Project Design Phase

Solution Architecture

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Team ID: NM2025TMID07316

Project Name: Calculating Family Expenses using ServiceNow

Maximum Marks: 4 Marks

Goal of the Architecture:

• To develop an efficient, automated system for managing and tracking family expenses using the ServiceNow platform.
• To simplify the process of recording, categorizing, and analyzing expenses through structured workflows.
• To implement budget management features that ensure families maintain financial discipline.
• To automate notifications for expense limits, enabling timely financial decisions.
• To improve transparency, accuracy, and scalability in expense tracking and reporting.

Key Components:

• Expense Management Module: Manages expense entries, modifications, and deletions while maintaining accuracy and proper categorization.
• Category Management System: Organizes expenses under predefined categories like Food, Rent, Utilities, and Entertainment for clear financial segmentation.
• Budget Management Layer: Defines and monitors monthly and yearly budget limits and generates alerts when thresholds are exceeded.
• Workflow Automation Engine: Uses ServiceNow's Flow Designer to automate alert notifications, data updates, and periodic report generation.
• Reporting and Analytics Layer: Provides visual dashboards and detailed reports for better understanding of spending patterns.
• Audit and Compliance Module: Tracks every expense modification, ensuring transparency and traceability of all financial transactions.

Development Phase:

• Define and configure expense tables and categories in the ServiceNow environment.
• Set up budget limits for monthly and yearly tracking across multiple expense categories.
• Design and implement workflows using Flow Designer to send alerts and automate calculations when budgets are exceeded.
• Integrate reporting dashboards and analytics tools for visualizing family spending trends.

• Conduct extensive testing for expense entry, budget validation, and alert accuracy.
• Implement audit trails and data verification mechanisms to ensure reliability and compliance.

Solution Architecture Description:

• The proposed Solution Architecture provides a structured and automated approach to managing family expenses using ServiceNow.
• It integrates expense entry, budgeting, and workflow automation to ensure seamless financial management.
• The Workflow Engine (Flow Designer) automates budget limit checks, notification alerts, and monthly summary updates.
• The Reporting Layer enables users to view categorized spending patterns and identify areas for cost optimization.
• The Audit and Compliance Layer records all expense-related activities, ensuring accuracy and traceability of financial data.
• This architecture enhances transparency, reduces manual effort, and delivers a user-friendly financial management experience.
• Overall, the system is secure, scalable, and designed to empower families to manage their finances effectively using automation and real-time data insights.