

PROJECT PROPOSAL

CONTACTCARS

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PROJECT DESCRIPTION

The Vehicle Marketplace Application "Contact Cars" addresses the challenge of simplifying the process of buying and selling both new and used vehicles. The goal is to provide a platform where users can search for vehicles based on various filters, get offers if the user buys a new car from some specific dealers , and easily contact buyers and sellers together. The system will also support multiple payment methods, user authentication (login/sign-up), and offer a seamless user experience for managing vehicle listings.

CUSTOMER REQUIREMENTS

Accessing The System

- Allowing the user access as a guest without signing in to view available cars.
- Users must have an account with main info like (Email, password, phone number, user location, rating) to buy or sell a car.
- Allowing users to save stay logged in to their bank account
- Allowing the users to stay up to date by sending notifications.
- Allowing the users to view, edit their Wishlist.

Selling Used Cars

- Allowing users selling a car to add, delete or edit their listing.
- Users selling their car must enter car details (photos, price, mileage, brand, model, year, location, description).
- Users selling a car can leave ratings on in the buyers profile.

Buying Used Cars

- Allowing buyers to communicate with sellers.
- Allowing users buying a car a to search and view specific info like (all, new, used, brand, model, year, location).
- Users can leave a rating based on the quality of the service provided.

Selling New Cars

- Making arrangements with dealerships to show specific cars on the systems list of cars available for purchase.
- Only cars listed from dealerships are labeled as new cars.
- Taking a percentage of every purchase made from a dealership.
- Allowing communication between dealership and buyers if a purchase is in place.
- Writing a report of buyers info after a purchase sending it to the dealership.
- Allowing dealerships to add offers to cars of their choosing.

Buying New Cars

- Showing the list of cars they had the deal about with the dealership.
- Allowing users to view the ratings of the dealership whose selling a car.
- Users buying a new car must enter valid card info.
- Users purchasing a new car can leave a deposit to reserve it before completing the purchase.
- Allowing users to see offers on listed cars.

IDENTIFIED SUBSYSTEM

1. Manage User Accounts

1.1. The system must allow users to sign up with their details (email, password, phone number, location).

1.2. The system must allow users to log in using their registered email and password.

1.3. The system must allow users to update their account information (phone number, location).

1.4. The system must allow the admin to manage user accounts (view, update, delete).

2. Guest Access Management

2.1. The system must allow guest users to browse available cars without requiring an account.

2.2. The system must provide limited functionality to guests, such as viewing car listings but restricting actions like saving cars to a wishlist or contacting sellers.

3. Manage Vehicle Listings

3.1. The system must allow sellers to add vehicle listings with details (photos, mileage, brand, model, year, location).

3.2. The system must allow sellers to update their vehicle listings.

3.3. The system must allow sellers to delete their vehicle listings.

3.4. The system must allow buyers to search for vehicles based on various filters (new, used, brand, model, year, location).

3.5. The system must allow buyers to view detailed information on vehicles.

4. Search and Filter Management

4.1. The system must allow users to search for vehicles based on various criteria (new, used, brand, model, year, location).

4.2. The system must allow the admin to manage available filters for search and adjust them as needed.

5. Notification Management

5.1. The system must send notifications to users regarding updates on listings, offers, and messages.

5.2. The system must allow users to manage their notification preferences (email, SMS, push notifications).

6. Wishlist Management

6.1. The system must allow users to add vehicles to a Wishlist.

6.2. The system must allow users to view and edit their Wishlist.

7. Dealer Management (Contract-Based)

7.1. The system must allow administrators to manage dealership contracts, specifying which vehicles the dealership wants to show in the system.

7.2. The system must display vehicles from contracted dealerships as "New Cars" without requiring the dealership to create an account.

7.3. The system must allow administrators to add, update, and remove new car listings from contracted dealerships.

7.4. The system must allow dealerships to set offers on their vehicles through communication with the platform's administrators.

