WhatNext Vision Motors: Shaping the Future of Mobility with Innovation and Excellence

Abstract

WhatsNext Vision Motors has undertaken a comprehensive digital transformation initiative through the strategic implementation of Salesforce Customer Relationship Management (CRM). This project is designed to establish an intelligent, scalable, and automated system capable of addressing the multifaceted requirements of vehicle sales, after-sales services, and customer lifecycle management. By employing Salesforce functionalities—including custom objects, Lightning Applications, record-triggered flows, Apex triggers, batch processes, and scheduled automation—the organization has effectively mitigated challenges associated with manual dealer assignment, test drive scheduling, and inventory management. The system introduces automated dealer allocation based on geolocation, enforces inventory-based order restrictions, and optimizes communication channels for test drives and service requests. Collectively, these innovations enhance operational efficiency, minimize process redundancies, and contribute to a transparent, real-time, and customer-oriented experience. This transformation not only strengthens WhatsNext Vision Motors' organizational performance but also positions the company as an industry leader in adopting advanced CRM-driven solutions to foster accuracy, productivity, and long-term customer satisfaction.

Objectives

General Objective

To design and implement a centralized Salesforce CRM system that enhances operational efficiency, ensures data accuracy, and improves customer engagement across vehicle sales, service, and lifecycle management.

Specific Objectives

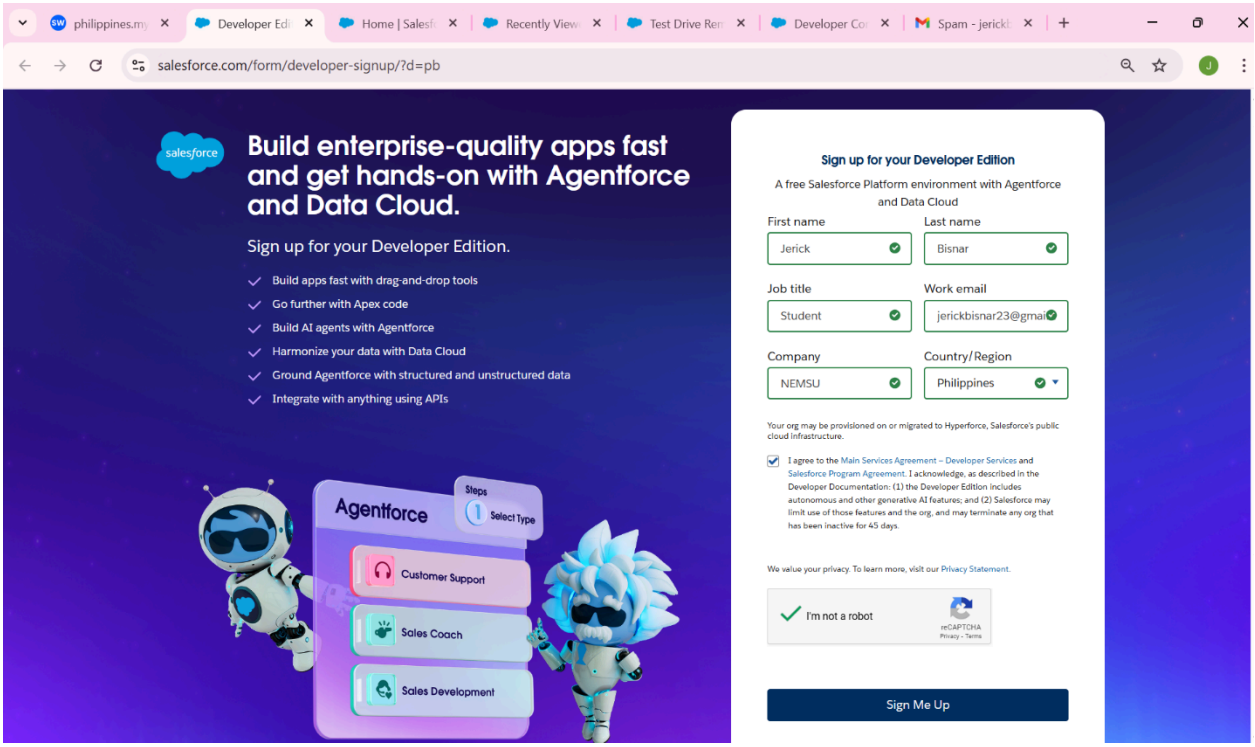
1. To establish a unified platform for managing vehicle, dealer, and customer data.
2. To automate the order-to-delivery process to improve speed, accuracy, and reliability.
3. To enforce inventory control by preventing order placements for unavailable or out-of-stock vehicles.
4. To apply geolocation-based logic for the automatic assignment of customer orders to the nearest authorized dealer.
5. To develop automated reminders for test drives and streamline the tracking of service requests.

