



Online Auction platform for used Vehicles

V 1.8

2nd Sep 2024

Software Developers Inc



20665 4th Street, Suite #204
Saratoga, CA 95070

Confidentiality of Important Information

The information in this document is confidential and is intended solely for the attention and use of Arya Niggeh and its employees. It might contain privileged information. If it has come to you in error and you are not the intended recipient you must not proceed further, disclose, copy, use or disseminate any information contained therein, please delete it and contact us (raj@sdi.la) without delay so that we may take whatever action we consider appropriate. Although this document is believed to be free from any virus it remains the responsibility of the recipient to ensure that this document is virus free and we accept no responsibility in this regard.

1. Introduction

1.1 Purpose

This document outlines the functional specifications for the development of an Online auction marketplace - mobile app for buyers and website for Sellers. The users can buy used automobiles through a bidding process.

2. Website for Buyers

2.1 Login Screen



- Email/username
- Password

2.2 Forgot Password

- Password recovery option with a "Forgot Password" link.
- Secure verification process for password reset.

2.3 Browse/Search vehicles

- Search vehicles that are available for auction
- Search by VIN
- Search by choosing a category i.e. Upcoming or Active auction
- Advance search by adding filters like Location, Make, Model, Year, Odometer, Transmission, Fuel type, In stock, Floor met only, Seller name.
- Sort by options like auction ending soon

2.4 View vehicle details

- Information
- Images
- Remarks/hotspot added by the seller
- Add vehicle to Watchlist
- View Inspection details in Carfax

2.5 Set proxy



- Buyer can set proxy amount for the vehicle they liked and the app will bid automatically until that set proxy amount is met
- Once it's met then the Buyer will get notified.

2.6 Pending

- When the floor set price set by the seller is not met, the vehicle then moves to the "Pending" category. For example, if the floor set price for a vehicle is \$20,000 and the highest bid is \$12,000, the vehicle goes to "Pending."
- Both parties negotiate (offer, counter offer, accept or reject)
 - Seller says a price
 - Buyer accepts or rejects the offer.
- At the end if negotiation becomes unsuccessful and the seller decides not to sell then the vehicle moves from pending to "Not sold" under Seller's menu.

2.7 Closing

- Floor met - When the active auction is about to end and the Floor met price set by seller is matched, then the seller will see who was the last higher bidder and then that vehicle will get transferred to the "Closing" category.
- The buyer views the vehicle under the "Closing" menu, the buyer checks out, pays the deposit of \$1000 and then the car moves from the "Closing" category to "Purchases".
- There will be a \$250 commission that goes to platform Admin.
- When the buyer is checking out the platform will gather some information to upsell that will be handed over to the seller. For e.g. Asking yes/no questions like:
 - Do you need financing options?
 - Would you like to purchase a 1 year warranty for this vehicle?



2.8 Purchases

- Under purchases the buyer can manage orders
 - View a list of orders
 - Search an order by VIN
 - Filter by Seller
 - Sort by Sale date or Newest first
- Link bank account
- Pickup vehicle from seller site

2.9 Cancellation:

- Cancellation Button: There will be a “Cancel Purchase” button next to each order under the Purchase menu.
- Confirmation Dialog: When clicked, a confirmation dialog appears, asking the buyer to confirm the cancellation and provide a reason from a predefined list or enter a custom reason.
- Post-Cancellation:
 - Status Update: The order status changes to “Canceled” in the buyer’s Purchase menu.
 - Notification: Both the buyer and seller receive notifications of the cancellation via email.
- If the user decides to cancel before checkout, there will be a \$100 penalty. Once a user purchases a vehicle, a 48-hour cooling-off period countdown begins. This means there's a 48-hour window from the time of the transaction.
- Additionally, there will be a message encouraging the user to see the car and follow the guidelines. If the user is satisfied with the transaction, they can finalize it with their dealer. If not, they can cancel at any time within the 48-hour period but there is an administration fee of \$50 and \$100 cancellation fee red crossed out.
- During this time, if the buyer sees the car and doesn't like it for any reason, they can cancel the deal. The deposit won't be refunded immediately; instead, there will be a \$100 hold, which we'll

handle accordingly based on the financial terms—whether it's credited to the account or used as coverage for other costs.

