

Majestic Motors Gallery



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1. About Majestic Motors Gallery

Majestic Motors Gallery, a comprehensive management application designed to streamline processes, enhance customer experiences and provide a secure and efficient operational environment.

➤ **Contribution:**

Majestic Motors Gallery empowers dealerships to operate strategically, optimizes sales processes and delivers profitability in the competitive automotive industry. Comprehensive reporting and analytics tools provide dealerships with actionable insights into their performance, allowing them to make informed decisions based on strategic planning, targeted marketing and continuous improvement initiatives.

➤ **Key Features:**

This is very simplified application with detailed specifications according to showroom functionalities and services. Easy-to-use interface designed for seamless navigation and effortless management, provides efficient environment for all types of users.

2. Users of Application

Majestic Motors Gallery provides different access for different type of users. The users are divided into four categories, Owner, Manager, Employee, and Customer. Each user type have access to different types of command related to their need and requirements. User can login and verify their type by inputting the issued username and password for authentication. Furthermore, each client type user has different database connected to it. So that data is stored and kept for specific person.

➤ **Owner:**

The Owner of the Showroom, which manages the Company, adds Managers and has the access to modify their details. He can view the details of all Managers and Customers working in the Showroom and are registered on the application. He can view the details of all vehicles and products available in the showroom. He can communicate the managers using this application by sending his messages and receiving the messages of Managers. He can also view the total expenditures of the Showroom.

➤ **Manager:**

The main user who manages the whole showroom and its application, Manager, has access to add and remove the employees and manage their details. He manages the vehicles and associated products. He can see the announcements given by the owner and can send his send message to him. He can communicate with the employees by announcing his orders and by receiving their messages. He can see the registrations done by customers for the vehicle service

and for test drives. He can see the reviews given by customers and the sold item details. He has an access to modify his personal details registered on the application.

➤ **Employee:**

Employees, the working unit of company, can view details of the vehicles, associated products, and registrations for vehicle service and test drives. He can view the announcements of the manager and can send his message to the managers. He can modify his personal details added in the application.

➤ **Customer:**

Customers have an easy access to view the vehicles and associated products and buy them following the easy procedure. He can register his vehicle for service. He can register for testing the drives of the most famous and luxurious vehicles available in the showroom. He can modify his personal details. He can also give his reviews or opinions for the owner and the managers.

3. Functional Requirements

Expected functionalities according to types of users:

<i>User Type</i>	<i>Functionalities</i>	<i>Results</i>
Owner	View Manager Details	View the details of the Managers in tabular form
	Communicate Managers	Send important Announcements and receive the messages by the managers
	Manage Managers	Add and remove the managers and modify their details.
	View Employee Details	View the details of the Employees registered in the application in tabular form
	View Vehicle Details	View the details of the available vehicles in the tabular form
	View Products details	View the details of the associated products in the tabular form
	View Expenses	View the total sum of all the expenditures including salaries of the staff
	View Feedbacks and Opinions	View comments or opinions of the customers

Manager	Important Announcements	View announcements sent by Owner
	Contact to Owner	Send messages to the Owner
	View Vehicle Details	View the details of the available vehicles in the tabular form
	Modify Vehicles	Add, Remove or Update the vehicles
	View Product Details	View the details of the associated products in the tabular form
	Modify Products	Add, Remove or Update the Products
	Sold Vehicles and Products	View tabular details of the Sold Vehicles and Products
	View Employee Details	View the details of the Employees in tabular form
	Manage Employees	Add, remove or update the details of the Employees
	Communicate Employees	Send Announcements and receive messages by Employees
	View Registrations for Vehicle Service	View tabular details of the registrations
	View Registrations for Test Drives	View tabular details of the registrations
	View Comments and Opinions	View comments or opinions of the customers
	Account Settings	Change personal details
Employee	Important Announcements	View announcements sent by Managers
	Contact to Manager	Send messages to the Managers
	View Vehicle Details	View the details of the available vehicles in the tabular form
	View Product Details	View the tabular details of the associated products
	Sold Vehicles and Products	View tabular details of the Sold Vehicles and Products
	View Registrations for Vehicle Service	View tabular details of the registrations
	View Registrations for Test Drives	View tabular details of the registrations
	Account Settings	Change personal details

Customers	View Vehicles	View the details of the available vehicles in the tabular form
	Buy Vehicles	Choose and Buy the Vehicle according to Payment Method
	View Products	View the tabular details of the associated products
	Buy Products	Choose and Buy the Vehicle according to Payment Method
	Register Vehicle for Service	Register your Vehicle for Service
	Register for Test Drive	Register for Testing the Drive of Famous Vehicle
	Add Comments or Opinions	Send Feedbacks or Comments to the Owner and Managers
	Account Settings	Change personal details

4. Wireframes

A few wireframes of this application displayed in Command Line Interface are as follows:

➤ Startup Interface:

Through this menu user type will be selected....

