Reconceptualizing navigation at Virtual Facility

Jonathan Chang | Virtual Facility | 2023

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Discovery Define Solution Outcome Reflection



Quick disclaimer

This case study focuses on one aspect of a broader, multifaceted initiative that I led. As a result, you may notice some overlap between this case study and the Management Supertool study.

Overview

Virtual Facility is a SaaS product providing facility operations awareness and accountability of their assets.

Despite the exponentially growing interest in VF and excellent feedback throughout the sales and onboarding process, the overall product showed low user engagement.

This caused frustration for employers who invested in VF looking for improvements to their process, reducing the likelihood of renewal.

As the lead designer for this project, I led all the design initiatives and worked with product managers, engineers, SMEs, and the customer success team.

Role



(1)

Reduce customer time to value

Reduce the time customers wait to experience value after purchasing the product.

(2) Boost the engagement

Increase the number of users using Virtual Facility to triage alarms and increase actions taken.



Maintain customer satisfaction

Ensure the product fulfills the customer's primary reason for purchasing.



Discovery

Discovery

Focusing on the right direction

Before proposing solutions, I ensured alignment of customer problems and the business goals.

To achieve this, I analyzed:

- Internal conversations
- User sessions and metrics from Pendo
- Competitive Analysis

... where am I supposed to go to see the alarms we had flagged?

> Do you see the Triage bell icon on the bottom left? Click on that.

Okay... I see alarms but I don't understand where they're located.

- Customer call with Customer Success



Internal conversations



Extremely high learning curve

Many users frequently relied on support guides or request assistance to use the product effectively.



4-step process isn't used by customers

The product had a hardcoded fourstep processes that didn't align with customer workflows.

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Current UX erodes customers trust in VF

Customers lacked trust in the data because they didn't understand which dataset they were viewing.

User sessions & metrics

Low usage of saved views

Users averaged 25 saved views but utilized only 2. Additionally, the Customer Success team created an average of 13 views per users during onboarding.

Back and forth navigation

In various sessions, users jumped back and forth between product pages to get better context of situations.



Competitive analysis

Direct competitors

Very dashboard centric and focused on providing insights to a specific point instead of an overview of various problems.

Indirect competitors

Most utilize a tree style navigation and various styles of dashboards to highlight 'important' information. Typically, very data heavy.

SIEMENS				
Life Safety Danger High	Medium	Low	Fault Exclusion	Anomaly Inf
System Manager				
DemoSSP > DemoSSP (SSPDEMO) > Site (01 - Virtual Building 🔸	Building 01 + Building Auton	nation 🕨 Heating Plants 🕨	
System Browser	Default	Textual Viewer		
DemoSSP	B\H\HeatPrd -	Heating Plants		
		the second se		
Show Description	→	CIENAENIC		
Manual navigation Send		SIEMENS		
	-			
Euilding 01	A (A)			
Building Automation	<i>p</i>			
Air Handling and Ventilation Plants	P			
Cooling and Refrigeration Plants		⑦ 30.8 ℃		
Electrical Plants	100%		10	
Heating Plants	[• 1	(H) 65.8 %RH		-(P) 5.0 bar
Rooms		1		
Floor Basement				
Floor Data Center			0.0 m3	75.0 °C
Floor Laboratories				P Max
▼ Floor Office	Ø	N	mª Co	P Min
V Room 1		43		-Lvi
Active SP Cooling			Gas	
Cooling controller	and a			1100 0 0 MM
Cooling valve				0.0 KW
Fan controller				-0 =
Heating controller	_		🚫 🖉 Normal 🔍	75.0 °C
Heating cool status	=			
Heating valve	E C			
Occupancy				9,
Plant Operation Mode	75		_	
Room 1				
Room operator unit				
Blinds position Current				
Blinds value				
Command blinds down from KOp				
Green leaf summary				
Light Switch Off				
Light Switch On		Operating Mode		Scheduler
Lighting Command		Off		60.0°C
Room temperature				
Setpoint Adjustment				
Setnoint cooling comfort				







Define

Defining the problem

Focusing on the right direction

Using the gathered data, I analyzed the findings and elaborated on them to define and refine key themes and primary problems.



Theme 1

The navigation is difficult to use, which undermines trust in data quality.

Theme 2

The solution complicates the user's daily workflows and responsibilities.

The navigation is difficult to use, which undermines trust in data quality.

Theme 1



Main pain points

1

Confusing and hard to use navigational UX

A heavy reliance on icons and inconsistent design language created lots of confusion and led to a reluctance to adopt the product.



similar tasks

The product used different methods to utilize similar features on various pages.

