CONSTRUCTION EQUIPMENT RENTAL COMPANY

An eCommerce UX Case Study

Matthew T Rader

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INTRODUCTION

A construction equipment rental company wanted to establish and differentiate themselves in a massive multi-billion dollar market of renting construction equipment. Currently the market is dominated by a few huge players who control the prices and availability of inventory.

One of the biggest challenges construction project managers face is the lack of transparency on availability and pricing. Typically, the project managers do not know the full amount until after they have returned the equipment. Additional fees they were not aware of upfront are added to their bill. This construction rental company wanted to have a high level of transparency with pricing and availability for users immediately when they are searching their needed equipment.

Another challenge is that currently most renting is coordinated over the phone instead of online. Competitors' websites do not make it easy for users to get all the information they need to move forward with renting equipment without having to make a phone a call. Competitor websites typically show everything that they rent but not let people know what equipment specifically is available in their area.

This case study focuses on the solving the main problems identified by the construction rental company. Price transparency and availability during the searching and checking out phases of renting construction equipment online.

EXECUTIVE SUMMARY

For this website we wanted to solve three problems that were widely known in the construction rental industry. Our designs and user testing were focused on the three main problems we believed users faced when renting heavy equipment online.

Problems Addressed

1. Lack of transparency with rental costs
2. No information about proximity of equipment to job site.
3. Inability to easily choose attachments

Competitive Analysis

I conducted a thorough competitive analysis of the four biggest rental companies' websites. We noticed several commonalities among them and some problems that we wanted to address to differentiate our services from theirs:

- General prices listed by day, week, and month
- A lot of imagery of equipment
- Search results are slow
- Lack of specific pricing information
- No proximity info of equipment
- Confusing filtering methods

User Testing & Iterations

We went through three iterations of the design and users tested each iteration. We spoke with three different users with three different backgrounds. Two of them had experience ordering equipment online and one person that had never rented using a website. Two were men and one was a woman. We tested with the same three people through each iteration.

Outcomes

The final design finished successfully after very positive feedback from our users and stakeholders. The final design captured the business goals we had for the search capabilities while being much more user friendly compared to all of our competitors. The goal was to make the process of renting equipment online feel as easy and intuitive like many other online experiences with renting, like Hotels.com and Amazon.com. In one session, a user said the website felt easy to use like Hotels.com which was one of our inspirations. The design of the MVP version of the website is finished and will be going to development and launched in 2020.

COMPETITIVE WEBSITE ANALYSIS

UNITED RENTALS - WEBSITE INTO

United Rentals

unitedrentals.com

Web Presence Since:	1997
Global Web Rank:	67,021
Content Mgmt System:	Drupal

FEATURES

- Prices listed by day, week, and month
- Multiple images of seemingly actual product
- Can choose product before signing up
- Hover bubbles to explain fees
- Registering is simple and fast, only 5 fields
- Can star favorite equipment

PAIN POINTS

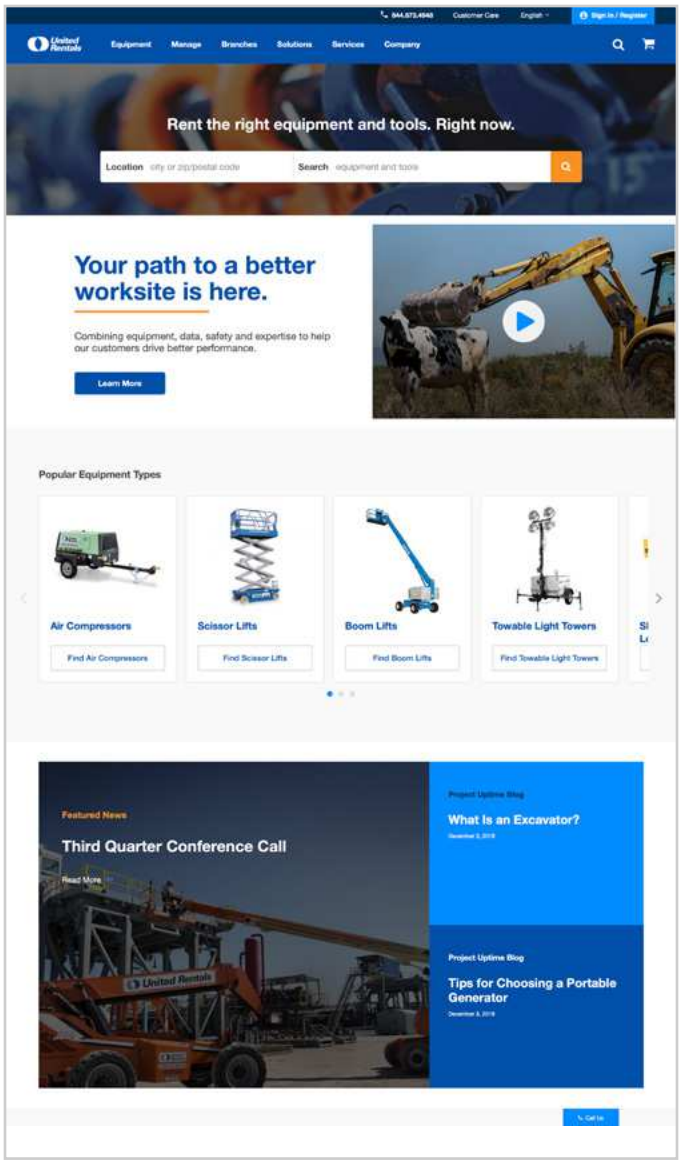
- Slow loading search results
- Tiny images in search
- No availability information
- No info about how close the product is to me
- Limited only to their inventory
- Product titles include too many details to scan easily

OBSERVATIONS

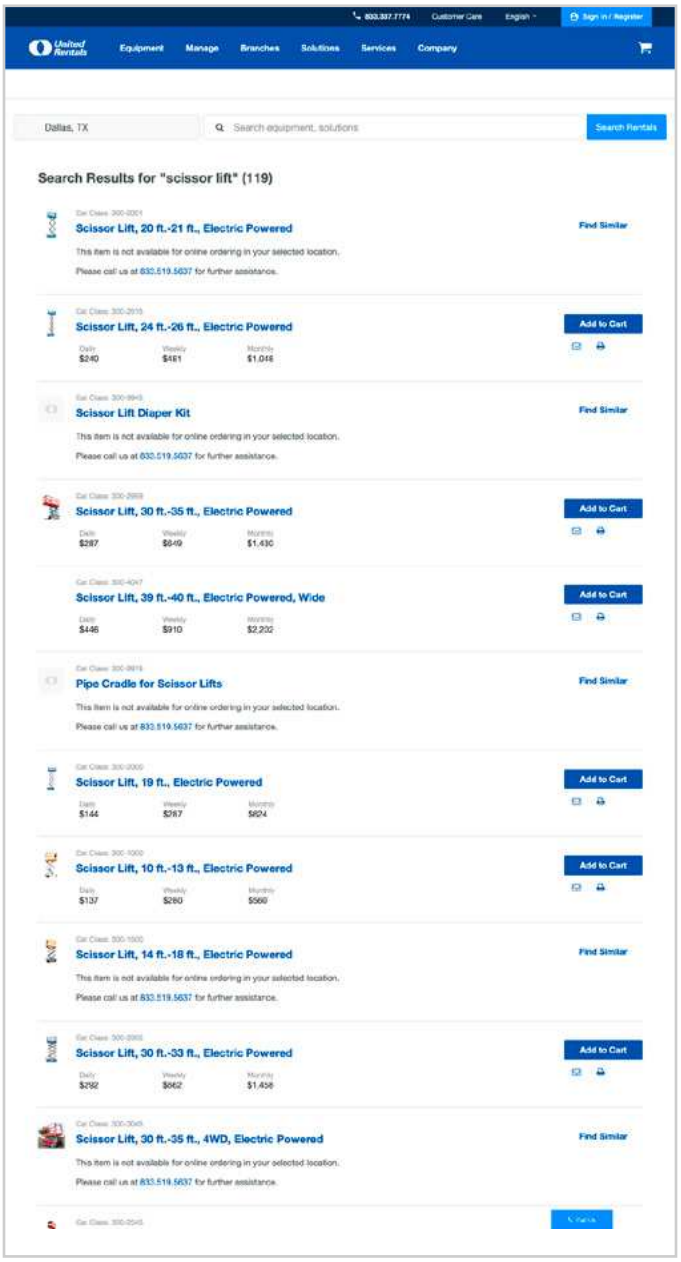
Over all I thought their site seemed really well thought out, there still can be major improvements especially by showing availability and location of their inventory. Their sign up process was excellent, fast and easy, I also like that I could choose my products before signing up.

