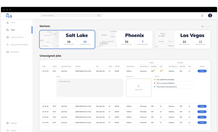
FLO

Solid partnered with Final Mile Solar to design and develop a web application that will increase efficiency in the solar industry.

UX Design | Custom Web App | Brand Identity

The Challenge

The solar industry is plagued with inefficiencies. Distributors, installers, and manufacturers all work in silos and have no system of record for equipment transacting. FLO (Forecasting Logistics Optimizer) set out to solve this complicated problem. In the case study below, we outline in detail the problems that each persona faces in the current climate.



Distributors

Electrical distributors have been in the electrical industry for decades and sometimes for over a hundred years. They offer solar products because of their buying power and lack of lean, innovative, customer-focused competition in the electrical distribution space. As this, they tend to focus on organizations that serve customers rather than future industries to determine how much and what type of product to carry in their warehouses. Solar is a fast-growing industry with massive amounts of overhead just to sustain their operations. Historically, solar distributors have had money and at least an un-competitive product, so they have not been incentivized to innovate.

Furthermore, their hierarchy is very complicated and convoluted because solar sales pale in comparison to their high volume/high margin business units. Solar sales are managed by a handful of people in multiple verticals including industrial, sales/communications, commercial, etc. This makes it challenging for outside solar sales reps to navigate the organization and sometimes they have very different strategies and ways to increase a growing product line and vertical.

When distributors focus on logging indicators (KIC's) to determine how much and what type of product and where to store it, it creates problems for installers and homeowners.

Installers

Solar companies prefer to have a national reach, not just a local presence. Distributors historically have been localized servicing local markets. Installers want to partner with a distributor that can service expand nationally and provide the same level of service - standard product availability, job site delivery, quick installation timeline to ship, etc. Installers want to be able to order equipment easily, receive visibility of a purchase to store inventory and track capacity of delivering solar panels and equipment when because of a solar shortage in the industry. Installers want to be able to order equipment the industry is historically fragmented due to distributors investing in multiple verticals to service the various needs of local electricians.

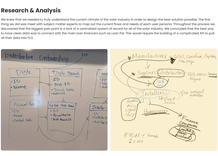
Manufacturers

Historically, manufacturers only sell to credit-worthy distributors because it is too cumbersome and costly to deal with dozens of small installers selling up shop in days. It is financially risky for them to sell their products direct to installers because of installers' lack of credit-worthiness. Installers, EPC's, and even homeowners finance their solar systems, with the exclusion of paid-once installation in complete, usually 30-60 days after the completion of the job. This is a long time for manufacturing sales teams, electrician getting paid and distributors receiving payment for the equipment, thus creating a tough proposition for a month-end pay-drop electrician to maintain profitability.

Goals

1. **Interactive contractor tool** - this tool allows plug-in-free from finance company bucket with job identifier attached (homeowner address) and a contractor that will take the contract to sale. Once job is on deck, a status indicator is attached to the job (pre-permit, pre-install, descriptive status)
2. **Inventory management tool for distributor** - this feature ties into distributor inventory and allows distributors to manage their equipment and inventory in real-time and make sales in real-time.
3. **Forecasting tool** - API into finance company to get jobs as soon as customer signs contract. Well know the quantity of panels and inverters needed and can forecast when the equipment will be needed and automatically order equipment from distributor.
4. **Order fulfillment tool for installer** - this feature allows metal companies to generate "bill of material" or BOM form rather the tool and automatically recommends quantities based on or working with industry standards and manufacturer recommendations

User Personas

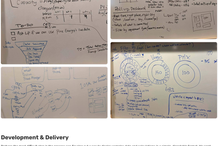


Research & Analysis

We knew that we needed to truly understand the current climate of the solar industry in order to design the best solution possible. The first thing we did was meet with subject matter experts to map out the current flows and needs of each user persona. Throughout the process we discovered that the biggest pain point is a lack of a centralized system of record for all of the solar industry. We concluded that the best way to solve this problem is to connect with the main loan finances such as Loan Pal. This would require the building of a complicated API to pull all that data into FLO.

User Flows

The next step in the process was to outline key user flows. The example below is just one of many flows required to accomplish the goals outlined above for each persona.



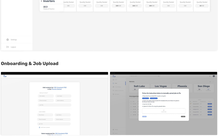
Concepts, Sketching, Wireframes

In order to bring all of our ideas to life, we explored our ideas in a plethora of ideation and whiteboarding sessions. Here are a few examples of some of the ideas that we generated during these sessions.

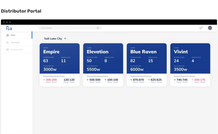
Development & Delivery

Perhaps the most difficult step in the process was figuring out a way to display complex data and calculations in a simple, digestable format. We went through many iterations and ideations before we finally landed on the designs below and redesigned the mobile-friendly UXes. While we expect minor iterations to come, we are happy with the results thus far.

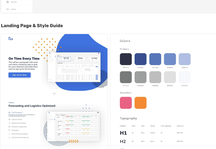
Installer Dashboard & Task Manager



Capacity Planner



Onboarding & Job Upload



Distributor Portal

Landing Page & Style Guide

Conclusion

Here are some of the keys that we leveraged to complete this project successfully:

1. Issues occur. (Digitally modified from Formal Dump)

Since this project was ground breaking in the industry, with a lot of disruption comes many problems. We can into quite a few issues that we had to overcome throughout the process. Each past these issues compromise and determination.

2. The development process can be long

When a launch needs to have all of the features fully built out, the development timeline will be extended. We recommend "Minimum Viable Product" forms a better than perfect" approach. for this very reason

3. The development process can be long

When a launch needs to have all of the features fully built out, the development timeline will be extended. We recommend "Minimum Viable Product" forms a better than perfect" approach. for this very reason

In conclusion, we are extremely proud of the final product that we delivered. When it is launched officially, we will update this case study with a link to the completed product!