

TURBO TORQUE



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PURPOSE

- Establish a centralized and reliable platform for automobile transactions and reviews.
- Enable informed decision-making for vehicle buyers, sellers, and enthusiasts.



GOALS

- Develop a user-friendly, web-based platform connecting automobile buyers and sellers.
- Provide verified listings and real-time market prices for transparency.
- Offer detailed car reviews and ownership experiences for better decision-making.
- Ensure secure transactions through integrated payment options.



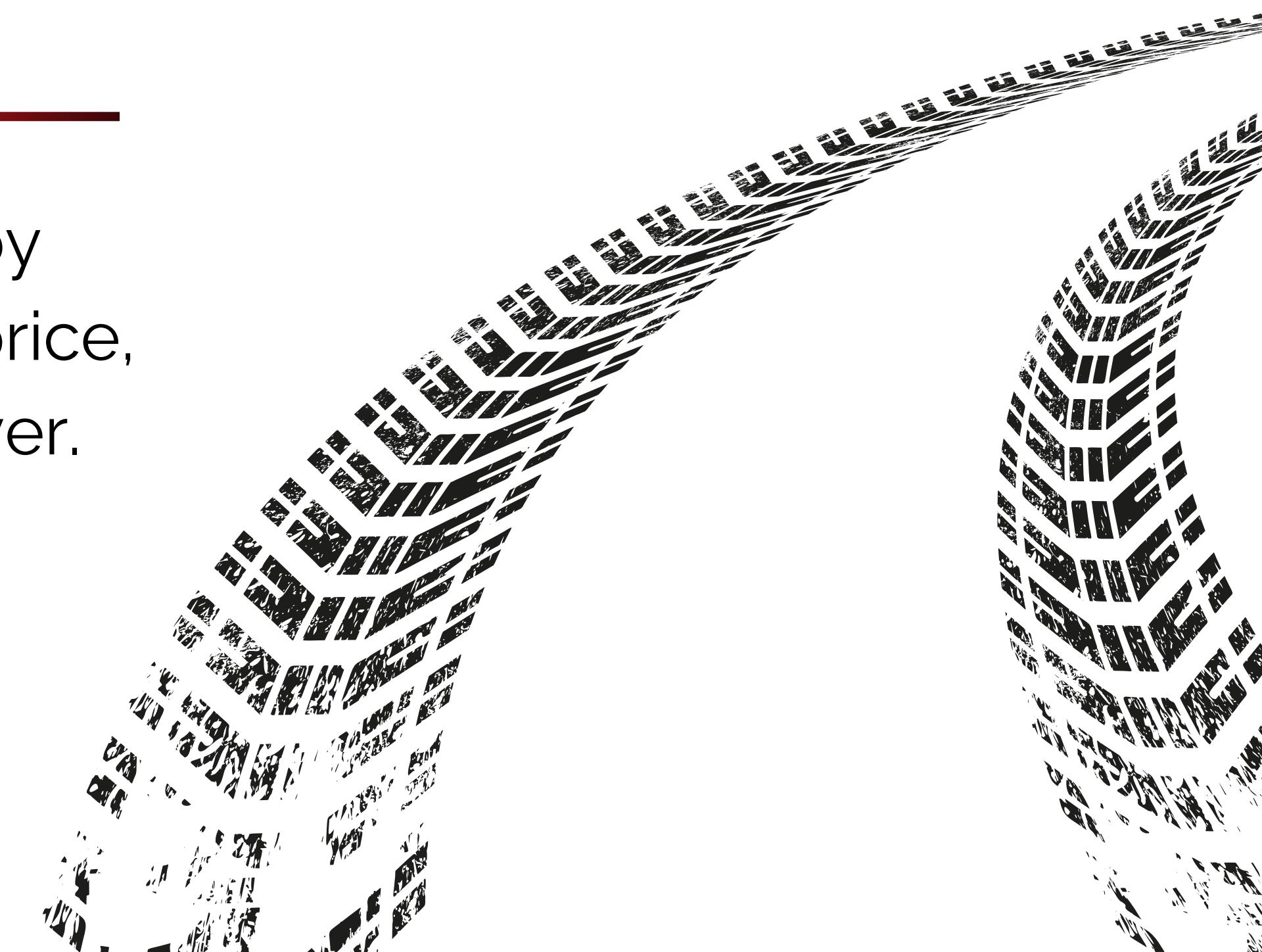
USER STORY 1

As a user, I want to create an account using my email or phone number so that I can access all features.