6. To increase overall customer satisfaction while reducing manual intervention and minimizing operational overhead.

Developer Org Set up

Go to https://developer.salesforce.com/signup

On the sign up form, enter the following details:



First name & Last name Email

Role : Developer

Company : College Name

County : Your country

Postal Code : pin code

Username : should be a combination of your name and company

The Salesforce Customer Relationship Management (CRM) implementation at WhatsNext Vision Motors is engineered to deliver a seamless, scalable, and intelligent digital solution tailored to the automotive industry. The system architecture integrates declarative configurations and programmatic components within the Salesforce platform, thereby ensuring adaptability to evolving business requirements while maintaining high levels of efficiency and automation.

At the **data management layer**, the CRM centralizes vehicle, dealer, and customer information through the use of standard and custom Salesforce objects. This unified repository eliminates data silos, ensures data integrity, and supports advanced features such as deduplication, identity resolution, and real-time synchronization with external systems.

The **process automation layer** leverages record-triggered flows, approval processes, scheduled jobs, and Apex triggers to execute business logic with minimal human intervention. For example, the system automatically validates vehicle availability before order placement, assigns customers to the nearest dealer based on geolocation, and schedules reminders for test drives and service requests. Batch processes and scheduled automation ensure scalability by handling high transaction volumes without compromising performance.

At the **integration layer**, Salesforce APIs and middleware enable seamless interoperability with external applications such as Enterprise Resource Planning (ERP) systems, inventory management platforms, and geolocation services. This ensures real-time updates of stock availability, order status, and service schedules across different channels.

The **user interface layer** employs Lightning Apps and customizable dashboards to provide stakeholders with intuitive, role-based access to relevant information. Dealers, sales representatives, and service personnel can monitor performance metrics, track customer interactions, and manage orders within a responsive and user-friendly environment.

Finally, the **security and compliance layer** enforces data protection through role-based access control, field-level security, and audit logging, aligning the system with industry best practices and regulatory standards.

Collectively, this architecture enables WhatsNext Vision Motors to streamline operations, enhance customer engagement, and ensure a transparent, data-driven, and customer-centric automotive experience.

Custom Objects

In the Salesforce CRM implementation, custom objects are utilized to model the core entities relevant to the automotive business domain. These objects are designed to capture essential data attributes, establish logical relationships, and facilitate business processes that align with industry-specific requirements.

The primary custom objects include:

- **Vehicle__c** – Represents the vehicle inventory, capturing attributes such as model, variant, availability status, and pricing.

- **Vehicle_Order__c** – Records customer purchase orders, including vehicle details, order status, and delivery schedules.
- **Vehicle_Customer__c** – Maintains customer profiles, encompassing demographic information, preferences, and purchase history.
- **Vehicle_Dealer__c** – Represents dealership entities, storing details on location, contact information, and assigned orders.
- **Vehicle_Test_Drive__c** – Tracks customer test drive requests, including scheduling, assigned dealer, and completion status.
- **Vehicle_Service_Request__c** – Logs service-related requests, covering maintenance history, issue details, and resolution tracking.

Object relationships are primarily defined through **Lookup relationships**, enabling flexible associations between vehicles, customers, dealers, and related processes. This relational structure supports automation, ensures data consistency, and provides a foundation for reporting and analytics within the Salesforce environment.

A custom Salesforce Lightning Application has been developed to serve as a centralized and user-friendly interface for sales representatives and customer service personnel. The application is designed to streamline navigation, enhance accessibility, and integrate essential tools that support decision-making and operational efficiency.

Key features of the Lightning Application include:

- **Customized Lightning Record Pages** tailored to align with specific business requirements.
- **Tab-based navigation** providing direct access to Vehicles, Orders, Dealers, Customers, and Reports.
- **Embedded List Views, Reports, and Dashboards** for delivering real-time insights into sales, service, and operational performance.
- **Integration with Flows** to automate routine processes and reduce reliance on manual intervention or custom code.

