HACKXTREME'26

PROPEL SOFT

Problem Statement: Internal Expense Validation and Budget Monitoring System

Objective: Develop an intelligent expense management tool that allows employees to submit expenses with supporting documentation. The system should automatically validate each expense against department budgets, historical spending patterns, and company policies. It should provide real-time budget availability alerts, automate approval workflows based on amount thresholds, and generate predictive budget forecasts for upcoming months using historical data analysis.

Main Criteria to Validate:

o **Automated Budget Validation:** Implement rules to compare submitted expense amounts against available department budgets.

o **Intelligent Routing & Notifications:** Automatically trigger approval of workflows and send email notifications when expenses are under budget

(requiring confirmation) or over budget (requiring manager approval).

o **Expense Categorization:** Support diverse expense types including

beverages, travel, guest expenses, events, sponsorships, and celebrations.

o **Predictive Budget Analytics:** Analyze previous months' spending to forecast the next month's budget requirements and flag potential overspending risks.

Deliverables: A functional prototype or tool that includes:

o An expense submission interface for employees to enter details and upload supporting documents.

o A backend validation engine that checks submitted amounts against predefined budgets and policies.

o An automated notification system that sends email alerts for under budget confirmations and over-budget approval requests.

o A dashboard for finance teams to monitor real-time expenses, budget utilization, and monthly spending forecasts.

Description: Companies incur numerous internal expenses across department such as travel, events, hospitality, and daily operations, that must be tracked against departmental budgets. Manual expense tracking and budget validation are prone to errors, delays, and inconsistent policy enforcement. There is a need for an intelligent system that can automate expense verification, compare requests against predefined budgets, and route approvals based on config business rules.