Goal:

Allow a candidate to demonstrate their ability to data-model, class-design, and apply their industry knowledge.

Guidelines:

We do not expect to receive a fully functional & built product. What we do expect to receive is high-level pseudo code describing what classes will be needed, any database table definitions, & a diagram of how the various systems will interact. If there are specific frameworks/tools/technology you would use, note them & why you are using them. If you wish to actually construct classes in a relevant language, then go for it.

This is your opportunity to show us your skills at problem solving, code design, & organization!

Exercise :

You are tasked with architecting a series of web pages that searches for listings that match a potential Buyer's input from a web form. Clicking on a Listing will display the details about that Listing. When viewing a Listing, I can enter in some data & send an email to the Seller of a Listing.

Definitions:
- Listing - a truck, car, motorcycle, or RV that is for sale.
- Seller - a person selling a Listing. May be a dealer, broker, or normal person.
- Buyer - someone searching the Listings for one they would like to buy.

Listing Data Required :
- Year
- Make
- Model
- Description
- Price
- Meta Data - additional data about the Listing, including color, transmission, body type, any additional data about the physical item the Listing represents.

Seller Data Required :
- Type of seller (Dealer, Broker, Private Party).
- Name.
- Address.
- Phone number.
- Email address.
- website.

User Stories

UAC provided is a minimum & to help illustrate what each page does. Again, we do not expect a functioning product we can load & execute. We are most interested in the classes, pages, data model, frameworks, & technologies used to build it. The more detail, the better. If you were to deliver a functional product, that would be impressive.

1) As a Buyer, I would like a form where I select the type of vehicle I'm interesting in buying, enter some keywords, and a price range.
    a) UAC:
        i) Select to tell us if they're looking for a Motorcycle, Truck, Car, or RV.
        ii) Input field for Keywords.
        iii) Input for high-range and an input for low-range for price.
        iv) Submit button.
2) As a Buyer, I would like a page that shows all of the Listings that match the criteria entered into 1 in an easy to read format.
    a) UAC:
        i) Display thumbnail of the first image of each Listing.
        ii) Display the year, make, & model of each Listing.
        iii) Clicking anywhere on a listing takes the user to 3).
3) As a Buyer, I would like to be able to see a detailed overview of a Listing.
    a) UAC:
        i) Displays all available photos for the Listing.
        ii) Displays all available meta data for the Listing.
        iii) Displays 4).
        iv) Displays the form for 5).
4) As a Buyer, I would like to see reviews of the Seller of a Listing.
5) As a Buyer, I would like to be able to submit an email to a Seller expressing my interest, and how to contact me.

Provide :
- Data model: What tables support your design? Do you use relational or nosql?
- Objects: what objects support your design? How do they interact? What are the key methods?
- Tech: is there a 3rd party technology you would use in your design?
- Performance: is there anything you would use to enhance the search's performance?