Differing methods to achieve

High learning curve due to disparate solutions

3

Various solutions use varying principles and concepts, requiring extensive training to fully understand.



Solution

Finding a solution

Collaborating early on

I worked with engineers early in the process to identify technical limitations of the proposed solutions and minimize implementation problems.

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Previous experience



Product knowledge

We required users to learn the product's nuances before they could find a solution.

Brainstorming

Building for the future

My goal was to break the existing navigation pattern that isolated features and build a base that enables growth.

Utilizing the same language

Our navigation should flow similarly to how users communicate with each other. This would later become what we call 'data first.'

Collaborative feedback

I consistently looped in Product and Engineering on the various concepts I had in mind.

Feedback from internal teams

Support for future features and pages

The new direction should support growth while maintaining simple navigation.

Alignment with Assets vs Alarms concept

To optimize resources, engineering wanted the solution to support the ongoing data changeover project.

Enable Customer Success to be as hands off as possible

Customer Success should not need to spend time educating customers on basic navigation.

High-fidelity explorations

I advanced to designing a high-fidelity prototype to conduct studies and refine the design before delivery.

Virtual Facility	Healthcare						
Command Center	✿ Sort Alarm Priority: Highest, High,+2 ×	+					
ភា៍ Analytics	Alarm Time Building	Floor					
Triage	02/20/2024 01:25 AM The Commons Mixer	6					
All issues	02/20/2024 02:42 AM Building 41	6					
Dispatcher lens	02/20/2024 05:42 AM Building 112	Roof					
🎲 Healthcare	02/20/2024 05:54 AM Building 115	Ground					
🖨 Central plant issues	02/20/2024 05:54 AM Building 109	Ground					
Work	02/20/2024 05:54 AM Studio F	Ground					
	02/20/2024 07:17 AM Cafe 34/35	2					
	02/20/2024 07:17 AM Redwoods C	2					
	02/20/2024 08:32 AM Building 43	3					
e view 124	02/20/2024 11:39 AM Studio B	Cellar					
	02/20/2024 04:41 PM Building 34						
	02/20/2024 08:07 PM Building 44	8					
	02/20/2024 09:36 PM Building 8						
	02/20/2024 10:50 PM Building 40						
	02/20/2024 10:53 PM Building 3	Ground					
	02/20/2024 05:54 AM Redwoods B	Ground					
	02/20/2024 07:17 AM Building 35	2					
*	02/20/2024 07:17 AM Commons Transit Center	2					
Emily Hayes	02/20/2024 05:54 AM Studio X	Ground					

Alarmed Asset VAVS-6-1 VAVS-6-2 CVR-5-13 EX-ALH-G-2 EX-ALH-G-2 EX-ALH-G-2 VAVS-2-6 VAVS-2-6 VAVS-3-2 VAVS-C-9 EX-8-2 EX-HCC-G-2 EX-ALH-G-2 VAVS-2-6 VAVS-2-6 EX-ALH-G-2

Moderated tests

'Saved view icons' was replaced with icons reflecting the feature being used.

6 out of 6 users didn't understand the saved view icons.

'Work views' was removed altogether.

4 out of 6 users did not utilize the work views. Those who did were better off using the analytics page.

Virtual Facility	Healthcare			
Command Center	Sort Alarm Priori			
ណ៍ Analytics	Alarm Time			
Triage	02/20/2024 01:25 AM			
All issues	Ø2/20/2024 02:42 AM			
🗕 🎲 Dispatcher lens	02/20/2024 05:42 AM			
Healthcare	02/20/2024 05:54 AM			
🎲 Central plant issues	02/20/2024 05:54 AM			
-• Work	02/20/2024 05:54 AM			
😫 All work	02/20/2024 07:17 AM			
HVAC Shop	02/20/2024 07:17 AM			
	Ø2/20/2024 08:32 AM			
H VIEW IZ4	02/20/2024 11:39 AM			
	02/20/2024 04:41 PM			

