Kyle Hoyt

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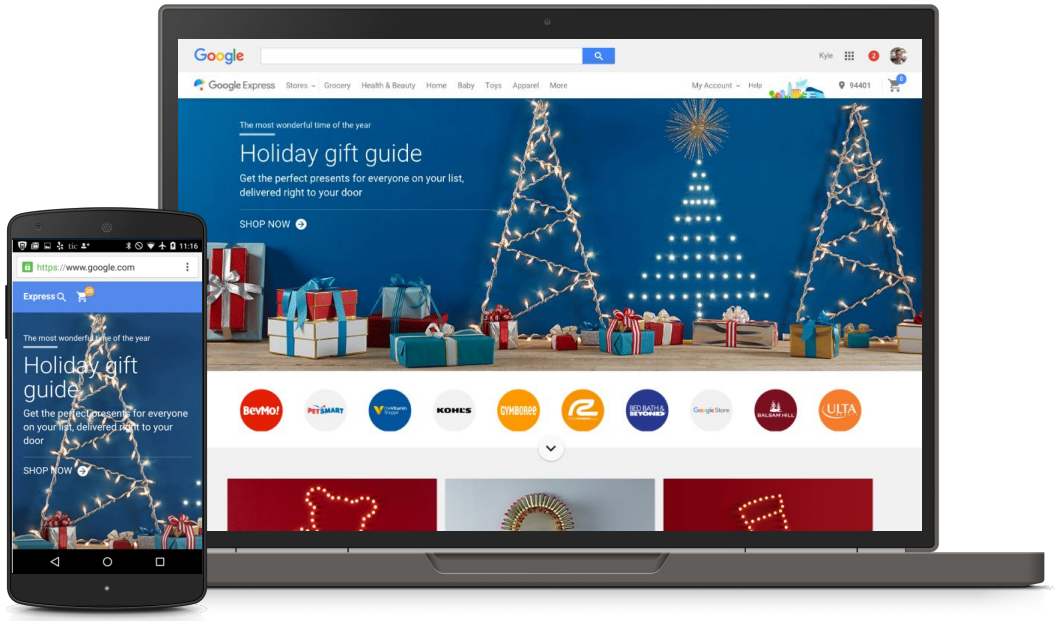
Google Shopping UX Design

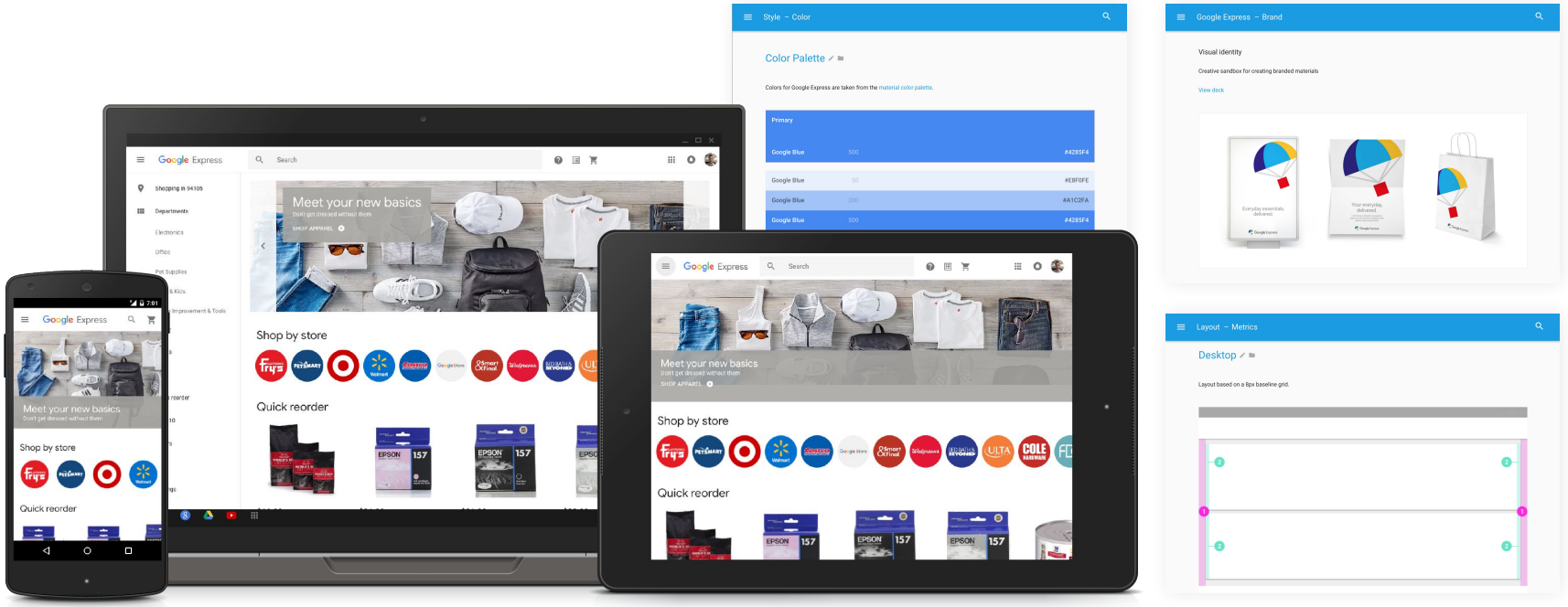
Case Study

Existing experience (2015)



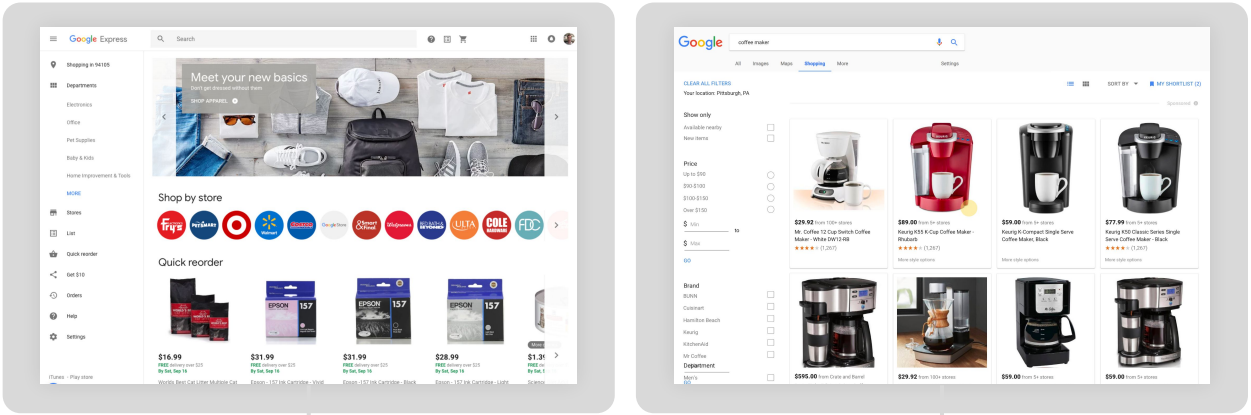
I joined the Google Shopping organization in 2015 to drive visual design efforts on the Google Express delivery experience and create a cohesive consumer experience.

Updated experience (2017)



Over the course of the next year and a half, I lead visual system design efforts over multiple feature launches to deliver a fully responsive front-end experience in close coordination with cross functional partners.

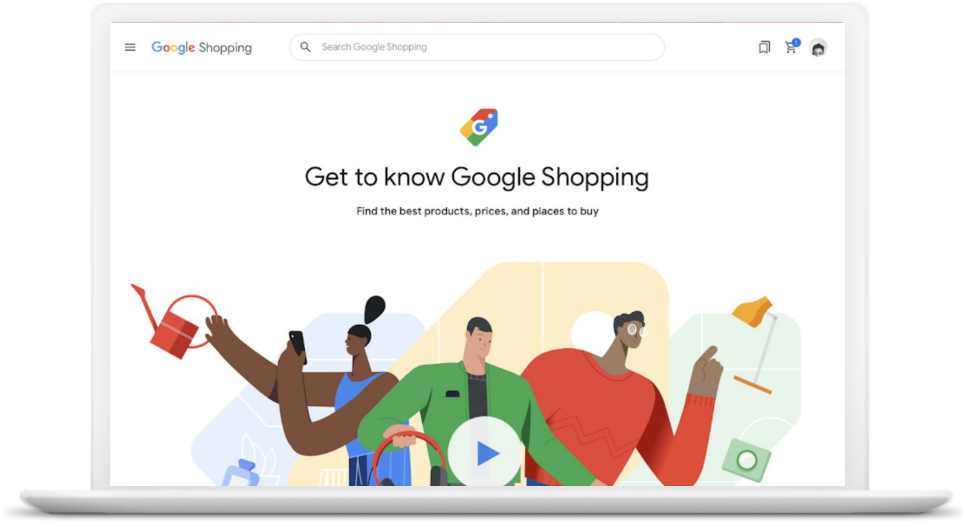
A new brand (2018)



Google Shopping

Shortly after the updated Google Express launch, all of Google's shopping teams were reorganized into a single product experience under a new shared consumer brand, Google Shopping.

A new branded experience (2019)



The following projects highlight a few of my key contributions to the design of this new experience.

