CAR AUCTION PLATFORM DESIGN

Case Study by Paul Romelot
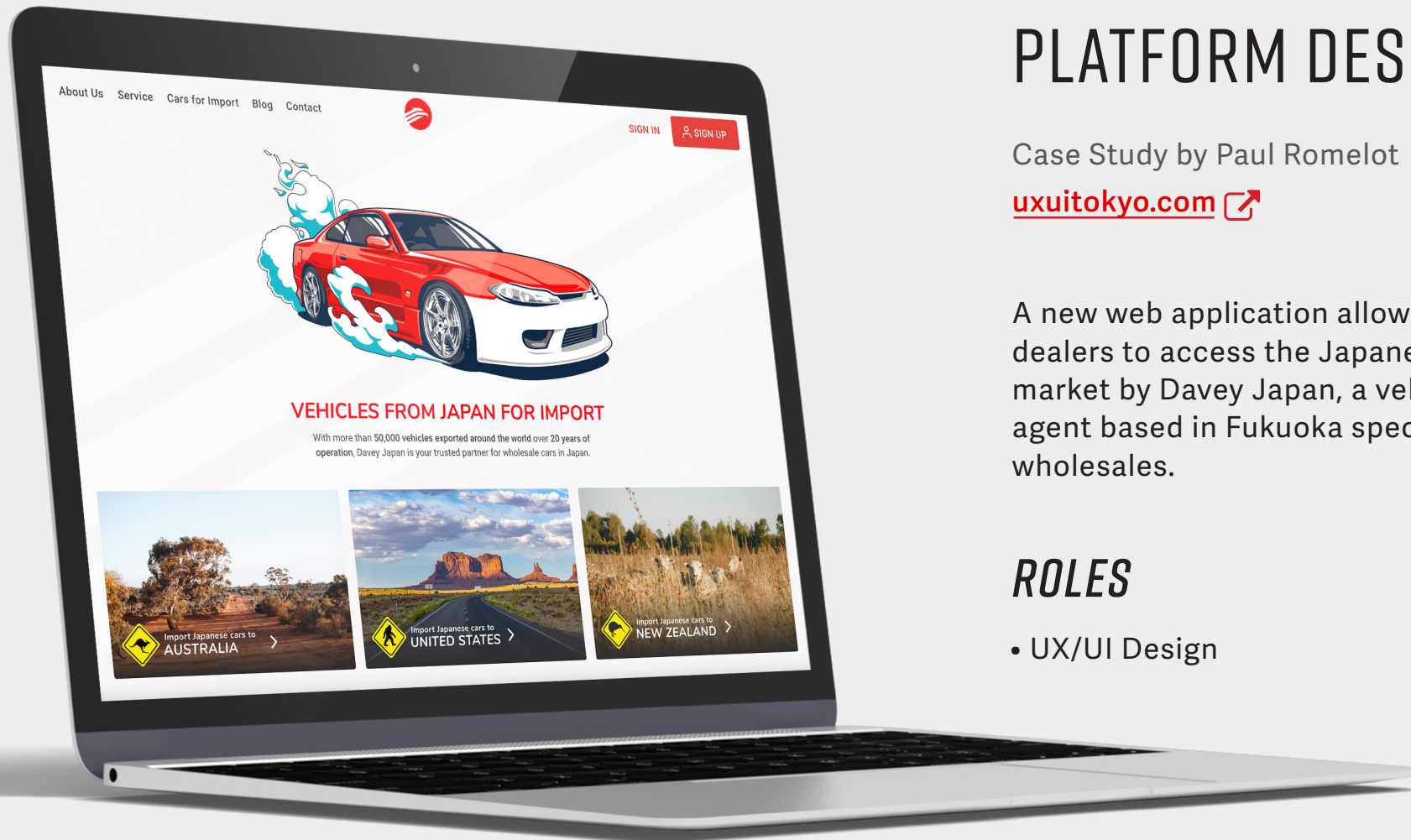
uxuitokyo.com ↗

A new web application allowing foreign car dealers to access the Japanese auction market by Davey Japan, a vehicle export agent based in Fukuoka specialized in wholesales.

