REQUIREMENT ANALYSIS

Date : **22.10.2025**
Team ID : **NM2025TMID02450**
Project Name : **Calculating the family expenses using service now**
Max mark : **4 Marks**

1. Functional Requirements (FR)

These define what the system **must do**:

1. **Expense Submission**
   Family members can submit expenses through a **ServiceNow Expense Form**.

   ○ Fields: Date, Amount, Category, Description, Paid By, etc.

2. **Approval Flow**

   ○ Optional: Certain expenses need **approval** by a head of family.

   ○ Automatic notifications for pending approvals.

3. **Expense Storage**

   ○ All submitted expenses stored in **ServiceNow Tables** (`Family_Expense`, `Expense_Category`).

4. **Calculation**

   ○ Total expenses per member, category, or month.

   ○ Automatic summation and balance calculation.

5. **Reporting & Dashboard**

- Visual reports for **spending trends**, **category-wise breakdown**, and **family budget summary**.

- Export options (Excel, PDF).

📝 Requirement Analysis: Family Expense Calculation using ServiceNow

1. Functional Requirements (FR)

These define what the system **must do**:

1. **Expense Submission**

   - Family members can submit expenses through a **ServiceNow Expense Form**.

   - Fields: Date, Amount, Category, Description, Paid By, etc.

2. **Approval Flow**

   - Optional: Certain expenses need **approval** by a head of family.

   - Automatic notifications for pending approvals.

