**WhatNext Vision Motors:**

**Shaping the Future of Mobility with Innovation and Excellence**

**Abstract**

WhatNext Vision Motors is a comprehensive and innovative solution developed entirely within the Salesforce platform, designed to revolutionize mobility management by combining smart automation, real-time analytics, and robust data management practices. As part of the Salesforce Virtual Internship (SkillWallet), this project showcases the effective integration of declarative tools such as custom objects, validation rules, workflows, and process automation, alongside programmatic components including Apex classes and triggers.

The core objective of WhatNext Vision Motors is to streamline the management of vehicle data, owner information, and service records while automating critical business processes to improve operational efficiency and data integrity. The system facilitates end-to-end automation—from data entry and validation to status updates and notifications—thereby reducing manual effort and minimizing errors. By leveraging Salesforce’s Lightning Experience, the solution offers an intuitive and responsive user interface designed for ease of use by administrators and frontline users alike.

Additionally, the platform delivers actionable insights through customized reports and dashboards, providing fleet managers and decision-makers with a real-time overview of vehicle health, trip summaries, service analytics, and overall operational metrics. These analytics empower stakeholders to make informed decisions, optimize resource allocation, and plan predictive maintenance strategies.

Moreover, WhatNext Vision Motors emphasizes data quality through stringent validation rules and structured workflows, ensuring that only accurate and complete information populates the system. The project also encompasses effective process automation using Salesforce’s Workflow Rules and Process Builder Flows to handle multi-step business operations seamlessly, improving collaboration across teams.

This documentation illustrates the project’s architecture, key Salesforce components, deployment approach, and lessons learned throughout development, offering valuable insights for Salesforce developers and administrators aiming to build scalable, sustainable systems within the automotive industry. Ultimately, WhatNext Vision Motors exemplifies the potential of the Salesforce platform to drive innovation and operational excellence in the future of mobility.

**Objectives**

The WhatNext Vision Motors project aims to leverage the Salesforce platform to revolutionize mobility management by integrating advanced data handling, automation, and analytics capabilities. This solution is designed to streamline vehicle and owner data management, automate critical business processes, and provide real-time actionable insights that support efficient decision-making. By utilizing Salesforce's declarative tools and Apex development, the project ensures seamless collaboration across teams while maintaining high data quality and operational excellence.

* Develop a robust Salesforce solution to manage vehicle, owner, and service information effectively within the automotive domain.
* Automate essential business workflows such as data validation, service tracking, and status updates to reduce manual effort and errors.
* Deliver real-time, customizable dashboards and reports that provide comprehensive insights into fleet status, service history, and usage patterns.
* Enforce strict data integrity and compliance through validation rules and structured workflows.
* Enhance cross-departmental collaboration through Salesforce’s automation and process tools to improve operational efficiency.
* Build a scalable, user-friendly platform aligning with the future needs of sustainable mobility management.

**Technology Description**

The WhatNext Vision Motors project is built on a robust suite of Salesforce technologies that work together to streamline vehicle management, empower automation, and deliver actionable analytics for the automotive sector. Here’s a detailed overview of the key technologies and Salesforce components utilized in the project:

* **Salesforce CRM Platform**  
  At the core, the project leverages the Salesforce CRM to manage all aspects of vehicle and customer data, order management, and service workflows. This centralized approach helps provide a unified view of customers and operational data, driving smarter business decisions.
* **Custom Objects and Data Modeling**  
  Custom objects are designed specifically for the automotive context—such as Vehicle for vehicle records, Owner for customer or driver data, Service\_Record for maintenance logs, and Trip for usage tracking. This flexible data model allows for detailed, domain-specific information management and process automation.
* **Apex Classes & Triggers**  
  The solution employs Apex, Salesforce’s proprietary programming language, to implement advanced logic and automation. Triggers ensure automatic updates to records (for example, updating a vehicle’s status after service completion) and enable seamless backend processing beyond the capabilities of declarative tools.
* **Lightning Web Components (LWC)**Custom user interface elements are built using Lightning Web Components. This modern framework allows for interactive, responsive, and reusable UI that enhances the user experience for administrators and end-users alike.
* **Process Automation: Flows, Workflow Rules, and Process Builder**  
  Declarative automation tools like Flows and Workflow Rules are extensively used to automate repetitive business processes, such as service scheduling, vehicle onboarding, follow-up reminders, and notification triggers. This automation minimizes manual intervention and improves operational consistency.
* **Validation Rules**To maintain high data integrity, validation rules enforce standards for data input (like mandatory fields and valid formats, such as VINs), ensuring only correct and usable information enters the system.
* **Reports and Dashboards**Real-time insights are delivered through customizable Salesforce reports and dashboards. These tools provide visibility into fleet health, service patterns, usage trends, and business KPIs, empowering decision-makers to quickly analyze and act on critical information.
* **Integration Capabilities**The solution supports integration with other business applications and potential IoT systems for expanded capabilities like GPS tracking, remote diagnostics, and predictive maintenance.

