpose of the Design Phase

The design phase defines the structure, layout, and workflow of the family expense tracking system.

In this phase, we create the database tables, forms, UI pages, and dashboards required to collect, store, and visualize expense data inside the ServiceNow platform.

2. System Architecture Design

a) Input Layer :

Users (family members) enter their expenses using a ServiceNow form.

- Each entry includes:
- Date
- Expense Category (e.g., Rent, Groceries, Electricity)
- Amount
- Description

b) Processing Layer :

The ServiceNow system:

- Stores data in a custom table (u_family_expenses).
- Performs calculations like total monthly expenses
- Automatically categorizes and sums up data

C) Output layer :

The administrator (Anjali) views:

- a. Expense summaries
- b. Monthly reports
- c. Graphical pie charts and dashboards

3. Database Design :

- Table Name: u_family_expenses
- Field Name Data Type Description
- Expense_ID Auto Number Unique ID for each expense
- Date Date Date of expense
- Category Choice Expense type (Groceries, Rent, Utilities, etc.)
- Amount Currency Amount spent
- Description String Details about the expense
- Added_By Reference (User) Family member who entered the expense

4. Form Design

- ❖ Form Name: Family Expense Entry Form
- ❖ Purpose: To add and update family expense records easily.
- ❖ Form Fields
- ❖ Date
- ❖ Category (Dropdown list)
- ❖ Amount
- ❖ Description
- ❖ Buttons:
- ❖ Submit → Saves the entry
- ❖ Reset → Clears form fields
- ❖ Form Validation:
- ❖ Amount must be a positive number.
- ❖ Category and Date fields are mandatory.

5. Workflow Design

Workflow Steps:

1. User submits expense via form.
2. Record is stored in the custom table.
3. Automated script updates total and category-wise amounts.
4. Admin dashboard displays real-time charts and reports.

Tools Used:

- i. Flow Designer (for automation)
- ii. Business Rules (for calculations)
- iii. Reports and Dashboards (for visualization)

6. UI and Dashboard Design :

Dashboard Name: Family Expense Dashboard

Components:

1. Total Expense Widget: Shows total monthly spending.
2. Pie Chart: Shows category-wise expense percentage.
3. Bar Chart: Displays monthly expense trends.
4. Recent Entries Table: Lists latest expense records.

Example Chart Visualization:

 Groceries – 30%

 Rent – 50%

 Electricity – 10%

 Education – 10%

7. Sample Input Data :

Date	Category	Amount (₹)	Description
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2025-10-01	Groceries	5000	Monthly grocery
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2025-10-05	Rent	8000	House rent
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2025-10-08	Electricity	1500	Electricity bill
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2025-10-10	Education	3000	School fees
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8. Sample Output (Pie Chart Report) :

A Pie Chart in the ServiceNow Dashboard showing:

- Rent – 50%
- Groceries – 31%
- Education – 19%
- Total Monthly Expense: ₹17,500

9. Design Tools Used :

- ServiceNow Studio: For app creation and table design.
- Form Designer: For UI form design.
- Flow Designer: For workflow automation.
- Reports & Dashboards: For charts and analytics.

10. Outcome of the Design Phase :

- A well-structured database for expense storage.
- Interactive forms for easy data entry.
- Automated workflows for calculation and updates.
- Graphical dashboards for visualization