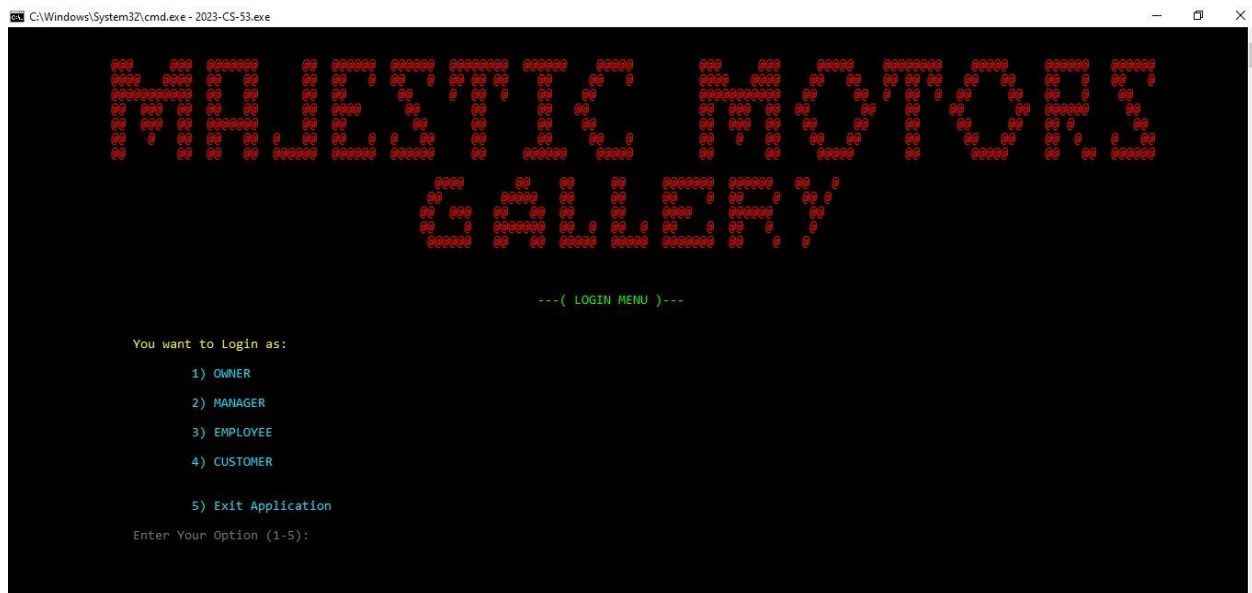


Figure 1-Startup Menu

➤ Owner Menu:

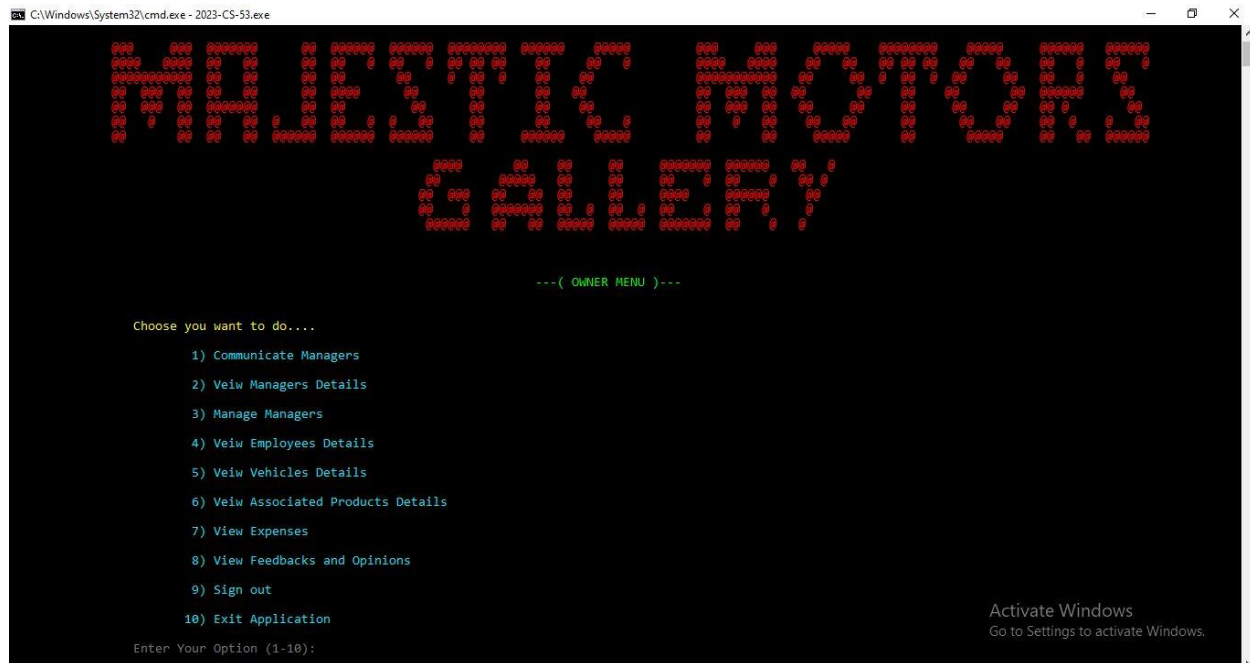


Figure 2-Owner Menu

➤ Manager Menu:

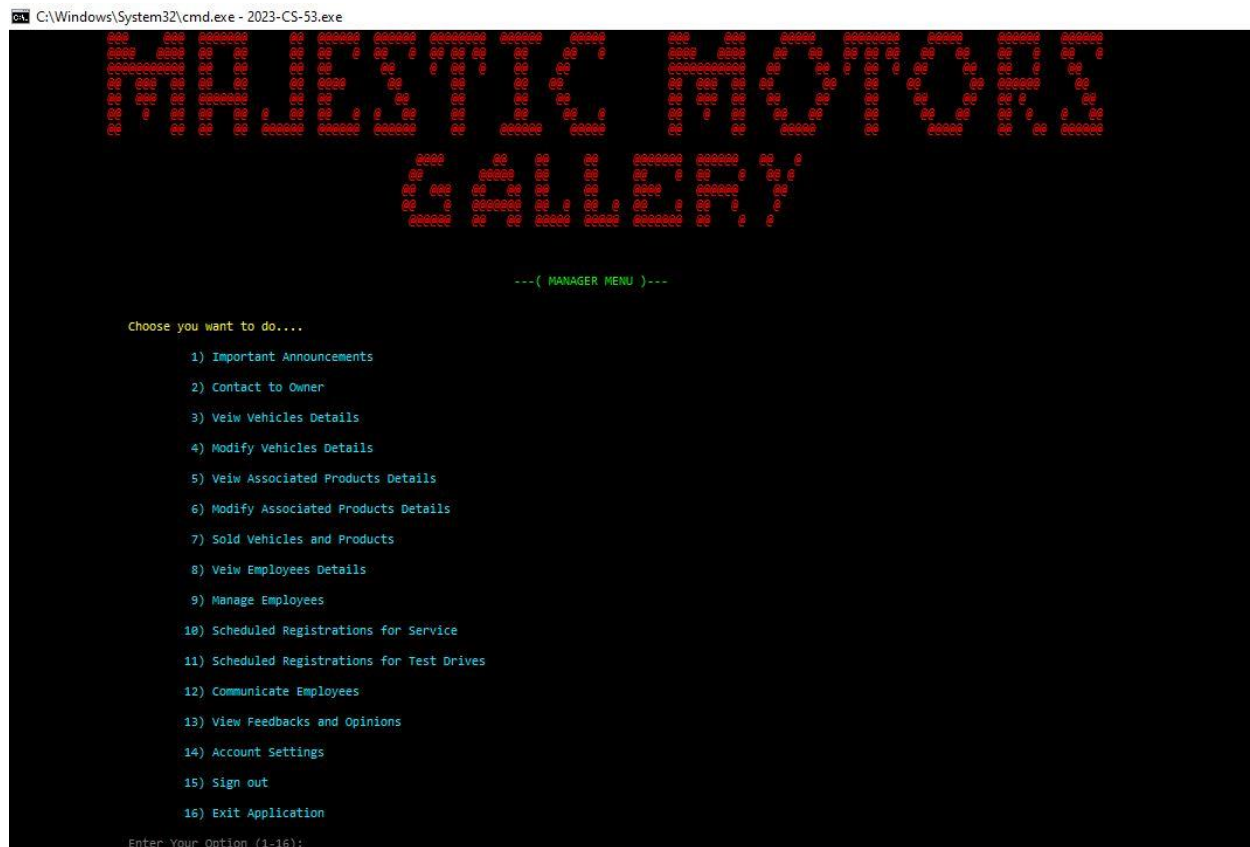


Figure 3-Manager Menu

➤ Employee Menu:

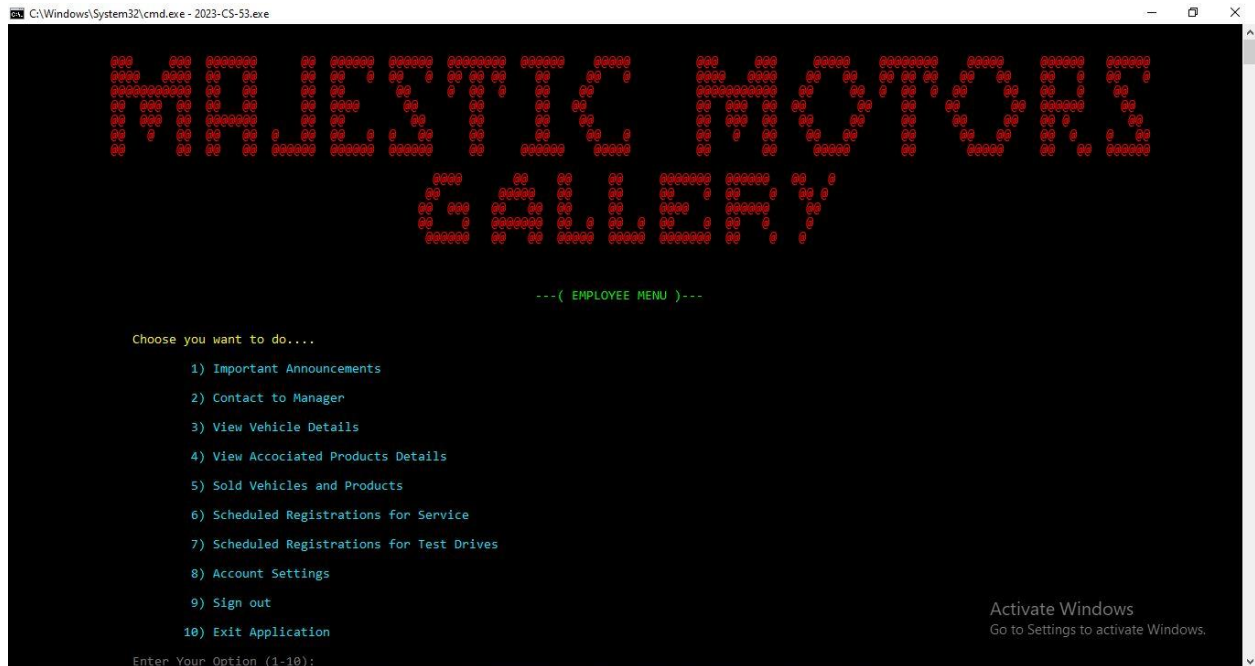


Figure 4-Employee Menu

➤ Customer Menu:

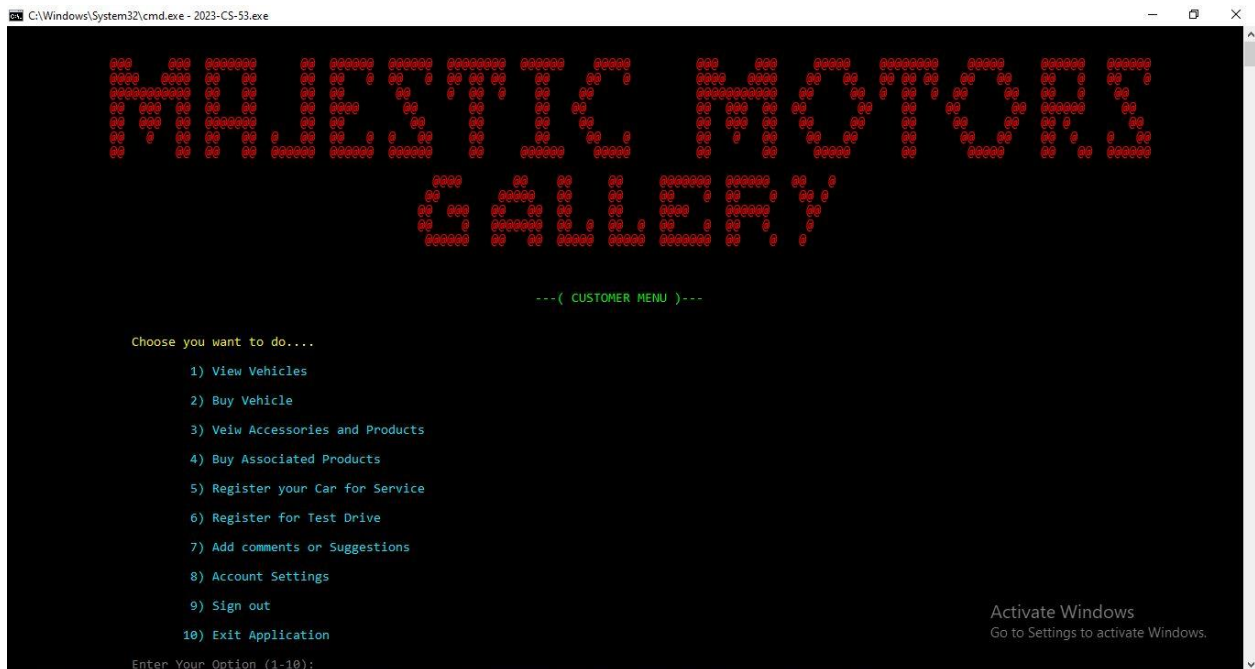


Figure 5-Customer Menu

➤ View Managers Menu:

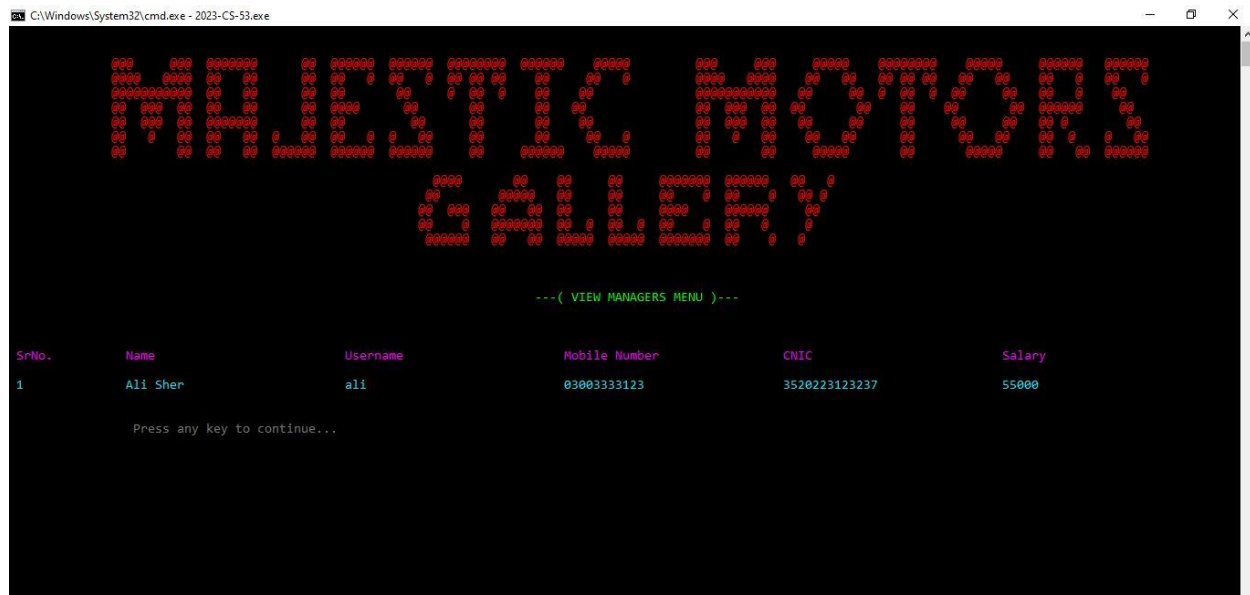


Figure 6-View Managers Menu

➤ View Vehicles Menu:

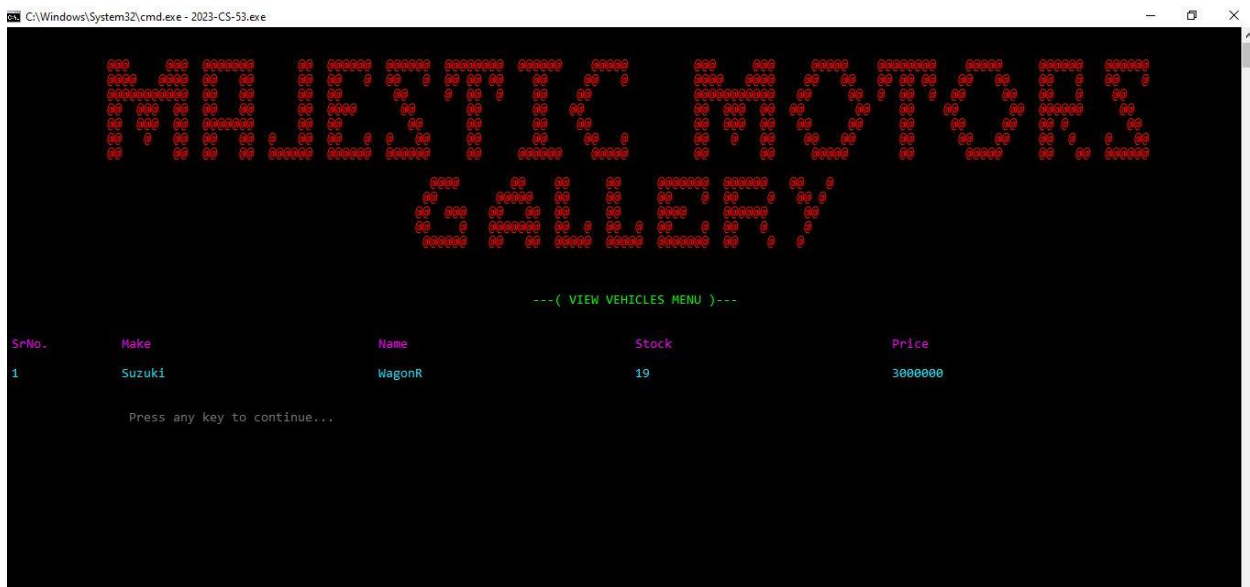


Figure 7-View Vehicles Menu

5. Data Structures (Parallel Arrays)

```
string managerName[5];  
string managerUsername[5];  
string managerPassword[5];  
string managerPhoneNumber[5];  
string managerCNIC[5];  
string managerSalary[5];
```

```
string employeeName[50];  
string employeeUsername[50];  
string employeePassword[50];  
string employeePhoneNumber[50];  
string employeeCNIC[50];  
string employeeSalary[50];
```

```
string customerName[200];  
string customerUsername[200];  
string customerPassword[200];  
string customerPhoneNumber[200];
```

```
string ownerNotices[200];  
string managerNotices[200];  
string managerName2[200];  
string managerUsername2[200];  
string managerMessages[200];  
string employeeName2[200];  
string employeeUsername2[200];
```

string employeeMessages[200];

string commentingCustomerName[200];

string commentingCustomerUsername[200];

string customerComments[200];

string customer4ServiceName[200];

string customer4ServiceUsername[200];

string serviceVehicleMake[200];

string serviceVehicleName[200];

string customer4DriveName[200];

string customer4DriveUsername[200];

string customer4DriveVehicle[200];

string vehicleMake[100];

string vehicleName[100];

string vehicleStock[100];

string vehiclePrice[100];

string productName[100];

string productStock[100];

string productPrice[100];

string buyVehicleCustomerName[200];

string buyVehicleCustomerPhoneNumber[200];

string buyVehicleName[200];

string buyVehicleMake[200];

```
string buyVehiclePrice[200];  
string buyVehiclePayment[200];  
  
string buyProductCustomerName[200];  
string buyProductCustomerPhoneNumber[200];  
string buyProductName[200];  
string buyProductPrice[200];  
string buyProductPayment[200];
```