7.5. The system must automatically calculate and deduct the percentage taken from each sale made through the platform.

7.6. The system must generate a report with buyer information to be sent to the dealership after a purchase.

8. Manage Offers (for New Cars Only)

8.1. The system must allow sellers of new cars to provide special offers to buyers.

8.2. The system must allow buyers to view and accept offers on new cars.

9. Communication Management

9.1. The system must allow buyers and sellers to send and receive messages.

9.2. The system must allow the admin to monitor and manage communications between users.

10. Payment Management

5.1. The system must allow users to select payment methods for new cars (cash, credit card, etc.).

5.2. The system must restrict payments for used cars to cash only.

5.3. The system must allow managing available payment methods for dealerships.

11. Rating and Review Management

11.1. The system must allow users to leave ratings for dealerships and sellers after purchasing a vehicle.

11.2. The system must allow sellers to leave ratings for buyers based on their transaction experience.

11.3. The system must display dealership and seller ratings on car listings.

Subsystem Name	Subsystem Functions	Subsystem Interface
1.Manage User Accounts	Allow users to sign up, log in, and update their information. Admin can manage user accounts.	<ul style="list-style-type: none">• signUp(String email, String password, String phoneNumber, String location)• login(String email, String password)• updateUserInfo(String userId, String phoneNumber, String location)• adminManageAccount(String userId, String action)
2.Manage Vehicle Listings	Allow sellers to add, update, and delete vehicle listings. Buyers can search and view car listings.	<ul style="list-style-type: none">• addVehicleListing(String userId, Vehicle vehicle)• updateVehicleListing(String listingId, Vehicle updatedVehicle)• deleteVehicleListing(String listingId)• searchVehicle(String filterCriteria)• viewVehicleDetails(String listingId)