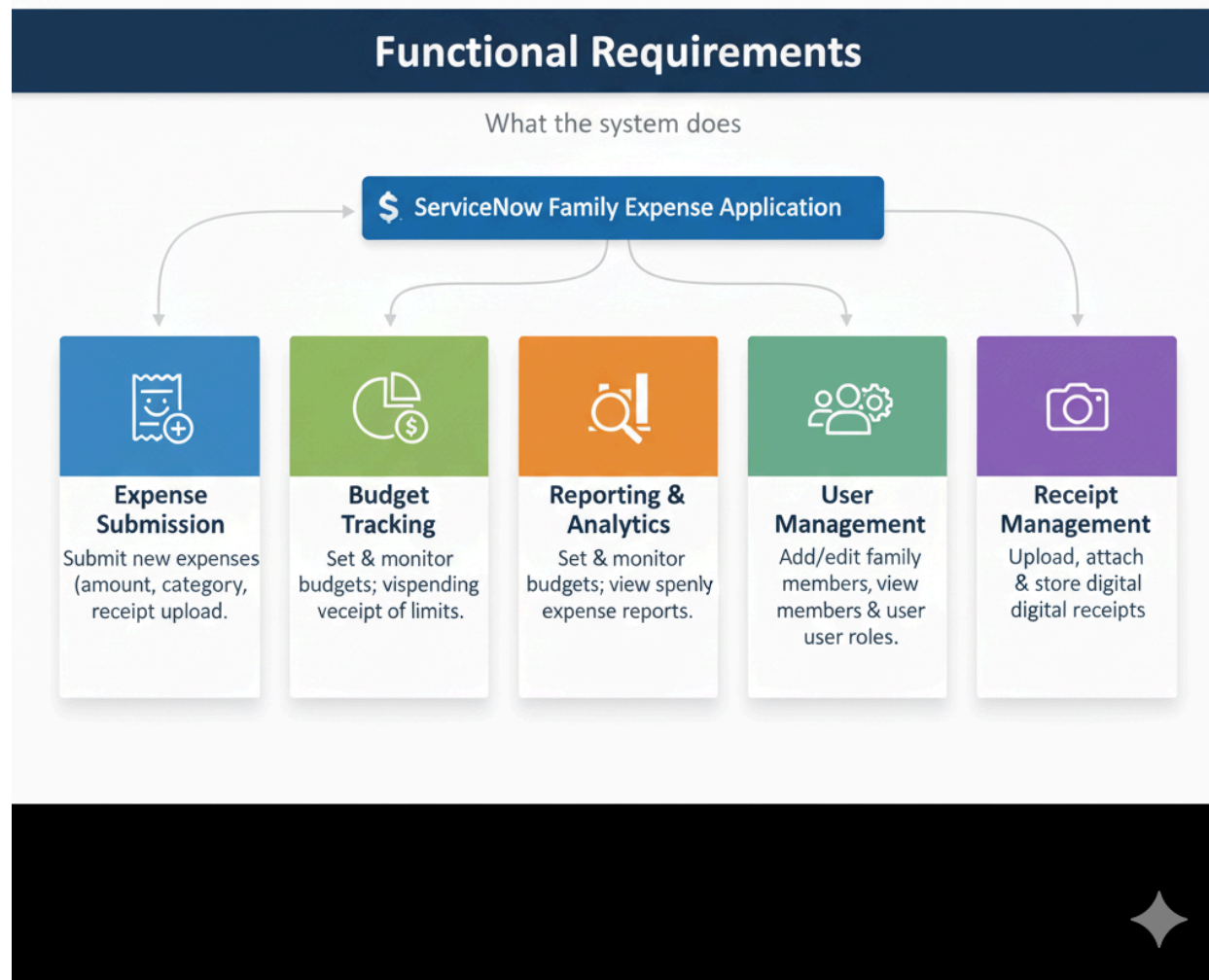3. **Expense Storage**

   - All submitted expenses stored in **ServiceNow Tables** (`Family_Expense`, `Expense_Category`).

4. **Calculation**

   - Total expenses per member, category, or month.

   - Automatic summation and balance calculation.

5. **Reporting & Dashboard**

- Visual reports for **spending trends**, **category-wise breakdown**, and **family budget summary**.

- Export options (Excel, PDF).

2. Non-Functional Requirements (NFR)

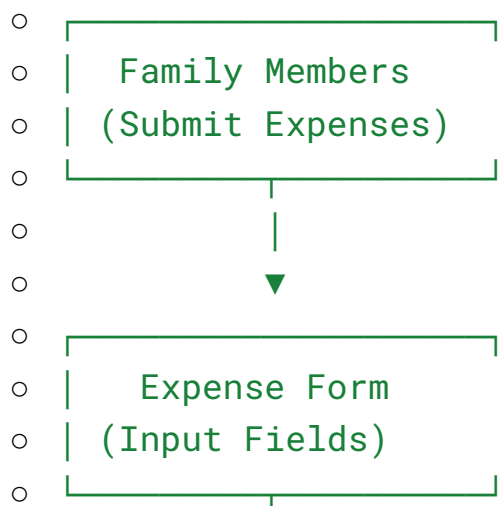These define **how the system performs**:

- **Usability:** Simple, easy-to-use forms for family members.

- **Reliability:** Accurate calculation and storage.

- **Security:** Only authorized family members can submit/view expenses.

- **Performance:** Fast data entry and report generation.

- **Scalability:** Should handle growing number of expenses and members.

---

3. Actors

- **Family Members:** Submit expenses, view their own data.

- **Family Head / Admin:** Approve expenses, monitor reports.

- **ServiceNow System:** Stores data, executes flows, generates dashboards.

---

4. Requirement Analysis Diagram (Simple Flow)

Here's the **textual layout** of the diagram I'll generate:

```
o   ┌─────────────────────┐
o   │   Family Members    │
o   │  (Submit Expenses)  │
o   └──────────┬──────────┘
o              │
o              ▼
o   ┌─────────────────────┐
o   │    Expense Form     │
o   │   (Input Fields)    │
o   └──────────┬──────────┘
```

```
            |
            ▼
  ┌──────────────────┐
  | ServiceNow Tables |
  | (Store & Retrieve) |
  └──────────────────┘
            |
            ▼
  ┌──────────────────┐
  |   Flows & Logic   |
  | (Approval, Calc)  |
  └──────────────────┘
            |
            ▼
  ┌──────────────────┐
  | Dashboards & Reports|
  | (Insights & Trends)|
  └──────────────────┘
            |
            ▼
  ┌──────────────────┐
  | Requirement Output |
  | (Accurate Family   |
  | Expense Summary)   |
  └──────────────────┘
```

Non-Functional Requirements (NFRs)

How the system performs

ServiceNow Family Expense Application

Usability — Simple, easy-to-use forms for family members.

