Buildots Web

~ ROLE
Product Design and Team Lead

~ FOR
Buildots

~ DATE
Since Jan 2020

~ TYPE
Webapp

I've been leading the UX Strategy and Product Design Team at Buildots since January 2020, first as solo designer and then also managing 2 product designers while still hands-on.

During this time I partnered tightly with the Product Managers to research and define the features that bring most value, and the optimal ways to display the various data Buildots can provide.

Over the last year I created a complete design system from the company, defining principles, guidelines and components... first in Sketch, and later in Figma. The product made a huge leap on its UX and design, went through an entire overhaul which also included PDF documents and emails as part of the customer journeys we want to support.

I designed to the detail new screens and features, updated and improved existing ones, worked on responsiveness and microcopy, became the best friend of my front-end developers, onboarded new designers and got drunk on construction data :)

The "before"

I first started by doing a deep assessment and mapping of all elements in the system existing across pages.

I found out serious inconsistencies and different patterns for similar actions, the usage of two fonts which didn't help with hierarchy and content, different colors for the same elements and overall less than ideal interactions. Navigation was sub-optimal and the dark colors toned down the app. Most screens were not following any JTBD definitions and features were... random.

At the same time, I made lists of the elements required, and the features to be supported in the new, unified elements to be created. This was the base for the beginning of the Design System project, which took place in parallel to user interviews and design of new features.

Research

I proceeded with learning the field as well as doing competitive research, user interviews and personas. I chose Airtable as the tool to store and share my findings across the company.

I watched endless Hotjar videos and sunk into data in Google Analytics and Mixpanel. All these tools gave me robust insights about the usage of our product and the most important screens and flows to take care of.

	Name	Vendor	Target Audience(s)	Features	Messaging	Website
1	FieldView	Viewpoint	Field Collab	Tasks signoff / punch, Safety Record, Tablet Version, Mobile Version	A cloud-based and off-line mobile solution that replaces pen and paper in the field for quality, safety,...	https://viewpoint.com/products/viewpoint-field-view
2	PlanGrid	Autodesk	Field Collab	Image Capture, Errors, Tasks signoff / punch, Mobile Version, Tablet Version	Autodesk Construction Cloud combines next-generation technology, a robust network of ...	https://www.plangrid.com/
3	BIM360 Field	Autodesk	Field Collab	Safety Record, Image Capture, Errors, Dashboard, Mobile Version	BIM 360 Field is construction field management software that combines mobile technologies at the ...	https://www.autodesk.co.uk/products/bim-360-...
4	HoloBuilder	HoloBuilder	360 Viewer	Integration with PlanGrid, Integration with Procore, Dashboard, Picture History, Annotation, Mobile Version	The fastest and easiest way to document construction site progress	https://www.holobuilder.com/
5	StructionSite	StructionSite	360 Viewer	Integration with Procore, Integration with PlanGrid, Integration with BIM360, Mobile Version, 360 Capture	StructionSite solves the site capture problems of today with an easy-to-use platform that lets you ...	https://www.structionsite.com/
6	Matterport	Matterport	360 Viewer	360 Capture	Our powerful all-in-one 3D data platform lets you turn a space into an accurate and immersive digital twin.	https://matterport.com/
7	OpenSpace	OpenSpace	360 Viewer	Integration with PlanGrid, Integration with Procore, Integration with BIM360, 360 Capture	OpenSpace's cutting-edge technology helps document sites quickly and efficiently so you can ke...	https://www.openspace.ai/features
8	Dalux BIM Viewer	Dalux	360 Viewer	Mobile Version	The world's fastest BIM Viewer is free	https://www.dalux.com/dalux/bimviewer/
9	Procore BIM	Procore	360 Viewer	Reporting, Mobile Version	Fly the model. Connect Virtual Design & Construction to field teams—all on one platform.	https://www.procore.com/bim
10	OnSite View	OnSiteIQ	Process Mgmt	Laser Scanning, Safety Record, Dashboard, Trades Progress	OnSiteIQ collects 360-degree imagery and transforms it into interactive walkthroughs, mapped to your floor...	https://onsiteiq.io/product

28 records

Some of my research resources – Competitors Overview, Personas and Usage Analytics

	Persona	The Character	Definition of work	Location	Needs
1	Director	Big boss usually, results-person	Head of the project and cross point between company management and field people. Cares about delivering the project on time.	Office	Overseeing project, Reporting, Bottom lines
2	Construction (Project) Manager	Pusher, trying to have everyone on board	Runs the show, manage site managers and sub-contractors. Report to director. Cares about delivering the project on time with a high level of safety.	Office, Field	Reporting, Contact subcontractors, Drill down to details, Overseeing project
3	Site Manager	Executers, list people	Responsible for a section in the project - one plot, one building or some levels of a building. Handles the day2day with sub-contractors and reports to construction manager. Always enforcing safety. Cares that trades are completed according to plan and safely. Looks at the project - location/floor wise.	Office, Field	Enforce safety, Track activities, Overseeing project
4	Design Manager	Master of plan, multi-discipline person	Tracks that original plan is being followed. Detect gaps in plan, both technical and design. Responsible to raise red flags when needed, design wise. Cares that trades are completed according to plan....	Office, Field	Foresee clashes, Drill down to details, Overseeing project
5	Package Manager	Master on plan, expertise in specific trades	Responsible for a trade or group of trades across all project- highly knowledgeable on these. Handles the day2day with the relevant sub-contractors and reports to construction manager. Always enforcing safety in his trades. Cares that trades are completed according to plan and safely. Looks at the project - trade/activity wise.	Field, Office	Enforce safety, Drill down to details, Overseeing project
6	Planner	Office person, scheduler	Put together the schedule of the project. Track original plan and make changes according to real-time. Responsible to raise red flags when needed, schedule wise. Cares that trades are completed according to plan.	Office	Foresee clashes, Overseeing project
7	CFO	Money people, care about	Handles contracts mostly, money and legal.	Office	Overseeing project