ROLES

• UX/UI Design

See all screens on Drive ↗

CONTEXT

▸ ## A unique service

Davey Japan key feature is the possibility for foreign buyers to request in-depth inspection of the vehicles available for bidding at Japanese auction sites.

▸ ## Fast pace communication

With auctions happening daily at a very high pace, the ability for their staff to be responsive and communicate clearly is critical, while the number of requests often results in cluttered message boards and lost information.

▸ ## Existing Systems

The company uses direct message apps to communicate with their clients and a proprietary web application for their back office operations and website. The new application will centralize these two sides of the business and be designed to match Davey Japan workflow.
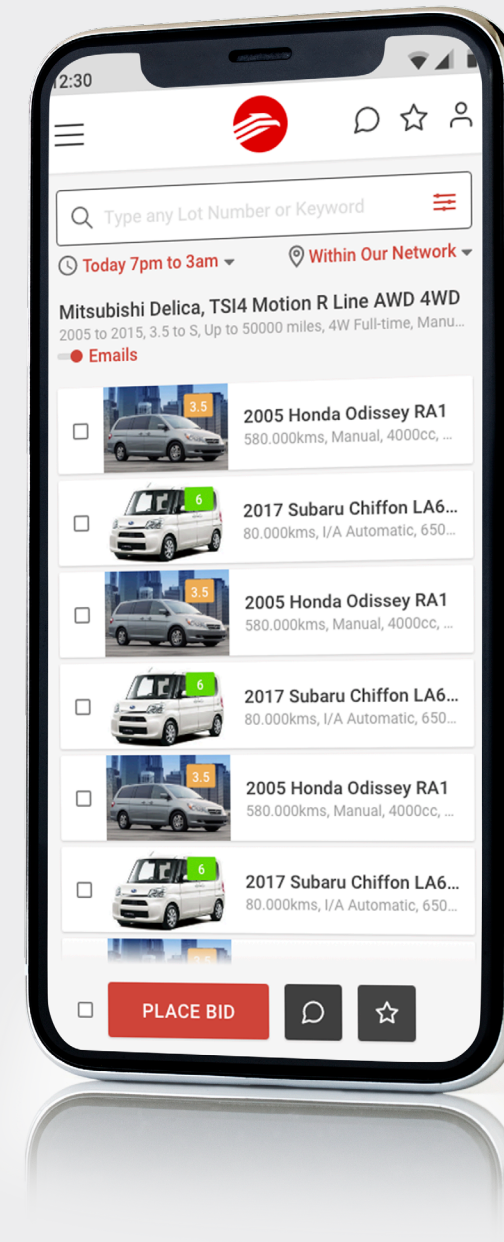
PROCESS FLOWS

A key aspect of this project is to provide ideal User Experience for each user group involved:

▌ End Customers

Foreign car dealers or individuals looking for Japanese cars (Davey Japan customers)

▌ Buyers

Davey Japan experts at the auction house (Inspect vehicles and bid on auctions)

▌ Back Office Staff

Davey Japan staff at the company office (Handles post sales operations)

We made process flow diagrams together with the Project Manager at Davey Japan using Miro as a first step for this project.

These were critical to follow along the UX/UI Design process and stay on the same page with the development team.