Reliability — Accurate calculation and storage.

Security — Only authorized family members can submit/view expenses.

Performance — Fast data entry and report generation.

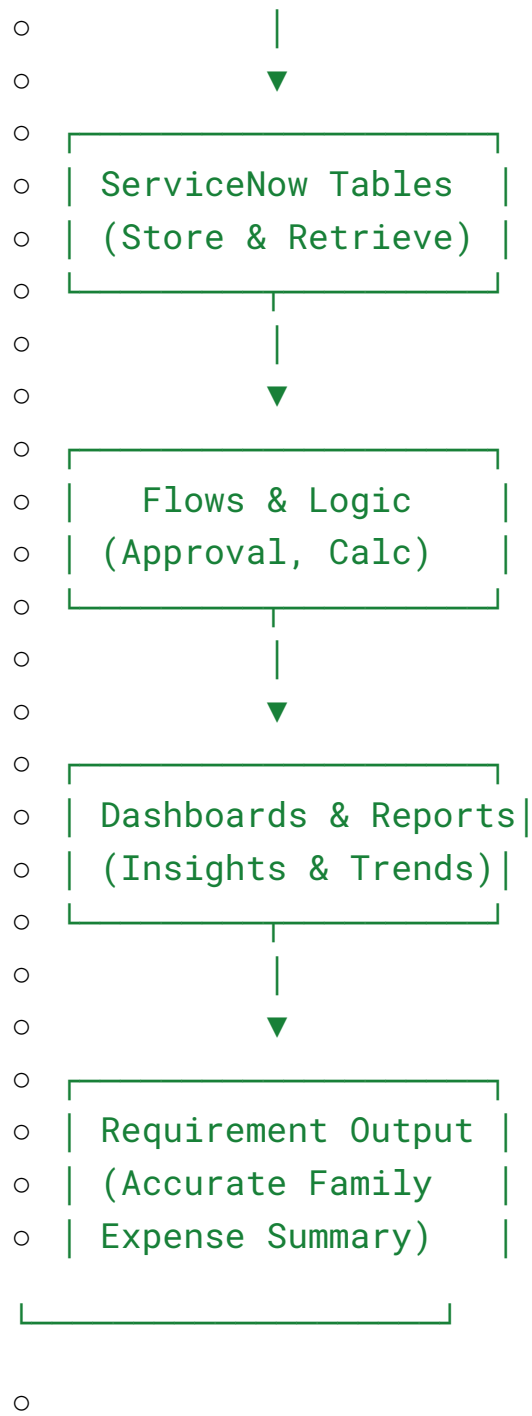**Scalablity** — Should handle growing number of expenses and members.

3. Actors

- **Family Members:** Submit expenses, view their own data.

- **Family Head / Admin:** Approve expenses, monitor reports.

- **ServiceNow System:** Stores data, executes flows, generates dashboards.