UNITED RENTALS - WEBSITE SCREENSHOTS

HOMEPAGE



SEARCH RESULTS



SUNBELT RENTALS - WEBSITE INFO

sunbeltrentals.com

Web Presence Since:	1997
Global Web Rank:	64,733
Content Mgmt System:	Custom

FEATURES

- Prices for day, week, and month
- Shopping cart shows also 4 hour rate
- Lists what that equipment is used for
- Large image of equipment
- Sidebar filtering
- When adding to shopping cart, shopping cart slides out from the right of the screen
- Shopping cart page has nice layout

PAIN POINTS

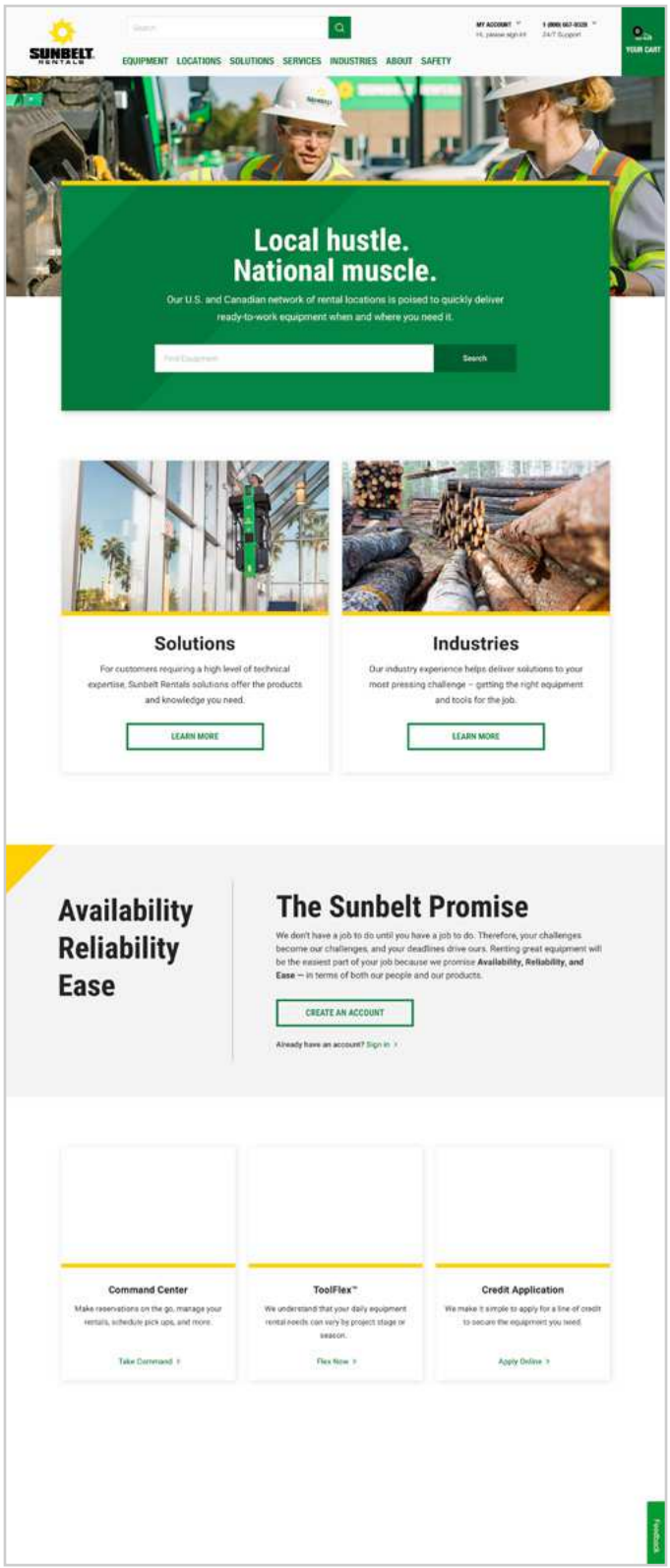
- Search results are slow
- A lot of fields are required to create an account
- No location info of inventory
- No availability information
- The whole sign up process felt cumbersome, slow, and old
- When clicking to create an account you must confirm you don't already have an account

OBSERVATIONS

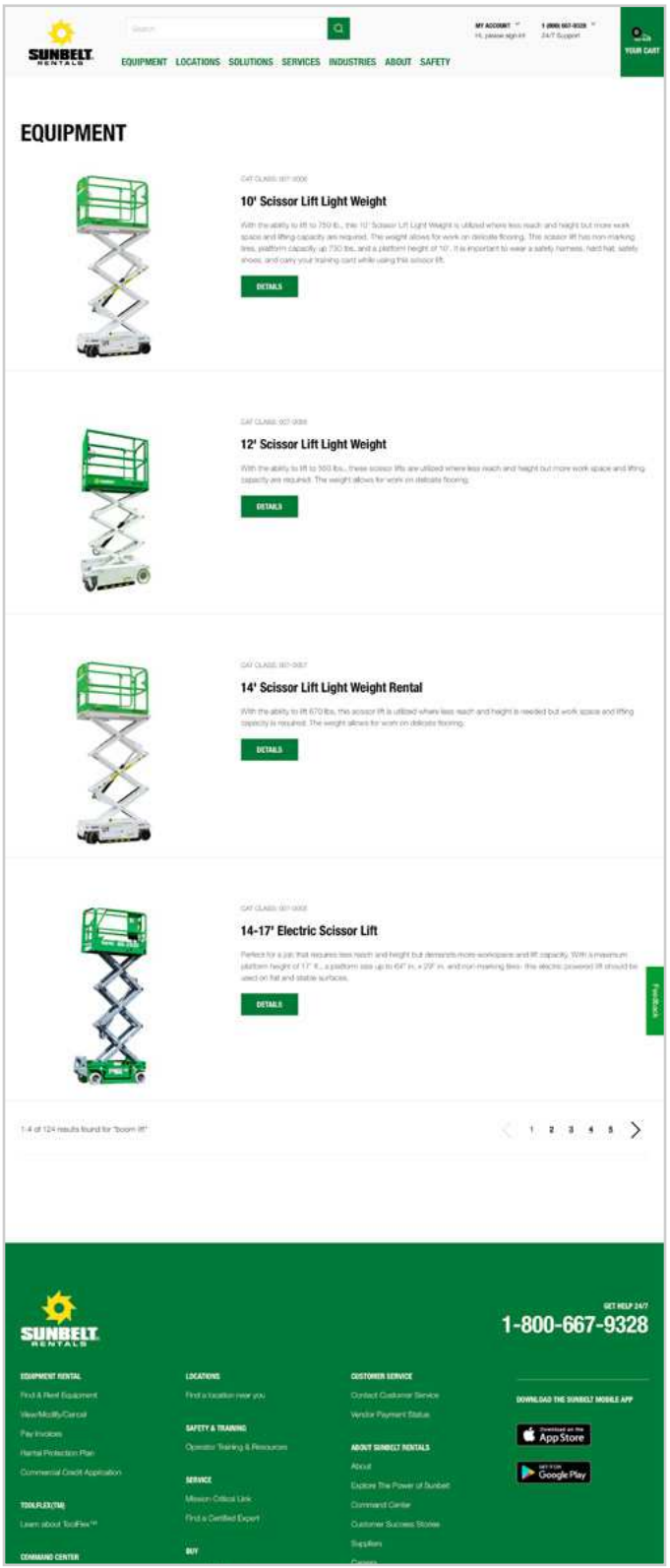
I got lost in the sign-up/checkout process to find out the equipment I had chosen was located 580 miles away from me. They did have some really cool UI/UX features like the sliding out shopping cart and the detailed information about each equipment and their potential uses. Overall, the UX of signing up and checking out the equipment can be vastly improved and the homepage can be a little more inviting with helping me find what I'm looking for.