Navigation

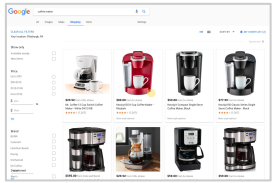
Year: 2018-2019

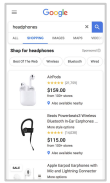
Platform: Mobile Apps

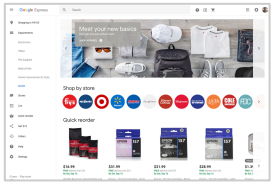
Role: UX lead

Overview

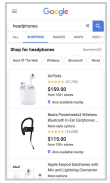
Web

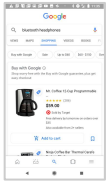


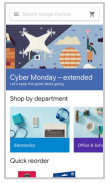




Apps







Google Search

Google Express

I oversaw the brand update across the following existing products, which required updating the respective chrome to enable a single, cohesive experience:

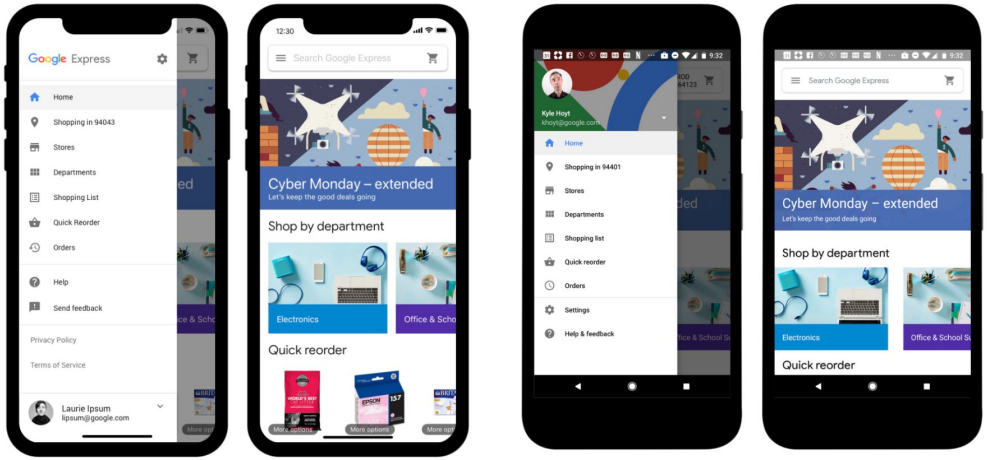
- Shopping tab on Google Search desktop web
- Shopping tab on Google Search mobile web
- Shopping tab on Google Search app on Android/iOS
- Google Express responsive web (desktop and mobile)
- Google Express app on Android/ iOS

Navigation

App navigation

App navigation

Discovery



iOS

Android

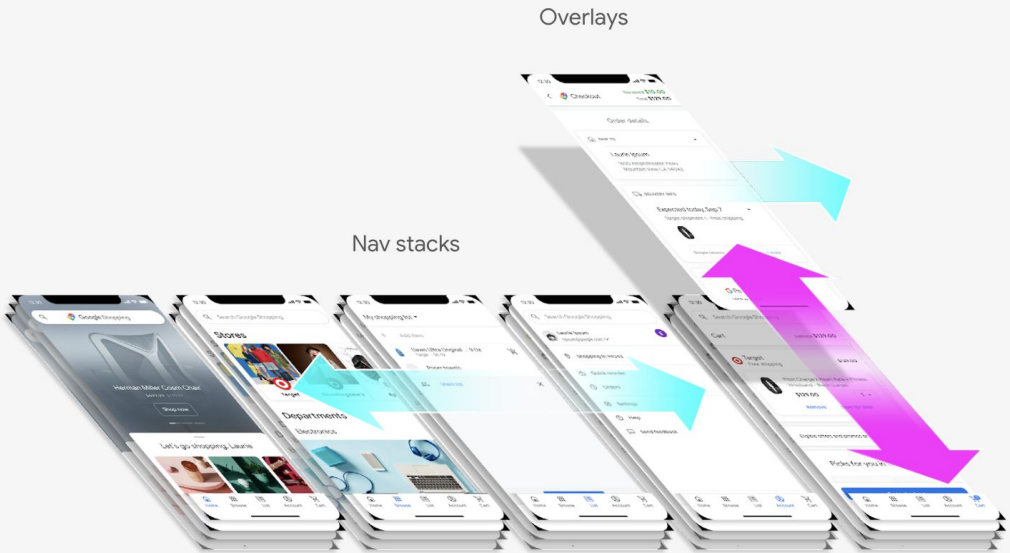
For the former Google Express apps, our team was in a unique position to customize the complete end-to-end experience.

Working with the tech lead on mobile apps, we proposed taking the opportunity during this update project to radically streamline the navigation and implement a bottom navigation model for both iOS and Android.

In the current apps, the experience was entirely drill down with access to top-level entry points requiring user navigation back to the home screen and accessing a little used navigation menu.

App navigation

Architecture



I defined the updated app architecture model based on competitive analysis of equivalent apps within and outside Google.

The top level entry points for the bottom nav were determined by reviewing app user data, reducing the 10 entry points from the current nav to just 5. A new Account entry point consolidated many often-referenced pages in a single destination.

iOS Data taken from 10/1-10/16 timeframe

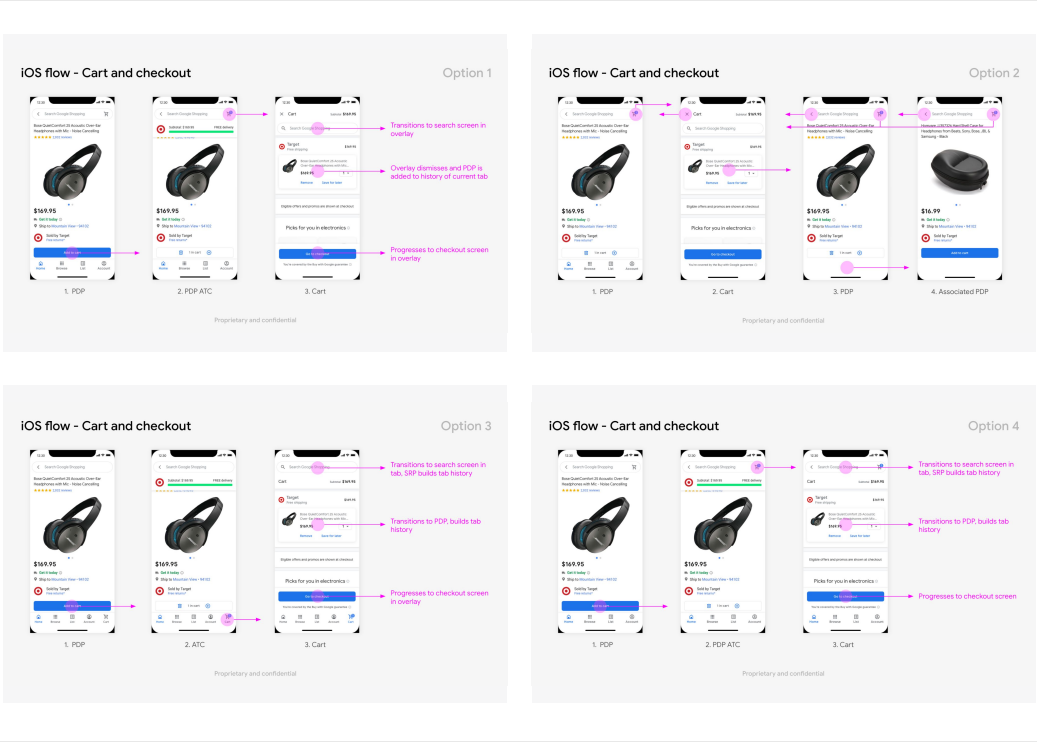
Browse screen (PDP, SRP, Dept)	**3,072,668 (45.24%)**
Main screen (Homepage)	**1,139,175 (16.77%)**
Shopping list	**458,477 (6.75%)**
Shopping cart	**414,443 (6.10%)**
Checkout	**139,679 (2.06%)**
Order details	**97,520 (1.44%)**
Stores	**51,808 (0.76%)**

Android Data taken from 10/1-10/16 timeframe

Browse screen (PDP, SRP, Dept)	**1,532,141 (47.39%)**
Main screen (Homepage)	**559,283 (17.30%)**
Shopping list	**230,192 (7.12%)**
Shopping cart	**196,141 (6.07%)**
Checkout	**65,456 (2.02%)**
Order details	**56,657 (1.75%)**
Stores	**31,724 (0.98%)**

App navigation

Design

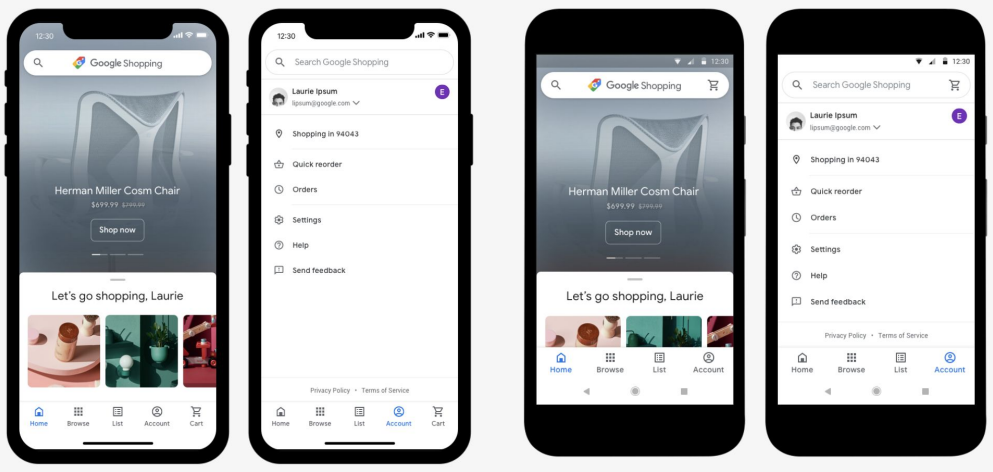


During the design phase, I led UX and considered multiple approaches to critical user journeys for the buying experience on the app.