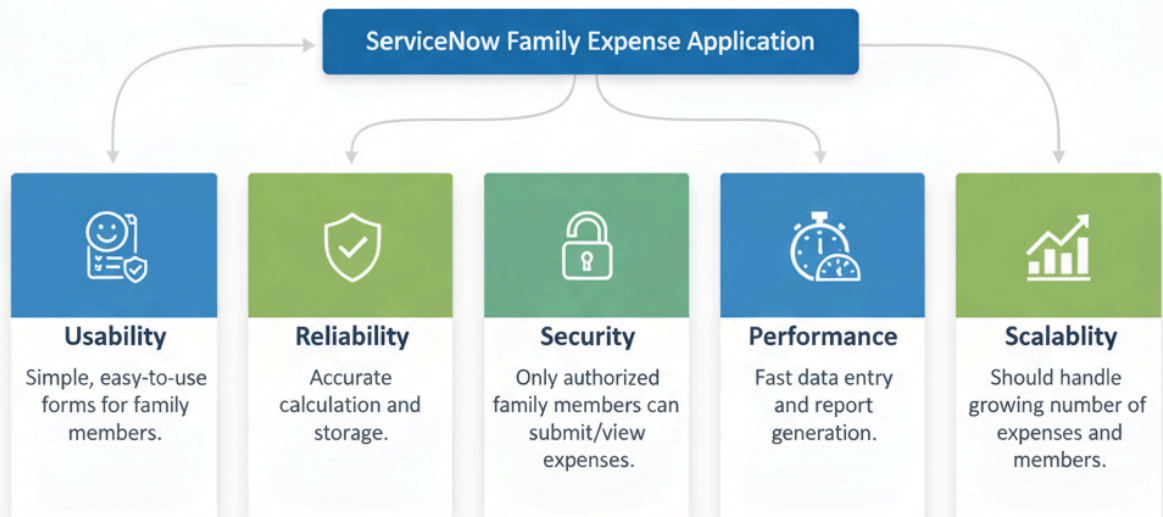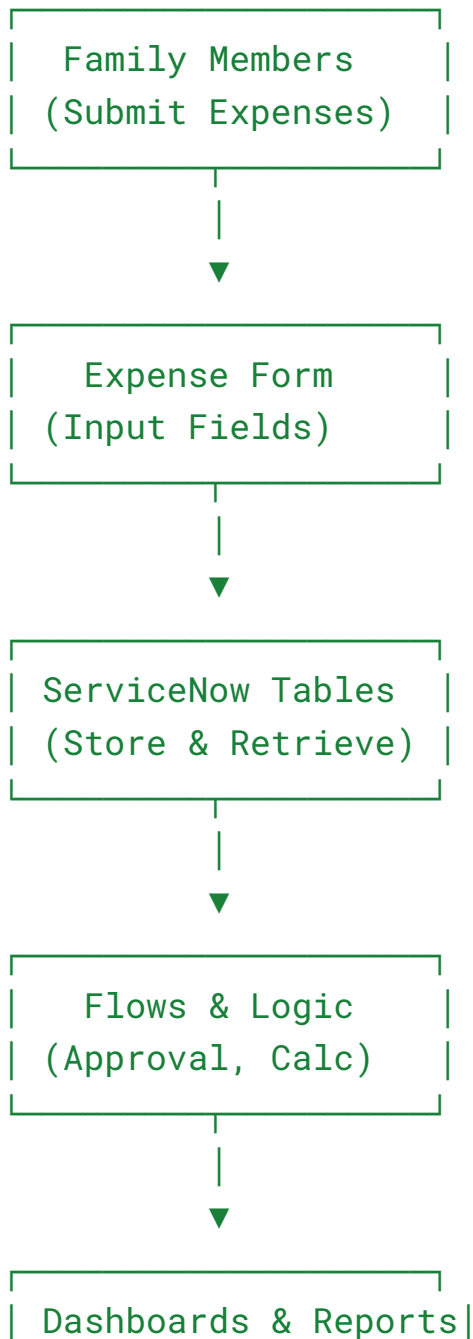### 4. Requirement Analysis Diagram (Simple Flow)

Here's the **textual layout** of the diagram I'll generate:

```
┌─────────────────────┐
│   Family Members    │
│  (Submit Expenses)  │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│     Expense Form    │
│   (Input Fields)    │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  ServiceNow Tables  │
│  (Store & Retrieve) │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│    Flows & Logic    │
│  (Approval, Calc)   │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│ Dashboards & Reports│
```

```
| (Insights & Trends)|

            |

            ▼

| Requirement Output |
| (Accurate Family   |
| Expense Summary)   |
```