8:32 AM Building 43 Studio B 1:39 AM **Building 34** 04:41 PM

New experience

- 1. Select which dataset to view
- 2. Adjust and save how the dataset is viewed

습								🖽 Table	🔺 Asset
Electrical Distribution Systems,+9 × Space Type: Art Classroom,+9 × Criticality: 1 - Critical Primary × Alarm Type: Service Failure × +									
	Building	Floor	Alarmed Asset Name	Alarm Name	Associated Service	Time in Alarm	Open Work		
5 AM	The Commons Mixer	6	VAVS-6-1	Flow High	Flow	00:00:03			
2 AM	Microsoft Building 41	6	VAVS-6-2	Flow Low	Temperature	00:00:09			
2 AM	Building 112	Roof	CVR-5-13	Alarm Name	Temperature	00:00:10			
4 AM	Building 115	Ground	EX-ALH-G-2	Network, Static Pressure	Flow	00:00:21			
4 AM	Building 109	Ground	EX-ALH-G-2	Network, Static Pressure	Flow	00:00:21			
4 AM	Studio F	Ground	EX-ALH-G-2	Network, Static Pressure	Flow	00:00:21			
7 AM	Cafe 34/35	2	VAVS-2-6	Flow Low	Flow	00:00:28			
7 AM	Redwoods C	2	VAVS-2-6	Flow Low	Flow	00:00:28			
2 AM	Building 43	3	VAVS-3-2	Flow Low	Flow	00:00:29	🔑 W10-095		
9 AM	Studio B	Cellar	VAVS-C-9	Flow High	Temperature	00:00:29			
1 PM	Building 34			Fire Alarm	Temperature	00:00:34			
7 PM	Building 44	8	EX-8-2	Static Pressure Low	Flow	00:00:34	۶ W10-094		
6 PM	Building 8			Status Communication	Temperature	00:00:45	۶ W10-093		
0 PM	Microsoft Building 40			Fire Alarm	Flow	00:00:49			
3 PM	Building 3	Ground	EX-HCC-G-2	Network, Static Pressure	Temperature	00:00:53	<mark>۶</mark> W10-092		
4 AM	Redwoods B	Ground	EX-ALH-G-2	Network, Static Pressure	Flow	00:00:21			
7 AM	Building 35	2	VAVS-2-6	Flow Low	Flow	00:00:28			
7 AM	Commons Transit Center	2	VAVS-2-6	Flow Low	Flow	00:00:28			
4 AM	Studio X	Ground	EX-ALH-G-2	Network, Static Pressure	Flow	00:00:21			
7 AM	Building 5	2	VAVS-2-6	Flow Low	Flow	00:00:28			
2 AM	Studio D	3	VAVS-3-2	Flow Low	Flow	00:00:29	<mark>⊮</mark> ₩10-095		
9 AM	Building 113	Cellar	VAVS-C-9	Flow High	Temperature	00:00:29			

New experience - Feature Relocation

'Filter pills' provided context to users, removing the need for long pill names and instilling confidence in the data shown. **'View type'** combined features from the main navigation and ancillary settings into a single location.

'Data type' became editable by users rather than being tied to specific features. (e.g. Asset only available in Tile view)

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9 × Criticality	: 1 - Critical Primary ×	Alarm Type: Service Fa	ailure × +		🖽 Table 🔺	Asset
ed Asset Name	Alarm Name	Associated Service	Time in Alarm	Open Work		
5-1	Flow High	Flow	00:00:03			
5-2	Flow Low	Temperature	00:00:09			
13	Alarm Name	Temperature	00:00:10			
1-G-2	Network, Static Pressure	Flow	00:00:21			
1-G-2	Network, Static Pressure	Flow	00:00:21			
1-G-2	Network, Static Pressure	Flow	00:00:21			
2-6	Flow Low	Flow	00:00:28			
2-6	Flow Low	Flow	00:00:28			

Outcome

Delivering

Keeping a close eye

When delivering the product, I worked with Engineering, Product, and Customer Success to collect feedback and monitor our metrics.

Overall feedback was outstandingly positive with an uptick in measurable impact.

The new navigation gained positive feedback and impacted the business

Increase in customer engagement. -37%

Reduction in onboarding time for customers.

-95%

Decrease in excessive and unused saved views.

Next iteration

1

Improve the clarity of unapplied filters

Switching between data types may disable certain filters. This caused some confusion for a few users.

2

Tweaking filter pills to occupy less space

vertical space usage.

- Some users apply numerous filters to
- their view, leading to excessive

Description fields for saved views

3

A few customers have requested a description field to provide additional context to saved views.

Reflection

Takeaways

North stars provides purpose

The project provided a clear guidance of how our recent features intertwined, ensuring alignment.

Utilizing customer data in structured testing reduces confusion and distractions.

Customer data in user testing

Strategic collaboration

Engaging with Engineers early in the process enables quicker turn arounds and less roadblocks.

Thank you!

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