Particular attention was paid to determining a solution that addressed both user needs as well as technical constraints across both iOS and Android to deliver a consistent experience for all users.

App navigation

Implementation and results



iOS

Android

Final design and implementation required slightly different models between the iOS and Android platforms for launch, with a plan towards complete parity within the next year.

However, key metrics on launch were significantly positive on both platforms:

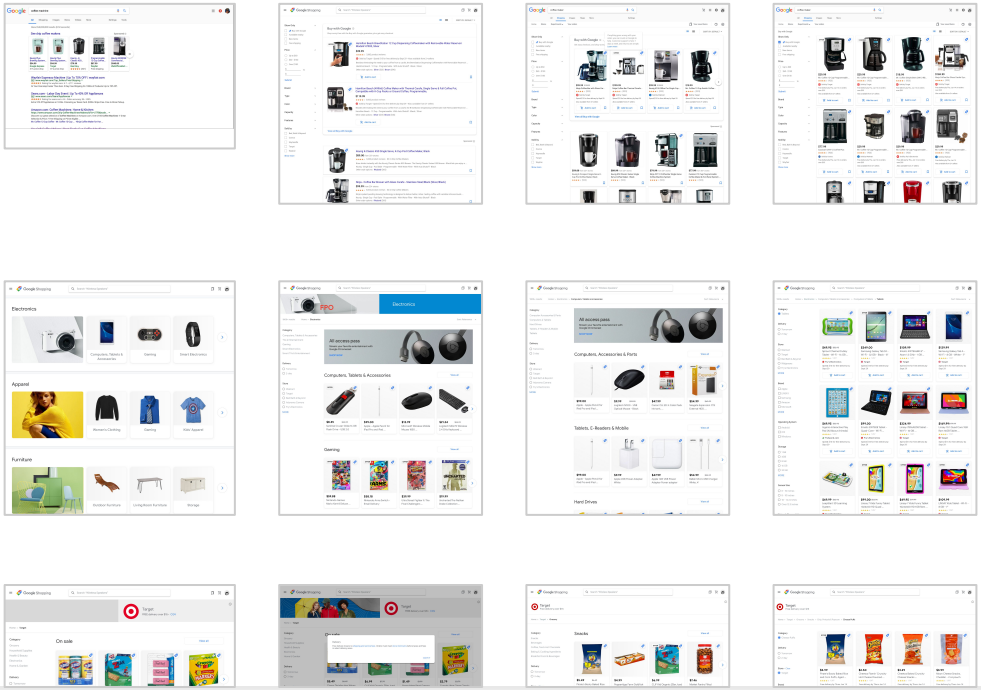
- Placed GMV: iOS **+9.63%** | Android **+14.70%**
- Page views: iOS **+4.03%** | Android **+4.90%** (sig.)
- Orders, ATC clicks, search metrics: neutral (as expected)

Navigation

Web navigation

Web navigation

Discovery



For web surfaces, the new brand and experience had to integrate into a number of existing products and components, many often connected within one user flow.

Initially, the teams were tasked to independently design the experience for their surface, which led to numerous inconsistencies between screens in critical user journeys.

After auditing the early work, I proposed a dedicated UX track for navigation and worked across teams to create a cohesive navigation solution for desktop and mobile experiences on web.

Architecture

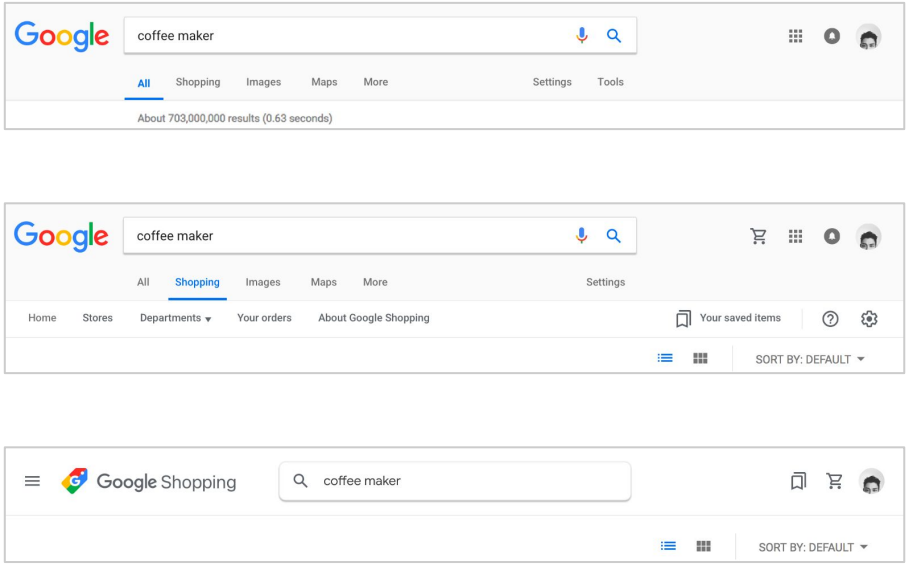
Google Shopping header

Direction 1 - Mixed experience

The first step towards a cohesive navigation system was to clearly map the user journeys.

I met with team leads and developed a set of navigational maps. I iterated on multiple directions of these mappings to review with stakeholders and reach a consensus on the high-level strategy for navigation.

Design

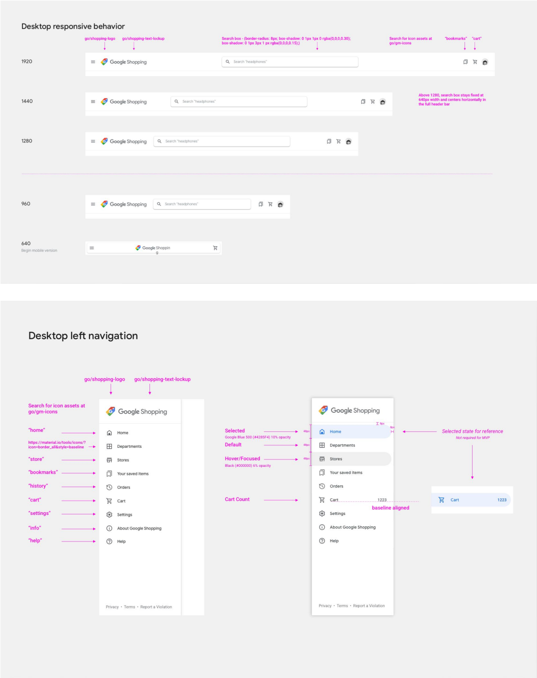


Unlike mobile apps, our team did not have full control in regards to the chrome for each surface and could not create a single, consistent navigation structure. We were required to work within the existing navigation elements.

Instead, I worked with developers across the experience to evaluate what was feasible for implementation on each respective surface and focused on maintaining key navigation entry points in a relatively similar placement and presentation throughout.

Web navigation

Implementation and results



T2 navigation on GX pages (Home/Cart/Checkout/Stores/Categories/Settings)

