

A). Problem Description:

PARK Auto Dealers lack a comprehensive system for managing customer information and tracking sales leads. It faces challenges in efficiently collecting and managing customer information. The manual process of filling out forms leads to incomplete and potentially inaccurate data. This lack of comprehensive customer information hinders the company's ability to tailor marketing efforts, identify successful advertising channels, and optimize overall business strategies.

This has resulted in the following problems:

- i. Inability to analyze customer behavior: PARK cannot easily determine which marketing channels are most effective in driving sales leads and actual sales. This hinders their ability to optimize advertising and marketing spend and allocate resources effectively.
- ii. Difficulties in identifying customers: PARK cannot easily determine which prospects have made purchases, leading to inefficient customer service and marketing campaigns.
- iii. Limited data analysis: PARK lacks the ability to perform detailed analysis on customer data, preventing them from gaining valuable insights into their customer base and market trends.

Business Impact:

These problems have a negative impact on PARK's business in the following ways:

- i. Reduced sales: Lack of customer knowledge hinders targeted marketing campaigns, potentially leading to missed sales opportunities.
- ii. Inefficient marketing spending: PARK may be spending resources on ineffective marketing channels, while neglecting those with higher potential return on investment.
- iii. Poor customer service: Inability to identify past customers and their preferences can lead to impersonal and inefficient customer service interactions.

B). Proposal Solution: Solution Objectives and Feasibility

Proposed Solution 1: Customer Relationship Management (CRM) System

Platform: Leveraging the robust capabilities of Microsoft Access, a powerful database application already included in the Microsoft Office suite.

Introduction:

PARK Auto Dealers face significant challenges in managing customer information and tracking sales leads, leading to inefficiencies in data collection and hindering their ability to optimize marketing efforts. To address these issues, we propose the implementation of a Customer Relationship Management (CRM) system, specifically utilizing Microsoft Access. This solution aims to revolutionize how PARK Auto Dealers manage customer interactions, analyze data, and streamline business processes.

Background:

The manual process of collecting and managing customer information through forms has proven to be error-prone and incomplete, impacting the company's ability to tailor marketing strategies effectively. The absence of a comprehensive CRM system has resulted in challenges such as the inability to analyze customer behavior, difficulties in identifying customers, and limited data analysis capabilities. The repercussions include reduced sales, inefficient marketing spending, and poor customer service, all of which have a direct negative impact on the company's bottom line.

Platform Choice:

Microsoft Access is the chosen platform for its seamless integration into the Microsoft Office suite, ensuring cost-effectiveness and familiarity for PARK Auto Dealers. This user-friendly database application provides a powerful yet accessible solution for addressing the company's customer management needs without the need for significant additional software investment.

Specific solution objectives and feasibility of the proposed MS Access CRM System.

Solution Objectives:

- i. Implement a customer relationship management (CRM) system to automate data collection and analysis.

- ii. Track customer interactions across all touchpoints, including newspaper adverts, website visits, and word-of-mouth referrals.
- iii. Analyze customer data to identify the most effective marketing channels and optimize advertising spend.
- iv. Identify purchase patterns and develop targeted marketing campaigns for specific customer segments.
- v. Streamline sales processes and improve customer service efficiency.

Solution Feasibility:

- i. Technical feasibility: PARK has the necessary technology infrastructure (PCs with internet access and Microsoft Office) to implement a CRM system.
- ii. Economic Feasibility: Leveraging Microsoft Access, included in the comprehensive Microsoft Office suite, enhances cost-effectiveness, as the initial investment is minimized. Potential economic gains from increased sales and operational efficiency further support the viability of the proposed CRM solution.
- iii. Operational feasibility: Training employees on the new system will be relatively simple due to their familiarity with Microsoft Office.
- iv. Schedule Feasibility: The implementation of the CRM system using Microsoft Access is feasible within a reasonable timeframe, leveraging existing technology infrastructure and minimizing disruptions to ongoing operations. Training and data migration efforts will be strategically phased to ensure a smooth transition.

Proposed Solution 2: Park Auto Dealer Management System: A Robust Web Application (WebApp) Alternative CRM System

Introduction:

In addition to the proposed Microsoft Access CRM system, we explore the inclusion of a Web Application (WebApp) as an alternative solution to further enhance customer relationship management for PARK Auto Dealers.