6. Function Prototypes

```
void resizeConsole();  
void gotoxy (int, int);  
void getUsersData (string, int &, string [], string [], string [], string [], string [], string []);  
void getCustomerData (string, int &, string [], string [], string [], string []);  
void getVehiclesData (string, int &, string [], string [], string [], string []);  
void getProductsData (string, int &, string [], string [], string []);  
void getVehicleServiceData (string, int &, string [], string [], string [], string []);  
void getTestDerivesData (string, int &, string [], string [], string []);  
void getCommentsData (string, int &, string [], string [], string []);  
string getField (string, int);  
void storeUsersData (string, int, string [], string [], string [], string [], string [], string []);  
void storeCustomerData (string, int, string [], string [], string [], string []);  
void storeVehiclesData (string, int, string [], string [], string [], string []);  
void storeProductsData (string, int, string [], string [], string []);  
void storeVehicleServiceData (string, int, string [], string [], string [], string []);  
void storeTestDerivesData (string, int, string [], string [], string []);  
void storeCommentsData (string, int, string [], string [], string []);
```

```
void printHeader1();
void printHeader2();
void printMessage(string);
void printMenu(string);
void createAccountMessage();
char goBackMessage();
void checkPasscode (string &, string);
void inputCredentials(string &, string &);
bool checkUser (string, string, string [], string [], int);
bool checkAccountEligibility (string [], int);
bool checkEligibility (string [], string, int);
string numberValidation(int, int);
string usernameValidation (int, int);
string passwordValidation (int, int);
string nameValidation (int, int);

string loginMenu1();
string loginMenu2();
string customerLoginMenu();

string ownerMenu();
string communicateManagersMenu ();
string ownerAnnouncements (string [], int &);
void receiveManagerMessagesMenu (string [], string [], string [], int);
void viewManagersMenu (int, string [], string [], string [], string [], string []);
string manage_managerMenu();
bool add_managerMenu(int, string [], string [], string [], string [], string [], string []);
```

```
string update_managerDetailsMenu(int, string [], string [], string [], string [], string []);
string remove_managerMenu(int &, string [], string [], string [], string [], string [], string []);
string update_managerSalaryMenu(int, string [], string [], string [], string []);
void viewExpensesMenu (int, string [], int, string []);
void viewCommentsMenu (int, string [], string [], string []);
string managerMenu();
void showOwnerAnnouncements (string [], int);
string contactOwnerMenu (int, string [], string [], string, string [], string [], string [], int &);
void viewVehicle_detailsMenu (int, string [], string [], string [], string []);
string modifyVehiclesMenu ();
string addVehicleMenu (int &, string [], string [], string [], string []);
string updateVehicleMenu (int, string [], string [], string [], string []);
string removeVehicleMenu (int &, string [], string [], string [], string []);
void viewProduct_detailsMenu (int, string [], string [], string []);
string modifyProductMenu ();
string addProductMenu (int &, string [], string [], string []);
string updateProductMenu (int, string [], string [], string []);
