PROJECT REPORT: sales automobile using Salesforce CRM

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PROJECT TITLE:

Sales automobile using Salesforce CRM.

PROJECT OVERVIEW:

This project involves the development and automation of various business processes in Salesforce, aimed at enhancing the management of opportunities and associated automobile data. The solution includes the creation of Salesforce Dashboards, Reports, Apex classes, Triggers, and Lightning Web Components (LWC) to streamline business operations, automate maintenance tasks, and ensure data accuracy and efficiency.

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1. **Dashboard and Reporting Setup**

OBJECTIVE:

To provide real-time insights into automobile sales and opportunity data through dashboards and reports.

SOLUTION:

Sales Dashboard: Created a dashboard to track automobile sales performance by integrating data from various reports.

REPORTS INTEGRATED:

Automobile Sales Report: Displays total sales, quantity sold, and related opportunity details.

Opportunity Report: Provides insights into opportunities related to automobiles, such as the stage of the deal (Closed Won, Closed Lost).

REPORT TYPES USED:

Tabular Report: Simple list of data without grouping, ideal for displaying raw numbers.

Summary Report: Grouped data for better analysis, e.g., grouping by sales region or opportunity stage.

Matrix Report: Used for cross-analysis, such as analyzing sales by both region and product type.

Joined Report: Combines multiple report types into a single view, offering a more holistic view of sales and opportunity data.

OUTCOME:

Enabled quick decision-making based on real-time sales and opportunity data.

Provided a comprehensive overview of opportunities and automobile sales through visually accessible dashboards.

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2. **Apex Scheduling for Maintenance Tasks**

OBJECTIVE:

To automate the deletion of "Closed Lost" opportunities weekly to maintain data cleanliness.

SOLUTION:

Apex Class - DeleteClosedLostOpportunities:

Created an Apex class that fetches all opportunities with the "Closed Lost" stage and deletes them.

Implemented the Schedulable interface to schedule the Apex job to run every Monday.

Used System.schedule() to set the timing and frequency for this task.

OUTCOME:

Automated the process of removing outdated or unneeded opportunities, maintaining a cleaner dataset and improving system performance.

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3. **Automation of Invoice Creation**

OBJECTIVE:

To automate invoice creation based on the associated opportunity and automobile data when an opportunity reaches the "Closed Won" stage.

SOLUTION:

Apex Class - InvoiceCreation:

Developed an Apex class that listens for opportunity stage changes.

When an opportunity is marked "Closed Won", it triggers the creation of invoices based on related automobile data.

Utilized Salesforce's custom objects (Opportunity\_Automobile\_\_c and Invoice\_\_c) to gather automobile details and generate invoices.

OUTCOME:

Ensured that invoices are created automatically upon closing a deal, reducing manual data entry errors and saving time.

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4. **Managing Opportunity-Automobile Quantity Adjustments**

OBJECTIVE:

To automate the update of automobile quantities based on opportunity data, and prevent discrepancies in automobile stock when an opportunity is closed.

SOLUTION:

Apex Trigger - OpportunityAutoMobileTrigger:

Created a trigger on Opportunity\_Automobile\_\_c to adjust automobile quantities in Automobile\_Information\_\_c when an opportunity is marked as "Closed Won".

The trigger reduces the quantity in the automobile information object by the quantity in the associated opportunity.

Trigger Handler - OpportunityHandlerClass:

Managed the logic of subtracting opportunity automobile quantities from the available stock in Automobile\_Information\_\_c.

OUTCOME:

Maintained accurate inventory levels by automatically updating the automobile stock when opportunities are closed.

Prevented errors or conflicts in automobile inventory tracking by implementing business logic in the trigger.

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5. **Error Handling for Automobile Quantity Insufficient**

OBJECTIVE:

To prevent opportunities from being created or updated when the requested automobile quantity exceeds available stock.

SOLUTION:

Apex Class - OpportunityAutomobileHandler:

Developed error handling logic that checks the available automobile quantity in Automobile\_Information\_\_c.

If an opportunity’s requested automobile quantity exceeds the available stock, the system throws an error and prevents the record from being saved.

OUTCOME:

Improved data integrity by preventing the creation or updating of opportunities with invalid automobile quantities.

Enhanced user experience by providing immediate feedback on quantity discrepancies.

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6. **Lightning Web Component (LWC) for Invoice Display**

OBJECTIVE:

To create a dynamic user interface that displays invoices related to an opportunity in Salesforce.

SOLUTION:

Lightning Web Component - InvoiceOpportunity:

Created an LWC that displays a table of invoices associated with an opportunity.

Utilized @wire to fetch invoice data from an Apex class (OpportunityInvoiceswithLWC).

Created a user-friendly interface with lightning-datatable to display key invoice fields, such as quantity, unit price, total price, and purchase date.

OUTCOME:

Provided users with a seamless and efficient way to view related invoices directly from the Opportunity record page.

Simplified the invoice management process by integrating it into the Opportunity UI.

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7. **Deployment and Integration**

OBJECTIVE:

To ensure that all components, including Apex classes, triggers, and LWCs, are deployed correctly and function as intended.

SOLUTION:

Salesforce CLI and VS Code Integration:

Installed and configured Salesforce CLI and Visual Studio Code (VS Code) with Salesforce extensions to handle deployment.

Deployed all components, including Apex classes, triggers, and LWC, from VS Code to the Salesforce organization.

Ensured the deployment of each component followed best practices for version control and metadata management.

OUTCOME:

Streamlined the development workflow with integrated Salesforce tools (CLI, VS Code).

Ensured smooth deployment of Apex classes, triggers, and LWCs to the Salesforce environment.

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8. **Trigger and Automation Implementation**

OBJECTIVE:

To automate the management of opportunity-related automobile data and ensure business rules are enforced.

SOLUTION:

TRIGGERS:

Implemented triggers to automate updates to related records, such as:

Updating automobile stock quantities based on opportunity data.

Creating invoices when opportunities are closed.

Used before insert and before update trigger events to ensure business logic is applied before record creation or modification.

OUTCOME:

Ensured that business rules regarding automobile quantities and invoice creation were automatically enforced, reducing manual oversight and errors.

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**Challenges and Solutions**

Data Integrity: Ensuring that the opportunity data and automobile inventory data remained in sync was a key challenge. This was addressed by implementing triggers and error handling mechanisms that prevent invalid data from being saved.

Automation Efficiency: Managing the timing of automation tasks (e.g., weekly deletion of "Closed Lost" opportunities) required careful planning to avoid unnecessary system load. This was resolved through scheduled Apex jobs that ran during off-peak hours.

User Interface Design: Ensuring that the user interface for displaying invoices was both functional and user-friendly required iterative design and testing. The use of lightning-datatable in LWC helped achieve an intuitive UI for end users.

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CONCLUSION

The Salesforce project successfully implemented a series of automations and integrations to streamline opportunity and automobile management processes. By leveraging Salesforce features such as dashboards, reports, Apex classes, triggers, and Lightning Web Components, the system was able to:

Automate critical business processes (e.g., invoice creation, automobile quantity updates).

Provide real-time insights through dashboards and reports.

Ensure data integrity with robust error handling and trigger mechanisms.

This project significantly improved business efficiency and provided a seamless experience for users in managing opportunities, automobiles, and invoices.