USER STORY 2 —

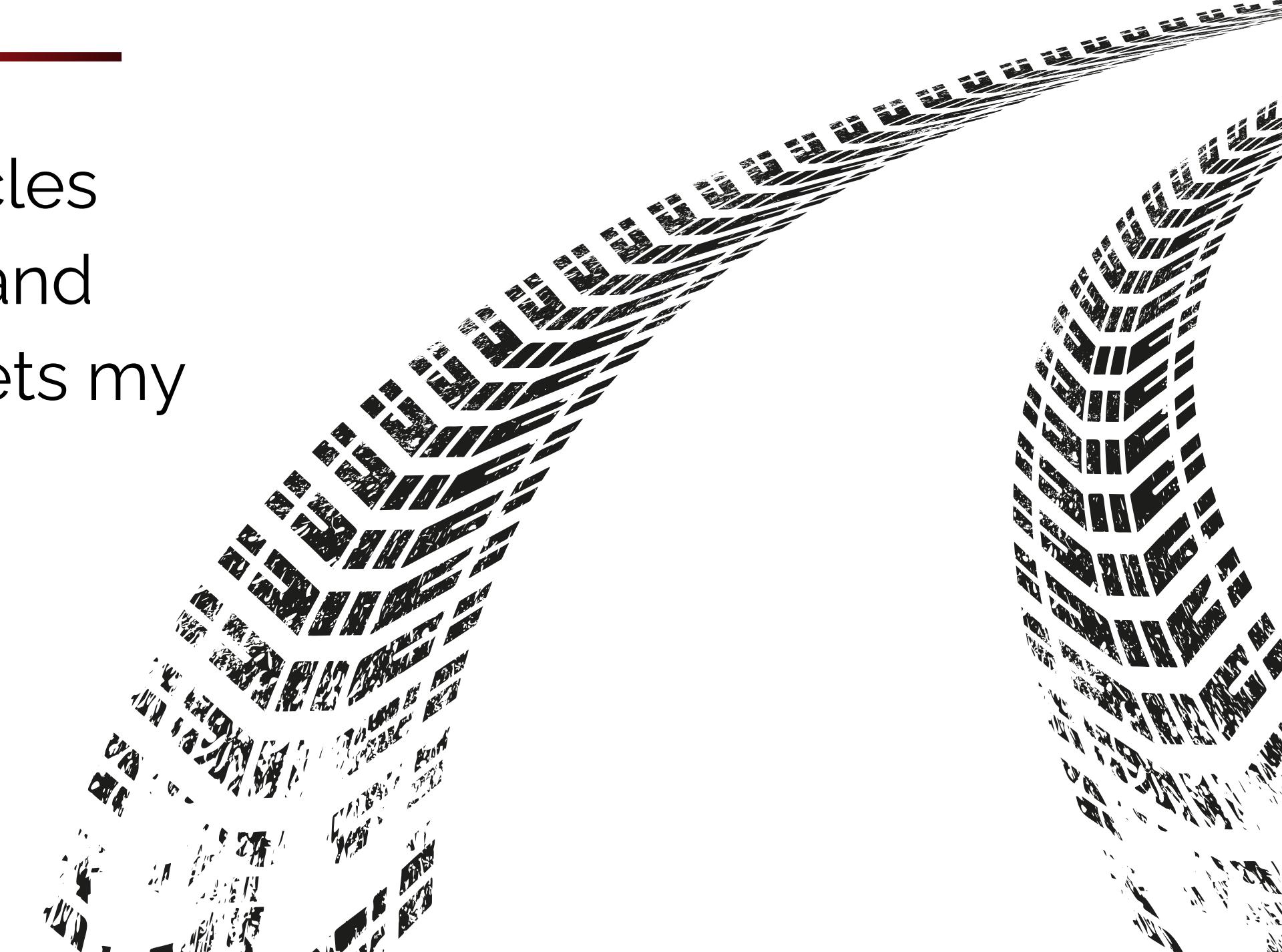
As a seller, I want to list my vehicle by providing details like make, model, price, and condition so that I can find a buyer.