SUNBELT RENTALS - WEBSITE SCREENSHOTS

HOMEPAGE



SEARCH RESULTS



HERC RENTALS - WEBSITE INFO

HercRentals®

hercrentals.com

Web Presence Since:	2015
Global Web Rank:	227.756
Content Mgmt System:	Custom

FEATURES

- Large clear and clean images on product pages
- Very legible text and nice clean modern font

PAIN POINTS

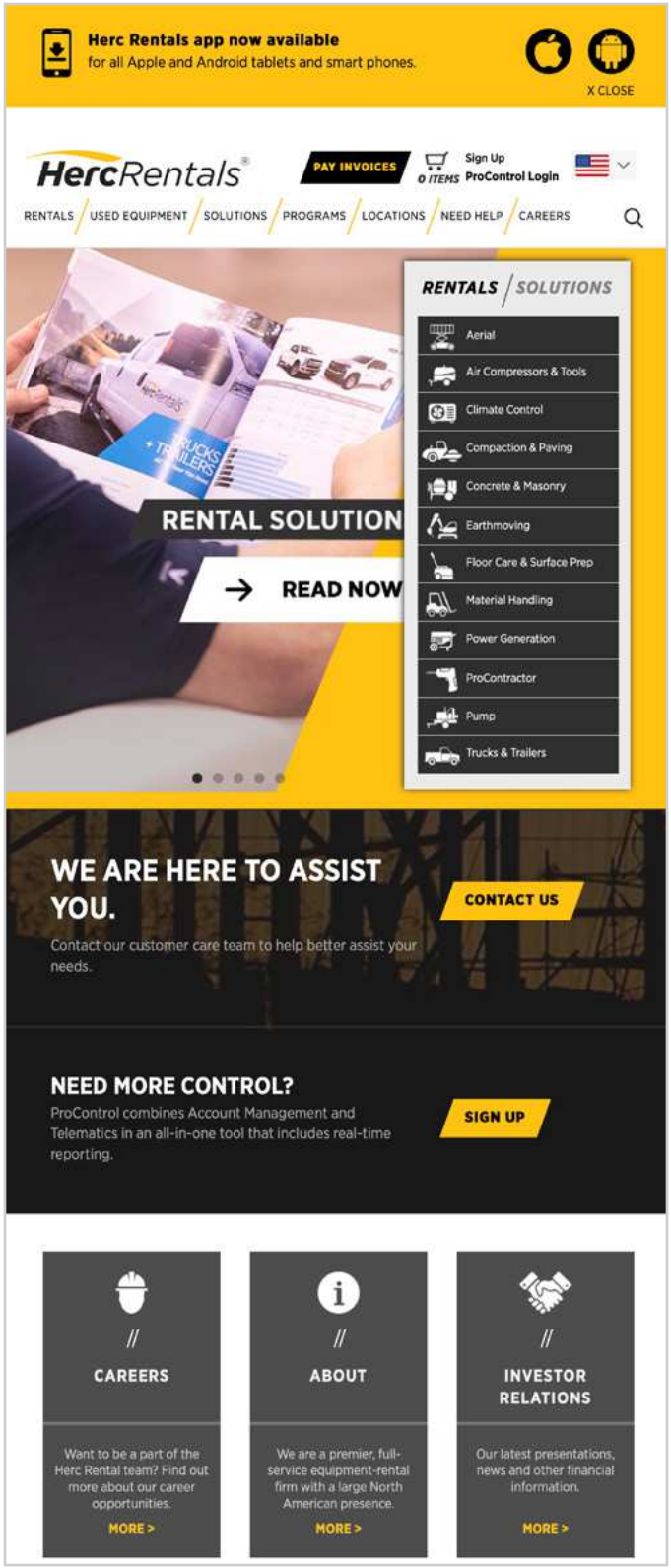
- Obnoxious giant ad for their app at the top of every page till I closed
- Needless mid-level category that was repeat of main level
- No availability, pricing, nor location info
- No search from homepage, from homepage you find equipment by choosing icons that aren't easily identifiable

OBSERVATIONS

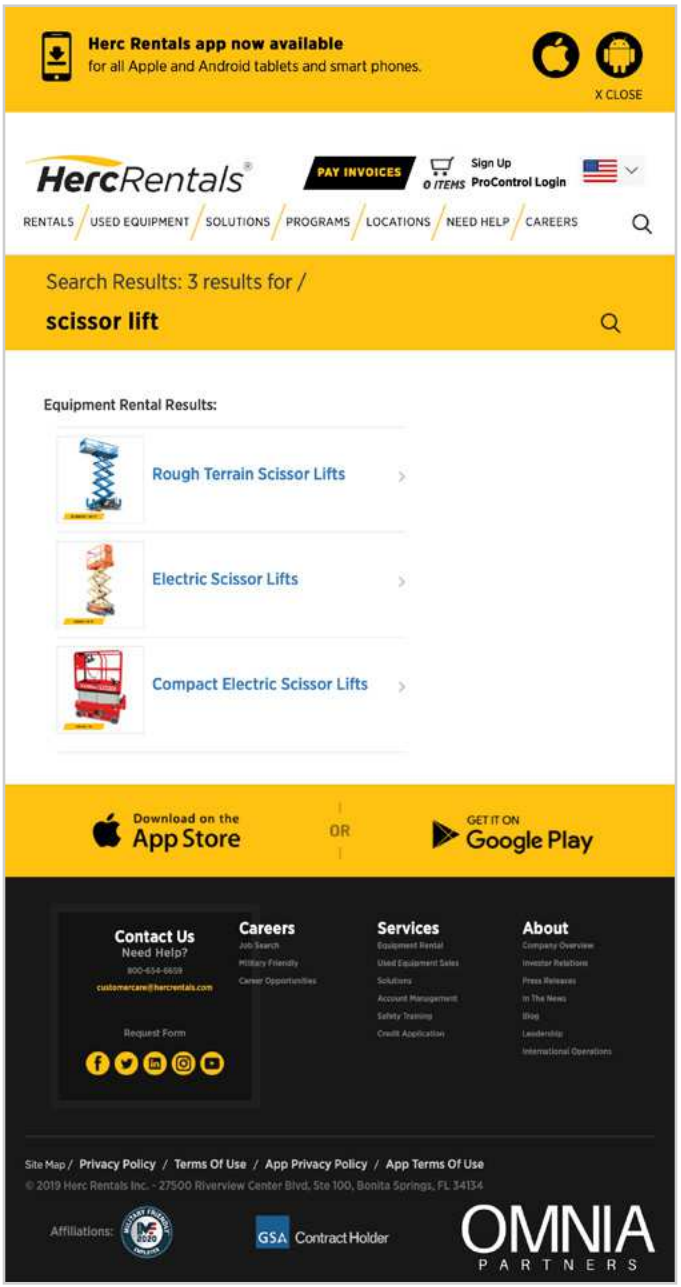
This is site poorly done overall, seems like the designer has put in a lot of thought but did not test it with users. I found navigating the site complicated and confusing with unnecessary intermediary pages. Searching for equipment was not readily available.

HERC RENTALS - WEBSITE SCREENSHOTS

HOMEPAGE



SEARCH RESULTS



AHERN RENTALS - WEBSITE INFO

ahern.com

Web Presence Since:	1996
Global Web Rank:	691,264
Content Mgmt System:	Magento

FEATURES

- Interesting sorting feature for equipment with dropdown boxes

PAIN POINTS

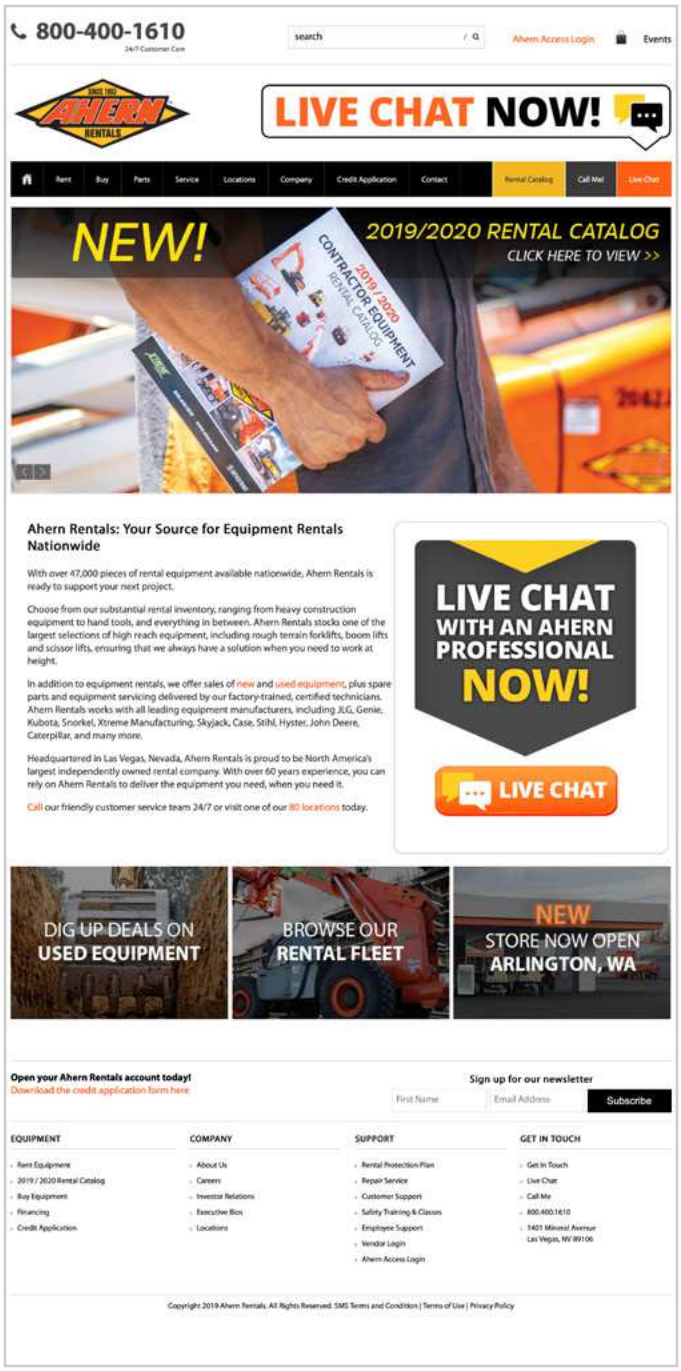
- Search box hard to find, very tiny in header
- Massive horrible chat now bubble in header
- Most equipment missing images
- No pricing nor location info
- Product descriptions very sparse
- Has shopping cart icon header that doesn't do anything