- The buyer has the right to cancel within this 48-hour period. However, if they cancel after 48 hours, there will be a \$150 penalty. This policy ensures that if there's a substantial difference between the car they saw online and the actual car, they can raise a dispute. In such cases, the buyer can open a case, provide evidence, and if the claim is legitimate, we will refund the buyer and penalize the dealer for misrepresentation.
- **Buyer Deal Cancellation and Dealer Accountability:**
 1. **Demerit Points for Canceled Deals:**
 - **Tracking Cancellations:** Each time a buyer cancels a deal after viewing a car, the system will automatically assign a demerit point to the dealer associated with that vehicle.
 - **Dealer Account Visibility:** All canceled deals will be recorded and visible in the dealer's account, allowing them to track their history and understand their impact.
 2. **Penalties (Phase 2): SDI will discuss with Arya Niggeh**
 - **Penalty System:** A future update will introduce penalties for dealers with a high number of canceled deals. The threat of penalties aims to push dealers to be more accurate and thorough in their vehicle descriptions, thereby reducing the likelihood of deal cancellations.

2.10 Ratings

- Buyer will receive an email to rate their experience.

2.11 Buyer's profile

- Account info - Link bank account or credit card
- Change password
- View Watchlist - remove items from watchlist

3. Website for Sellers

3.1 Login Screen

- Email/username
- Password

3.2 Forgot Password

- Password recovery option with a "Forgot Password" link.
- Secure verification process for password reset.

3.3 Create a Vehicle (that can be categorized under Upcoming category or the Seller will have an option to directly publish the vehicle under Active auction)

- Steps included to "Create a vehicle" are
 - Add VIN & Decode Vin information (3rd Party API)
 - Adding images and videos (step by step instructions are provided to take the required images and videos)
 - When adding the images, the user will have an option to add notes/remarks
 - Vehicle details
 - Vehicle history
 - Whether it needs repair
 - Vehicle declarations or disclosures
 - Upload or insert Carfax link



- Submit

- Bulk upload: Seller will have the option to upload a CSV or XLS format to bulk upload vehicle details. SDI will provide the CSV or XLS template that the Seller will have to use for Bulk uploading.

3.4 Floor set - The seller will have an option to set Floor price. The seller will also have the option to set a minimum bidding price for a vehicle. For e.g. \$6000. The buyers can bid above the "Floor set" price.

3.5 New Floor - When the bidding price comes very near to the Floor set price then the "Floor set" tag will change to "New Floor" tag.

3.6 Floor Met - When the bidding price matches the Floor set price then the "New Floor" tag changes to "Floor met".

3.7 Parked - After all the required info is added to "Create a Vehicle" and if the vehicle is not yet pushed for upcoming or active auction category then that vehicle will get added under "Parked" category.

- Under the parked category the seller will have the option to schedule the Vehicle for an upcoming auction list.
- The Seller can select date and time for the Vehicle to list under Upcoming auction
- Here the seller does have an option to make edits to the vehicle information before scheduling it for auction.

3.8 Upcoming auctions

- The seller will list the vehicles under Upcoming auctions that can automatically become an active auction 45 mins before the set date/time.

- The buyers can preview the vehicles that are available to set proxy bids
- The buyers can search for vehicles under Upcoming auctions & pre-bid the vehicle if they want to.

3.9 Active auctions

- The vehicles that are active to bid for the auction
- The buyer will view the vehicle details and other information like the floor set price.
- Time left for auction to end

3.10 Pending auctions

- The auctions that have not met the floor set price
- The last highest bidder and seller negotiates to come to an offer
- But if the buyer/seller rejects the offer then the Vehicle will move to Not Sold status.