USER STORY 3

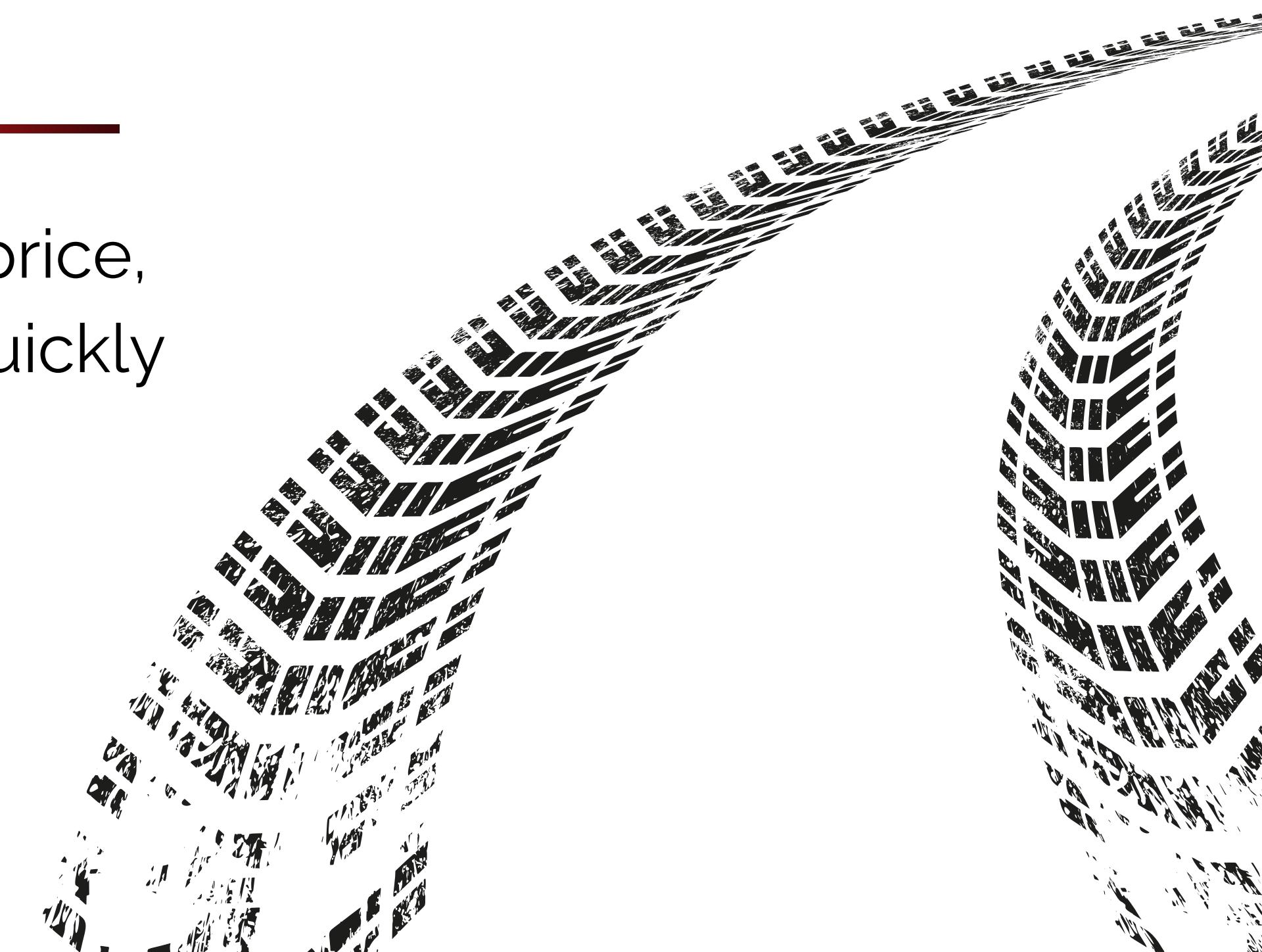
As a buyer, I want to search for vehicles using filters like make, model, year, and price so that I can find a car that meets my needs.