Several automation flows have been implemented within the application to optimize operations:

- **Dealer Assignment Flow** – Automatically assigns the most appropriate dealer based on the customer's geolocation.
- **Test Drive Reminder Flow** – Sends scheduled email notifications to customers regarding upcoming test drive appointments.
- **Order Status Update Flow** – Dynamically updates the status of customer orders in response to vehicle stock availability.

Collectively, these features enable the Lightning Application to improve operational efficiency, ensure data accuracy, and enhance the overall customer experience.

Record-Triggered Flow Creation

Record-Triggered Flows and Apex Implementations
Record-Triggered Flows have been configured to automate critical backend processes in response to changes in system data. These flows ensure accuracy, consistency, and timeliness of operations without requiring manual intervention.

Key Record-Triggered Flows include:

- **Order Creation Flow** – Validates vehicle stock availability and automatically assigns the nearest dealer to the order.
- **Test Drive Booking Flow** – Sends confirmation emails to customers and updates associated records to reflect the booking.
- **Service Request Creation Flow** – Generates system notifications and logs support activities for monitoring and tracking purposes.

In scenarios where business requirements demand advanced logic or computational complexity beyond the scope of declarative tools, **Apex implementations** are employed. Apex classes and triggers provide the flexibility to handle sophisticated business rules, custom validations, and bulk data processing, thereby extending the functionality of the Salesforce platform to meet the specialized needs of the automotive domain.

Custom business logic that goes beyond Flow capabilities is handled using Apex, including:

- **Apex Triggers**
    - Enforce validation rules to prevent the placement of orders for out-of-stock vehicles.
    - Automatically assign the appropriate dealer during the creation of new vehicle orders.
- **Trigger Handlers**
    - Utilize modular Apex handler classes to promote code maintainability, ensure separation of concerns, and support comprehensive unit test coverage.
- **Batch Apex**
    - Efficiently processes large volumes of vehicle stock data, enabling timely updates of availability information across the system.
- **Scheduled Apex**

- Executes time-based processes, such as periodic updates of order statuses and the distribution of summary email notifications to relevant stakeholders.

Through these implementations, Apex extends the functionality of Salesforce beyond its declarative capabilities, ensuring that complex, large-scale, and mission-critical operations are executed with efficiency and reliability.

Object Definition & Relationships

Custom Objects and Key Fields

Object Name	**Key Fields**	**Purpose & Relationships**
Vehicle__c	Vehicle_Name__c, Vehicle_Model__c, Stock_Quantity__c, Price__c, Status__c, Dealer__c	Stores vehicle details; related to Dealer & Orders
Vehicle_Dealer__c	Dealer_Name__c, Dealer_Location__c, Dealer_Code__c, Phone__c, Email__c	Stores dealer info; related to Orders
Vehicle_Customer__c	Customer_Name__c, Email__c, Phone__c, Address__c, Preferred_Vehicle_Type__c	Stores customer details; related to Orders & Test Drives
Vehicle_Order__c	Customer__c, Vehicle__c, Order_Date__c, Status__c	Tracks orders; related to Vehicle & Customer
Object Name	**Key Fields**	**Purpose & Relationships**

Vehicle_Test_Drive__c	Customer__c, Vehicle__c, Test_Drive_Date__c, Status__c	Tracks test drives; related to Vehicle & Customer
Vehicle_Service_Request__ c	Customer__c, Vehicle__c, Service_Date__c, Issue_Description__c, Status__c	Tracks servicing; related to Vehicle & Customer

Process Automation

The Salesforce CRM implementation at WhatsNext Vision Motors employs a combination of declarative automation tools and programmatic logic to optimize business processes.

- **Flows and Workflows**
  - *Auto-assignment of Dealers*: A record-triggered flow assigns the nearest dealer to new orders based on the customer's address.
  - *Email Reminders*: Automated flows generate email notifications to remind customers of upcoming test drives.
  - *Order Status Automation*: A scheduled process dynamically updates order status in alignment with stock availability:
    - Stock quantity = 0 → Status = "Pending"
    - Stock available → Status = "Confirmed"
- **Apex Implementations**
  - *Apex Triggers*:
    - Stock Validation Trigger – Prevents creation of orders when Stock_Quantity__c ≤ 0.
    - Auto-Assignment Trigger – Assigns Dealer__c using custom geolocation logic or APIs.
    - Trigger Handler Pattern – Abstracts logic into modular handler classes to improve scalability and maintainability.
  - *Batch Apex*:

        - Batch Stock Update Job – Periodically processes large datasets to refresh vehicle stock levels from backend or manual updates.
        - Email Notification Job – Dispatches alerts for low stock and pending orders.
    - *Scheduled Apex*:
        - Order Processor Scheduler – Executes daily to update order statuses and issue summary email notifications.