	Feedback	Breakpoint	Header type	Reference Screenshot	Priority	Status
3	Update solid icons to gm2 outlined svgs	All breakpoints	Double and single header		High	Open
4	32x32px user profile avatar should be positioned 30px from the right edge	Desktop	All		Low	Open
5						
6	Completed tickets					
7	Sidenav Google shopping header should not be fixed position	Desktop, Mobile	Sidenav	https://screenshot.googleplex.com/uRL1qLrRe2W	Medium	Closed
8	Update sidenav spacing, hover state and bottom link style	Desktop	Sidenav	https://screenshot.googleplex.com/WgfTCjNQKuD	Medium	Closed
9	Space above search bar is 6px.	Mobile	Single header		Medium	Closed
10	Horizontal rule below header only appears on scroll. Hidden at default position.	Mobile	Double and single header	https://screenshot.googleplex.com/bN39kAxwJGq		Closed
11	Menu and Cart icons should be 24x24px. Margin-left on Menu icon and Margin-right on Cart icon should be 18px.	Mobile	Double and single header	https://drive.google.com/file/d/1ymVSIcOx346f2W7UmB1cSEC8lFgguUfc/view?usp=sharing		Closed
12	Cart Badge should be blue #1A73E8	All breakpoints	Double and single header			Closed
13	Margin-left and right on search bar is 8px.	Mobile	Double and single header			Closed
14	Update dropshadow on header (only on scroll) to a single box-shadow: 0 1px 7px 0 rgba(0,0,0, 0.19). Add transition state to dropshadow so it's doesnt come in so abruptly	All breakpoints	Double and single header		High	Closed
15	Search box should be white with a shadow, not grey	Desktop	Cart, Departments, Stores, Orders, Settings		High	Closed
16	Header height should be 86px not 64px	Desktop	Homepage, Cart, Departments, Stores, Orders, Settings		High	Closed
17	Logo assets are incorrect in exposed search box	Desktop	All		High	Closed
18	Height of search bar should be 48px not 44px.	Mobile	Double and single header			Closed
19	https://shopping.google.com/u/0/s?oc=best_sellers&upb=true Best Sellers Page is not using the correct "Google Shopping Lockup". Please use: https://drive.google.com/drive/folders/1KbgsdVW2POA84kXPbyxjcyHGtNiGC4sz?usp=sharing	All breakpoints	Single header		High***	Closed
20	Update "Google Shopping" Lockup to 136x24px. Lockup is 10px away from Shopping Tag https://drive.google.com/open?id=1LQXkjBgldYnHOjVGX9x59zUUd1wgY1sK	Mobile	Double and single header		High	Closed
21	https://shopping.google.com/u/0/s?oc=best_sellers&upb=true Invoked Search bar is cut off on bottom	Mobile	Single Header		High	Closed
22	Make sure "Google Shopping" Lockup is 170x32px and aligned with the height of the 32x32px tag icon (it looks like it's being sized down slightly currently) . Lockup is 12px away from Shopping Tag	Desktop	All headers and sidenav		High	Closed
23	Sidenav is missing "Help" link	Desktop	Sidenav		High	Closed
24	Nav should be inverted when on a darker background. i.e. menu, cart, google shopping lockup should be white	All breakpoints	Homepage splash header	Desktop: https://screenshot.googleplex.com/V0O3v4uvnuL Mobile: https://screenshot.googleplex.com/inmmyBC5LyX	High*****	Closed
25	Search overlay should have extend from search box, not be appended below (rounded corners should move to the bottom of the overlay)	Desktop	All	https://screenshot.googleplex.com/eqizsWV9X1Q	Medium	Closed
26	Icons should be Google Grey 700	All breakpoints	All	https://screenshot.googleplex.com/OAUinVk5aS5	Medium	Closed
27	Search bar should be no longer than 640px	Desktop	All	https://screenshot.googleplex.com/Zo3UtJF7Jj6	Medium	Closed
28	Type on sidenav text labels should be Google Sans Medium	Desktop	Sidenav	https://screenshot.googleplex.com/8DpeNjF1AvT	Medium	Closed
29	See redlines for name and email font styling in profile footer	Mobile	Sidenav	https://screenshot.googleplex.com/Ki3iXjvyyom	Medium	Closed
30	Sidenav spacing is incorrect. Spacing between icons and text labels should be 16px.	Mobile	Sidenav	https://screenshot.googleplex.com/9eEwQSbQfrA	Medium	Closed
31	See specs for Report a Violation	Mobile	Sidenav	https://screenshot.googleplex.com/DLwcFUPX1QB	Medium	Closed
32						
33	Sidenav icon need to be updated to GM2 in Google Grey 700	All breakpoints	Sidenav	https://screenshot.googleplex.com/seFrqyv0Jhn	Medium	Closed
34	Sidenav spacing is incorrect. Left margin should be 24px. Spacing between icons and text labels should be 16px.	Desktop	Sidenav	https://screenshot.googleplex.com/vNkqL8oRUM8	Medium	Closed
35	Sidenav should be 288px wide (to cover underlying logo)	Desktop	Sidenav	https://screenshot.googleplex.com/FoRqUAEskvb	Medium	Closed
36	Sidenav profile footer have box-shadow: 0 1px 4px 0 rgba(0,0,0,0.24);	Mobile	Sidenav	https://screenshot.googleplex.com/GXyjw9r5ftp	Medium	Closed
37	Sidenav should display cart item count on right	All breakpoints	Sidenav	https://screenshot.googleplex.com/xptUxOZTegN	Medium	Closed
38	Last name is missing from sidenav profile footer	Mobile	Sidenav	https://screenshot.googleplex.com/q1UEo7NgZjs	High	Closed
39	Update "Orders" icon	All breakpoints	Sidenav		Medium	Closed
40	Type on sidenav text labels should be Google Grey 800	All breakpoints	Sidenav	https://screenshot.googleplex.com/btYryashvD8	Medium	Closed
41	Inconsistent spacing in sidenav footer	Desktop	Sidenav	https://screenshot.googleplex.com/TZwXx3O5dKa	Low	Closed
42						

Given the number of surfaces and development teams on the end to end experience, this project required extra care and attention to detail in the final implementation process.

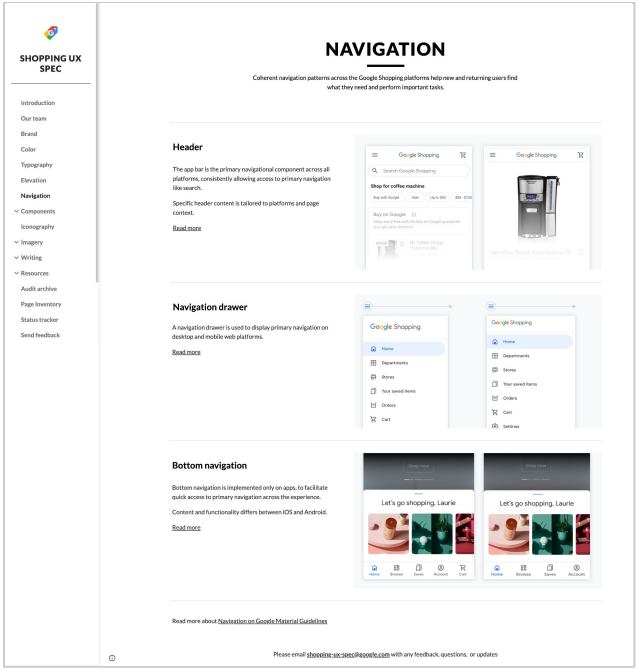
I delivered detailed redlines for all surfaces and responsive breakpoints and regularly reviewed builds to catch inconsistencies, filing and tracking dozens of bugs over the course of the project.

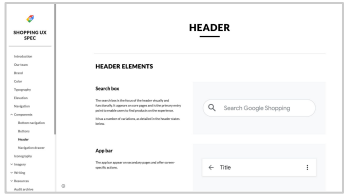
The primary goal for launch metrics was to be metric-neutral, so our team paid careful attention to making a smooth transition and the launch performed as expected.

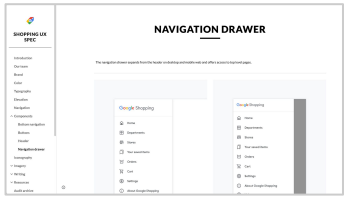
Navigation

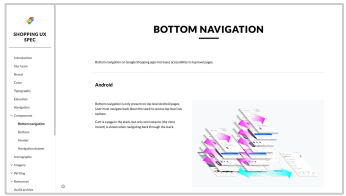
Final delivery

Documentation





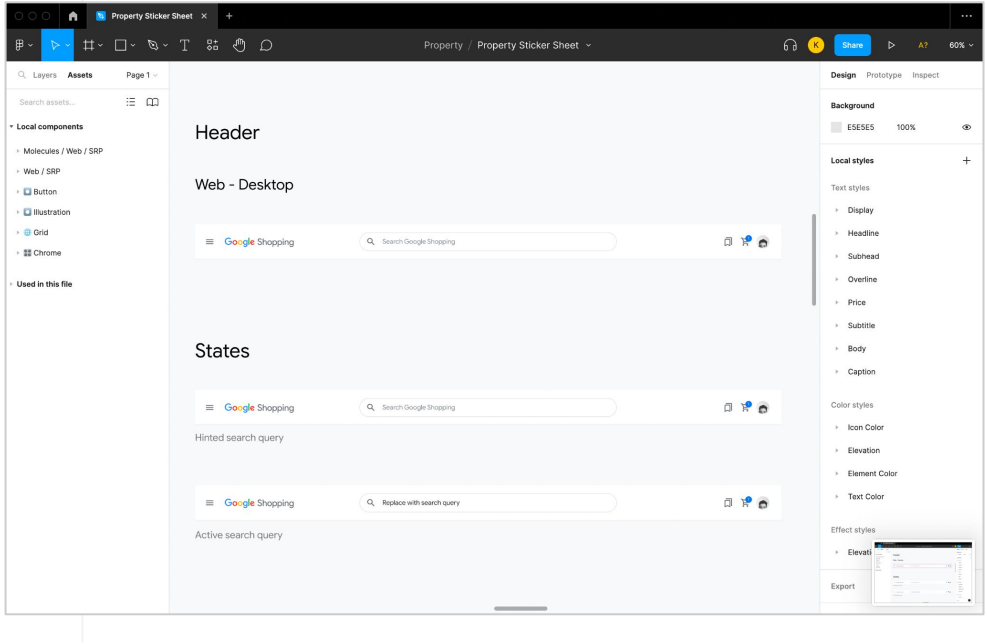




Within the UX team , I served as a lead consultant and contributor to our design system documentation and resources for the new brand experience.

I documented all navigation components across the desktop/mobile web and mobile app experiences within the shared UX spec (pictured) to provide guidance to the team as they developed new features for the Google Shopping experience.

Resources



I translated all navigation components to fully responsive and configurable elements in our central Sketch and Figma UX stickersheets.