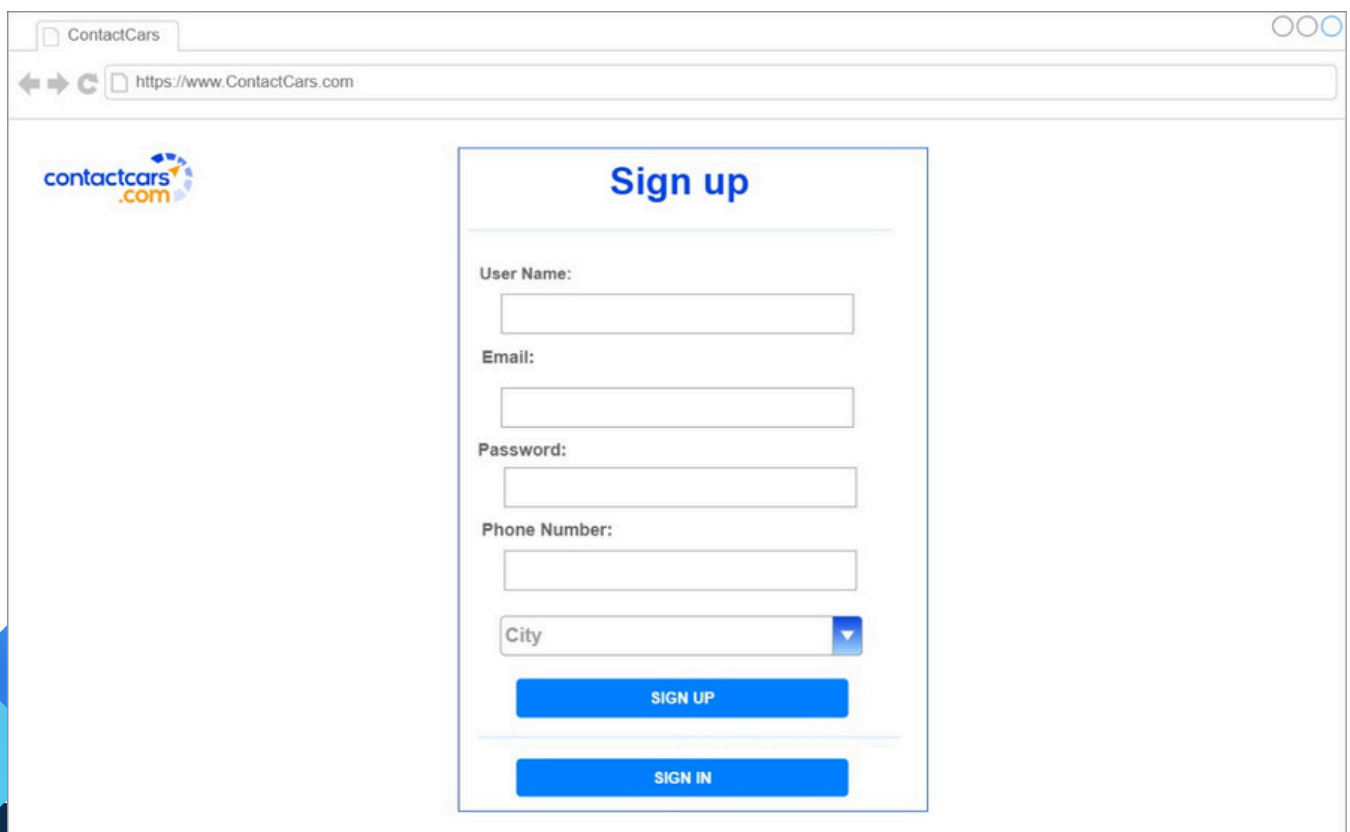
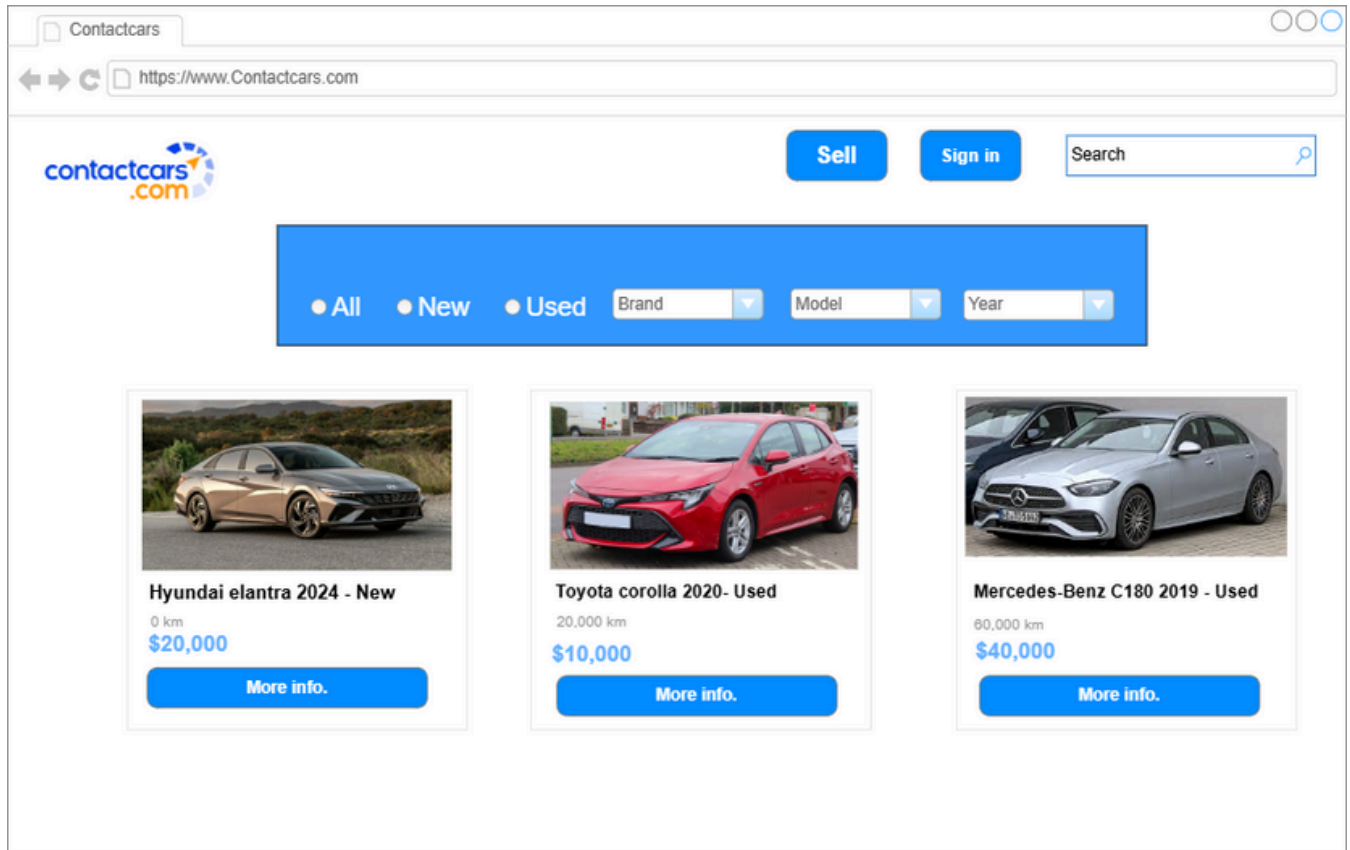
3. Manage Offers (New Cars)	Allow sellers of new cars (dealerships) to provide special offers. Buyers can view and accept offers.	<ul style="list-style-type: none"> • adminAddOffer(String listingId, Offer offer) • viewOffers(String listingId) • acceptOffer(String offerId)
4. Communication Management	Enable messaging between buyers and sellers. Admin can monitor communications.	<ul style="list-style-type: none"> • sendMessage(String senderId, String receiverId, String message) • viewMessages(String conversationId) • adminMonitorMessages()
5. Payment Management	Allow users to select payment methods (cash, credit card, etc.). Restrict payments for used cars to cash.	<ul style="list-style-type: none"> • selectPaymentMethod(String userId, String paymentMethod) • processPayment(String userId, String listingId, String paymentInfo)
6. Search and Filter Management	Allow users to search for vehicles based on specific criteria (new, used, brand, model, etc.).	<ul style="list-style-type: none"> • searchVehicles(String criteria) • applyFilter(String filterCriteria) • adminManageFilters(String filterAction)
7. Guest Access Management	Allow guest users to view vehicle listings without signing in.	<ul style="list-style-type: none"> • guestViewVehicles()

