

Project Design Phase

System Architecture:

- The system consists of **two main tables**:
 - **Family Expenses** – Stores summarized daily expense data.
 - **Daily Expenses** – Stores individual expense entries for each family member.
- **Business rules** automatically update the Family Expenses table when new Daily Expenses are added.

Database Design:

- **Family Expenses Table:**
 - Number (Auto-number)
 - Date
 - Amount (Total of daily expenses)
 - Expense Details (Comments or notes)

The screenshot shows a database design tool interface. At the top, there's a form with fields for 'Table' (set to 'Family Expenses') and 'Name' (set to 'Family Expenses'). Below this, there's a 'Columns' section with a table listing columns: 'Number' (Type: Number, Max length: 10, Default value: null, Display: false), 'Date' (Type: Date, Max length: 10, Default value: null, Display: false), 'Amount' (Type: Integer, Max length: 10, Default value: null, Display: false), and 'Expense Details' (Type: Text, Max length: 255, Default value: null, Display: false). The 'Table Columns' tab is selected, and the 'Columns' section is expanded.

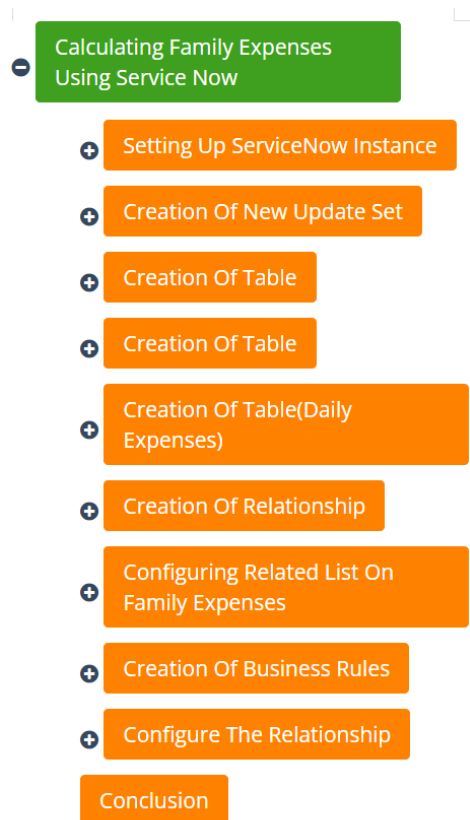
- **Daily Expenses Table:**
 - Number (Auto-number)
 - Date
 - Expense (Amount)
 - Family Member Name (Reference field)
 - Comments

The screenshot shows a database design tool interface. At the top, there's a form with fields for 'Table' (set to 'Daily Expenses') and 'Name' (set to 'Daily Expenses'). Below this, there's a 'Columns' section with a table listing columns: 'Number' (Type: Number, Max length: 10, Default value: null, Display: false), 'Date' (Type: Date, Max length: 10, Default value: null, Display: false), 'Expense' (Type: Integer, Max length: 10, Default value: null, Display: false), 'Family Member Name' (Type: Text, Max length: 255, Default value: null, Display: false), and 'Comments' (Type: Text, Max length: 255, Default value: null, Display: false). The 'Table Columns' tab is selected, and the 'Columns' section is expanded.

Forms and User Interface Design:

- Forms are designed for **easy data entry** with mandatory fields for Date, Amount, and Family Member Name.
- Read-only fields prevent accidental modification of auto-generated numbers.
- Related lists display Daily Expenses linked to the corresponding Family Expenses entry.

Implementing Steps (Flow Chart)



Automation & Business Rules:

- **Business Rule:** Automatically adds new daily expense amounts to the corresponding Family Expenses record.
- Combines comments and amounts for easy tracking of detailed entries.
- Ensures **real-time updates** without manual intervention.

Reports & Dashboards:

- Provides **summary reports** for total family spending by date.

- Can filter and categorize expenses for better financial analysis.
- Dashboards visualize trends to help families manage budgets effectively.

Security & Access Control:

- Only authorized users can add or modify expenses.
- Read-only access for summaries where needed.
- Ensures **data integrity** and prevents accidental edits.