This technology stack demonstrates the power of combining Salesforce’s declarative (point-and-click) and programmatic (Apex and LWC) development models. It enables WhatNext Vision Motors to build a scalable, future-proof solution that meets the evolving demands of automotive mobility, manages large volumes of fleet data, automates daily operations, and supports deep business intelligence through analytics **and reporting**

**Detailed Execution of Project Phases**

**1.Project Initialization (Designing the Data Model)**

**a. Create Custom Objects**

* **Navigate to Setup > Object Manager.**
* Click “New Object” to create the following custom objects:
  + Vehicle (fields: VIN, Model, Year, Status, etc.)
  + Vehicle Owner (fields: Name, Contact, Address, etc.)
  + Vehicle Service Record (fields: Service Date, Description, Vehicle Lookup, Status)
  + Test Drive (fields: Date, Distance, Vehicle Link)

**b. Add Custom Fields**

* For each object, use the “Fields & Relationships” tab.
* Add necessary fields (e.g., Model on Vehicle), set required fields and field types.

**3. User Interface Customization**

* **Customize Page Layouts** using Lightning App Builder:
  + Arrange fields, add related lists, and optimize layouts for user efficiency.
* **Create custom tabs** for “Vehicles,” “Owners,” “Service Records,” and “Trips” to enable easy navigation.

**4. Business Logic Implementation**

**a. Declarative Automation (Process Builder/Flow)**

* **Set up Flows/Process Builder for automation**, such as:
  + Automatically updating vehicle status after service.
  + Sending email notifications to owners after servicing.
* Go to Setup > Process Builder/Flow > New.

**b. Apex Classes and Triggers**

* **Develop Apex Triggers** for advanced business logic, like updating service counters or checking complex conditions.
* Go to Setup > Apex Triggers > New Trigger (select relevant object).
* **Write and test the trigger logic.**

**5. Implementing Validation Rules**

* **Navigate to the Validation Rules section** of each object.
* Create rules (e.g., ensure VIN is not blank, enforce valid formats, mandatory service details).

**6. Reports & Dashboards Setup**

* Go to App Launcher > Reports or Dashboards.
* **Create custom reports** (e.g., Vehicle Inventory, Service Analytics, Trip Reports).
* **Build dashboards** to show key metrics like service due, vehicle health, etc.

**7. Testing and Quality Assurance**

* **Enter test data** for vehicles, owners, services, and trips using the app UI.
* **Test each automation** (triggers, flows), validation rule, and look for errors.
* Make adjustments and re-test as needed.

**8. User Training & Documentation**

* **Prepare user guides** (like this documentation) describing each custom feature and process.
* Conduct demo sessions for team members.

**9. Project Handover & Future Enhancements**

* **Discuss deployment or migration if needed** for production use.
* Collect feedback using built-in tools and plan enhancements (like chatbots or IoT).

**Project Explanation with Real-World Example**

The WhatNext Vision Motors project is designed to serve as an end-to-end solution for managing the lifecycle of vehicles within an automotive company, using Salesforce as the underlying platform. The system automates and streamlines processes such as vehicle tracking, customer management, sales ordering, service scheduling, and analytics reporting. This structured integration greatly improves operational efficiency, transparency, and decision-making for both staff and customers.

**Real-World Scenario: Managing Vehicle Sales and Post-Sale Service**

Imagine a customer, Ms. Rao, who visits WhatNext Vision Motors interested in purchasing an electric vehicle. The following steps detail how the project system facilitates this transaction and the ongoing vehicle management in a real-world setting:

1. *Customer Vehicle Inquiry and Selection*

Ms. Rao’s inquiry starts with a sales executive utilizing the Salesforce platform. The executive accesses the Vehicles module where detailed records of available vehicles are stored as custom objects. These records contain critical information such as Vehicle Identification Number (VIN), make, model, year, color, features, and availability status.

The sales team efficiently filters the vehicle list based on Ms. Rao's preferences—such as electric vehicles only or specific models—and presents the options available. This filtering is enabled by Salesforce’s list views and customizable fields, facilitating rapid access to relevant inventory.

2*. Customer Profile Creation and Management*

Once Ms. Rao selects her preferred vehicle, the sales executive immediately creates or updates a customer record within the Owner object. This record captures her contact details, preferences, and any prior interactions, ensuring a holistic view of the customer within the system.

Linking the customer record to the vehicle selected establishes a relational data model, allowing the company to track ownership and maintain personalized service history over the lifetime of the vehicle.

3. *Sales Process and Order Management*

The next step involves creating a formal sales order, which may be represented via a custom object or integrated with Salesforce’s Opportunity entity. The sales order object captures essential details, including payment methods, financing options, delivery preferences, and expected delivery dates.

The system enforces data completeness and accuracy through validation rules, making sure mandatory fields such as payment terms or VIN are correctly entered before the order is processed. This minimizes the risk of errors and delays.

4*. Process Automation for Notifications and Scheduling*

Upon finalization of the sales order, automated workflows and Process Builder Flows in Salesforce activate to streamline coordination behind the scenes. Automated triggers schedule vehicle delivery and alert the logistics team, ensuring on-time, error-free processing.