3.11 Closing

- When the buyer met the Floor set price, the seller will get notified and the commission gets charged by the platform and the vehicle moved from closing to sold category

3.12 Sold

- Purchases by the buyer will list under Sold

3.13 Cancellation:

- Cancellation Button: There will be a "Cancel Sale" button next to each vehicle listing under the Closing and/or Sold menu.
- Confirmation Dialog: When clicked, a confirmation dialog appears, asking the seller to confirm the cancellation and provide a reason from a predefined list or enter a custom reason
- Post-Cancellation Process:

- Status Update: The vehicle status changes to “Canceled” in the Closing and/or Sold menu.
- Notification: Both the buyer and seller receive notifications of the cancellation via email.
- If the dealer cancels the deal for an unjustified reason, they will be penalized. For example, if the car is involved in an accident and no longer exists, the dealer must provide evidence.

3.14 Not Sold

- This shows the list of vehicles for which the Floor set price is not matched and the buyer or seller has rejected the offer during negotiation
- The seller will have the option to list the Not sold vehicle for auction.

OR

- Car Finance and Leasing (Business) i.e Wholesale Store
 - When a vehicle listed by a seller is not sold during the auction or within the cooling period, the seller will be provided with an option to add the vehicle to the Car Finance and Leasing Wholesale Store. *Note: The sellers in this auction could be either general dealer whose cars didn't sell in public auctions or wholesale dealers who can't sell directly to the public but can sell to other dealers.* This specialized store will be a secure, private marketplace accessible only to employees of the Car Finance and Leasing Company, allowing them to review and potentially purchase these unsold vehicles.
 - Adding to the Car Finance and Leasing Wholesale Store:
 - The dealer will select the option to add the vehicle to the Car Finance and Leasing Wholesale Store.
 - A confirmation dialog will appear, explaining that once added, the vehicle will be available exclusively to Car Finance and Leasing Company employees.
 - Vehicle Details:

- The dealer will have the option to update or provide additional details incentives that may appeal to the Car Finance and Leasing Company.
 - These details will be added to the vehicle's profile in the private store.
- Car Finance and Leasing (Business) i.e Wholesale Store Interface
 - For Employees:
 - Accessing the Store:
 - Car Finance and Leasing Company employees will have a secure login with permissions to access the private store. Please note: the employees will NOT have access to Public listings.
 - Browsing Vehicles:
 - Employees can browse the vehicles available in the store, with options to filter and search based on criteria like make, model, year and pricing.
 - Each vehicle profile will include detailed information, including the dealer's terms, conditions.
 - Transaction Process:
 - Employees can initiate a purchase or financing deal directly through the platform. If the offer is accepted, a low transaction fee will be applied, and the rest of the process will be handled offline. They have the option to ask for Transportation (Yes or No)?
 - Cancellation fee
 - After delivery, they have 24 hours to return the car if needed, paying the shipping both ways. If the car is delivered to them, the cancellation fee covers the shipping costs, and there's no refund on the transaction fee.

3.15 Profile

- Transaction history
- View ratings



- Change password
- Account information

3.16 Sales Rep Account

Sellers can create & assign a listing to a sales representative, who will earn a commission, as per the rate defined by the seller.

4. Mobile apps for Sellers

4.1 Login Screen

- Email/username
- Password

4.2 Forgot Password

- Password recovery option with a "Forgot Password" link.
- Secure verification process for password reset.

4.3 Create a Vehicle (that can be categorized under Upcoming category or the Seller will have an option to directly publish the vehicle under Active auction)

- Steps included to "Create a vehicle" are
 - Add or Scan VIN & Decode Vin information (3rd Party API)

- Adding images and videos (step by step instructions are provided to take the required images and videos)
- When adding the images, the user will have an option to add notes/remarks
- Vehicle details
- Vehicle history
- Whether it needs repair
- Vehicle declarations or disclosures
- Upload or insert Carfax link
- Submit

4.4 Floor set - The seller will have an option to set Floor price. The seller will also have the option to set a minimum bidding price for a vehicle. For e.g. \$6000. The buyers can bid above the "Floor set" price.

4.5 New Floor - When the bidding price comes very near to the Floor set price then the "Floor set" tag will change to "New Floor" tag.