Sample example of a Process Flow:
*New customer biding on an auction.*
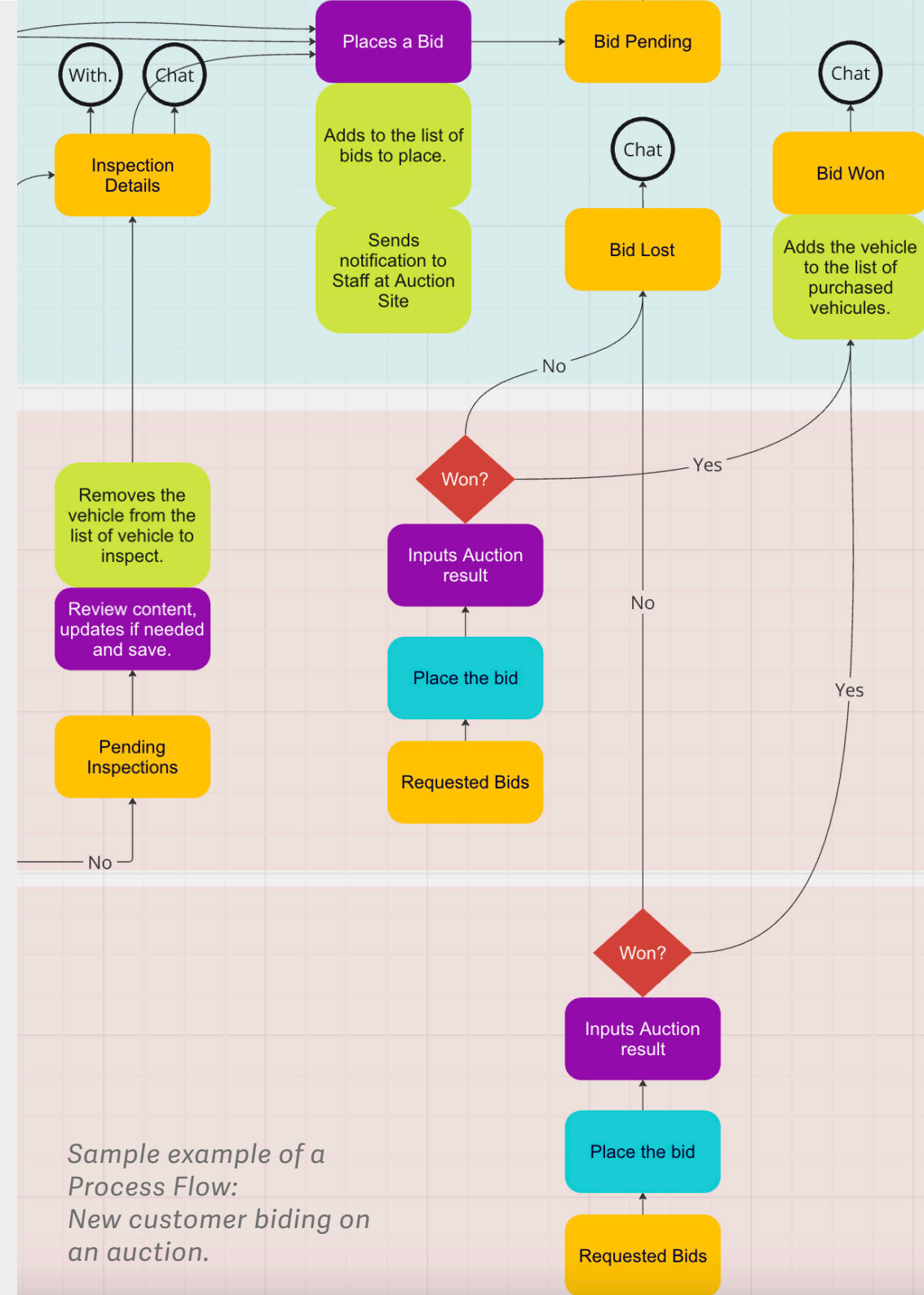
UX/UI DESIGN BY USER GROUP

The process flow diagrams were shared with the development team and Davey Japan requested us to work simultaneously from there.

Maching the steps defined in these diagrams, I went ahead with UX/UI Design, focusing on each user group preferred device.