Overview:

The WebApp is developed using modern web technologies, providing a robust and accessible platform for customer relationship management.

Technology Stack:

The WebApp utilizes PHP as the back-end scripting language and incorporates the XAMPP v3.3.0 stack for seamless integration. The back-end framework is built on PHP, leveraging its capabilities for server-side logic and data processing. The MySQL database system is employed for efficient data storage and retrieval.

Advantages:

- i. **Accessibility:** Accessible from any device with an internet connection, promoting flexibility in usage.
- ii. **Real-time Collaboration:** Facilitates real-time collaboration among users, enabling simultaneous updates and interactions.
- iii. **Platform Independence:** Eliminates dependency on specific operating systems, making it accessible across various devices and browsers.

Features:

The WebApp mirrors the functionalities of the Microsoft Access CRM system, including:

- i. **Customer Information Management**
- ii. **Sales Leads Tracking**
- iii. **Customer Identification**
- iv. **Data Analysis**
- v. **Marketing Optimization**
- vi. **Sales Process Streamlining**

Integration with Existing Systems:

Efforts will be made to seamlessly integrate the WebApp with existing systems, ensuring a cohesive workflow across all platforms. Integration with the existing database structure and data migration processes will be conducted to maintain data consistency.

User Authentication and Authorization:

Implementing robust user authentication and authorization mechanisms to secure the WebApp, ensuring that only authorized personnel have access to sensitive customer information.

User Training and Adoption:

Training programs will be organized to familiarize employees with the WebApp interface. Resources and support channels will be established to aid in the effective adoption of the alternative solution.

Cost and Maintenance:

While the initial development may incur additional costs, the long-term benefits of a web-based solution include reduced maintenance efforts and costs. Updates and enhancements can be deployed seamlessly without requiring manual installations on individual devices.

Recommendations:

Considering the diverse needs of users, a hybrid approach combining both the Microsoft Access CRM system and the WebApp could offer the most comprehensive solution. This approach caters to the preferences and requirements of different user groups within PARK Auto Dealers.

C). Costs and Benefits of the Solution

Costs:

- i. Initial investment in CRM software (Microsoft Access is already included in Microsoft Office) and internet access is available.
- ii. Hardware upgrades (may be necessary depending on existing infrastructure)
- iii. Training for employees
- iv. Data migration from existing systems

Benefits:

- i. Increased sales leads and conversions
- ii. Improved customer service efficiency

- iii. Reduced marketing costs
- iv. Personalized marketing campaigns
- v. Improved customer relationship management
- vi. Better understanding of customer behavior
- vii. Data-driven decision making

D). Information Requirements to be Addressed by the Solution

The information requirements to be addressed by the proposed Microsoft Access CRM solution include:

1. Customer Information Management:

- Establish comprehensive storage of customer details within a shared database.
- Implement automated collection of customer data through various touch points for real-time updates.
- Implement backup and recovery procedures to safeguard against data loss.

2. Sales Leads Tracking:

- Systematic tracking of sales leads and their sources.
- Analysis of customer behavior to determine effective marketing channels.

3. Customer Identification:

- Efficient identification of past customers by centralizing customer data.
- Understanding customer purchase patterns and preferences.

4. Data Analysis:

- Detailed analysis of customer data for valuable insights.
- Identification of successful advertising channels.

5. Marketing Optimization:

- Tools to optimize advertising spend based on data analysis.
- Tailoring marketing campaigns for specific customer segments.

6. Sales Process Streamlining:

- Streamline sales processes within a shared environment for improved efficiency.
- Enhancing customer service through personalized interactions derived from centralized data.

7. Feasibility Tracking:

- Monitoring technical, economic, operational, and schedule feasibility.
- Assessing the success and impact of the CRM system implementation.
- Regular evaluations to identify areas for improvement.

8. Cost-Benefit Analysis:

- Monitoring costs related to initial investment, training, and data migration with consideration for multiple users.
- Tracking benefits such as increased sales, improved customer service, and reduced marketing costs stemming from enhanced collaboration.

9. Platform Utilization:

- Effective utilization of Microsoft Access as the chosen platform for all users.
- Develop a change management plan for a smooth transition from the manual process to the new CRM system.

10. Training and User Adoption:

- Ensuring successful training for employees on the new CRM system. As well as emphasizing the nuances of multi-user access.
- Implement ongoing support and resources to ensure effective adoption.