OBSERVATIONS

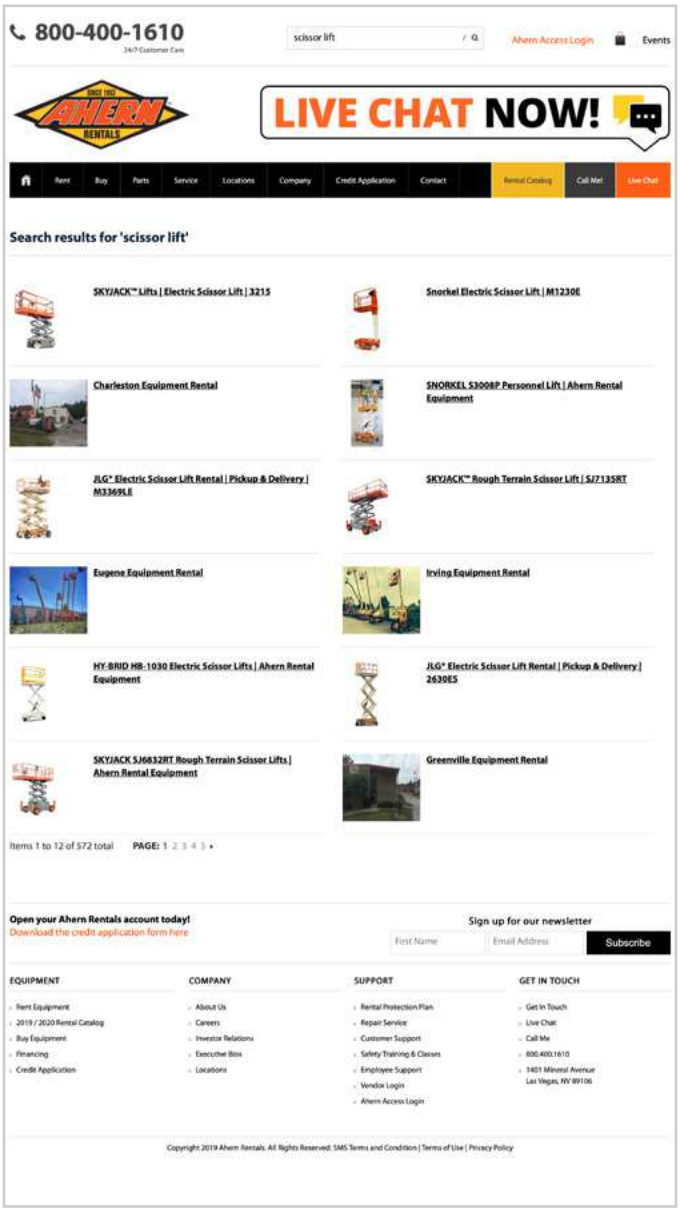
This is very poorly done, virtually nothing good about it, very outdated, glitchy, slow, and difficult to use, it's surprising that a big company has such a bad website.

AHERN RENTALS - WEBSITE SCREENSHOTS

HOMEPAGE



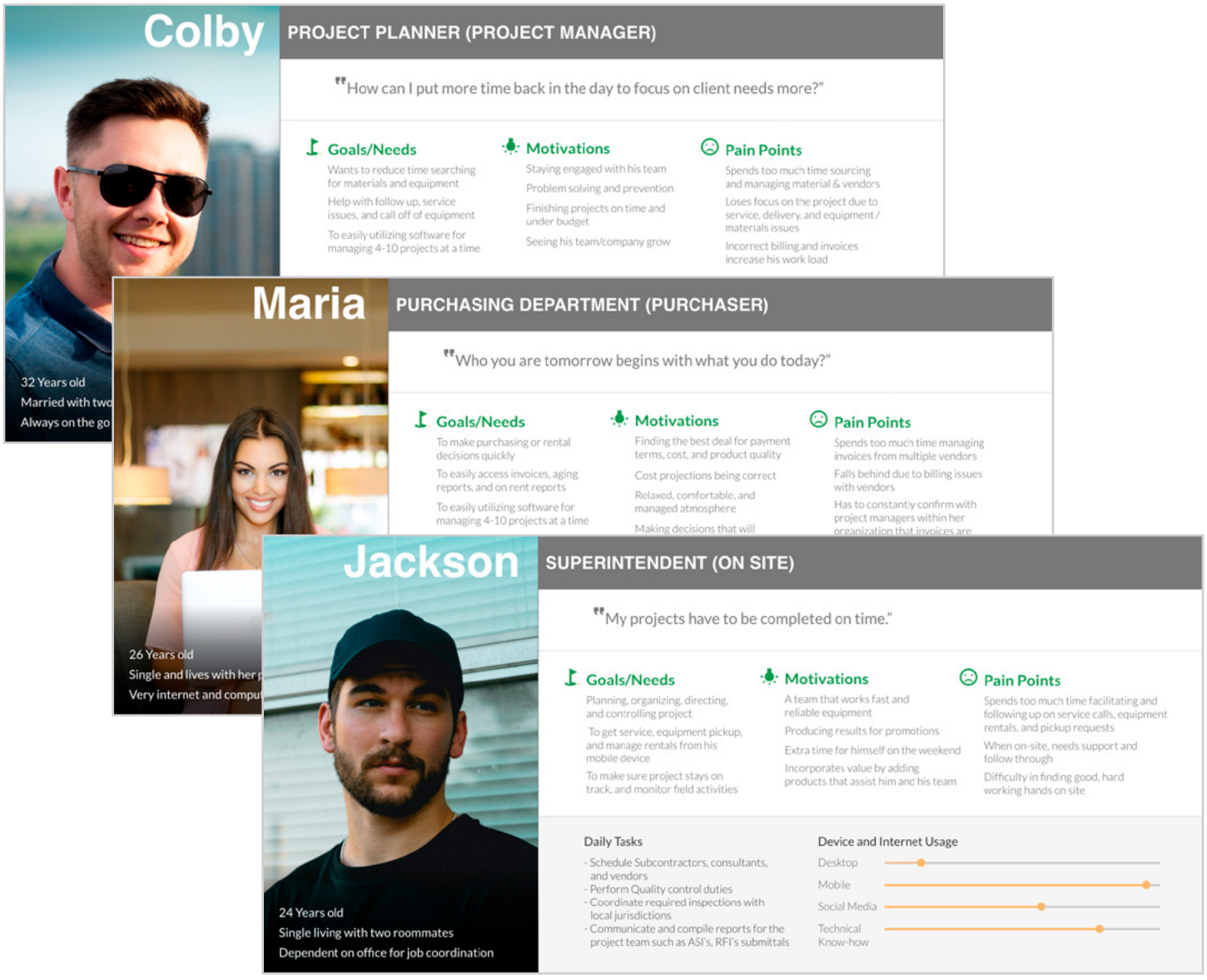
SEARCH RESULTS



PERSONAS

OUR TARGET CUSTOMERS

The rental process we were designing was for primarily three types of people that would need to rent construction equipment. We did some basic user research but mostly leaned on the sales team experiences with customers to construct these initial versions of our personas.



