AutoServe – Salesforce CRM for Car Service Booking & Customer Management

Project Implementation Phases Documentation

Phase 1: Problem Understanding & Industry Analysis

Problem Statement
Car service centers face challenges with manual booking, overlapping service slots, lack of service reminders, and poor tracking of customer/vehicle history. This leads to longer waiting times, customer dissatisfaction, and missed revenue opportunities.

Requirement Gathering

- Customers should be able to book/reschedule/cancel service online or via staff entry.
- System must validate overlapping service slots.
- Automated SMS/Email reminders should be sent for service schedules.
- Technicians should access vehicle service history.
- Managers should track daily bookings, revenue, and technician workload with dashboards.

Stakeholder Analysis

- **Customers**: Book/reschedule service, get reminders, track vehicle history.
- **Service Advisors**: Manage bookings, assign technicians, update service status.
- **Technicians**: View assigned jobs, mark completion, update service notes.
- **Admins/Managers**: Oversee bookings, technician utilization, and revenue insights.

Business Process Mapping

- **Current Manual Flow:** Customer calls → Advisor notes booking manually → Technician unaware → No reminders → Missed slots.
- **Proposed Salesforce Flow:** Customer books service → Lead auto-captured → Slot validated → Technician assigned → Reminder sent → Service completed → Dashboard updated.

Industry Use Case Analysis

- Pain Points: Overlapping bookings, no reminders, fragmented history.
- Opportunities: CRM automation improves efficiency, reminders reduce no-shows, dashboards improve decision-making.

AppExchange Exploration
Reviewed apps like *Field Service Lightning* and *Booking/Reminder apps*. Decided to build **custom objects, flows, Apex, and LWCs** with reference from these apps.

Phase 2: Org Setup & Configuration

- Setup Developer Org with company details, business hours, and fiscal year.
- Create profiles/roles: Customer, Advisor, Technician, Manager.
- Configure org-wide defaults (OWD) and sharing rules for proper access.
- Sandbox strategy for testing before deployment.

Phase 3: Data Modeling & Relationships

Custom Objects:

- **Customer** (Name, contact info, vehicle details)
- **Vehicle** (Car details, linked to Customer)
- **Service Booking** (Date, status, cost, linked to Vehicle + Technician)
- **Technician** (Skills, schedule, workload)

Relationships:

- Customer ↔ Vehicle (1:N)
- Vehicle ↔ Service Booking (1:N)
- Technician ↔ Service Booking (1:N)

Phase 4: Process Automation (Admin)

- **Validation Rules:** Prevent overlapping service bookings.
- **Flows:** Auto-send reminders, update service status, notify customers.
- **Approval Process:** For rescheduling and cancellations.
- **Email Alerts:** Confirmations & reminders.

Phase 5: Apex Programming (Developer)

- **Triggers:** Free service slot on cancellation, auto-update technician workload.
- **Batch Apex:** Daily reminders for upcoming services.
- **SOQL/SOSL Queries:** Retrieve customer & vehicle history.
- **Test Classes:** Ensure coverage and reliability.

Phase 6: User Interface Development

- **Lightning App:** AutoServe CRM App with tabs (Customers, Vehicles, Bookings, Technicians, Reports).
- **LWC Components:** Online booking form, technician schedule view, service dashboard.
- **Customer Portal:** Simple web form integrated with Salesforce.

Phase 7: Integration & External Access

- Integration with **SMS/Email APIs** for reminders.
- Named Credentials and Remote Site Settings for secure callouts.
- External API for car warranty/insurance check (optional extension).

Phase 8: Data Management & Deployment

- Import customer & vehicle data via Data Import Wizard.
- Use Data Loader for bulk booking records.
- Apply duplicate rules for clean data.
- Deploy to production using Change Sets.

Phase 9: Reporting, Dashboards & Security Review

- **Dashboards:** Daily bookings, completed services, revenue, technician utilization.
- **Reports:** Customer service history, revenue by month, no-show trends.
- **Security:** Role hierarchy, field-level security, audit trail, login restrictions.

Phase 10: Final Presentation & Demo Day

- Present the **problem, solution, and business impact** of AutoServe.
- Live demo: Customer booking → Technician assignment → Reminder → Completion → Dashboard.
- Collect feedback from peers/trainers.
- Prepare handoff documentation and project summary for LinkedIn/portfolio.