These components were made available to the internal UX team as well as dozens of partner teams to align presentation across all upcoming projects.

Design System

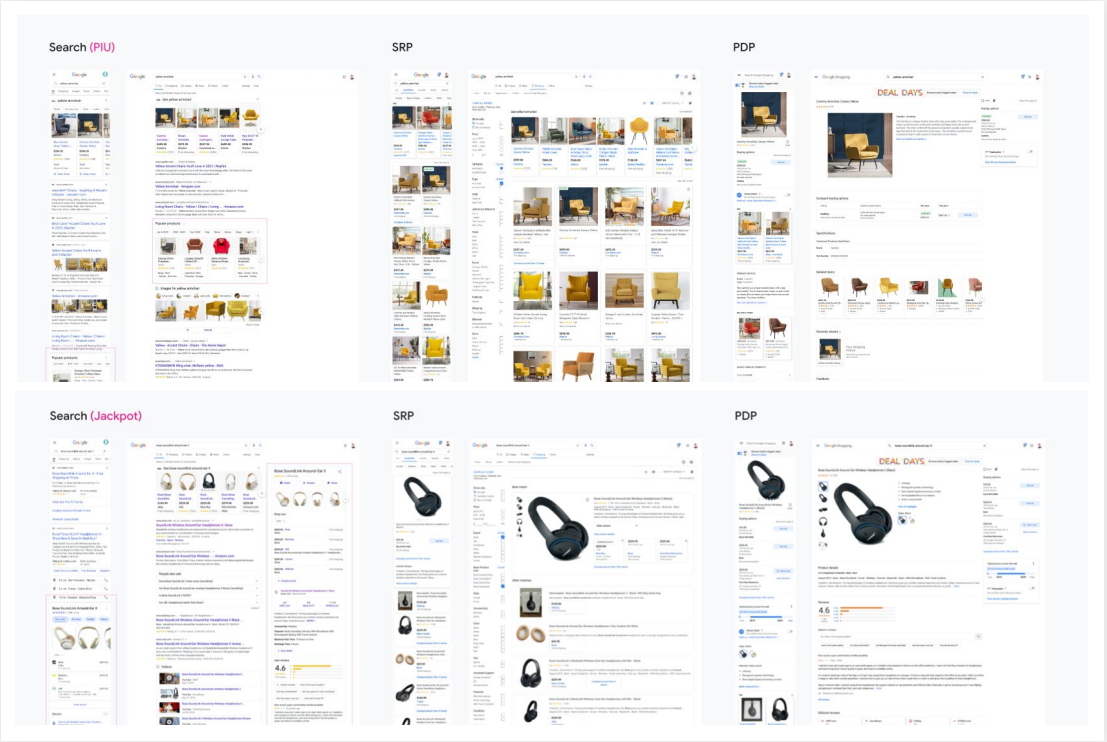
Year: 2020+

Platform: Web (Desktop/Mobile)

Role: Design lead and manager

Design System

Discovery



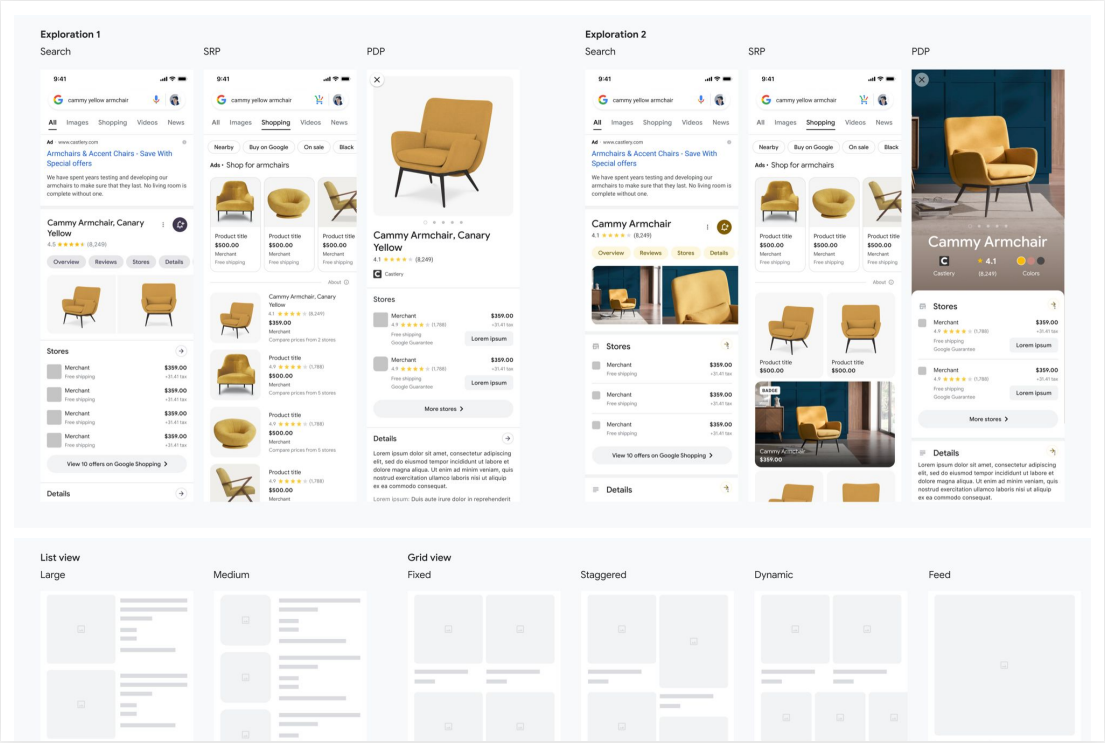
After the launch of the new Google Shopping experience, I continued to drive the evolution of the design system for the UX organization.

I conducted a yearly audit of the critical user journeys on the live experience on mobile and desktop, along with a review of design work in progress to define areas of opportunity and improvement.

Each journey was captured as a flow with individual screenshots for each surface.

This case study shows portions of the process for the 2021 update cycle.

Design

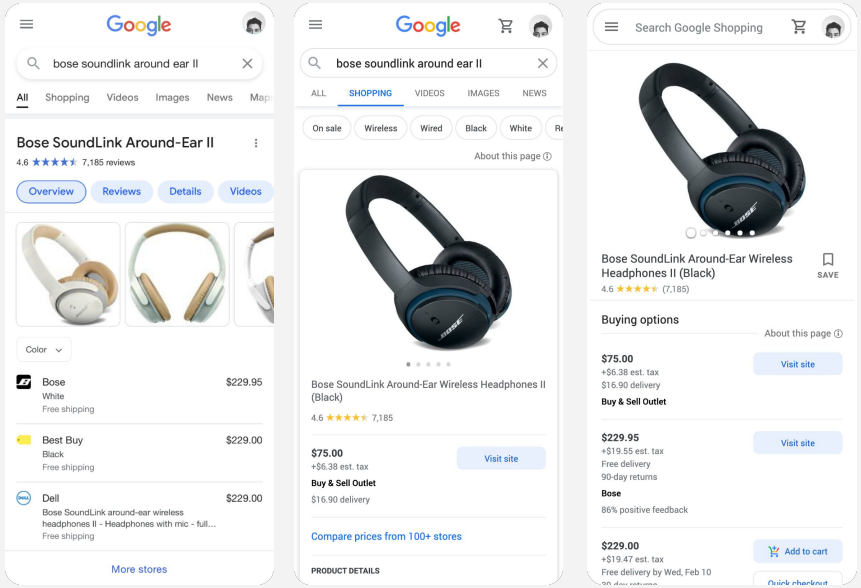


Once I reviewed the existing state with my team, I organized a creative sprint and assigned flows to individual designers to explore options ranging from simple cleanup to align elements to the documented system to more directional mocks with new patterns and presentation for consideration.

As a team, we shared and critiqued approaches with key stakeholders and continued iteration until we reached alignment on a proposed direction for design system updates.

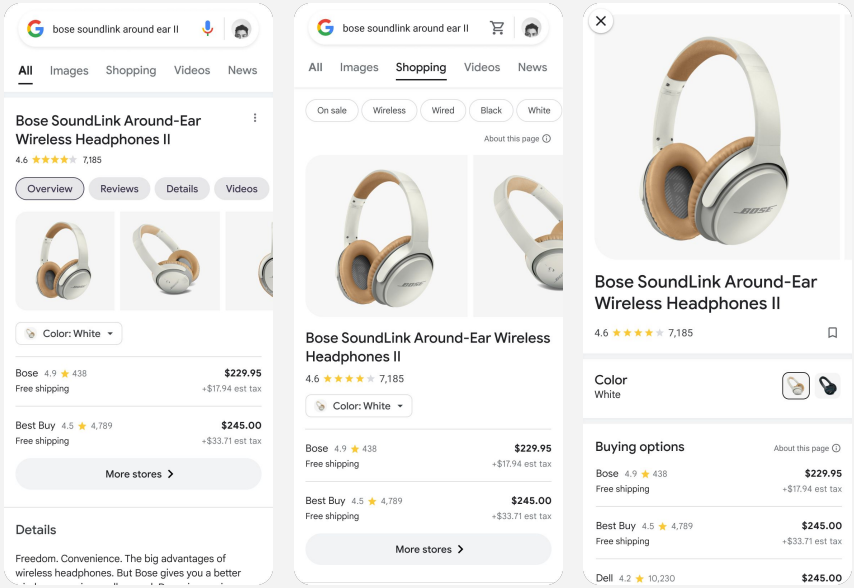
Design System

Proposal



Before

Each surface had independent styles and layout

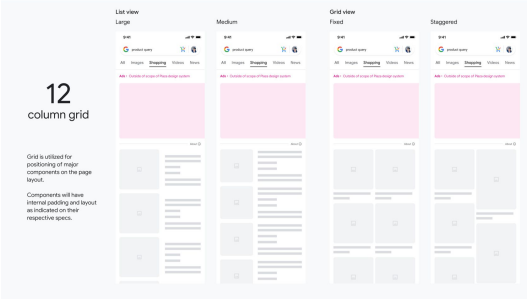


After

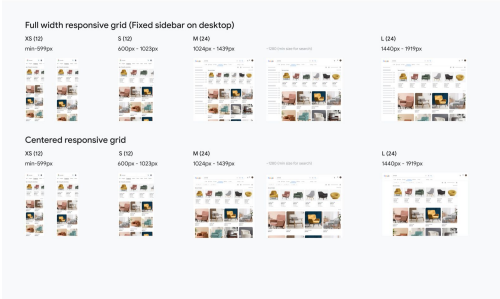
Alignment and modernization of styles, layout with shared components