Example: Last steps of the Auction Bid flow for Customers
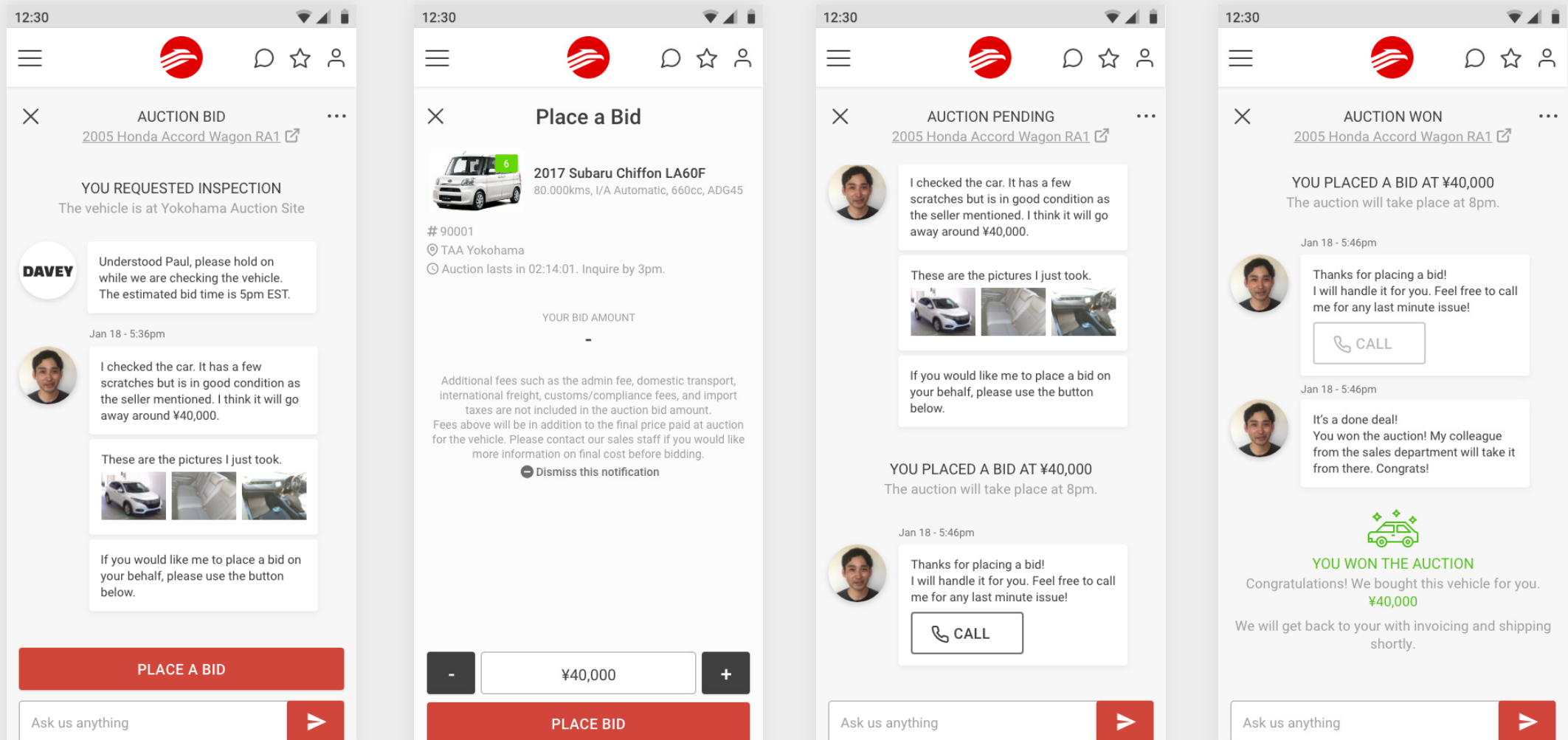
HIGHLIGHT ON A KEY FEATURE: THE VEHICLE SEARCH

◤ Context

Japanese auction houses provide an API for dealers to retrieve the list of vehicles that are available for auction, each day of operation. Car dealers like Davey Japan use this API when building their tools.

Due to this API limitations, a standard has persisted over the years: users have to successively select the makes, models, and chassis or spec of each vehicle they are looking for in order to call the API.

Current Davey Japan website, a proprietary platform used by other car dealers

Make	Model	Year From	Year To
Any Make ①	Any Model ②	Any	Any

Odometer From	Odometer To	Drivetrain	Transmission
Any	Any	Any	Any

Colour	Auction Grade	Chassis	Spec
Any Colour	Any Grade	Any Chassis ③	Any Spec ④

Engine Size From	Engine Size To
Any engine size	Any engine size

Field 1 is the only one populated at page load.
Modifying its values populates field 2.
Modifying field 2 values populates fields 3 and 4.