USER STORY 4 —

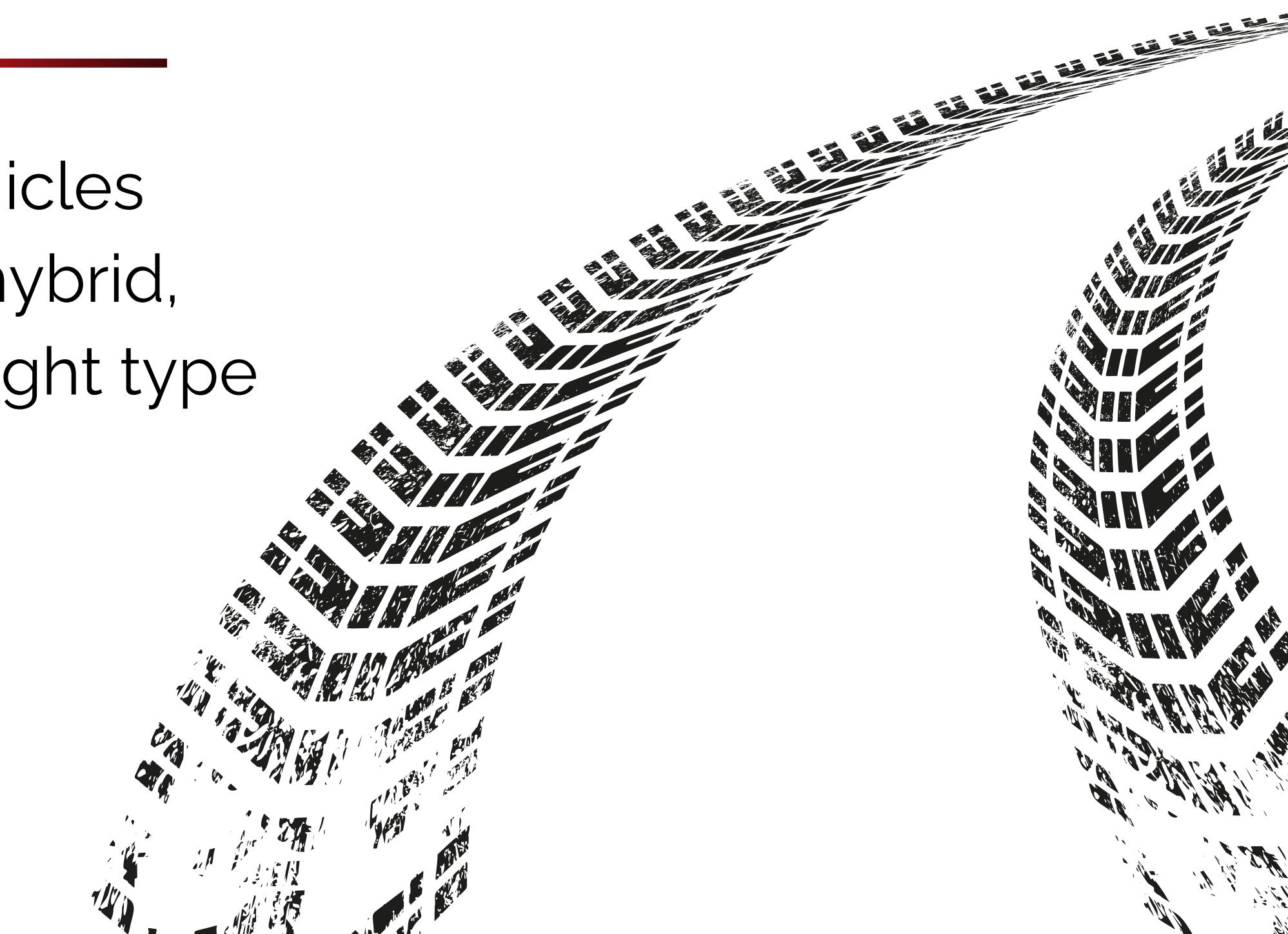
As a buyer, I want to sort listings by price, mileage, and location so that I can quickly compare options.