Implementation

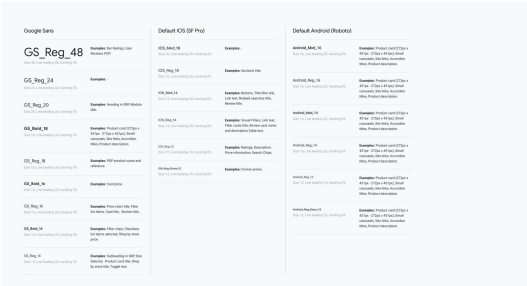
Mobile grid



Desktop responsive grid



Mobile / Type stack



V1 Components

This is the set of components needed for initial release (v1) of the Shopping Design System.
Components from the backlog will be targeted for future updates.

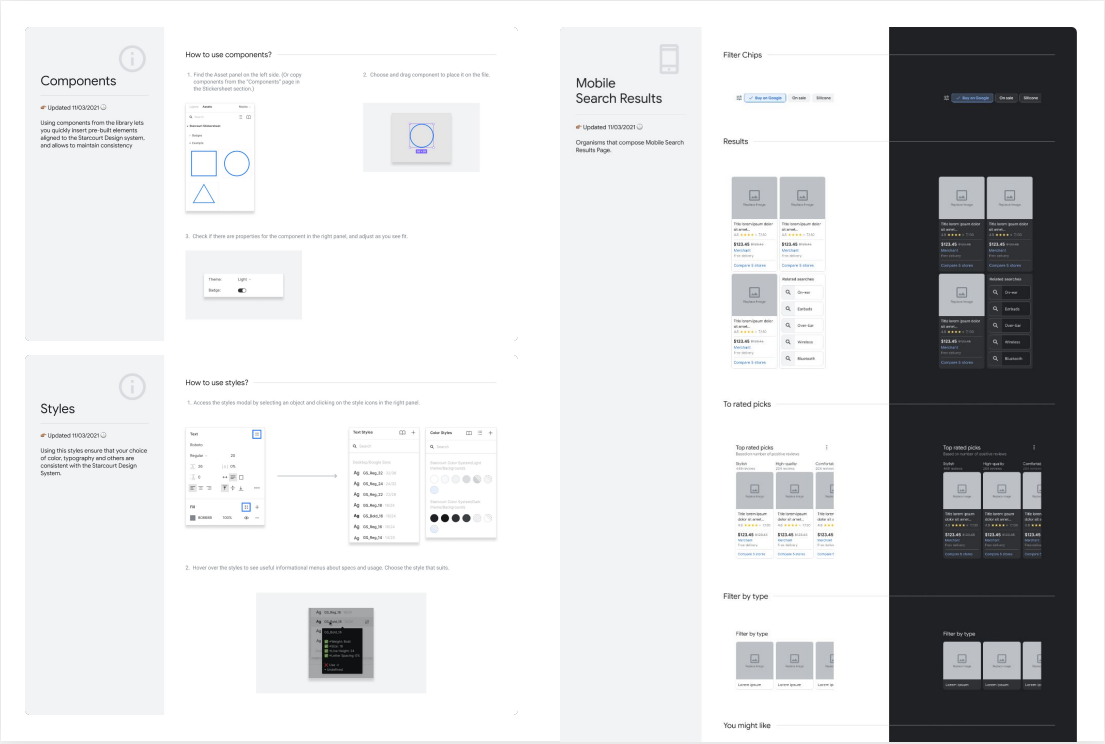
Component Linked	Component designer	Surface	Q1 2021 Goal	Q2 2021 Goal
User reviews		Jackpot, PV, PDP	Design complete	MVP ready
Critic reviews		Jackpot, PV, PDP	Design complete	MVP ready
Price insights		PDP	Design complete	MVP ready
Price tracking		Jackpot, PV, PDP	Beta	Design complete
Product cards		PIU, Prop SRP	Beta	Design complete
Seller/offer grid		Jackpot, PDP	Beta	Design complete

Once the proposal was reviewed and approved, I led my team in the documentation and socialization of design system updates, through topic tearsheets and guidelines that were shared with the UX design teams.

My designers were embedded with project teams to implement and iterate on the design approach.

I worked with product management and project teams to map updates to the product roadmap and tracked progress throughout development.

Documentation and Resources

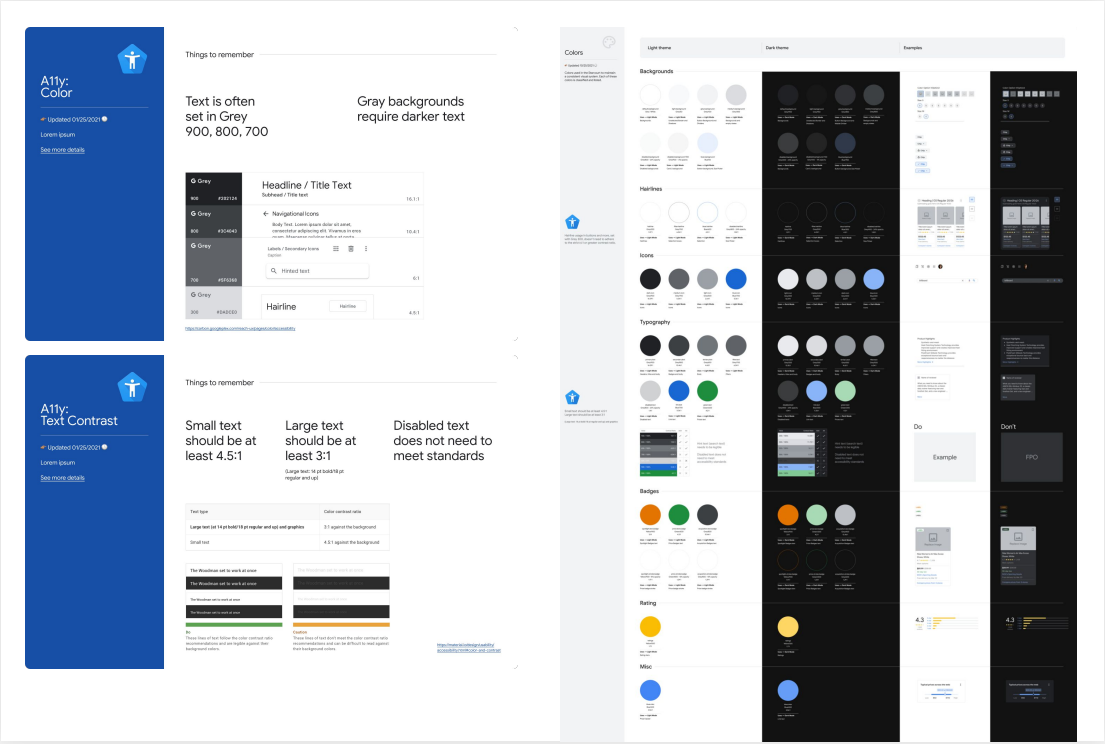


Once elements had been fully tested and launched, we incorporated the final UI components into a shared Figma library of flexible components with inline documentation.

I directed an external agency in the initial production and testing of all components and styles for the baseline library file and then worked with my internal design team to handle updates and fixes.

The library was utilized by dozens of teams, with hundreds of component insertions on a monthly basis.

Ongoing support



Once the library was delivered, I continued to improve the consistency and utility of the resource for our UX organization.

This was the case for accessibility, which was not included as a feature in the initial delivery. I worked with my internal design team to audit the system for accessibility compliance and directed the development of consistent accessibility documentation within design files.

With accessibility built into UX components, we saw a reduction in common accessibility bugs like contrast and tap targets in feature launches in subsequent launches.