Project Phases – Salesforce CRM Transformation

- **Phase 1: Planning & Requirement Gathering**
  Define organizational goals and challenges (e.g., manual dealer assignment, order errors due to stock unavailability). Gather requirements from stakeholders across sales, service, IT, and customer teams. Document user stories, acceptance criteria, and establish key performance indicators (KPIs) such as order accuracy, reduction in manual workload, and customer satisfaction.
- **Phase 2: Environment Setup & Configuration**
  Establish Salesforce environments (Developer, Sandbox, and Production). Configure editions, licensing, user profiles, roles, and permission sets. Populate sample datasets for vehicles, dealers, and customers to facilitate development and testing.
- **Phase 3: Data Modeling & Custom Object Development**
  Develop custom objects such as *Vehicle, Vehicle_Order, Vehicle_Customer, Dealer, Test Drive,* and *Service Request.* Define key fields (e.g., stock quantity, dealer location, order status) and configure object relationships. Establish record types and page layouts tailored to business use cases.
- **Phase 4: User Interface & Lightning App Development**
  Create a custom Lightning Application with tab-based navigation for key objects. Configure Lightning Record Pages for intuitive access, along with List Views, Reports, and Dashboards for real-time insights. Provide a streamlined interface to sales agents, dealers, and support staff.
- **Phase 5: Process Automation (Declarative Tools)**
  Implement record-triggered flows to handle dealer auto-assignment, test drive reminders, and automated order status updates. Configure scheduled flows for periodic validations and conduct extensive testing to ensure robustness.
- **Phase 6: Apex Development (Advanced Logic)**
  Implement Apex triggers for stock validation and dealer assignment via geolocation logic. Apply the Trigger Handler Pattern for reusable, maintainable logic. Develop Batch Apex jobs to handle bulk stock updates and large-scale data processing. Schedule Apex jobs to manage daily order status updates and notifications.

- **Phase 7: Integration & Testing**
  Prepare for future integration with ERP and inventory systems. Conduct unit testing for triggers and flows, followed by System Integration Testing (SIT) for end-to-end validation. Perform User Acceptance Testing (UAT) with stakeholder participation.
- **Phase 8: Deployment & Training**
  Deploy configurations and Apex code into Production using change sets or a CI/CD pipeline. Conduct training sessions for sales, dealer, and service personnel to ensure smooth adoption. Roll out the system through a phased launch strategy (pilot deployment followed by full-scale release).
- **Phase 9: Monitoring & Optimization**
  Monitor system performance, user adoption, and business impact. Gather feedback to refine automations, adjust dashboards, and enhance reporting against KPIs. Document lessons learned and improvement opportunities.
- **Phase 10: Future Enhancements**
  Expand scope with ERP integration for real-time stock synchronization, advanced geo-mapping capabilities (e.g., Maps API), customer self-service portals, and AI-powered analytics through Salesforce Einstein.

Conclusion

The Salesforce CRM transformation at WhatsNext Vision Motors marks a pivotal advancement in its digital modernization strategy for the automotive industry. By integrating declarative automation tools with Apex-driven business logic, the organization has developed a robust and customer-focused framework that streamlines vehicle order management, dealer assignment, test drive scheduling, and service request handling. Automated stock validations, dynamic order processing, and proactive customer notifications collectively enhance operational accuracy, transparency, and efficiency. This initiative not only improves internal workflows but also elevates customer engagement and satisfaction. As a result, WhatsNext Vision Motors is positioned as a forward-thinking industry leader, leveraging Salesforce CRM to drive sustained growth, innovation, and excellence in the mobility sector.

Future Scope

- **Real-Time Stock Integration** – Connect Salesforce with external ERP or inventory systems for instantaneous updates on vehicle availability.
- **Enhanced Geo-Mapping** – Employ advanced geospatial tools (e.g., Maps API) to improve accuracy of dealer recommendations.
- **Customer Self-Service Portal** – Introduce a portal for customers to independently book test drives, track orders, and request services.
- **Advanced Analytics & Dashboards** – Implement predictive analytics and intelligent dashboards to monitor demand patterns, customer preferences, and order trends.