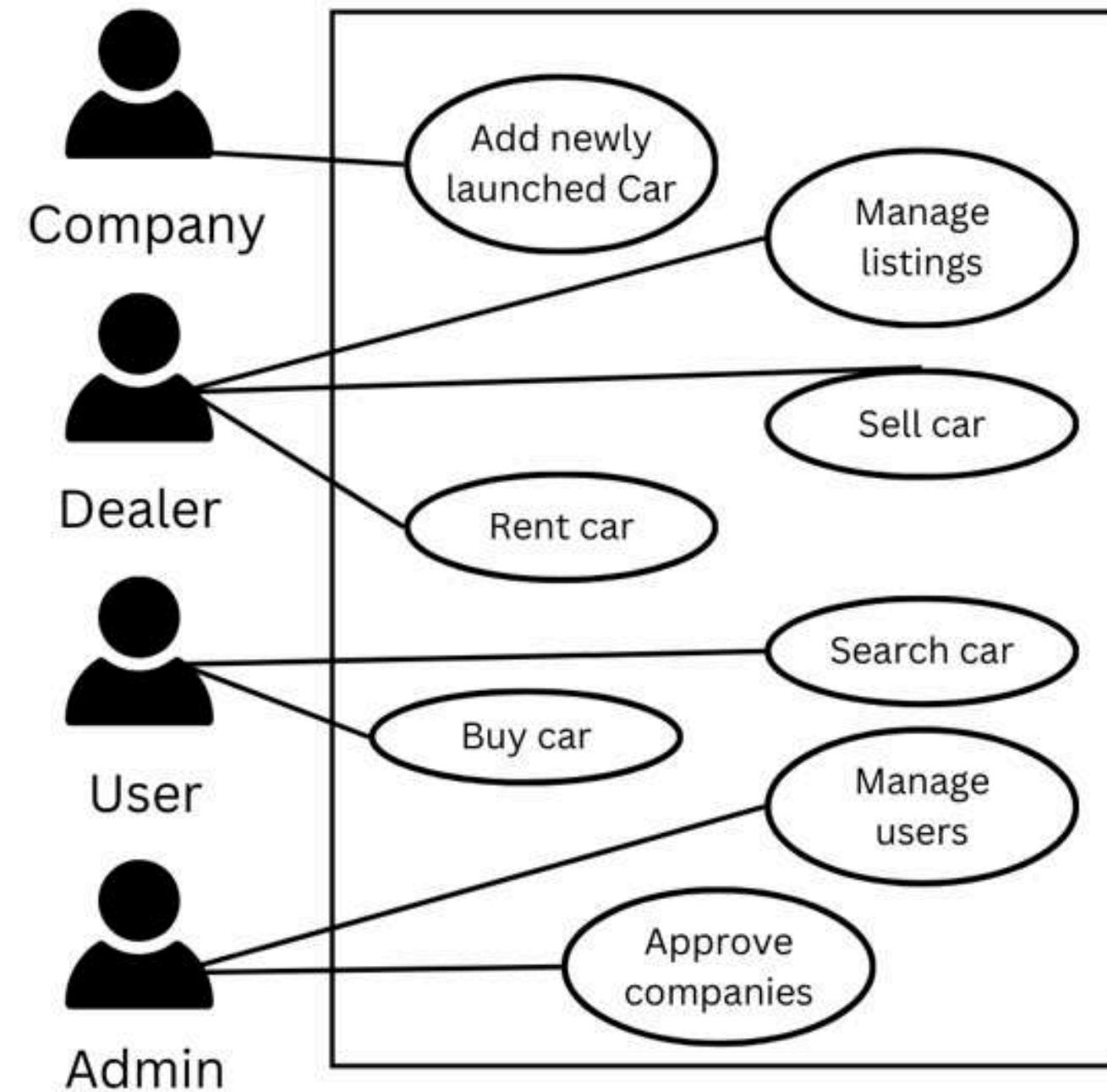


USER STORY 5

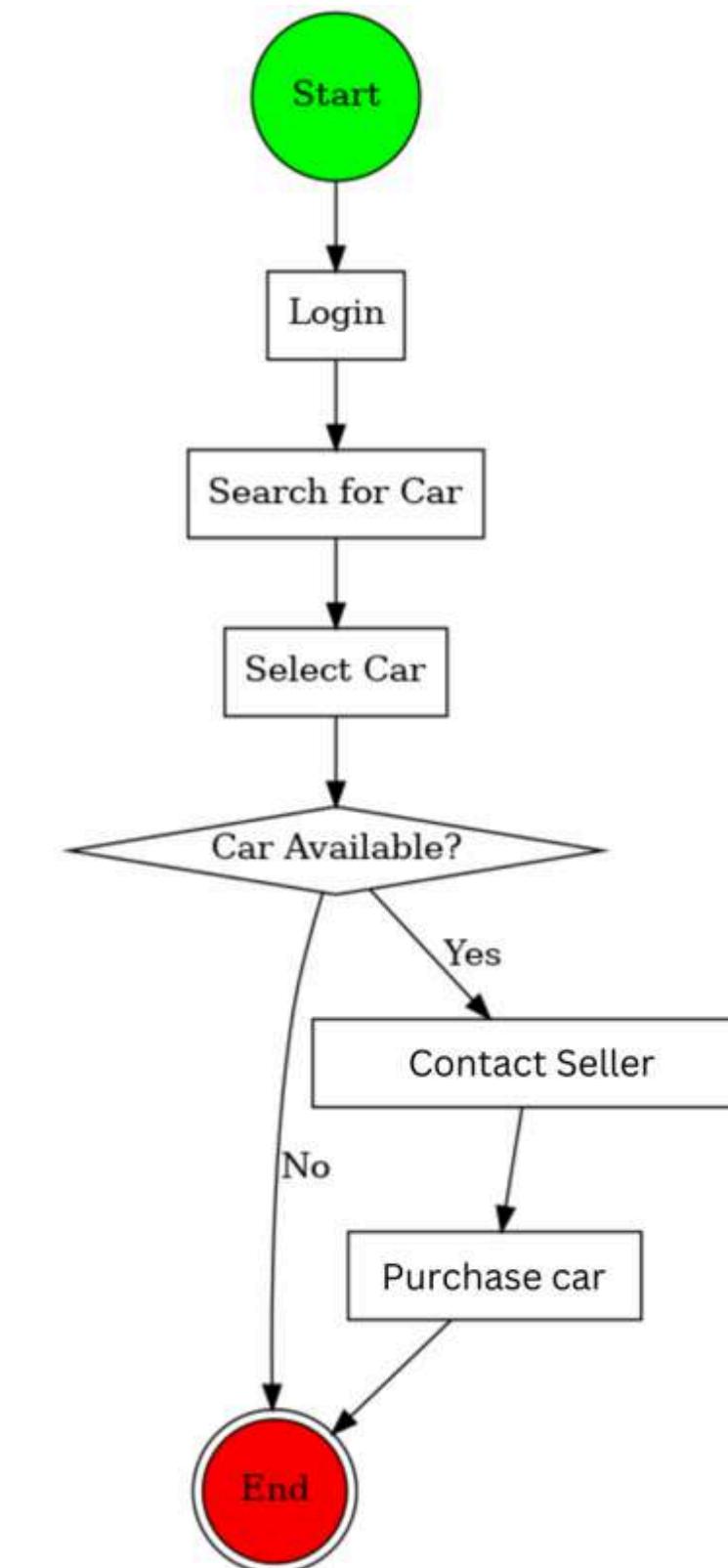
As a buyer, I want to search for vehicles based on fuel type (petrol, diesel, hybrid, and electric) so that I can find the right type of car for me.