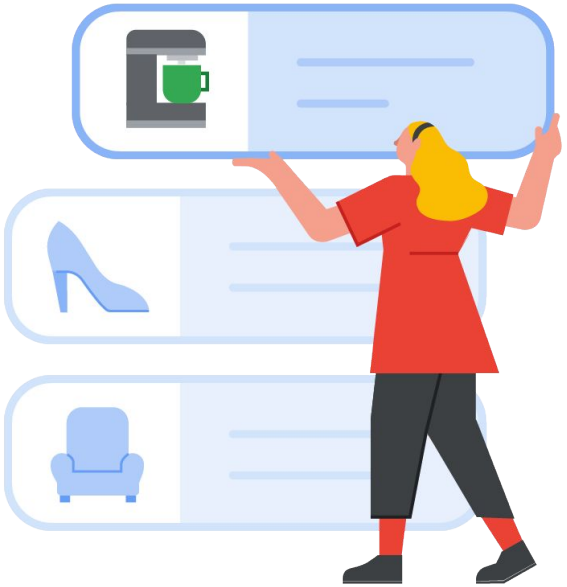
Design Process

Year: 2021-2022

Role: Design lead and manager

Overview

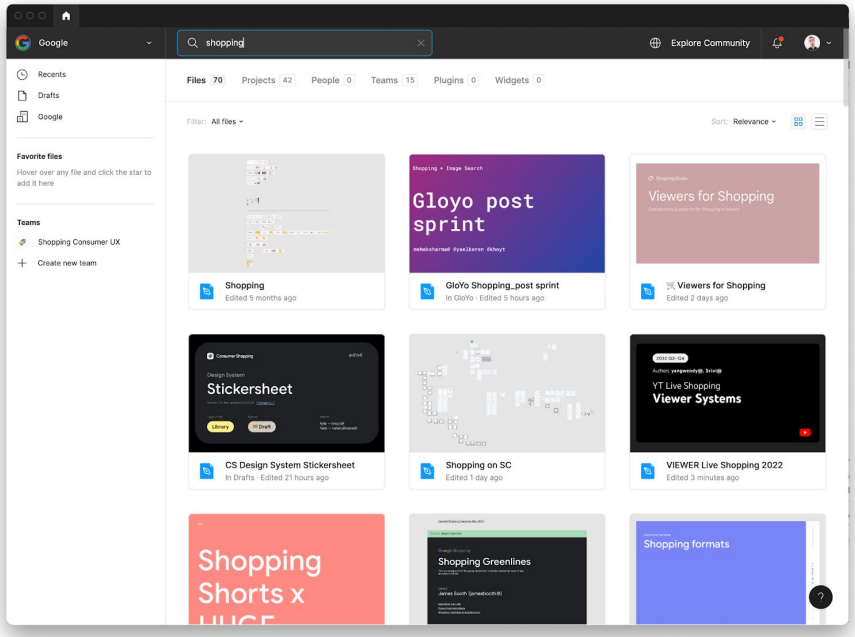
As the manager for a design system and visual team that supported the larger UX organization of Google Shopping, a significant portion of my time and effort was devoted to introducing and refining processes to improve the quality, consistency and impact of our team members and their work.



Over my time in this role, I established systems for project intake and tracking, internal team critiques and cross-functional office hours to consult on design, as well as a number of tools and resources for design system integration.

One of the final processes that I delivered was an improved file structure and templates for our Figma work, which is outlined in the following slides.

Figma usage for Google Shopping



Figma as a tool was fairly new to our UX organization. It was piloted with a small team of designers in 2019 and then phased in gradually to the entire team, with a rapid acceleration of adoption as we entered remote work in the early stage of the pandemic in 2020.

There had never been a formal plan for rollout or guidance on usage, so individual designers and project teams had adopted radically different approaches.

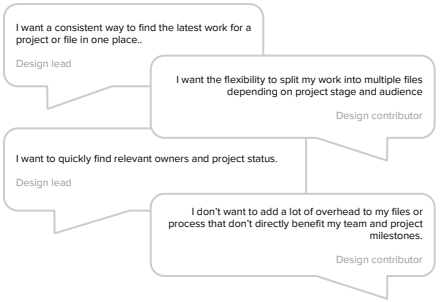
By late 2022, there were hundreds of files and it was difficult for designers, leads and partners to effectively find and share work.

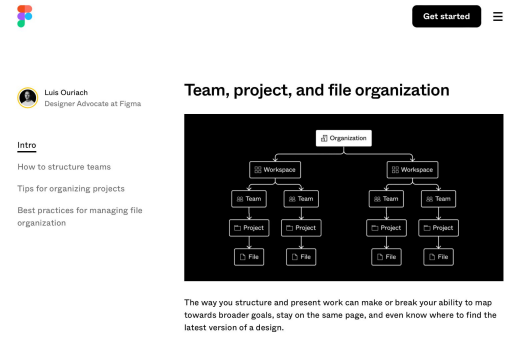
Discovery

Current stats (as of 12/14/2022)

Current (Known*) **Teams**	Number of **Projects**	Number of **Files**	Number of **Projects** with 0-1 **Files**	Number of **Projects** with no updates in 6 months
Shopping Consumer UX	56	448	18 (32%)	25 (44%)
ProductX	Unknown (Private)	Unknown (Private)	Unknown (Private)	Unknown (Private)
Local Shopping	30	107	7 (23%)	16 (53%)
Shopping	5	6	4 (80%)	3 (60%)
Starcourt	15	17	11 (73%)	13 (86%)
Shopping Indigo	1	1	1 (100%)	1 (100%)
TOTAL	107	579	41 (38%)	58 (54%)

* More teams may exist that are not clearly labeled as Consumer Shopping teams or hidden





I began exploring an approach to improve our Figma usage and structure across the organization by conducting research.

- **Audit**
  I audited the current state and compiled exact numbers for projects, teams and files to understand scope
- **Interviews**
  I conducted dozens of interviews with leads, designers and comparative teams within Google
- **Best practices**
  I reviewed guidelines from Figma and compiled case studies from comparative organizations outside of Google

Proposed approach

Proposed File Structure in Figma

Option 1: Multiple Teams (Recommended)

Replace the single "Consumer Shopping" team folder, with multiple folders for each Pod in Shopping. i.e. ShoppingX, ProductX, Studio, and so on. This approach is the same method used by Travel and Youtube, until Figma allows for another level of hierarchy to support SubTeams (or SubPods).

View sample team in Figma

Figma Hierarchy:

Organization	Team	Projects	Files
Google	[CSUX] ShoppingX	Browsy Shopping	Refinements
			MVP
		Product Cards	Framework
			Variants
	[CSUX] ProductX	Considerations	Comparison
		Viewers	Framework
	[CSUX] SparkX	Growth	Notifications Suggest
		Discover Stateful	Experience 1) Inspiration clusters 2) Inspired journeys 3) Task Completion Personalization Content Corpus Explore Resumption
	[CSUX] Studio	Design System	Sticker Sheet
		Resources	Templates

Option 2: Single Team

Create more structure in today's hierarchy, by keeping the **Team level** exclusively for "Consumer Shopping", as we have today. The next level, **Projects,** would then be *pods* and *teams* to provide more structure.

Figma Hierarchy:

Organization	Team	Projects	Files
Google	Consumer Shopping UX	ShoppingX	Browsy Shopping Refinements
			Browsy Shopping MVP
			Product Cards Framework
			Product Cards Variants
		ProductX	Considerations
			Viewer Framework
		SparkX	Notifications SuggestGrowth - Notifications
			Experience 4) Inspiration clusters 5) Inspired journeys 6) Task Completion Personalization Content Corpus Explore ResumptionStateful Resumption
		Studio	Design System Stickersheet
			Templates

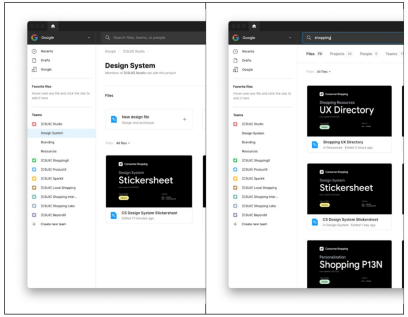
After reviewing and synthesizing all of the research, I drafted a proposal document to outline multiple approaches for file structure.

Using the research findings, I identified a recommended approach and reviewed with organizational leads.

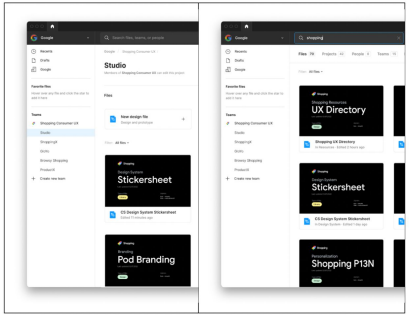
Instead of an unregulated organization of teams, this approach would formalize multiple teams with the leads as owners of their respective area.

This was contrasted primarily with a single team structure, with limited hierarchy.

Proposed approach



Pros	Cons
Multiple teams allow design files to be organized into a consistent discoverable framework for collaborators and leads to locate latest work	Multiple teams removes a single entry point for all Consumer Shopping work
For internal collaborators, mapping to established teams will provide an understandable structure	For outside collaborators, internal team areas and focus may be unclear
Projects can be separated from teams to provide more predictable browsing of file hierarchy	Projects that are larger initiatives may require new team
Long term will provide more predictability	Short term may cause confusion as teams and initiatives migrate over to the new



Pros	Cons
Single entry point for all Consumer Shopping work	File list becomes unmanageably large at the project level, with no ability to group files beyond a team or broad initiative
In the short term, cleanups can be made without disrupting current structure of files	Long term, short term gains may be lost as the project layer is expanded further with projects completing and starting
Wait for Figma to introduce a Sub-Team level	No current plans for Figma to do that

The proposal contained representative mocks with pros and cons for each approach to allow leads and reviewers to evaluate the tradeoffs associated with each.