4.6 Floor Met - When the bidding price matches the Floor set price then the "New Floor" tag changes to "Floor met".

4.7 Parked - After all the required info is added to "Create a Vehicle" and if the vehicle is not yet pushed for upcoming or active auction category then that vehicle will get added under "Parked" category.

- Under the parked category the seller will have the option to schedule the Vehicle for an upcoming auction list.
- The Seller can select date and time for the Vehicle to list under Upcoming auction

- Here the seller does have an option to make edits to the vehicle information before scheduling it for auction.

4.8 Upcoming auctions

- The seller will list the vehicles under Upcoming auctions that can automatically become an active auction 45 mins before the set date/time.
- The buyers can preview the vehicles that are available to set proxy bids
- The buyers can search for vehicles under Upcoming auctions & pre-bid the vehicle if they want to.

4.9 Active auctions

- The vehicles that are active to bid for the auction
- The buyer will view the vehicle details and other information like the floor set price.
- Time left for auction to end

4.10 Pending auctions

- The auctions that have not met the floor set price
- The last highest bidder and seller negotiates to come to an offer
- But if the buyer/seller rejects the offer then the Vehicle will moved to Not Sold status.

4.11 Closing

- When the buyer met the Floor set price, the seller will get notified and the commission gets charged by the platform and the vehicle moved from closing to sold category

4.12 Sold

- Purchases by the buyer will list under Sold

4.13 Cancellation:

- Cancellation Button: There will be a “Cancel Sale” button next to each vehicle listing under the Closing and/or Sold menu.
- Confirmation Dialog: When clicked, a confirmation dialog appears, asking the seller to confirm the cancellation and provide a reason from a predefined list or enter a custom reason
- Post-Cancellation Process:
 - Status Update: The vehicle status changes to “Canceled” in the Closing and/or Sold menu.
 - Notification: Both the buyer and seller receive notifications of the cancellation via email.
- If the dealer cancels the deal for an unjustified reason, they will be penalized. For example, if the car is involved in an accident and no longer exists, the dealer must provide evidence.

4.14 Not Sold

- This shows the list of vehicles for which the Floor set price is not matched and the buyer or seller has rejected the offer during negotiation
- The seller will have the option to list the Not sold vehicle for auction.

OR

- Car Finance and Leasing (Business) i.e Wholesale Store
 - When a vehicle listed by a seller is not sold during the auction or within the cooling period, the seller will be provided with an option to add the vehicle to the Car Finance and Leasing Wholesale Store. *Note: The sellers in this auction could be either general dealer whose cars didn't sell in public auctions or wholesale dealers who can't sell directly to the public but can sell to other dealers.* This specialized store will be a secure, private marketplace accessible only to employees of the Car Finance and Leasing Company, allowing them to review and potentially purchase these unsold vehicles.

- Adding to the Car Finance and Leasing Wholesale Store:
 - The dealer will select the option to add the vehicle to the Car Finance and Leasing Wholesale Store.
 - A confirmation dialog will appear, explaining that once added, the vehicle will be available exclusively to Car Finance and Leasing Company employees.
- Vehicle Details:
 - The dealer will have the option to update or provide additional details incentives that may appeal to the Car Finance and Leasing Company.
 - These details will be added to the vehicle's profile in the private store.
- Car Finance and Leasing (Business) i.e Wholesale Store Interface
 - For Employees:
 - Accessing the Store:
 - Car Finance and Leasing Company employees will have a secure login with permissions to access the private store. Please note: the employees will NOT have access to Public listings.
 - Browsing Vehicles:
 - Employees can browse the vehicles available in the store, with options to filter and search based on criteria like make, model, year and pricing.
 - Each vehicle profile will include detailed information, including the dealer's terms, conditions.
 - Transaction Process:
 - Employees can initiate a purchase or financing deal directly through the platform. If the offer is accepted, a low transaction fee will be applied, and the rest of the process will be handled offline. They have the option to ask for Transportation (Yes or No)?
 - Cancellation fee

- After delivery, they have 24 hours to return the car if needed, paying the shipping both ways. If the car is delivered to them, the cancellation fee covers the shipping costs, and there's no refund on the transaction fee.