ARCHITECTURE



USE CASE DIAGRAM



ACTIVITY DIAGRAM

PROJECT PLANNER

SPRINT PLANNING INCLUDING PRODUCT BACKLOG

The image shows a digital project management board titled "Turbo Torque – Your Ultimate Destination for Buying and Selling Cars!". The board is organized into five columns representing different stages of the development cycle:

- PRODUCT BACKLOG:** This column contains 12 items, each represented by a dark blue card:
 - Delete Account
 - Save Favorite Listings
 - Seller Identity Verification
 - List a Vehicle for Sale
 - View Listing Engagement
 - Secure Payments
 - Report Suspicious Listings
 - Compare Vehicles by Features and Reviews
 - Find Car Loan and Financing Information
 - Schedule Car Inspection
 - + Add a card
- SPRINT BACKLOG:** This column contains 6 items, each represented by a dark blue card:
 - Edit Profile Information
 - Chat with Sellers
 - Sort Listings
 - Vehicle Search with Filters
 - Search Vehicles by Fuel Type
 - Set Maximum Budget for Search
 - + Add a card
- IN PROGRESS:** This column contains 4 items, each represented by a dark blue card:
 - Check Vehicle History
 - View Car Model Reviews
 - Receive Messages from Buyers
 - Compare Multiple Vehicles
- REVIEW:** This column contains 5 items, each represented by a dark blue card:
 - Identity Verification
 - Verify Payments Before Handover.
 - Mark Vehicle as Sold
 - Edit Listing Details
 - + Add a card
- COMPLETED:** This column contains 5 items, each represented by a dark blue card:
 - User Account Creation
 - Secure Login
 - Access Platform on Laptop or PC
 - Offline Mode for Saved Listings
 - Get Car Insurance Quotes
 - + Add a card

At the top of the board, there are several navigation and settings icons: a star icon, a public status indicator, a "Board" button, "Power-Ups", "Automation", "Filters", user icons for AK, AA, and MT, a "Share" button, and a three-dot menu icon. The background of the board features a blurred image of a car's interior and exterior.