These tradeoffs were drawn from feedback we received from other teams within Google who had implemented one of the documented approaches, and examples of their system were linked in the appendix for further review.

Based on feedback, leads were most concerned with consistency across all work and a proven precedent for success.

Proposed deliverables

Proposed Page structure within Figma files

Regardless of which structure we utilize to organize files, all files should be organized in a cohesive manner and displayed consistently within search and browse results.

Figma allows for the creation of pages within each file, to aid in sharing and comprehension of UX work, a consistent page structure is recommended for predictability in browsing UX work between varying projects.

- **Cover**
  - Every file should utilized a templated cover page with the project name, status and owners identified
- **Latest Design**
  - An area to organize flows, mocks and prototypes for iteration and review. Badging used to note status changes.
- **Specs and Documentation**
  - An area for final designs and documentation to inform implementation
- **Admin**
  - An area exclusively for file owners to store components and other items that are not intended to be shared and reviewed by collaborators and stakeholders

Dividing lines, indents, and Emojis are recommended to provide visual structure and differentiation between the areas of the file.

Cover guidelines

A consistent cover template is critical to improving browsing and discovery within the Figma search results and within the individual files themselves.

The cover is both an entry point to the file and the thumbnail that appears in search results.

Cover content:

- Team that owns the file
- Project/workstream name
- File name
- Last updated
- ldap of file owner(s)
- Type of file
  (Design / Spec / Library / Process)
- File status
  (Draft / In progress / Final / Archived)
- [Optional] Go link for sharing

The cover page will be set up as a shared template component, so updates can be published across all cover pages. This will allow us to update the presentation over time and explore variations on the core template to allow for differentiation between teams and initiatives.

Resources

- View Figma file template

Process

How we will do this

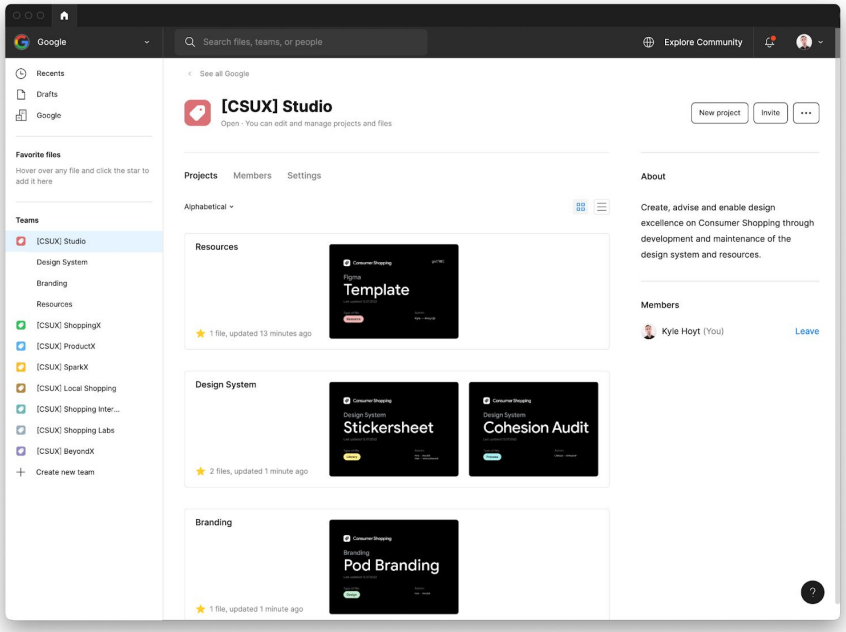
1. Get approval & align with team leads to ensure our proposed structure works for team needs
2. Create folder structure & figma template components for teams to leverage
3. Train UXDs on the new process and be a resource if they have unique needs that don't conform to new structure
4. Oversee + help with the process of each pod migrating their files into the new structure *(Possibly a joint working session/fix-it)*

At the design contributor level, I proposed a flexible file template with shared components and resources.

This would create a cohesive presentation across files, with a predictable location for stages of work for reviewers. Additionally, it would reduce work for contributors by eliminating the need to constantly build common elements like cover sheets and mock frames.

Unlike leads and reviewers, contributors were focused on flexibility for their own project and wanted to streamline any shared approach without added overhead.

Implementation



After reviewing with leads and receiving feedback, I was able to move forward with the recommended approach.

I began building and piloting the approach with my team (shown here).

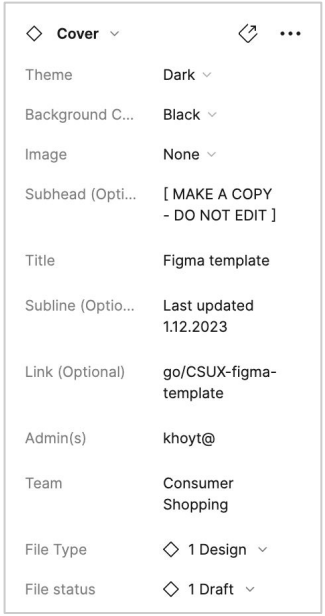
I worked with my team to convert our projects and files to the new system and began developing the final templates.

As we worked within the new system, I revised details and features based on team feedback and technical findings.

Final delivery

Base template

Customized cover sheets



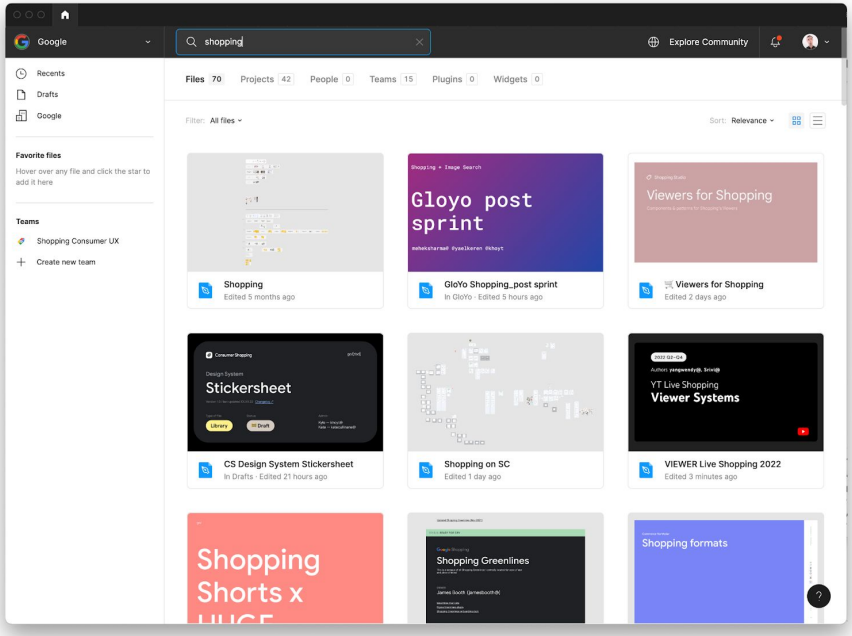
Template options

The final deliverables were published as a library, which was automatically enabled on all new files published within the new team structure. With this approach, our team could iterate on the existing template and resources and publish changes immediately across the wider organization.

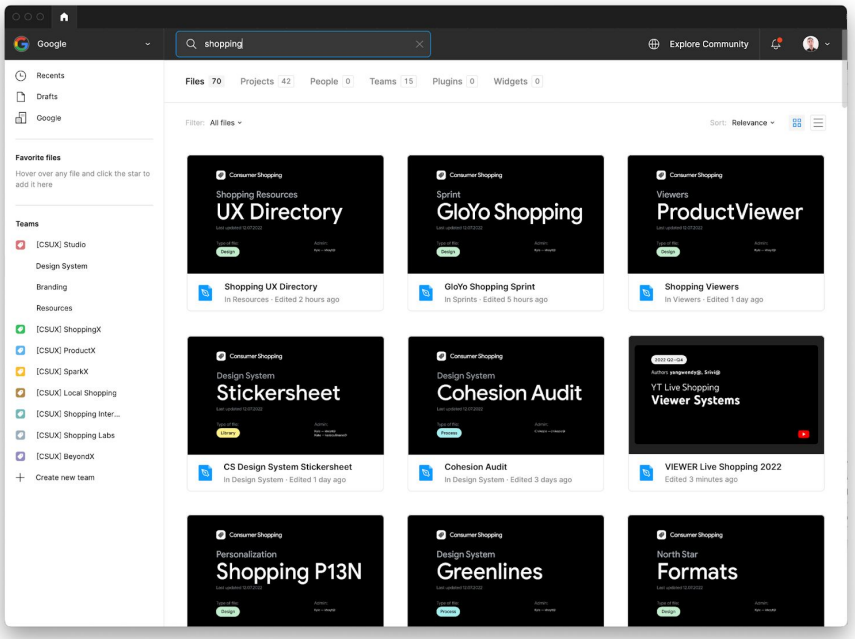
All components were built with full customization from the side panel in Figma, so novices and experts alike could drop them in their file and customize as needed.

This effectively balanced the consistency ask from leads with the flexibility ask from contributors.

Comparison



Before (Single team/No template)



After (Multiple teams/Base template)

Thanks!

See more samples of my work at
www.stationzero.org/kylehoyt