STRATEGY

This strategy map is for searching for equipment on our site, creating an account, and checking out. This helped keep us aligned on strategy, goals, and direction.

UX Strategy

Feature/Problem	Users	User Benefit	Outcomes	Challenges	Measurement
Finding Equipment	Project Planners	The will be able see what equipment is available to rent	They can quickly determine if their needs will be met	Making sure the website is designed well and inventory data is consistent	Time it takes to find specific equipment
Signing Up	Project Planners	Save thier settings, history, and allow us to offer them more automated features	They become reoccuring clients	Helping users see the value in it and enouraging them to do it	Time it takes to go through signing up and abandon rate
Checking Out	Project Planners	They will know their transaction has been processed	We generate revenue and the client recieves their equipment	Providing a process that is secure, familiar, and easy to use	How long and many steps it takes to check out. User sentiment after ordering it

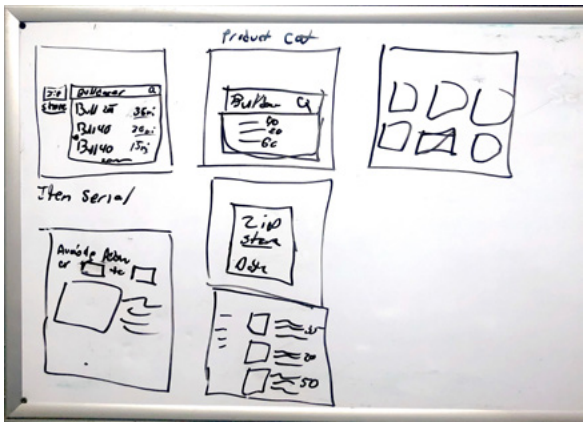
UX Strategy

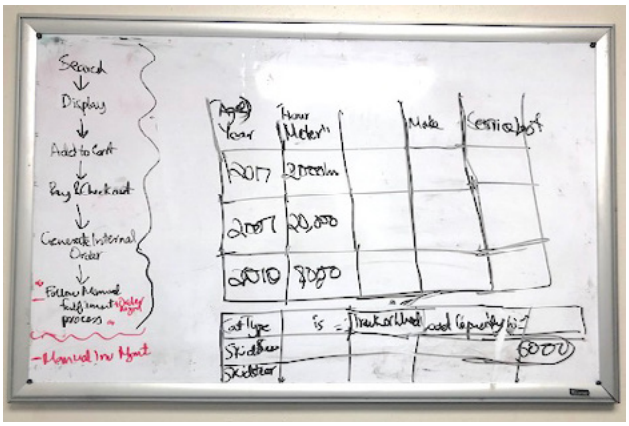
Feature/Problem	Challenges	Measurement	Solution Ideas	Hypotheses	Riskiest Assumptions
Finding Equipment	Making sure the website is designed well and inventory data is consistent	Time it takes to find specific equipment	Have the search bar immediately available and make results very visual easy to select	Users will enjoy searching for and choosing equipment	That our users will feel comfortable using an impersonal website to help the find and rent equipment
Signing Up	Helping users see the value in it and enouraging them to do it	Time it takes to go through signing up and abandon rate	Do not ask users to sign-up until they have found and chosen what they are looking for.	Users will be more apt to sign-up if we give information first about our inventory	We have the data the users want to see, and the data will be helpful for setting bid amounts and turnaround times
Checking Out	Providing a process that is secure, familiar, and easy to use	How long and many steps it takes to check out. User sentiment after ordering it	Solutions for new gaps will be presented once they are known	Have the check-out process happen in two steps and allow users to select additional check-out needs	Users will trust our company enough to order and pay for the equipment

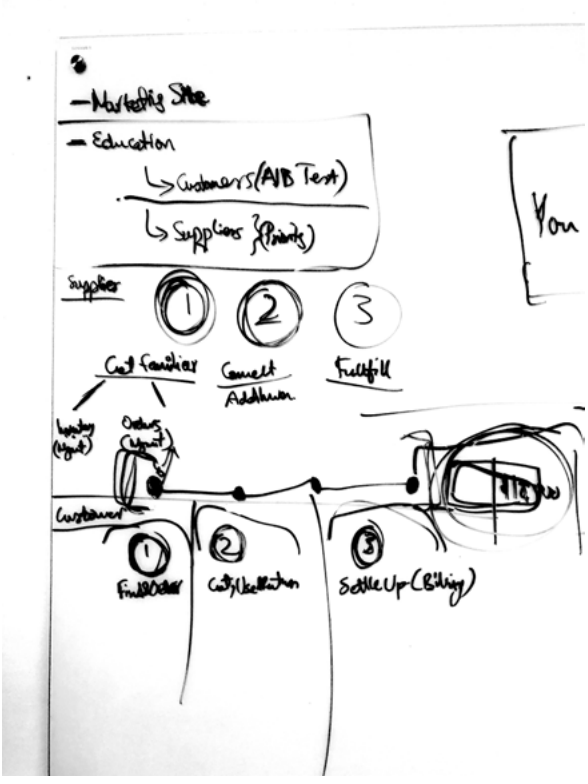
IDEATION

WHITEBOARDING

We had whiteboarding sessions to brainstorm possible solutions for pain points our competitors were not addressing to us a competitive advantage in the UX of our product.



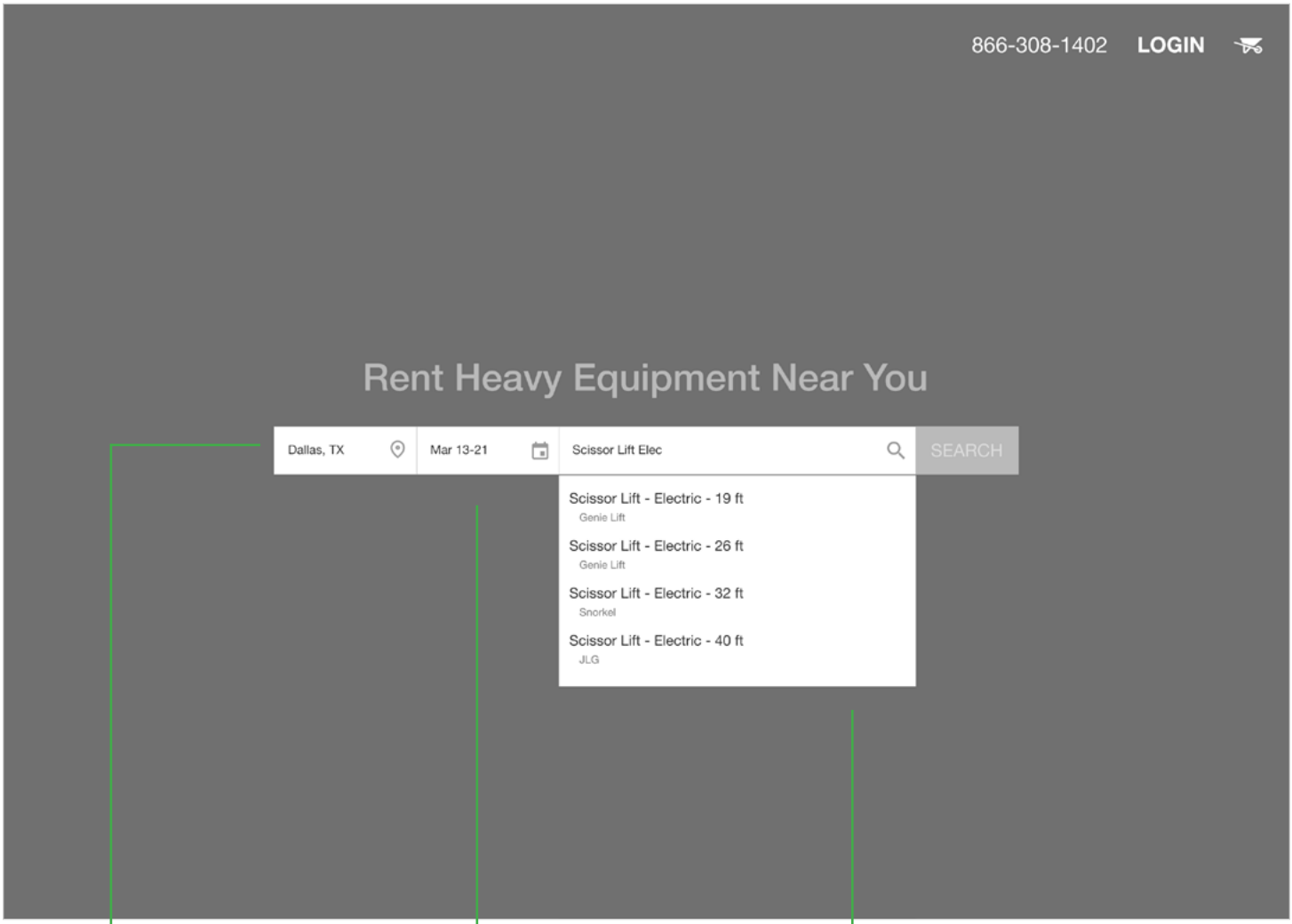




ITERATION 1

PROTOTYPE - HOMEPAGE SEARCH

For the homepage we wanted search to be immediately accessible and front and center. We assumed that most visitors will be wanting to search for equipment as soon as they arrive to our site.