4.15 Profile

- Transaction history
- Change password
- Account information

4.16 Sales Rep Account

Sellers can create & assign a listing to a sales representative, who will earn a commission, as per the rate defined by the seller.

5. Notifications System (Buyer & Seller)

The notification system will provide a centralized location for buyers and sellers to receive and manage updates related to their activities on the Platform. This feature will enhance user experience by ensuring timely and organized communication.

For Sellers:

Notification Types:

- New Bid Received: Alert when a new bid is placed on a listed vehicle.
- Vehicle Sold: Confirmation notification when a vehicle is sold.
- Cancellation Notice: Notification when a transaction is canceled by the buyer.
- Offer Response: Updates when a buyer responds to an offer.

Key Features:

- Badge Indicator: Displays the number of unread notifications.
- Bulk Actions: Options to mark multiple notifications as read/unread or delete.

For Buyers:

Notification Types:

- Bid Status Update: Alerts on the status of placed bids (e.g., winning, outbid).
- Purchase Confirmation: Notification when a purchase is confirmed.



- Cancellation Notice: Notification when a seller cancels a transaction.
- Offer Response: Updates when a seller responds to an offer.

Key Features:

- Badge Indicator: Displays the number of unread notifications.
- Bulk Actions: Options to mark multiple notifications as read/unread or delete.

6. Subscription Plan (Seller)

Subscription Plans:

Now, on to membership tiers. We have decided on three membership levels:

1. **Free Membership:** Higher transaction fee, e.g., \$500 per sale. If a member sells 10 cars in a month, they qualify for the next membership tier but can choose to stay in the free tier.
2. **GOLD Membership:** \$500 monthly fee, with a reduced transaction fee of \$275. This level offers significant savings for high-volume sellers. If a member sells more than 25-30 cars in a month, they qualify for the platinum tier.
3. **Platinum Membership:** \$1,000 monthly fee, with a further reduced transaction fee of \$150-\$120. This tier provides the greatest savings for high-volume sellers. However, to maintain this membership, sellers must have a high rating (e.g., at least four stars). If their rating falls below this threshold, their platinum membership will be downgraded to GOLD.

This tiered membership structure encourages sellers to move cars quickly and efficiently, while also providing financial incentives and ensuring high standards are maintained.

User Interface:



Subscription Page: Accessible via seller's menu with plan details and a comparison.

Management: View current plan, billing history, and options to upgrade, downgrade, or cancel.

Backend Adjustments:

Database: Store subscription details and billing information.

API Endpoints: Manage subscriptions, updates, and cancellations.

7. Web Portal for Super Admin

1.1 User Management:

- Create, edit, and delete user accounts (buyers and sellers)
- Define roles and permissions for the users

1.2 Rating and review:

- Admin can view the seller rating and will have the option to deactivate a seller account if required.

1.3 Report Generation:

- Generate and view revenue reports
- Number of sales by Seller
- Extract data for specific time periods
- Export reports in common formats (PDF, CSV) for analysis.

8. AI / ML functionalities

8.1 Price Recommendations using KBB API

Overview:

The Price Recommendations feature will provide market value estimates for vehicles using the Kelley Blue Book (KBB) API, offering reliable price suggestions to buyers in the used vehicle marketplace.

1. Data Collection and Integration:

- Data Sources
 - KBB API: Primary source for vehicle price recommendations.
 - User Input: Buyers provide vehicle details like make, model, year, mileage, and condition.
- Data Collection Methods:
 - Direct integration with the KBB API to retrieve up-to-date pricing data.
 - Collection of vehicle details via user input forms.

2. Price Recommendation Process:

- KBB Integration:
 - Send vehicle details to the KBB API.
 - Receive pricing data.
- AI Implementation:
 - Use basic algorithms to adjust the KBB price based on local market conditions or specific Buyers inputs.

Optional Functions

9. Mobile Apps for Buyers

9.1 Login Screen

- Email/username
- Password

9.2 Forgot Password

- Password recovery option with a "Forgot Password" link.
- Secure verification process for password reset.

