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D2DLink Redesign

Research Strategy Design Leadership

Introduction

It takes a lot of parts to build a car, with estimates as high as 30,000 parts per vehicle. A dealership's parts department can't keep all of those in stock. "Fast-moving parts" are those most departments keep on hand, which they frequently use for servicing vehicles. Brakes, rotors, shocks, and filters are good examples of these. The rest are all the other parts that make up a vehicle. They could be as big as a crate engine or as small as the oil tube "Spout" pictured to the right.

For most dealerships, maintaining a lean inventory is key to their financial success. This means that when they come across a vehicle that needs repairs beyond routine maintenance, there is a good chance they'll need to order the part. D2DLink's (Dealer to Dealer Link) core functionality allows a dealership parts department to search against their own inventory, their distribution center, or another dealership's inventory, effectively creating a national virtual inventory to source from. When searching another dealer's inventory, users can also place orders directly from one another through the app.

D2DLink was the single most frequently utilized OEC product during my time and is mission-critical in a parts department. a cursus, sed dictum est iaculis.



Process

There was a lot of trepidation knowing this was a mission-critical tool with heavy usage. We had some initial usage data on hand that showed users were looking up, on average, less than two parts at a time but lacked the ability to put that metric into context. The orders from leadership, however, were clear. The product team was tasked to take the same approach we used on our CollisionLink product to redesign our parts locator.

The prior generation of the tool was accessed from a search box located at the bottom of the product experience. Searching from here would launch a dialog that sat on top of the main view. This would display results for dealers that had the part in stock. A separate button at the top allowed them to search their distribution center. Should the user want to search for another part, they would have to close the dialog and start again.

Through onsite observation in parts departments, we were able to build a mental model around the act of locating parts, including when and why users locate multiple parts, which dealers they buy from, why they don't buy discounted parts, and the information they need to make a buying decision. We were also able to begin defining our archetypes for different parts departments.

Two key types that surfaced during this research were parts departments that primarily served their service departments and dealerships with "captive body shops"; an on-site body shop operated by the dealership. With these users, a vehicle in an accident could require dozens of parts to repair. It's the parts department's goal to order as many from the same source as possible. With this qualitative data, we could now put the quantitative data generated through usage reports into context.

IA Constraints

In addition to showing results, the dialog also structured the order process as a wizard. Should the user close the dialog, they would be forced to restart the order process.

Source (Location)	Miles	Quantity (Updated)	Discount	Select
Bi-State Ford Truck Sales, Inc. (Toledo, OH)	103	13 (11:53 AM)		<input type="checkbox"/>
Friendly Ford Inc. (Geneva, NY)	265	17 (2:56 PM)		<input type="checkbox"/>
UNISELECT USA RALEIGH (RALEIGH, NC)	411	79 (11/23/09)		<input type="checkbox"/>
Tasca Ford (Cranston, RI)	529	5 (12:07 PM)		<input type="checkbox"/>
Adamson Ford, L.L.C. (Birmingham, AL)	601	26 (11/22/09)		<input type="checkbox"/>

Legend:

- ★ = This dealer is in your Favorites list.
- 🕒 = Inventory updated today as of time indicated.
- 🕒 = As of your last inventory update on 01/27/05.
- 🟢 = This dealer accepts eCommerce orders.

Early Iterations

The first decision made was to move D2DLink out of a dialog and embed it as a core workflow in the primary workspace of our applications. This would allow more room for information on each source where a part was available while also leveraging our new patterns established with our CollisionLink project, such as tabs to have multiple searches open concurrently and accessing all parts information by clicking on the part number.

We structured the results for D2DLink similar to CollisionLink by matching the decision tree a user would go through. First, users want to see if the part is in their own inventory. Once they determine that it's not, the next check is their distribution center. Parts departments get incentives when ordering parts from the OEM. The higher the volume, the more incentives. They also know the part will be in good condition, and if it's not, they can return it.

If the distribution center is out of the part or they need it faster than the distribution center can send it, they may look at wholesalers. Wholesalers are themselves dealerships but have a business model that supports keeping large amounts of parts in stock and can often supplement the OEM's distribution center.

Should neither location have the part, the user can then look at the inventory of other dealers nearby. Most local dealerships have trade agreements with one another and frequently move parts between one another. For urban areas, these dealers may be within a 15-20 mile radius. For more rural dealers, this could extend to 50 miles or more.

Once this structure was in place, iterations focused on the details and order of information for each section.

Part #: PF47 Desc: Oil Filter Cost: \$3.25 List: \$7.25 Max Disc: N/A

My Inventory

Part Number	Distance	QOH	Updated	Discount	Phone
<u>OEC Motors</u> (Richfield, OH)	0	0	3/17/2011		(330) 555-9876

PDC Results (3 Total) [Show All](#)

Location	Distance	Qty	Type
Lakeland LK 93	0	0	HVC

Wholesalers

Location	Distance	QOH	Updated	Discount	Phone
★ <u>Captain Ted's Motors</u> (Mayfield Heights, OH)	25	6	3/17/2011		(216) 555-1234

Locate Results (50 Total) [Modify Results](#)

Location	Distance	QOH	Updated	Discount	Phone
★ <u>Westside Auto World</u> (Cleveland, OH)	17	2	3/17/2011		(216) 555-5678

E-Commerce Orders (1 Total)

Location	Part #	Description	QOH	Discount	Phone	Qty
<u>East Side Auto Emporium</u> (Cleveland, OH)	BXT58	Battery Assy	2	10%	(216) 555-7890	1

Final Version

As we moved into our final designs, two unique features under consideration were discussed. The first was dedicating a section of the screen to wholesalers. Due to how our systems were structured and agreements with OEM, we decided to omit that section and treat wholesalers the same as any other dealer. The system had a favorites feature going back to the prior generation of the tool, so the workaround was to make wholesalers favorites, and they would display higher in the results than other dealers.