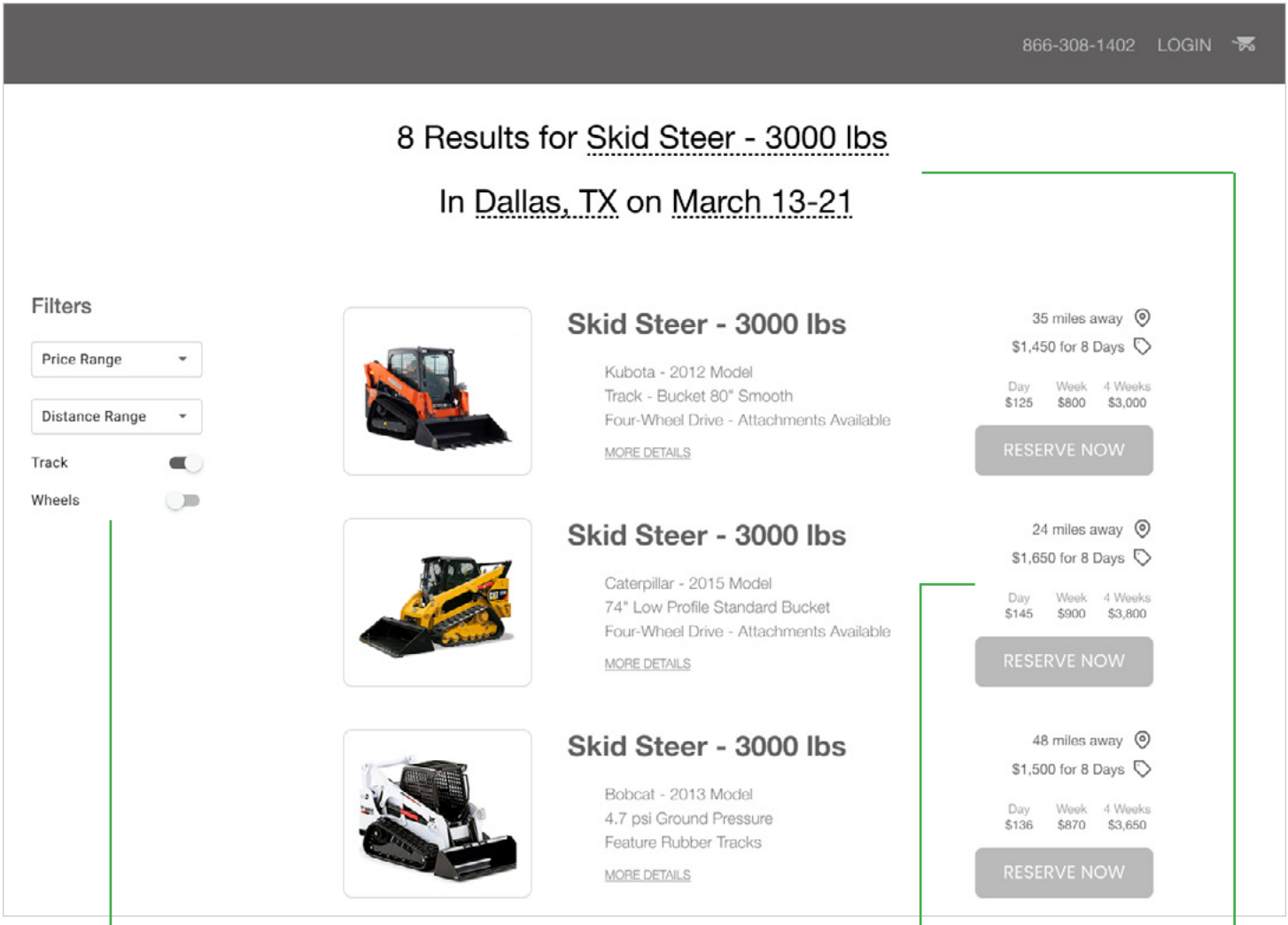
In order to give accurate proximity info we need users to input location info when searching

Accurate pricing is hugely dependent on date ranges, we ask for this upfront to get that data as accurate as possible

When typing their needed equipment it will immediately provide auto suggestions to speed up the search process

PROTOTYPE - SEARCH RESULTS

This first version was to figure out the overall layout and see what the various data points would look like together. The idea was to show search results in a contextual sentence, few filters, and big clear images.

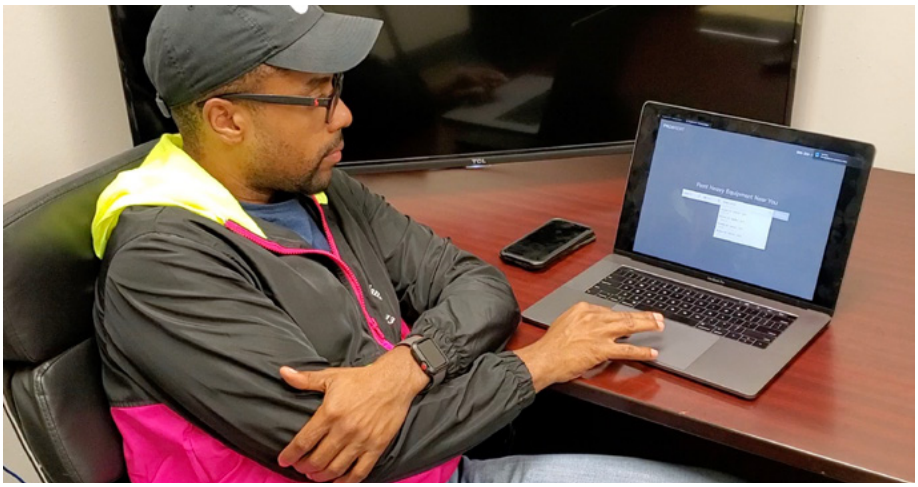


We had few filters to encourage using search for refinement

One of challenges that users face is that lack of transparency on pricing and distance information, we wanted to depict this without it being too cluttered.

I made the search results conversational to help create context

USER FEEDBACK FOR ITERATION 1



For the first iteration, feedback sessions revolved around making sure stakeholders were on the same page with the overall direction and then verifying that direction by getting some user feedback on the initial wireframes.

Here's a summary of some of their feedback:

Positive

- Very similar to Hotels.com - felt familiar and easy to use
- Finds zip and date fields convenient
- She likes the predictive type, fast and simple
- Images are very helpful and like the descriptions

Pain points

- All the details on the page made him pause more and think more about each item
- He noticed the miles and price last - because the titles and photos and details drew his attention before the price and distance
- Didn't know where she could change the date
- At first the underline was confusing, didn't think to click on it at first. Didn't' think it meant was editable

"I didn't notice the underline at first and wouldn't have thought of clicking it to change the search, I would have tried to go back to change the city."

"I like the large images that help me easily know which equipment I'm looking at."