Simultaneously, an automatic email or SMS confirmation is sent to Ms. Rao confirming her purchase details, enhancing customer communication without manual intervention.

5*. Vehicle Service and Maintenance Tracking*

As part of providing excellent after-sales support, the system tracks vehicle service and maintenance through the Service\_Record object. When Ms. Rao brings her vehicle in for scheduled maintenance, technicians log service details—like service date, type of maintenance, parts replaced, and next due service.

The system maintains accurate vehicle service histories linked to the owner and vehicle records, enabling quick reference and ensuring timely follow-up appointments.

This service logging also updates the vehicle’s status field (e.g., “In Service,” “Available”), automatically triggered by Apex code and validation rules to enforce business logic.

6*. Data Quality and Compliance Assurance*

Throughout the lifecycle of vehicle management, the system enforces robust data quality standards. Validation rules guarantee that critical data such as VIN formats, mandatory service notes, and customer information is always accurate and complete.

This prevents erroneous or incomplete records from entering the system, maintaining trustworthiness of business data.

7*. Reporting and Analytics for Business Insights*

Management and operational teams benefit from highly customizable reports and dashboards that synthesize the vehicle fleet's current status, sales performance, service frequency, and customer satisfaction indicators.

Dashboards can show metrics such as total vehicles sold per model, pending services, average service turnaround times, and customer feedback ratings.

These insights can be used proactively to adjust inventory, optimize scheduling, and enhance customer service strategies.

Summary of Benefits

* For Customers: Ms. Rao experiences a smooth journey from inquiry to purchase and beyond, with timely communication and transparent service history.
* For Sales Executives: The system provides rapid access to inventory and customer information, automated workflows reduce administrative overhead, and validation helps maintain order accuracy.
* For Service Teams: Streamlined service logging and status automation enable efficient maintenance operations.
* For Managers: Real-time analytics empower data-driven decisions to improve operations and forecast trends.

**Conclusion**

The **WhatNext Vision Motors** project successfully demonstrates the power and versatility of the Salesforce platform in transforming automotive mobility management. By integrating robust data models, automation tools, and real-time analytics within a single platform, the solution streamlines complex processes such as vehicle sales, owner management, and service scheduling. This integration not only enhances operational efficiency but also improves data accuracy and quality through well-defined validation rules and business logic enforcement.

Moreover, the system’s user-centric design—leveraging Salesforce Lightning Experience and custom Lightning Web Components—ensures a seamless and intuitive user experience for sales executives, service teams, and management. The automation of routine processes reduces manual workload, minimizes errors, and accelerates workflow cycles, allowing teams to focus more on value-adding activities and customer engagement.

The project also emphasizes actionable insights through tailored dashboards and reports that provide decision-makers with comprehensive visibility into fleet operations, sales trends, and service analytics. This enables proactive management, resource optimization, and strategic planning.

Overall, WhatNext Vision Motors exemplifies a scalable, maintainable, and future-ready architecture that meets the dynamic needs of the automotive industry while harnessing Salesforce’s declarative and programmatic capabilities. It sets a strong foundation for continuous innovation as the mobility landscape evolves.

**Future Scope**

The WhatNext Vision Motors platform lays the groundwork for numerous enhancements and integrations that would further elevate its functionality and impact:

* **AI-Powered Customer Support and Chatbots:**  
  Integrate AI-driven chatboards or virtual assistants to provide customers with instant answers, personalized recommendations, and seamless support 24/7, enhancing engagement and satisfaction.
* **Mobile Application Integration:**  
  Develop mobile apps or responsive interfaces to enable sales, service, and logistics teams to access and update information on-the-go, improving field operations and responsiveness.
* **Internet of Things (IoT) Integration:**  
  Connect vehicles with IoT devices and sensors to enable real-time monitoring of vehicle health, predictive maintenance alerts, and automated service scheduling based on sensor data.
* **Advanced Analytics and Machine Learning:**  
  Employ machine learning models to forecast sales trends, customer preferences, and vehicle usage patterns, enabling more accurate business forecasting and proactive inventory management.
* **Enhanced Security and Compliance Features:**  
  Implement advanced security measures such as multi-factor authentication, role-based access controls, and encryption to safeguard sensitive customer and vehicle data in compliance with industry standards.
* **Expanded Third-Party Integrations:**  
  Integrate with external systems such as payment gateways, logistics partners, and regulatory bodies to automate end-to-end processes like financing, delivery tracking, and compliance reporting.
* **Sustainability and Green Mobility Initiatives:**  
  Incorporate modules for tracking environmental impact metrics, EV charging station management, and carbon footprint reporting to support the organization’s sustainability goals.
* **Continuous User Training and Support:**  
  Develop interactive training modules embedded within Salesforce to ensure users stay updated with new features and best practices, promoting higher adoption rates and system effectiveness.

By pursuing these future enhancements, WhatNext Vision Motors can continuously evolve into a comprehensive mobility management ecosystem that caters to emerging market demands, technological advancements, and user experience excellence.