9.3 Browse/Search vehicles

- Search vehicles that are available for auction
- Search by VIN
- Search by choosing a category i.e. Upcoming or Active auction
- Advance search by adding filters like Location, Make, Model, Year, Odometer, Transmission, Fuel type, In stock, Floor met only, Seller name.
- Sort by options like auction ending soon

9.4 View vehicle details

- Information



- Images
- Remarks/hotspot added by the seller
- Add vehicle to Watchlist
- View Inspection details in Carfax

9.5 Set proxy

- Buyer can set proxy amount for the vehicle they liked and the app will bid automatically until that set proxy amount is met
- Once it's met then the Buyer will get notified.

9.6 Pending

- When the floor set price set by the seller is not met, the vehicle then moves to the "Pending" category. For example, if the floor set price for a vehicle is \$20,000 and the highest bid is \$12,000, the vehicle goes to "Pending."
- Both parties negotiate (offer, counter offer, accept or reject)
 - Seller says a price
 - Buyer accepts or rejects the offer.
- At the end if negotiation becomes unsuccessful and the seller decides not to sell then the vehicle moves from pending to "Not sold" under Seller's menu.

9.7 Closing

- Floor met - When the active auction is about to end and the Floor met price set by seller is matched, then the seller will see who was the last higher bidder and then that vehicle will get transferred to the "Closing" category.

- The buyer views the vehicle under the “Closing” menu, the buyer checks out, pays the deposit of \$1000 and then the car moves from the “Closing” category to “Purchases”.
- There will be a \$250 commission that goes to platform Admin.
- When the buyer is checking out the platform will gather some information to upsell that will be handed over to the seller. For e.g. Asking yes/no questions like:
 - Do you need financing options?
 - Would you like to purchase a 1 year warranty for this vehicle?

9.8 Purchases

- Under purchases the buyer can manage orders
 - View a list of orders
 - Search an order by VIN
 - Filter by Seller
 - Sort by Sale date or Newest first
- Link bank account
- Pickup vehicle from seller site

9.9 Cancellation:

- Cancellation Button: There will be a “Cancel Purchase” button next to each order under the Purchase menu.
- Confirmation Dialog: When clicked, a confirmation dialog appears, asking the buyer to confirm the cancellation and provide a reason from a predefined list or enter a custom reason.
- Post-Cancellation:
 - Status Update: The order status changes to “Canceled” in the buyer’s Purchase menu.
 - Notification: Both the buyer and seller receive notifications of the cancellation via email.

- If the user decides to cancel before checkout, there will be a \$100 penalty. Once a user purchases a vehicle, 48-hour cooling-off period countdown begins. This means there's a 48-hour window from the time of the transaction.
- Additionally, there will be a message encouraging the user to see the car and follow the guidelines. If the user is satisfied with the transaction, they can finalize it with their dealer. If not, they can cancel at any time within the 48-hour period but there is an administration fee of \$50 and \$100 cancellation fee red crossed out.
- During this time, if the buyer sees the car and doesn't like it for any reason, they can cancel the deal. The deposit won't be refunded immediately; instead, there will be a \$100 hold, which we'll handle accordingly based on the financial terms—whether it's credited to the account or used as coverage for other costs.
- The buyer has the right to cancel within this 48-hour period. However, if they cancel after 48 hours, there will be a \$150 penalty. This policy ensures that if there's a substantial difference between the car they saw online and the actual car, they can raise a dispute. In such cases, the buyer can open a case, provide evidence, and if the claim is legitimate, we will refund the buyer and penalize the dealer for misrepresentation.

- **Buyer Deal Cancellation and Dealer Accountability:**

Demerit Points for Canceled Deals:

- **Tracking Cancellations:** Each time a buyer cancels a deal after viewing a car, the system will automatically assign a demerit point to the dealer associated with that vehicle.
- **Dealer Account Visibility:** All canceled deals will be recorded and visible in the dealer's account, allowing them to track their history and understand their impact.