By addressing these information requirements, the proposed Microsoft Access CRM solution aims to enhance PARK Auto Dealers' ability to manage customer information, analyze data, and optimize business strategies effectively.

E). Management, Organization, and Technology Issues

Management:

- i. Management needs to be committed to the implementation and use of the CRM system.

- ii. A dedicated team should be responsible for data entry, system maintenance, and ongoing monitoring.
- iii. Regular reports should be generated to track progress and measure the effectiveness of the system.

Organization:

- i. Business processes may need to be adjusted to ensure accurate data collection and entry.
- ii. Employees need to be trained on how to use the CRM system, with ongoing support mechanisms.
- iii. A culture of data-driven decision-making needs to be fostered within the organization.

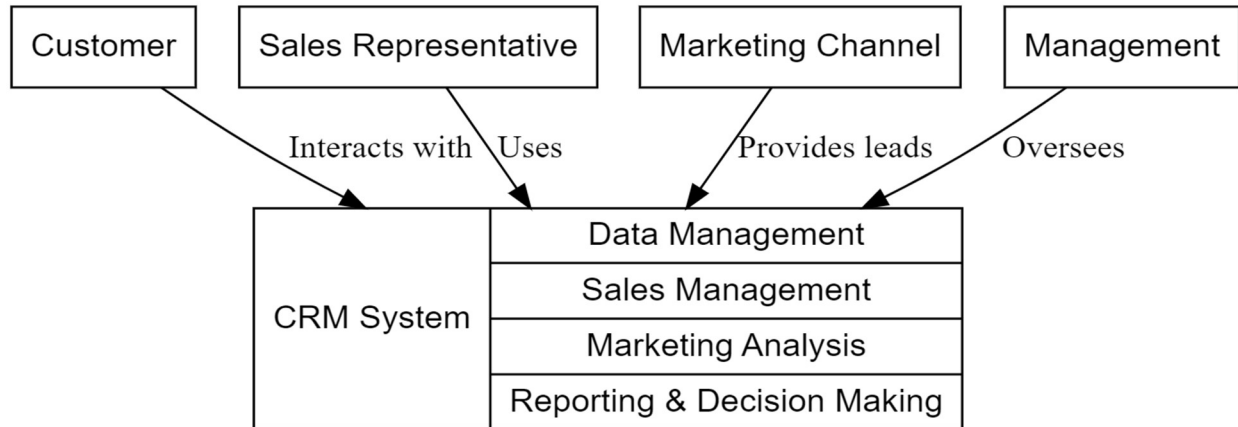
Technology:

- i. The CRM system needs to be seamlessly integrated with existing systems, such as accounting and sales software.
- ii. Implement robust data security and privacy policies, including encryption and access controls.
- iii. Consider scalability to accommodate future business growth.