12 records

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Sharing below some selected features and pages I've worked on –

Explorer Screen Revamp

Explorer is one of the most popular screens in our product, specially during Covid-19 times when access to the site is limited. The page allows to explore freely every single spot of the site according to the different capture dates.

The page was functioning properly, but it had a few fails:
– Map taking a lot of real estate and not leaving enough place to see, well, the image.
– Unnatural navigation into a popup to compare this image to image from a previous date (that's how we see if things have progressed).

The new Explorer page in action :)

I fixed the page by allowing to switch between the three modes: View 360, Compare and 3D View in one place. Also, planned a map that is small but expands when needed to navigate between captured spots.

Customers were thrilled! Especially the commercial teams who use this page often to compare between dates.

Issues Screen Revamp

When I first started at Buildots, the construction issues shown to the user were divided into two:

– **Errors:** Elements that were done differently from the plan/model (wrong position, wrong installation, some other esoteric reasons...)
– **Loose Ends:** Elements that were left undone after a trade finished working on site.

Over time and after multiple user interviews, Hotjar recordings and several Tableau sessions, I understood that site managers actually treat these two in the same way – **both are just things that need to be fixed.**

	Errors	Loose Ends
How are these discovered?	Mainly when **work is partially done or done but wrongly** - meaning done differently from model / planning, mostly from a location perspective (Error Type: Wrong Position).	Calculated using a rather mysterious formula 🙂 , where basically an **element that is not strictly done** after an activity is done - becomes a loose end.
Element status	Error can exist regardless of the status of the element (an error can be on an ongoing element or done element)	Strictly linked to the status of the element - An element with loose end is never done. Closing the loose end changes the status of the element to done.
How are these closed?	1. Auto: When we discover that element was fixed 2. Manual: By Buildots team 3. Manual: By Customer - fixed, will not fix, not an error, other...	1. Auto: When we discover work was completed 2. Manual: By Buildots team 3. Manual: By Customer - not a loose end, completed, won't do, other...
Metadata for Open Error / LE	ID Location Trade Element **Error Type (sometimes also Error Description, manual input from OPS)** Spotted On	ID Location Trade Element **Activity** Spotted On
Added Metadata for Closed Error / LE	Closed By Closed On Closing Reason	Closed By Closed On Closing Reason
Available Actions	Close Error Send by Email Export PDF **Send to BIM360**	Close Loose End Send by Email Export PDF

Part of the comparison between the old Errors and Loose Ends

We were showing different information but there was no good reason for this – Errors were shown in a table, while loose ends were shown on a map. You could close errors or send them to another system but could not do that with loose ends. All these differences were arbitrary and not based on a specific need or flow.

I decided to integrate issues in one screen, highlighting the common parameters and finding creative solutions for the differences between them.

Mapping an ideal issue lifecycle, together with new available actions

I integrated a toggled view of table and map for both, and created a brand new way to see the issues' details. Lastly, I allowed place and robustness for new actions such as bulk closing, sending to email and more. Work included planning empty states, loading states, little info and all edge cases as usual.

Issue side options according to parameters and status

Popups for actions

Activity and Element Side Views

Viewing a specific element's status and details is one of the main functions at Buildots. At first, it was opened as a side within a popup, which led to multiple problems:

– Little real estate for the picture, which is critical to understand the status of the element.
– Limiting layout, with a weird and unclear information hierarchy
– No place to add more information blocks and actions in an accessible way.
– Closing the side to go back to the map was unclear and not comfortable, as seen in recordings.
– Buttons on image were too little and not easy to click.

To overcome this issues, I suggested a different interaction – when opening an activity on a level, it shall open a secondary page instead of a popup. This gives us the required flexibility to show more information about the activity, allow for bulk actions and have better control over the information hierarchy.

Full screen showing the activity summary, schedule and notes

For the element view, I planned a bigger thumbnail, with a clear access to the functions 360 View, Compare and 3D Model (these last two were new features).

The list of blocks on the side view is flexible – some variations can be seen below.

Full screen showing the selected element on map and it's detail on the side

The Element side view in some of its different variations – Element ongoing, No image available, With Issues, With element ID for Buildots internal users, Element done

Design System Creation – Sketch + Figma

I created the Buildots Design System from scratch, first on Sketch and a year later re-auditing and recreating in Figma.

It was important for me to give it a solid philosophy before going deep into components, so that the work done would serve accurately our user needs while being simple and straightforward, modern and elegant.

The work spanned from principles to style guide, components and patterns, following the Atomic Design approach. My main inspiration sources: Shopify Polaris, Salesforce Lightning, IBM Carbon and Hubspot Canvas, among others.

See the entire project here

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