Penalties (Phase 2): SDI will discuss with Arya Niggeh

- **Penalty System:** A future update will introduce penalties for dealers with a high number of canceled deals. The threat of penalties aims to push dealers to be more



accurate and thorough in their vehicle descriptions, thereby reducing the likelihood of deal cancellations.

9.10 Ratings

- Buyer will receive an email to rate their experience.

9.11 Buyer's profile

- Account info - Link bank account or credit card
- Change password
- View Watchlist - remove items from watchlist

10. Buyer's Representative

Imagine a scenario where a user is looking to buy a car but isn't familiar with the process, specifications, or pricing. This service will provide the user with a licensed, experienced representative who can assist with buying the car. These representatives will have profiles showcasing their credentials, such as a background in mechanics or years of experience in car sales and negotiation.

The representatives will be thoroughly screened and vetted. They will fill out detailed profiles, including their qualifications, and will be available for hire to assist buyers. For example, if a buyer hires a representative, this person will provide research and price analysis for multiple cars and help the buyer find the best deal. Once the buyer decides on a car and the transaction is completed, the representative's job is done after the 48-hour cooling-off period.

The service will cost around \$200. The buyer will give the representative limited access to their account to assist with the transaction.

The representative will handle various tasks, such as verifying the car's condition, disclosing any damages, and providing a price analysis. This service gives buyers confidence that they are getting a good deal, supported by the expertise and negotiation skills of the representatives.

11. AI / ML functionalities

11.1 Customer Targeting

Overview

The Customer Targeting feature leverages AI and ML to analyze buyer behavior and preferences to identify potential customers for specific vehicles.

Objectives

- By targeting buyers who are more likely to be interested in specific vehicles, the feature will help increase the likelihood of sales.
- Tailored recommendations will lead to a more personalized buying experience, increasing buyer satisfaction.

Key Components

1. Data Collection

- Buyer Profile Data:
 - Demographics (age, gender, location)
 - Purchase history (previous purchases)
 - Browsing history (vehicles viewed, time spent on listings)
 - Interaction history (emails opened, offers considered)
- Vehicle Data:
 - Vehicle specifications (make, model, year, mileage, condition)



- Price history (listed price, final sale price)

2. Behavioral Analysis

- Pattern Recognition:

- Browsing Pattern: Identify recurring behaviors such as frequently viewed vehicle types, price ranges, or specific features.
- Engagement Levels: Analyze how actively a buyer engages with listings (e.g., time spent).

3. Predictive Modeling

- Customer Segmentation:

- Cluster Analysis: Group buyers into segments based on similar behaviors and preferences (e.g., budget-conscious buyers, luxury seekers).
- Lifecycle Stages: Classify buyers by their position in the buying cycle.

- Predictive Matchmaking:

- Vehicle Recommendations: Use collaborative filtering and content-based filtering to suggest vehicles likely to interest specific buyers.
- Lead Scoring: Rank potential buyers for each vehicle based on their likelihood to purchase, considering historical data and predictive models.

11.2 AI Assistant

Develop an AI assistant with a voice that can handle general inquiries on the platform, similar to Siri. The AI will address common questions and seamlessly transfer more complex queries to human support.



1. AI Interaction:

- Voice Interaction: The AI will use natural language processing (NLP) and speech recognition to engage in voice-based conversations with users.
- Text Option: Users can also choose to type their inquiries, and the AI will respond via text.

2. General Inquiry Handling:

The AI will be equipped with a database of frequently asked questions (FAQs), including:

- How the auction works.
- What the cancellation fees are.
- How to list or bid on vehicles.
- Payment and delivery options.

Contextual Understanding: The AI will understand the context of user queries and provide relevant, accurate answers.

3. Advanced Query Management:

Fallback to Human Support: If the AI cannot provide a satisfactory answer or the query is too complex, it will automatically transfer the conversation to a human agent. The AI will notify the user and seamlessly hand over the details.

Learning and Improvement: Over time, the AI will learn from interactions and improve its ability to handle a wider range of questions.

4. User Experience Integration:

Availability: The AI assistant will be accessible 24/7 through the platform, both on the website and mobile apps.