The second feature was to allow the orders to persist across searches. Instead of conducting five unique parts searches and then submitting five unique orders, orders would be bundled together and routed to the appropriate dealers. Aside from the time savings when submitting an order, this approach also allowed users to keep track of their work as they worked through their parts list.

The final piece was dedicating screen real estate for starting a search from any product in the system. A search box in the upper right corner of the screen allowed users to enter their part number and, if they happened to be a multi-OEM dealership, select the OEM the part belongs to.

The screenshot displays the D2DLink web application interface. At the top right, there is a search bar with the text "Ford" and a "Locate" button. The main header includes "Customer Name Goes Here" and the slogan "Right Part. Right Place. Right Time." The left sidebar contains a "My Applications" menu with options like Claims, CollisionLink, D2D Express, D2DLink, FordParts.com, LinkIQ, RepairLink, ServiceAdvantage, D2DLink Tools, Bundles, Dealer Parts Advantage, Inventory Info, Keycode Lookup, Overview, Paint Code Lookup, Part Information, Parts List Manager, Replenishment Tool, SEE PCN, Storefront Shortcuts, Tire Lookup, Units Converter, Reporting, Buyer Match, Seller Match, D2DPlus, Setup, Application Setup, and Advanced Selling Setup. The main content area shows search results for part # D9AZ6731A (FL1A), described as "Filter Asy-Oil" with a cost of \$1.00, list price of \$1.76, and a maximum discount of 75%. Below this, there are sections for "My Inventory", "PDC Results (3 Total)", "Locator Results (10 Total)", and "eCommerce Orders (1 Total)".

My Inventory

Location	Distance	QOH	Updated	Discount	Phone
OEC Motors (Richfield, OH)	0	0	6:27AM		(866) 332-7749

PDC Results (3 Total) Show All | Link to DOW

Location	Distance	QOH	Updated	Type
Detroit DC 09	108	0	12/01/09 10:13 AM	PDC
Memphis MC 04	619	25	12/01/09 10:13 AM	HCC
WashDC WVA 17	232	39	12/01/09 10:13 AM	HVC

Locator Results (10 Total) Modify Results

Location	Distance	QOH	Updated	Discount	Phone
★ Liberty Ford (Maple Heights, OH)	17	1	6:27AM		(216) 555-1234
★ Valley Ford Truck, Inc. (Cleveland, OH)	17	1	2/10/2012		(216) 555-5678
Ohio's largest inventory of Ford, Sterling & Louisville parts! Note, We buy Louisville parts! Parts hours are M-F 7am-6pm and Saturday 7am-2pm. Call us @ 1-800-533-2400. No return on					
★ Bob Gillingham Ford Inc (Parma, OH)	41	1	2/9/2012		(440) 555-1234
★ Marshall Ford West (Cleveland, OH)	60	2			555-5678
Reynolds & Reynolds. Click to refresh inventory in real time. Powered by Reynolds & Reynolds					
Montrose Ford (Montrose, OH)	61	0	2:35 PM	Cost - 15%	(614) 555-1234
Kowalski's Lloyd Marwell Ford Inc (Avon Lake, OH)	71	4	2/10/2012		(419) 555-1234
Six months and older parts sold @ cost -10% plus freight. All discounted parts sales are final !! Call Jim at 440-933-3291. We are also Northeast Ohio's only Motorsport Dealer !!!!					
Tasca Ford (Cranston, RI)	101	0	11:30 AM	Cost - 10%	(412) 555-1234
We are open from 7am - Midnight Monday - Friday and 8am - 5pm on Saturday. Purchases at Cost Minus off are non returnable. All Cost Minus items must be mentioned at time of sale, we are unable to adjust after the sale has been processed.					
Yost Ford-Mercury (St Francis, KS)	120	4	9:12 AM		(419) 555-6789
Call Larry or Gary in Parts at 800-524-9678. Please mention discount if available. We prefer credit card payment. Will ship UPS.					
McRee Ford, Inc. (Dickenson, TX)	130	0	2/9/2012	Cost - 25%	(412) 555-1234
Maxwell Ford Inc. (Austin, TX)	137	4	2/10/2012		(734) 555-1234

eCommerce Orders (1 Total)

Location	Part #	Description	QOH	Discount	Phone	Qty
Falls Chrysler Jeep Dodge (Cuyahoga Falls, OH)	OECCHRYSL...	Filter-Asy Oil	1	Cost - 35%	(330) 929-5700	1

Summary

When we took a working beta tied into production data to dealers in the Cleveland area to get initial feedback, something interesting happened. Not only were they excited about the design, but they continued to use the pre-production link we were using to present the new approach, despite its limited functionality and early bugs. That's when we knew we had hit our mark.

I visited a Ford dealer in the summer of 2024 to purchase and photograph the parts I displayed earlier in this document. In the 13 years since I worked on this design, I saw that very little had changed with it. Aside from visual language updates and some new applications that have been added over the years, the overall structure and layout were effectively unchanged.

It's easy to assume that designs that go unchanged for years are being neglected. And while that can often be the case, here the case can be made that approaching the work the right way, gaining a deep understanding of users' needs and translating that into a design that matches their expectations, can have staying power that lasts decades.



Learn about our approach while at OEC from the Nielsen Norman Group

2011

2024