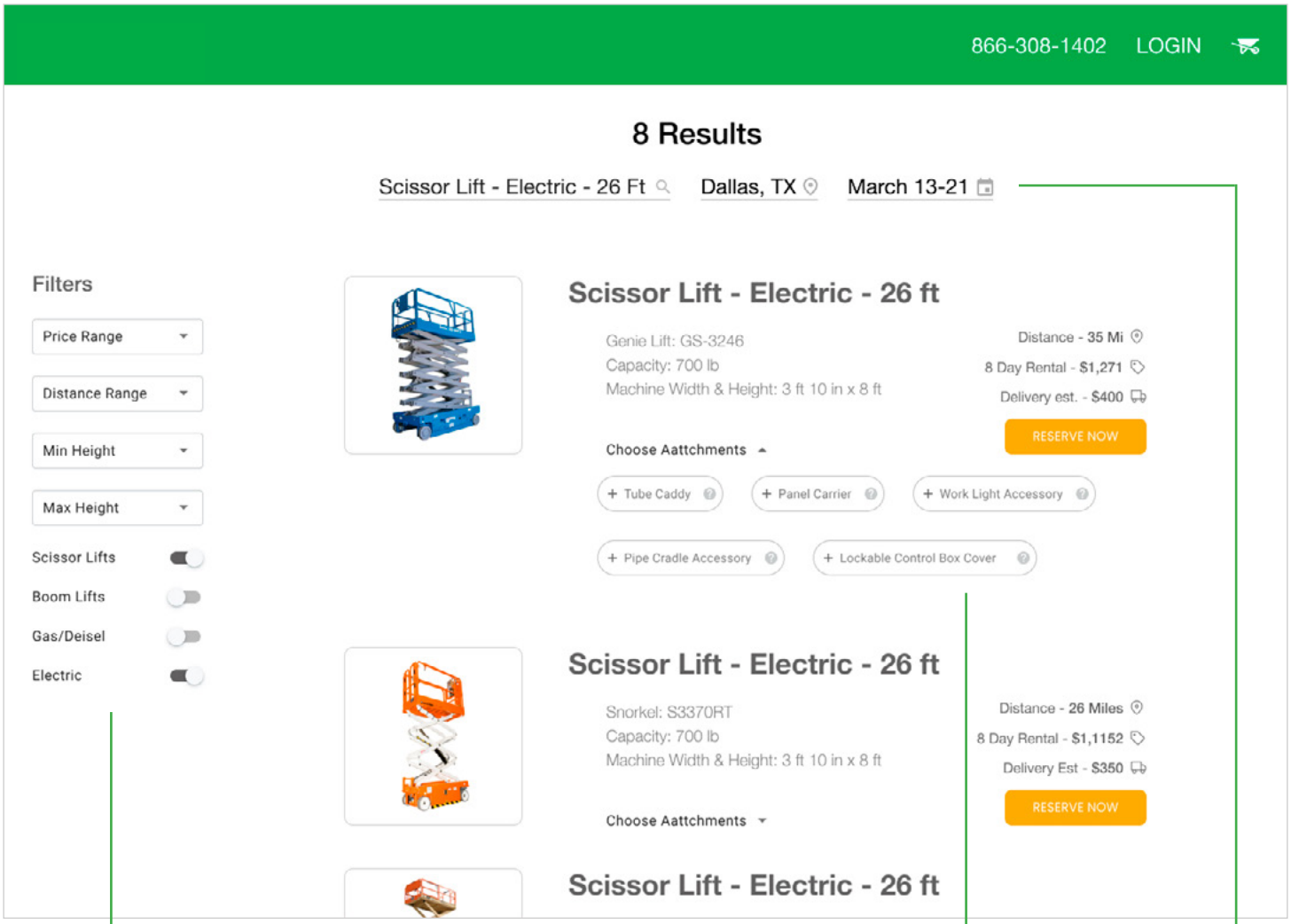
New Ideas

- Ability to filter by brand

ITERATION 2

PROTOTYPE - SEARCH RESULTS

In Iteration 2 I removed the conversational display of search results due to confusion by users and added icons. I also added the ability to add attachments since we discovered that is a crucial part of selecting construction equipment and evaluating its cost.

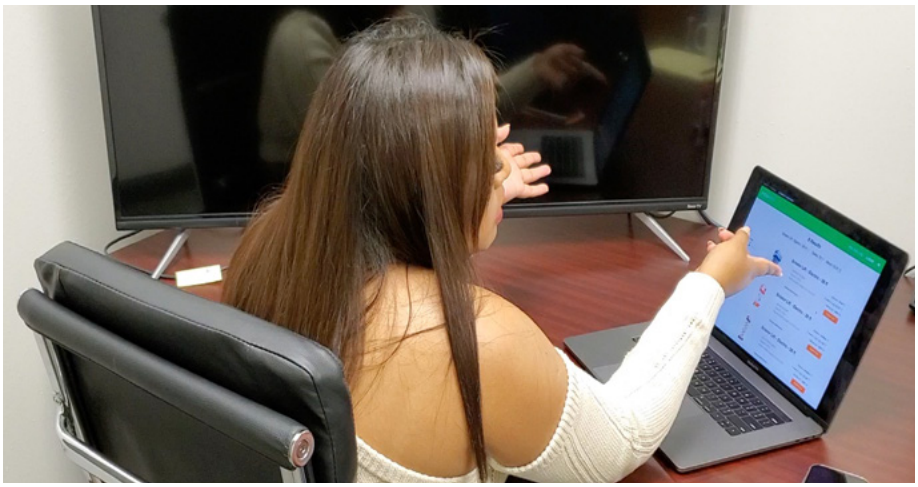


I added more filters due to a request from stakeholders

Here we simplified the pricing and included the ability to add attachments to the machine based off of user feedback and checking out requirements

Added icons and removed conversational search info

USER FEEDBACK FOR ITERATION 2



For the second iteration of the prototype, we didn't change the homepage but made a lot of changes on the search results page which was the focus of our user testing in this session.

Here's a summary of some of their feedback:

Positive

- She likes the predictive type, fast and simple
- She like there's a lot of information right off the bat
- She likes that you can change the search criteria is right on top
- Icons beside search parameters made it more clear that area was interactive

Pain points

- Underline wasn't clear at first about the underline but then tried clicking on it. Interaction wasn't clear, would have tried to go back to change the city.
- 1 in the shopping cart, it's a little too small
- Would like to see how price is broken down by day, week, and month rates.
- Overall prices should update when choosing an attachment

"I want to see how all the things I'm doing are affecting the price in real time, like changing distance, adding attachments, updating date ranges, etc"

"I really like that I can see a lot of the information about the equipment I searched for right-off-the-bat."