Tech stack

1. Front-End Technology:

- Framework/Library: We will use React.js for the front-end development.

2. Back-End Technology:

- Programming Language: The back end will be built using Node.js with Express.js framework.
- Admin Panel: The admin panel will be built using React.js for consistency and ease of integration with the front-end.
- Real-Time Communication: We will use Socket.io for real-time communication.

3. Database:

- Relational Database: We plan to use MySQL as the primary database.

4. Hosting and Cloud Services:

- We will utilize AWS (Amazon Web Services) for hosting and cloud services. We will use services like EC2 for virtual servers, S3 for storage, and RDS for database management.

5. Authentication and Security:

- Authentication: We'll use OAuth 2.0 and JWT (JSON Web Tokens) for secure user authentication and session management.
- Security: The platform will implement HTTPS for secure communication, all sensitive data will be encrypted, and firewall protection will be in place to safeguard against unauthorized access.

6. DevOps and CI/CD:

- DevOps Tools: We'll use Docker for containerization.



- CI/CD Pipeline: GitLab CI/CD will be used to automate the testing and deployment processes.

7. Payment Gateway Integration:

- We plan to integrate Stripe as the primary payment gateways.

8. Analytics and Monitoring:

- Google Analytics will be used for tracking user behavior and engagement metrics.

9. Version Control:

- We'll use GitLab for version control.



Cost Estimates

PHASE 1

Task	Cost (CAD)
Website for Buyer	\$12,000
Website for Seller	\$18,000
iOS app (Seller and Buyer)	\$19,000
Android app (Seller and Buyer)	\$19,000
Subscription Plan (Seller)	\$15,000
Web portal for Super Admin	\$12,000
API Services	\$14000
B2B Functions for Dealers (Auction)	\$12000
Pricing recommendations (KBB API) with AI	\$14000
Extended Debugging Warranty - 18 months	\$18000
Extended Debugging Warranty Discount	-\$18000
Total	\$135000
Discount	-\$15000
Grand Total	\$120000

Delivery timelines

5-6 months



Payment terms

2 Payments as follows

- 20% due upon contract signing (upfront payment) - \$20000
- 80% due upon delivery, prior to App Store submissions - \$100000

All deliveries are covered by a 24 months debugging warranty after delivery.

You will have a dedicated Project manager here in our Silicon valley office as the primary contact and he will ensure that the project starts and completes as scheduled.

All of the project Source codes will be handed over to the client on project completion. Client will be the sole and exclusive owner of the software solution and all the IP on project completion and payment of all agreed Invoices to SDI.

Change Requests Management

Any change requests shall be discussed and mutually agreed upon by both parties. SDI will provide a written estimate of any additional time and costs required to accommodate the change request. Any change that increases the project scope by more than 15% will require a new contract or an amendment to this contract, which must be mutually agreed upon by both parties.”



3rd Party Services & Cost

1. iOS & Android Developer Accounts	
iOS Developer Account	\$99 per year
Android Developer Account	\$25 one-time registration fee
2. Hosting Services	
Hosting Services (AWS):	\$200 - \$250 monthly
3. Database Server (NoSQL)	
NoSQL Database (MongoDB)	Average Monthly Cost: ~\$100 - \$150
4. Payment Gateway (Stripe)	Stripe: No monthly fee, but charges 2.9% + 30¢ per successful transaction.
5. Firebase	Average Monthly Cost: ~\$75 - \$100
6. Vin Decode API	\$75 to \$100 per month.
7. Carfax API	\$150 to \$200 per month.
8. SendGrid	\$40 per month



Optional Functions

Task	Cost (CAD)
Buyer's Representative (Buyer)	CA\$7,000
AI Customer targeting	CA\$18,000
AI assistant	CA\$7,000

AMC - Optional - 3 Years after the debugging warranty expires - \$1000/month

- 1. AMC - This includes the following:
 - a. Bug fixes
 - b. OS updates
 - c. Version control
 - d. Database maintenance
 - e. App store compliance

Regards,

Raj Srivastav

Sachin Nayak

Sakshi Sharma