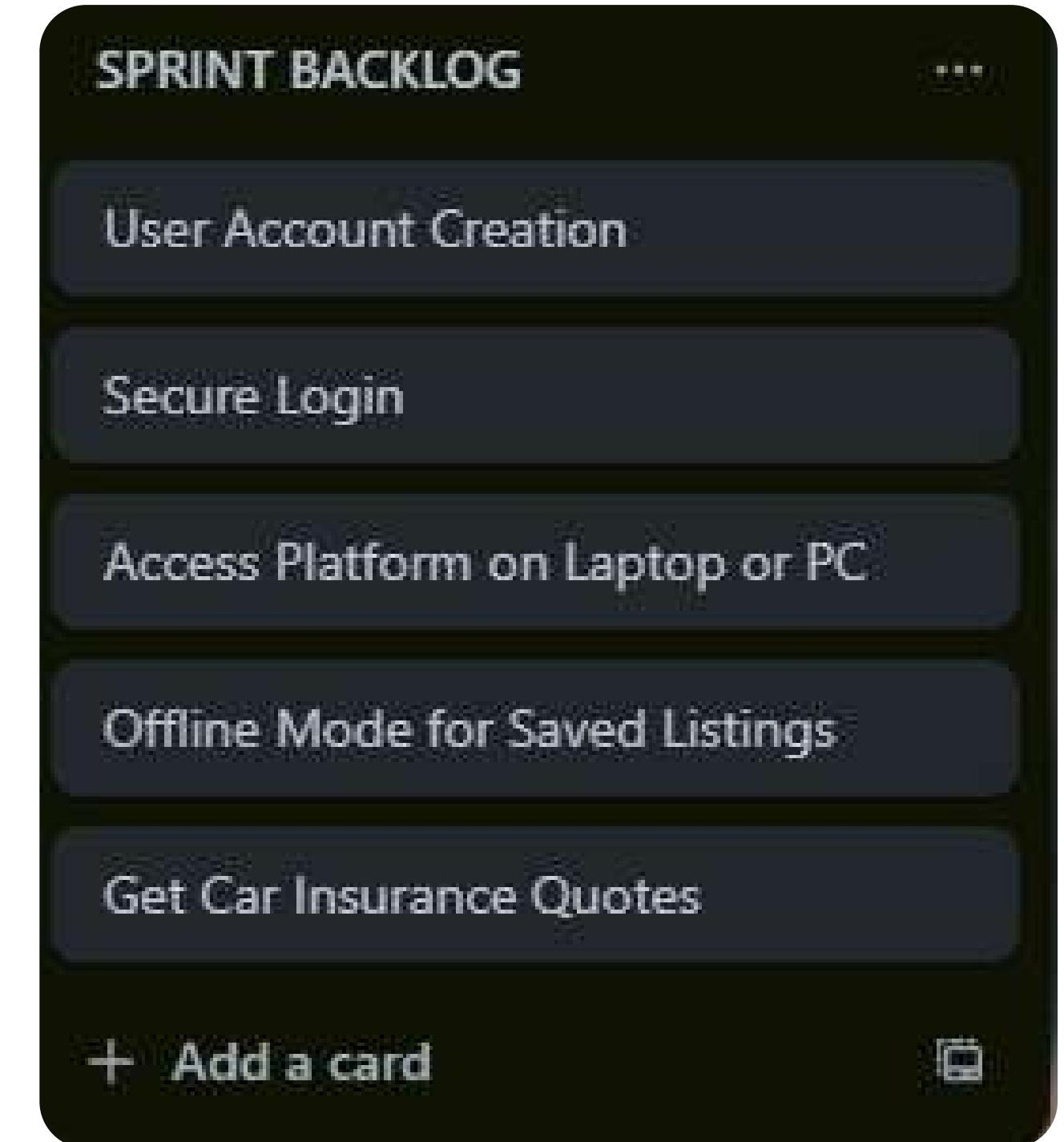


GANNT CHART

SPRINT BACKLOG 1

For Sprint Backlog 1, the following stories were selected:

1. User Account Creation
2. Secure Login
3. Access Platform on Laptop or PC
4. Offline Mode for Saved Listings
5. Get Car Insurance Quotes