string removeProductMenu (int &, string [], string [], string []);
string soldItemsMenu ();
void soldVehiclesMenu (int, string [], string [], string [], string [], string [], string []);
void soldProductsMenu (int, string [], string [], string [], string [], string []);
void viewEmployeesMenu (int, string [], string [], string [], string [], string []);
string manage_employeeMenu();
bool add_employeeMenu(int, string [], string [], string [], string [], string [], string []);
string update_employeeDetailsMenu(int, string [], string [], string [], string [], string []);
string remove_employeeMenu(int &, string [], string [], string [], string [], string [], string []);
string update_employeeSalaryMenu(int, string [], string [], string [], string []);
void serviceDetailsMenu (int, string [], string [], string [], string []);
```

```
void testDriveDetailsMenu (int, string [], string [], string []);
string communicateEmployeesMenu ();
string managerAnnouncements (string [], int &);
void receiveEmployeeMessagesMenu (string [], string [], string [], int);

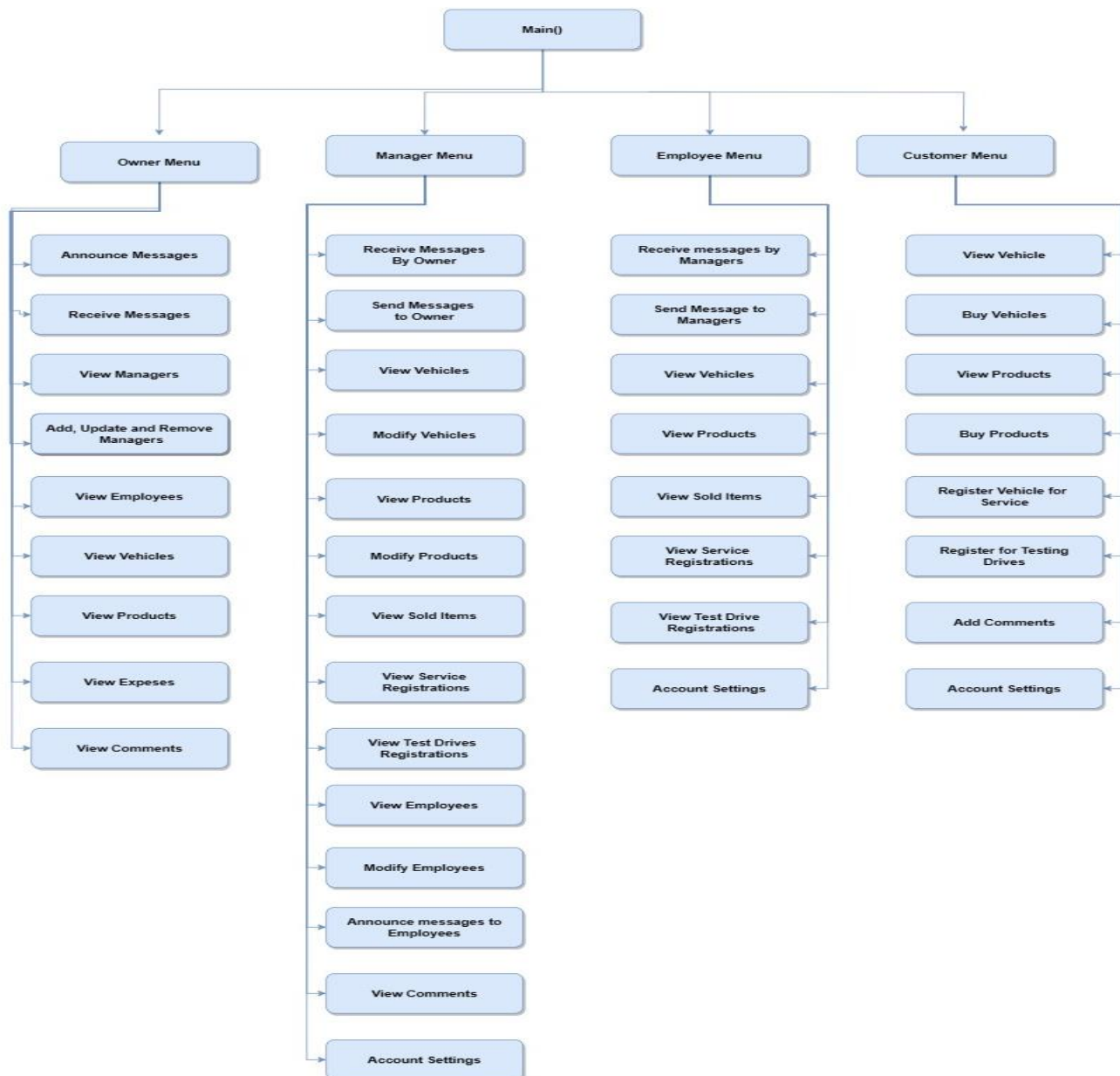
string employeeMenu();
void showManagerAnnouncements (string [], int);
string contactManagerMenu (int, string [], string [], string, string [], string [], string [], int &);
string accountSettingMenu ();
string changeProfile (int, string [], string, string [], string);
string changeUsername (int, string [], string, string);
string customerMenu();
void customerViewVehiclesMenu (int, string [], string [], string []);
string buyProductMenu (string);
string chooseVehicleMenu (int, string [], string, string [], string [], int, string [], string [], string
[], int, string [], string [], string [], string [], string []);
string paymentMethodMenu1 ();
string paymentMethodMenu2 (int, string [], int, string [], string [], string, string);
string vehicleBillMenu (int, string [], string [], int &, string [], string [], string [], string [], string
[], string []);
void customerViewProductsMenu (int, string [], string []);
string chooseProductMenu (int, string [], string, string [], string [], int, string [], string [], int,
string [], string [], string [], string []);
string productBillMenu (int, string [], string [], int &, string [], string [], string [], string [], string
[]);
string addCommentsMenu (int, string [], string [], string, int &, string [], string [], string []);
void serviceRegistrationMenu (int, string [], string [], string, int &, string [], string [], string [],
string []);
void driveRegistrationMenu (int, string [], string [], string, int &, string [], string [], string [],
string []);
```



```
string customerAccountSettingMenu ();
```

```
bool customerSignupMenu(int, string [], string [], string [], string []);
```

7. Functions Working Flow



8. Weakness in the Application

- This application can not display the Details of the vehicle such as models, colors, etc.
- If any user has forgotten his username or password, he cannot recover it.
- Customer cannot buy the vehicle on installments

9. Future Directions

- Add the details of vehicles and products.
- Allow option for employee to attend the customer registered for vehicle.
- Allow employee to mark attendance through application.
- Allow managers to view the attendance of employees.
- Allow manager to add schedules of employees working times.
- Add buy vehicles on installments option.