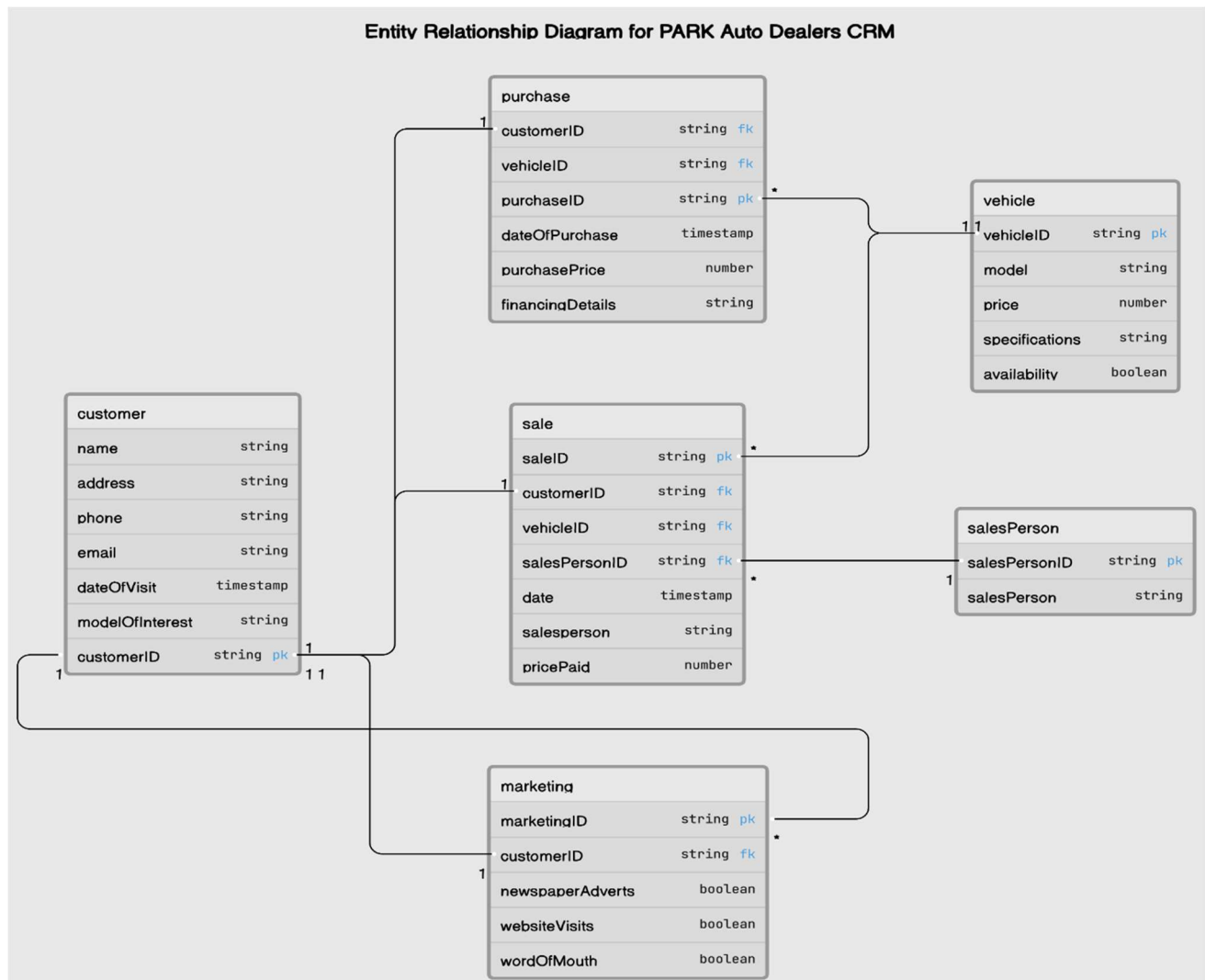
Changes in Business Processes:

- i. Sales representatives should be required to enter all customer information and interactions into the CRM system.
- ii. The system should be used to track all sales opportunities and leads.
- iii. Marketing campaigns should be targeted based on the data collected in the CRM system.

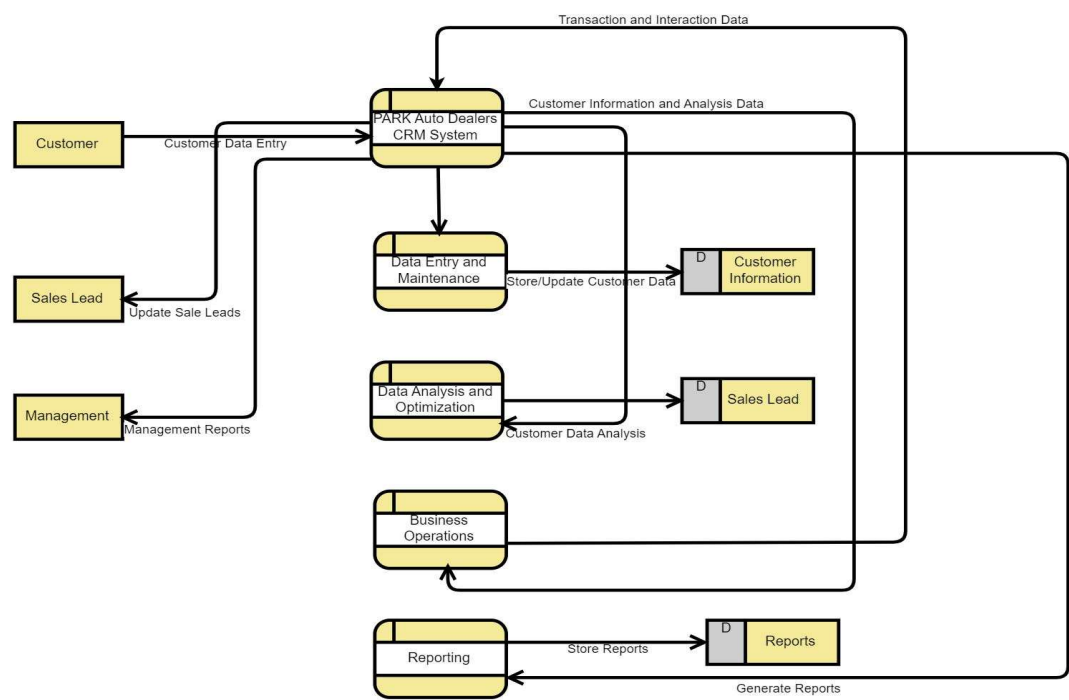
Context Diagram:



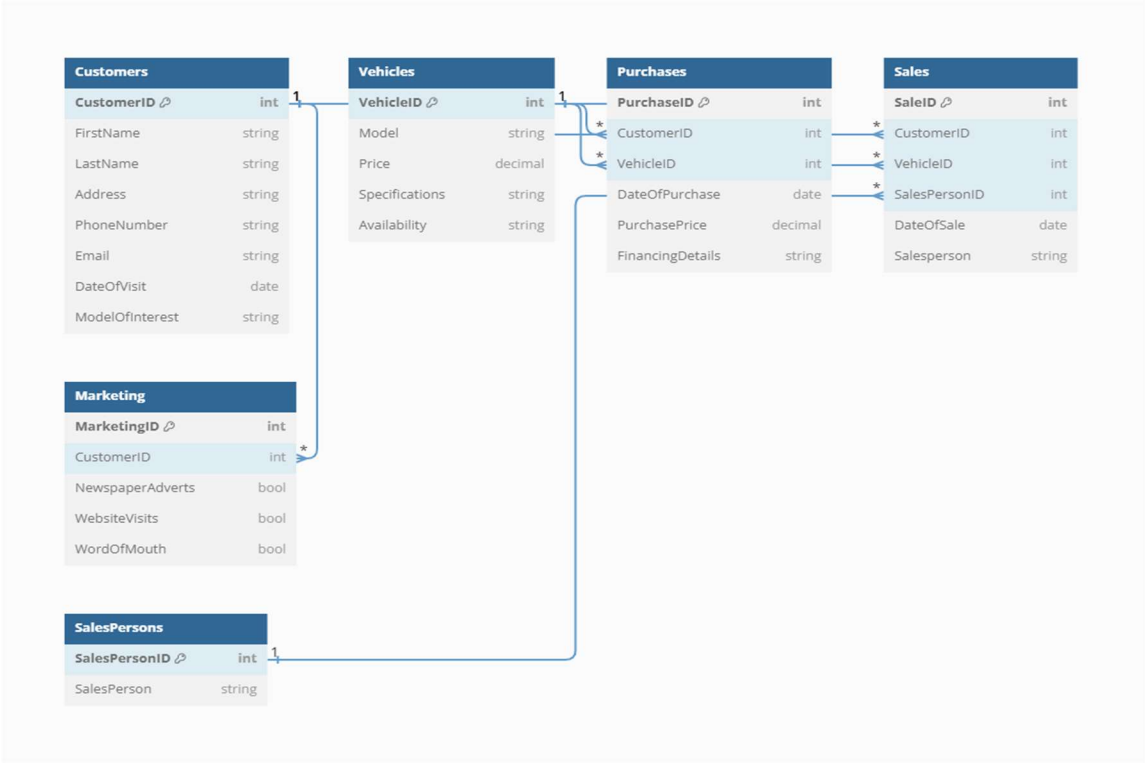
Entity Relationship Diagram



Data Flow Diagram:

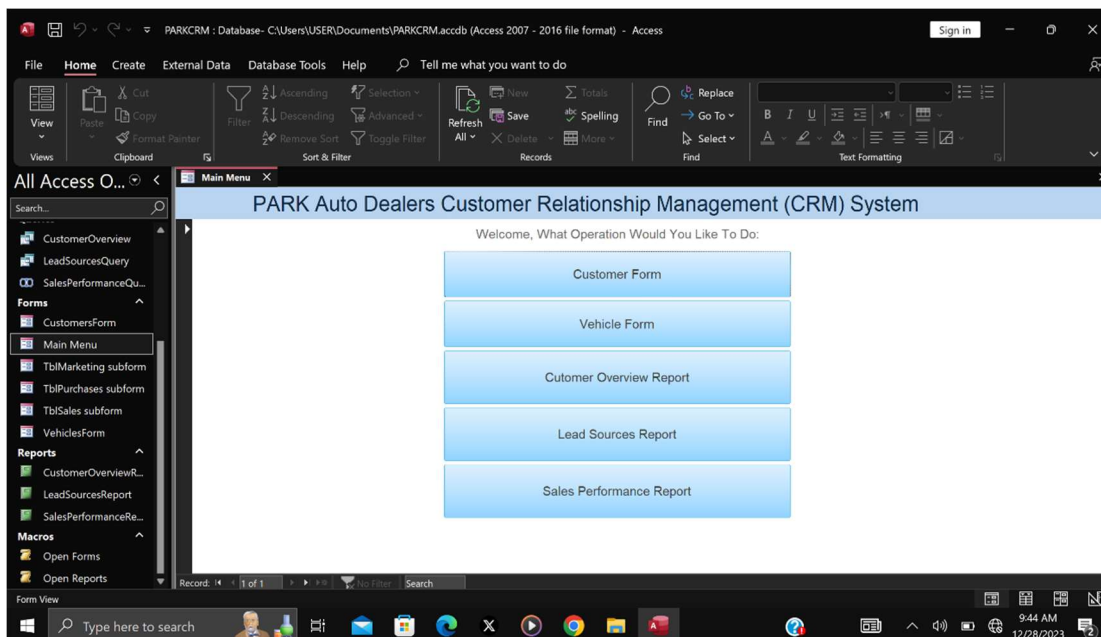
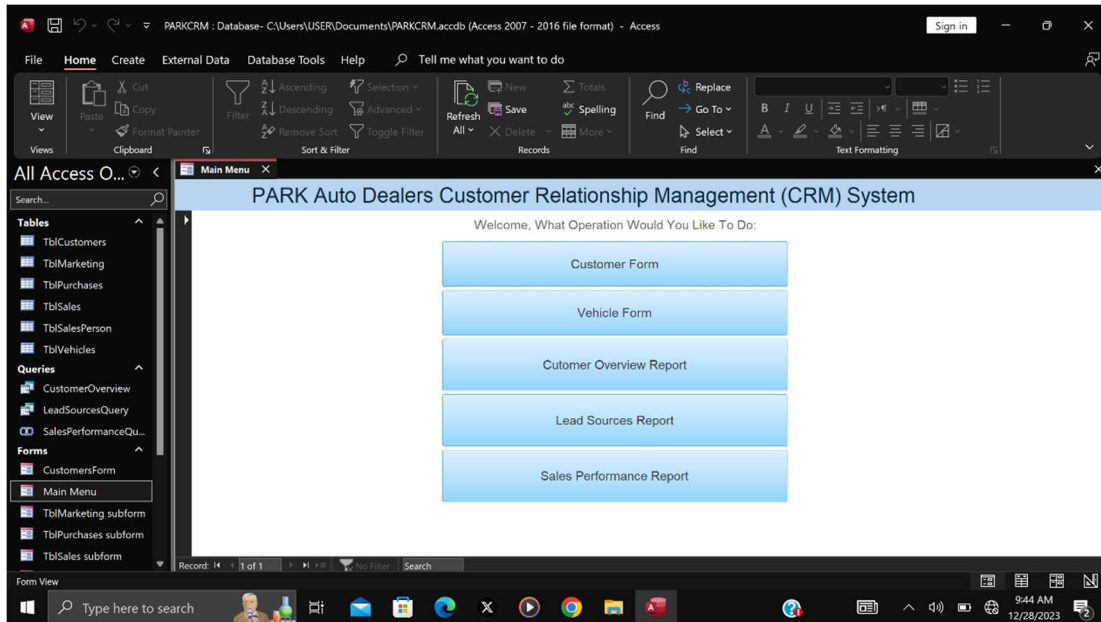


Database Schema:



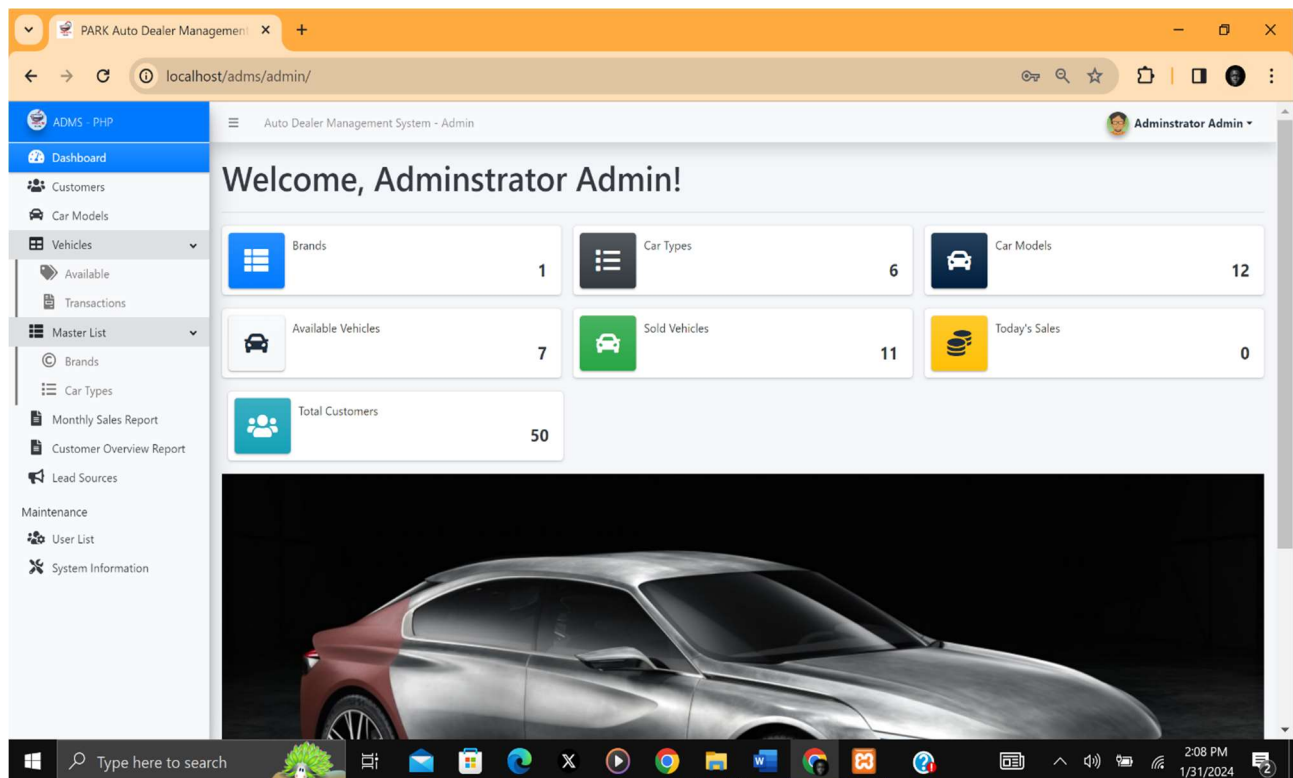
Visual Guide to PARK Auto Dealers MS Access CRM Implementation and Functionality

Below are the screenshots of the implemented CRM system for Park Auto Dealers using MS Access. It consists of tables, forms, queries, and reports. The main menu features five buttons: "Customer Form" providing access to customer data with sub forms for sales, purchases, and marketing. The "Vehicle Form" button allows the addition of new vehicles. Additionally, three report buttons offer quick insights: "Customer Overview," detailing demographics, "Sales Performance," highlighting transactions, and "Lead Sources," evaluating marketing effectiveness. This streamlined interface facilitates efficient management decision-making.



Visual Guide to PARK Auto Dealers WebApp Alternative Implementation and Functionality

The WebApp provides a user-friendly interface with features mirroring the Microsoft Access CRM system. The WebApp offers a dynamic interface, leveraging modern web technologies for comprehensive customer relationship management. With features encompassing customer data management, vehicle management, real-time sales tracking, lead source analytics, and relevant reports for the management's decision making such as sales and transactions, customer overview and the aforementioned lead source analytics, the platform fosters accessibility, collaboration, and platform independence.



Main sections:

1. Customer Section

The screenshot shows the 'List of Customers' section. It includes a search bar, a table with customer details, and a '+ Create New' button. The table has columns for #, Date of Visit, Name, Address, Phone Number, Email, Model of Interest, Lead Source, and Action. Two customer records are visible.