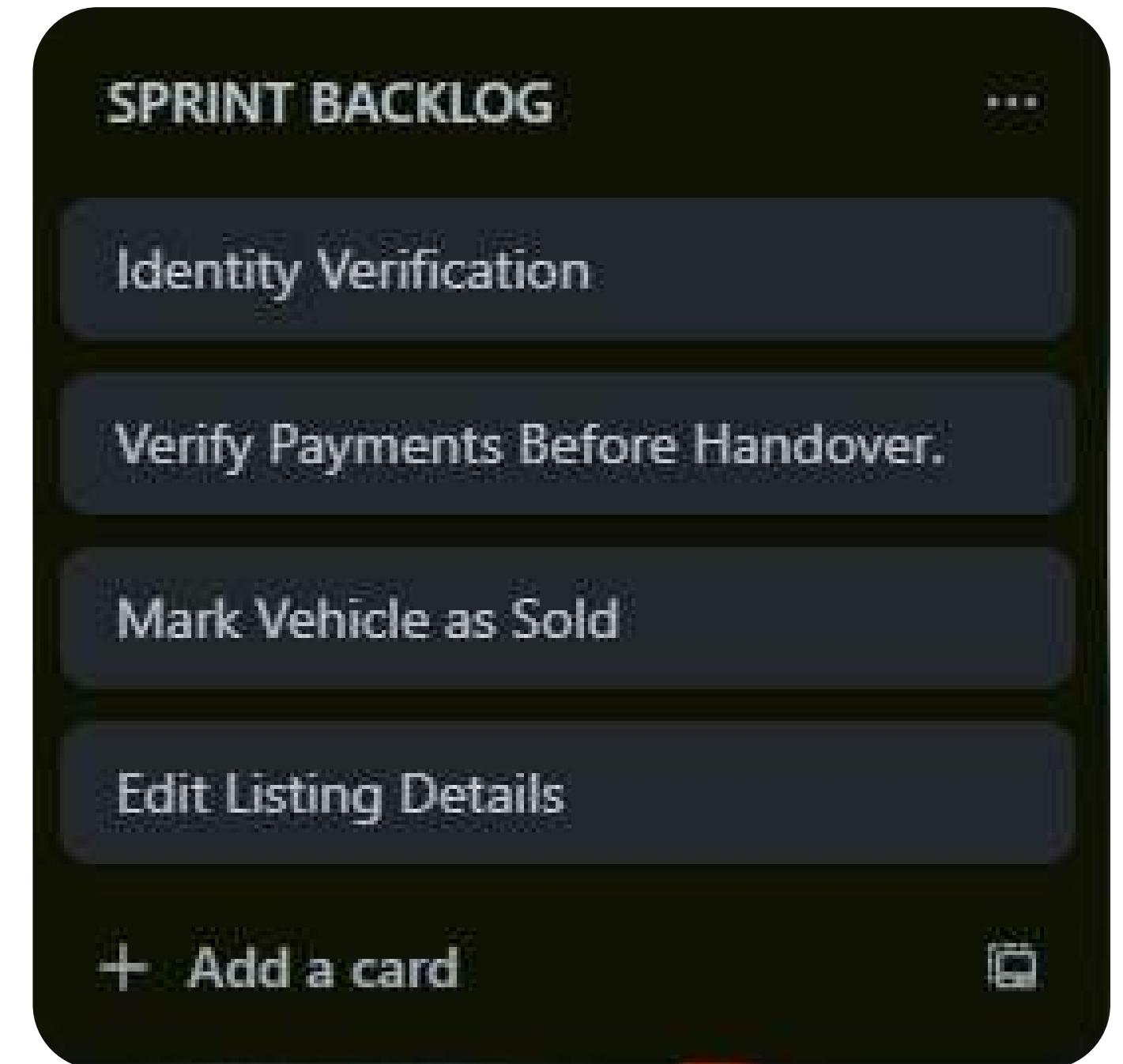


SPRINT BACKLOG 2

For Sprint Backlog 2, the following stories were selected:

1. Identity Verification
2. Verify Payments Before Handover
3. Mark Vehicle as Sold
4. Edit Listing Details

and so on...



BLACK BOX TESTING

EQUIVALENCE CLASS PARTITIONING

- Validates "Email" field for correct format (user@domain.com) and missing parts (e.g., missing @ or domain).
- Ensures "Password" meets complexity requirements (≥ 8 characters with letters and numbers).



BLACK BOX TESTING —

BOUNDARY VALUE ANALYSIS:

- Phone Length: Validates edge cases with minimum (10), maximum (12), and out-of-range values (9, 13).
- Password Length: Ensures system handles minimum (8), maximum (20), and invalid lengths (7, 21).
- Car Year Range: Confirms input is within valid bounds (1886–2025) and detects outliers (1885, 2026).
- Price Validation: Checks for minimum valid price (1), invalid zero, and negative values.



WHITE BOX TESTING —

- The total code coverage across all files is strong, with 83.03% statements, 70.26% branches, 100% functions, and 83.94% lines covered. All unit tests have passed successfully.
- All JUnit test files (e.g., auth2.test.ts, review.test.ts, users.test.ts, etc.) passed successfully, indicating that the unit tests executed as expected without any failures across all modules.



FUTURE IMPROVEMENTS

- Enhanced Search Capabilities
- Security Enhancements
- Payment and Financing Options
- Data Analytics and Insights
- Augmented Reality (AR) and Virtual Tours



LESSONS LEARNED

- Emphasized the importance of clear prioritization in backlog refinement to streamline sprint goals.
- Recognized the value of iterative feedback during sprint reviews to improve feature quality and usability.



TEAM REFLECTIONS

- Collaboration across roles fostered innovative ideas and resolved blockers efficiently.
- Identified areas for improvement in time estimation and task allocation to enhance sprint efficiency.



FINAL THOUGHTS

- The sprint successfully delivered critical functionalities while setting a strong foundation for future enhancements.
- Continuous learning and adaptability remain key to achieving long-term project goals.





THANK YOU