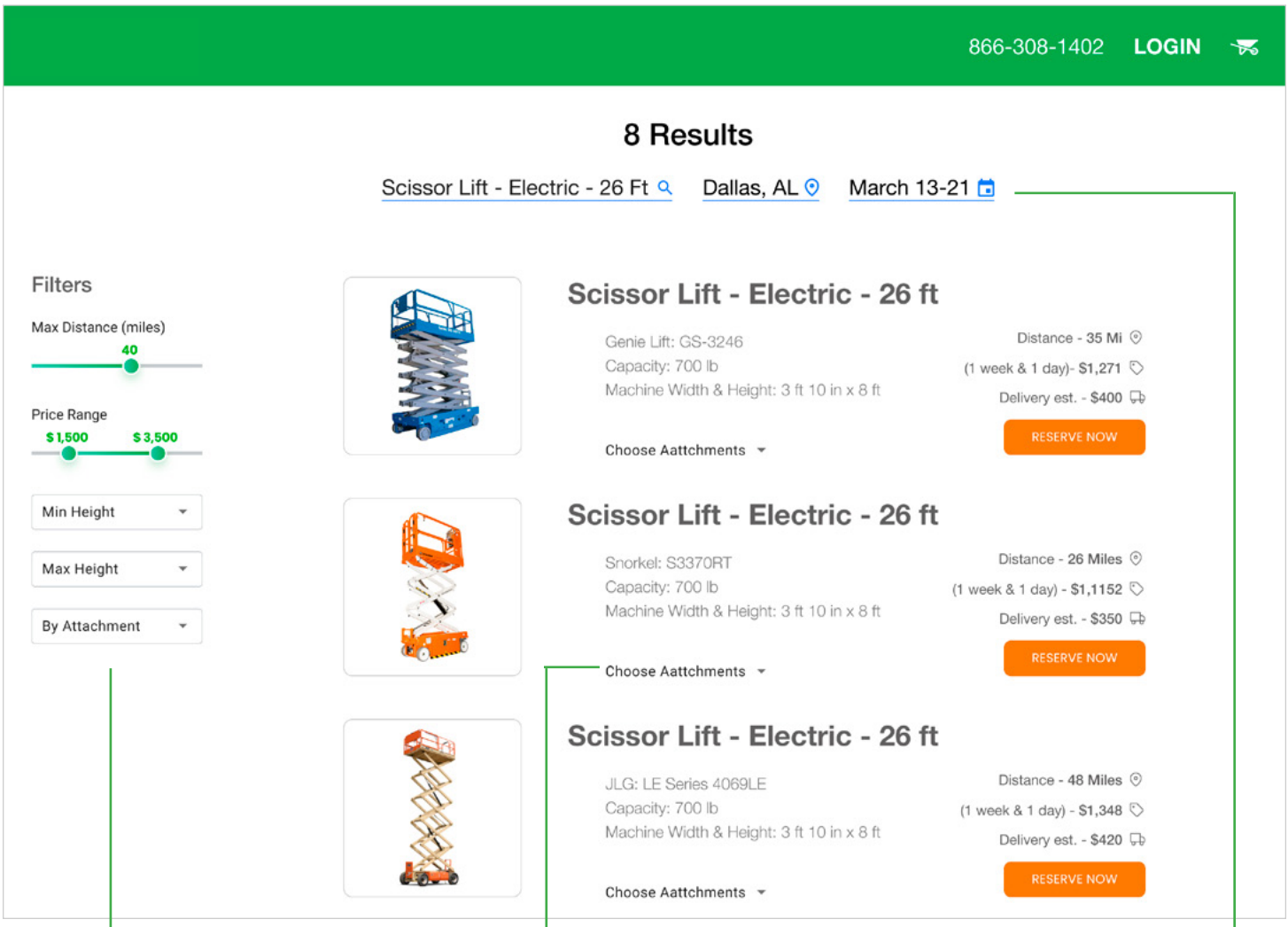
New Ideas

- Would find a rating system very helpful to know how to choose which item is better quality
- Have the ability to request service, doesn't like to keep asking for stuff knowing when everyone is so busy

ITERATION 3 - FINAL

PROTOTYPE - SEARCH RESULTS

For the final iteration I implemented some of our biggest changes based off user feedback. I created sliders to use as filters, added attachment category dropdowns, and made each editable search parameter underline with blue.



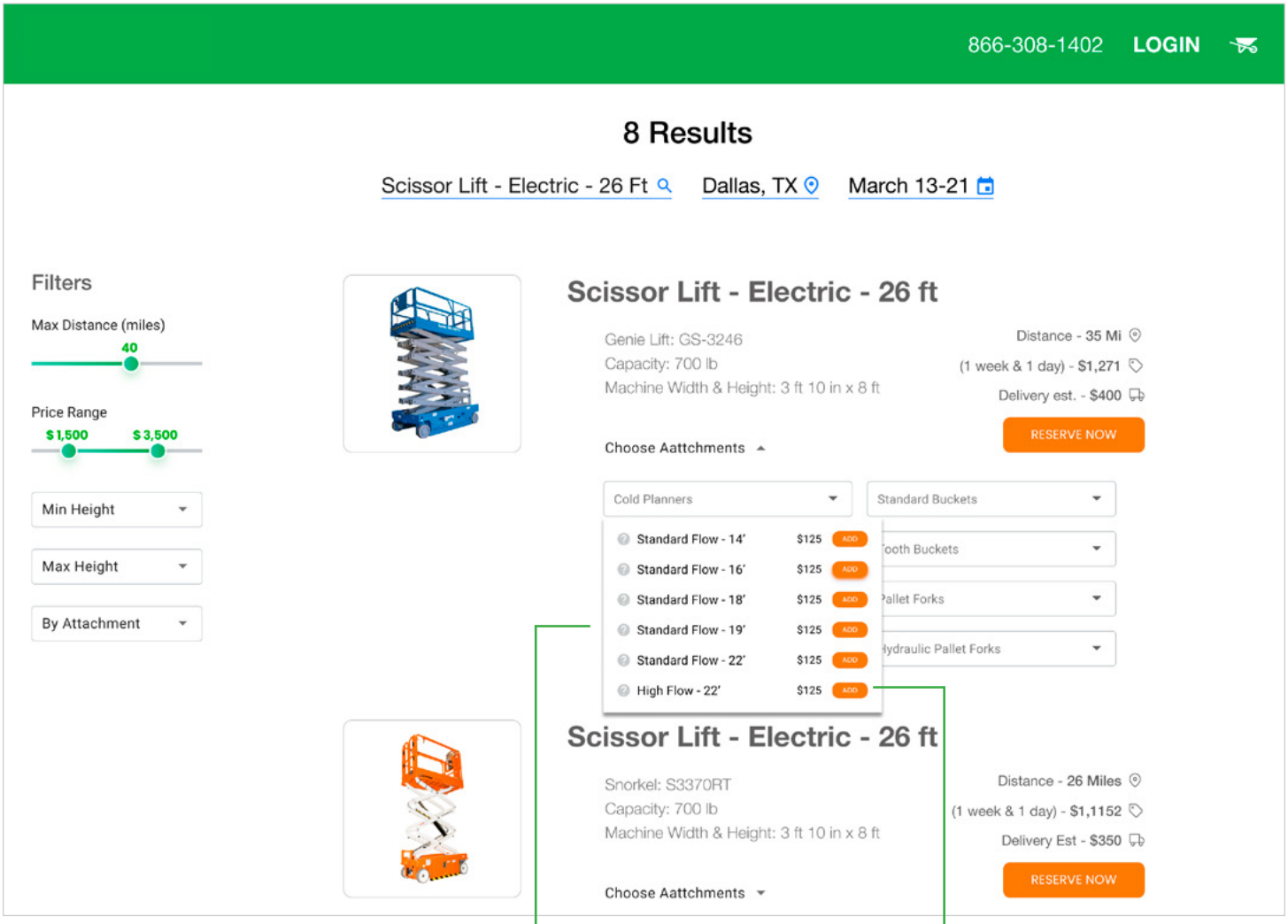
Added simpler and better filters that communicated clearly to users

I added a dropdown to reveal attachments since they won't always be needed to create a cleaner display of available machines

Underlining search results with blue and adding icons made it more clear to users they can search again from there.

PROTOTYPE - ADDING ATTACHMENTS

This first version was to figure out the overall layout and see what the various data points would look like together. The idea was to show search results in a contextual sentence, few filters, and big clear images.



A machine can have multiple attachments and attachments are in categories. I created a layout showing several dropdown fields from each category to allow users to select their attachment.

Each attachment displayed a price based off the dates they chose and added an add button and an attachment info popup on hover.

USER FEEDBACK FOR ITERATION 3

This user session was focused on validating the changes on our final iteration of the prototype before sending it development. Overall, the response was very positive with some new pain points discovered that can be addressed in the future.

Here's a summary of some of their feedback:

Positive

- Noticed the filters, looked new since last time and really likes the filters that are available
- Break down of pricing, showing segments of time was very helpful
- Being able to do another search without going back is really nice
- Like the "toast messaging" when adding to cart
- Really likes the price ranges and the images

Pain points

- Wants to make sure the images are consistent with the actual item they are selecting
- Would like a toast messaging when an attachment is added as well.
- Max distance by miles wasn't clear what it was referencing to exactly

"I rarely use my computer, I much rather use my iPhone, I use that all the time, to order and track the equipment I need."

"I really like the ability to use sliders for filtering instead of choosing from a limited list ."

New Ideas

- Would prefer to manage most of this via an iPhone App
- Some verbiage to indicate that the search parameters can be changed at the top

CONCLUSION

The Construction Equipment Rental Company wanted to create a new way rent construction equipment online with a focus on transparency and ease of use for users. The online world of construction rental is rife with misleading statements, hidden costs, and lack of information. We wanted to set ourselves apart from our competition with more than just the service we are providing, we wanted to create an experience that helped people to make better and faster decisions.

When I started designing the entire search process, I quickly realized this was going to be a very complex process because of how complex the industry is. Also, we discovered that many people have never even ordered equipment online and I had to design an interface that would feel familiar to people who have never done it before while making sure it has all the of tools and info that experienced people need when renting equipment.

We conducted brainstorming sessions to determine how the search experience would look and function. In the brainstorming sessions, there was the CTO, CEO, Sales Director, Product Manager, and me. These sessions proved to be extremely beneficial in making sure we were all on the same page with all the business needs the experience must meet as well making sure we had a diversity of ideas.

I did several design iterations and tested them users. These sessions revealed many things I had overlooked while also confirming some of the assumptions I had made. The biggest take aways I learned from this process are the following:

- Because online renting is new for many users, interactions must be clearly indicated rather than alluded to.
- Users really like seeing all pricing upfront and updated in real time when they are making changes.
- Renting construction equipment is generally a very complex process, simplifying the process and reducing the need to email and make phone calls is hugely appreciated by users.

Going forward, we are going to create the account creation and order tracking processes that will integrate into the equipment search and selection. We will make sure all of the successful features are carried through all processes and continue the spirit of transparency and easy-of-use we have established.