#	Date of Visit	Name	Address	Phone Number	Email	Model of Interest	Lead Source	Action
1	2024-01-27	Yusuf Abubakar	Zaria	08056789012	yusuf.abubakar@gmail.com	SUV Model 1	Word Of Mouth	Action
2	2024-01-27	Ronke Adegoke	Ibadan	08012345678	ronke.adegoke@gmail.com	Sedan Model 1	Website Visit	Action

2. Car Models Section

ADMS - PHP

Auto Dealer Management System - Admin

Administrator Admin

Dashboard

Customers

Car Models

Vehicles

Master List

Monthly Sales Report

Customer Overview Report

Lead Sources

Maintenance

User List

List of Models

+ Create New

Show 10 entries

Search:

#	Date Created	Brand/Type	Model	Status	Action
1	2024-01-27 23:36	Peugeot Convertible	Convertible Model 2	Active	Action
2	2024-01-27 23:36	Peugeot Crossover	Crossover Model 2	Active	Action
3	2024-01-27 23:36	Peugeot Crossover	Crossover Model 3	Active	Action
4	2024-01-27 23:36	Peugeot Hatchback	Hatchback Model 1	Active	Action

3. Transactions Section

ADMS - PHP

Auto Dealer Management System - Admin

Administrator Admin

Dashboard

Customers

Car Models

Vehicles

Available

Transactions

Master List

Monthly Sales Report

List of Transactions

Developed by oreonom23

Show 10 entries

Search:

#	DateTime	Customer	Vehicle	Price	Action
1	2024-01-27 23:47	John Doe john.doe@gmail.com	Peugeot - Peugeot Hatchback Model 1 Plate #: MV123456	20,000.00	View
2	2024-01-27 23:47	Jane Smith jane.smith@gmail.com	Peugeot - Peugeot Hatchback Model 2 Plate #: PV-2024-4567	28,500.00	View
3	2024-01-27 23:47	Mike Johnson mike.johnson@gmail.com	Peugeot - Peugeot Hatchback Model 1 Plate #: RV-12345678	20,000.00	View

4. Sales Report Section

ADMS - PHP

Auto Dealer Management System - Admin

Administrator Admin

Dashboard

Customers

Car Models

Vehicles

Master List

Monthly Sales Report

Customer Overview Report

Lead Sources

Maintenance

User List

System Information

Monthly Sales Report

Filter & Action

Choose Month

January 2024

Filter

Print

Show 10 entries

Search:

#	DateTime	Customer	Vehicle	Price
1	2024-01-27 23:47	John Doe john.doe@gmail.com	Peugeot - Peugeot Hatchback Model 1 Plate #: MV123456	20,000.00
2	2024-01-27 23:47	Jane Smith jane.smith@gmail.com	Peugeot - Peugeot Hatchback Model 2 Plate #: PV-2024-4567	28,500.00
3	2024-01-27 23:47	Mike Johnson mike.johnson@gmail.com	Peugeot - Peugeot Hatchback Model 1 Plate #: RV-12345678	20,000.00

5. Customer Overview Section

ADMS - PHP

Auto Dealer Management System - Admin

Administrator Admin

Dashboard

Customers

Car Models

Vehicles

Master List

Monthly Sales Report

Customer Overview Report

Lead Sources

Maintenance

User List

System Information

Customer Overview Report

Enter customer name to find purchases

#	Customer	Vehicles Purchased	Total Money Spent
1	John Doe Total Money Spent: 53,000.00	Peugeot - Peugeot Hatchback Model 1 (20,000.00) Peugeot - Peugeot Hatchback Model 2 (33,000.00)	53,000.00
2	Jane Smith Total Money Spent: 28,500.00	Peugeot - Peugeot Hatchback Model 2 (28,500.00)	28,500.00
3	Mike Johnson Total Money Spent: 20,000.00	Peugeot - Peugeot Hatchback Model 1 (20,000.00)	20,000.00
4	Grace Williams Total Money Spent: 25,000.00	Peugeot - Peugeot Hatchback Model 1 (25,000.00)	25,000.00

6. Lead Source Section

ADMS - PHP

Auto Dealer Management System - Admin

Administrator Admin

Dashboard

Customers

Car Models

Vehicles

Master List

Monthly Sales Report

Customer Overview Report

Lead Sources

Maintenance

User List

System Information

Lead Source Analytics

NewsPaper Adverts

Word Of Mouth

Website Visit

NewsPaper Adverts 10