8. Notification Management	Send notifications to users regarding updates (offers, messages, etc.). Users can manage preferences.	<ul style="list-style-type: none">• <code>sendNotification(String userId, String notification)</code>• <code>manageNotificationPreferences(String userId, String preferences)</code>
9. Wishlist Management	Allow users to add vehicles to a wishlist, view and edit it later.	<ul style="list-style-type: none">• <code>addToWishlist(String userId, String listingId)</code>• <code>viewWishlist(String userId)</code>• <code>removeFromWishlist(String userId, String listingId)</code>
10. Dealer Management (Contract-Based)	Manage contracts with dealerships to display new cars. Admin adds/edit vehicles.	<ul style="list-style-type: none">• <code>adminManageDealershipContract(String dealershipId, List<Vehicle> vehicles)</code>• <code>adminAddVehicle(String dealershipId, Vehicle vehicle)</code>• <code>adminUpdateVehicle(String listingId, Vehicle updatedVehicle)</code>
11. Rating and Review Management	Allow buyers and sellers to leave ratings. Display ratings on listings.	<ul style="list-style-type: none">• <code>leaveRating(String userId, String listingId, int rating, String review)</code>• <code>viewRatings(String listingId)</code>

TRACEABILITY MATRIX


Features/Customer Requirements	Accessing The System	Selling Used Cars	Buying Used Cars	Selling New Cars	Buying New Cars	Manage User Accounts	Guest Access Management	Manage Vehicle Listings	Search and Filter Management	Notification Management	Wishlist Management	Dealer Management (Contract-Based)	Manage Offers (New Cars)	Communication Management	Payment Management	Rating and Review Management
Allow guest access	✓						✓									
Account creation (Sign up)	✓					✓										
Login to access buying/selling	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Stay logged in for payments	✓			✓	✓	✓						✓			✓	
Add/edit/delete car listings		✓						✓				✓				
View car details (new/used cars)	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Search/filter cars by brand, model, etc.			✓		✓			✓	✓		✓	✓	✓			
Manage user wishlist			✓		✓						✓					
Dealership management				✓	✓				✓			✓			✓	✓
Set offers for new cars				✓	✓							✓	✓			
Communication between buyers/sellers		✓	✓	✓	✓			✓		✓		✓	✓	✓		
Payment methods for cars			✓	✓	✓							✓			✓	
Rating/reviews for sellers/buyers		✓	✓	✓	✓			✓				✓	✓	✓		✓
Notifications for offers/listings	✓	✓	✓	✓	✓					✓		✓	✓	✓	✓	

GUI REPRESENTATION



ContactCars

https://www.ContactCars.com



Sign In

User Name:

Password:


[Forgot Password?](#)

SIGN IN

SIGN UP

ContactCars

https://www.ContactCars.com



Upload Car Photos

Description

Title

Brand

Model

Year

Body Shape

Transmission


Fuel Type

Engine Capacity

Save

ContactCars

https://www.ContactCars.com



Toyota corolla 2020- Used

Los angeles,USA

\$10,000

Description: toyota corolla 202 full service history in , family car single owned never had any accident, mechanically perfect

Contact Seller
+1323456789

Chat

Sedan
Body Shape

Automatic
Transmission


20,000 KM
Mileage

Gas
Fuel Type

1500 CC
Engine Capacity

ContactCars

https://www.ContactCars.com



Hyundai elantra 2024 - New

Washington DC,USA

\$20,000

Description: Hyundai Elantra 2024 Card Payment Available. 3 Years Unlimited Millage Warranty.

Contact Us

Buy Now

Reserve your Car
Down payment 20%

Reserve

New
Car Status

Coupe
Body Shape

Automatic
Transmission

Gas
Fuel Type

1300 CC
Engine Capacity

ContactCars

https://www.ContactCars.com


Checkout

CardHolder Name

Card Number

MM/YYYY

CVV

Hyundai elantra 2024 - New

Subtotal : \$20,000

Downpayment : \$0

Gift : Free Service

Total : \$20,000

Pay