To avoid using dropdowns multiple times, users tend to select all makes, then all models, than all chassis/spec of the vehicles they want, and go through long lists of items to select each of them.

The short term solution

Due to time limitation, we decide to design an improved version of the existing standard.

- All levels will show within the same block to avoid having to toggle multiple dropdowns.

- When selecting an item, its children list will be added to the next column, while other lists in that column will collapse.

Example:

Clicking "Suzuki" in the first column will collapse the list of Mitsubishi models in the second column, and add the list of Suzuki models to that second column, showing all Suzuki models available for selection.

This is to reduce the amount of items showing in each column and facilitate a more intuitive selection flow.

VEHICULES
Any

MAKE	MODEL	CHASSIS	SPEC/TRIM
Japanese Brands (2) ⌄	Toyota (1) ⌃	Toyota Celica ⌄	Toyota Celica ⌄
☑ Toyota	☑ Celica	☐ ST182	☐ CP
☐ Lexus		☐ ST183C	☐ CONVERTIBLE
☐ Nissan	Mitsubishi ⌄	☐ ST202	☐ GT-R CP
☐ Honda	☐ Airtrek	☐ ZZT230	☐ SS-2 CP
☑ Mitsubishi	☐ ASX/RVR/Outlander Sport	☐ ZZT231	☐ SS-2 SUPER STRUT PKG
☐ Mazda	☐ Colt		
☐ Suzuki	☐ Colt Plus		
☐ Subaru	☐ Eclipse Cross		
☐ Daihatsu	☐ eK Space		
☐ Isuzu	☐ eK Wagon		
☐ Hino	☐ eK X EV		
	☐ Delica D:2		
Foreign Brands ⌃	☐ Delica D:5		
	☐ Delica Mini		
	☐ Grand Lancer		
	☐ L200/Triton/Strada		
	☐ Minicab MiEV		
	☐ Minicab MiEV Van		

A potential evolution

Provided that the technical limitations can be overcome, I thought of a text based autocompletion field that would allow users to select a vehicle based on their model or spec/chassis without having to type in the make.

Expert users would then be able to type in a list of specs while others might still chose to go through the standard sequence of chosing the make, model, then spec.

Typing a make

🔍 To|yota
Toyota 86
Toyota Allex
Toyota Allion
Toyota Alphard
Toyota Altezza
Toyota Altezza Wagon

Typing a model

🔍 Allex|
Toyota **Allex**
NZE124
NZE121
ZZE122
XS150 G Edition
XS150 S Edition

Typing a spec

🔍 NZE|
Toyota Allex
NZE124
NZE121

And potential drawbacks

In favor of the 4 columns layout shown on the previous slide: it allows for keeping the entire vehicle filtering experience click-only on desktop. Users won't suffer back and forths between mouse and keyboard.

Before jumping to a decision, Davey Japan will gather feedbacks from the first customers.

Design Meeting

Caylon, Project Manager

Sales manager at Davey Japan. 10 years + in the automotive industry. Has lead IT projects in the past.

Paul, UX/UI Designer

Little knowledge of cars. Has designed and developed apps using APIs in the past.

Sebastian, Lead Developer

Extensive experience of large scale applications. Has researched the car auction API.

I feel like we should allow for typing in a spec or chassis number to skip the two first steps. Do customers know the spec/chassis of the models they are after?

In most cases yes. We have customers sending us lists of specs by email.

The API can't be queried with a spec or chassis though.

Could we move the data from the API to our own database? By running an automated script that retrieves all makes, models, specs and chassis for example.
We would then be able to query our own data for this field.

That could be a solution but that's a lot of API calls. I need to double check the feasability and give an estimate.

We might want to ask the API provider if there is any plan to support queries to spec/chassis in the future before.

I can do that. Anyway let's keep this for a later version.

CONCLUSION

This project took 300 hours+ over a 11 months period. 160 screens were designed. We had to prioritize and skip steps in the design process. Although we delivered, I should have pushed more for a MVP.

I would love to hear the first user feedbacks after launch, fix potential issues, and add a layer of gamification to the customer User Experience, which is one of the points that were deprioritized.