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Repok:

<https://github.com/fru1/UX-Design-ND>

## Define Design Sprint

Ideas, Ambiguity, and Risk

Ultimately, design is all about the following:

Building the right thing for our users.

But this statement is loaded with ambiguity. How do we know whether we've built the "right" thing? And on a more basic level, how do we even know who our users are? The answers may be unclear—and to make things more complex, these questions may mean different things to different members of the team.

When developing a new product, there are lots of risks. You might find that you're building the wrong product, targeting the wrong users, or simply that you have confusion and misalignment between different members of your team.

As the designer, part of your job is to ensure that your core design questions get validated answers, and that the team is in agreement on those answers. A software engineer will think differently from a sales person, and it's your job as a designer to speak a common language—while defining the problem and steering the ship towards a product that has a good chance of success.

[https://www.youtube.com/watch?time\\_continue=1&v=XgXVnC3H0YQ&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=1&v=XgXVnC3H0YQ&feature=emb_logo)

### The Design Sprint

To be successful in this role, you don't want to leave things up to chance—you want to have a good *process* in place for generating and refining your product ideas. And that's just what a *design sprint* is for.

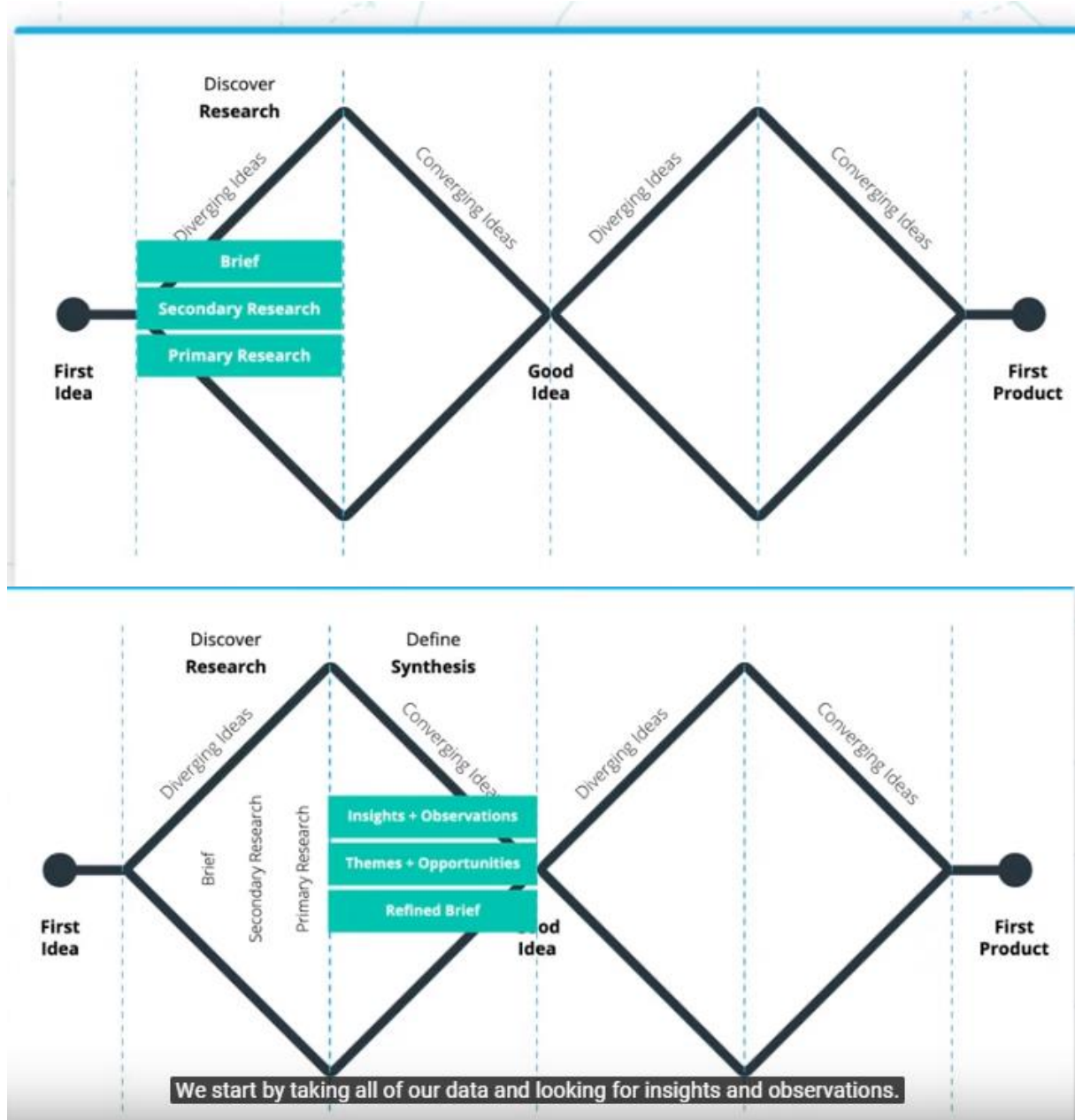
A **design sprint** is a process for collaboratively exploring, refining, and validating ideas—while simultaneously minimizing risk and getting alignment across your team.

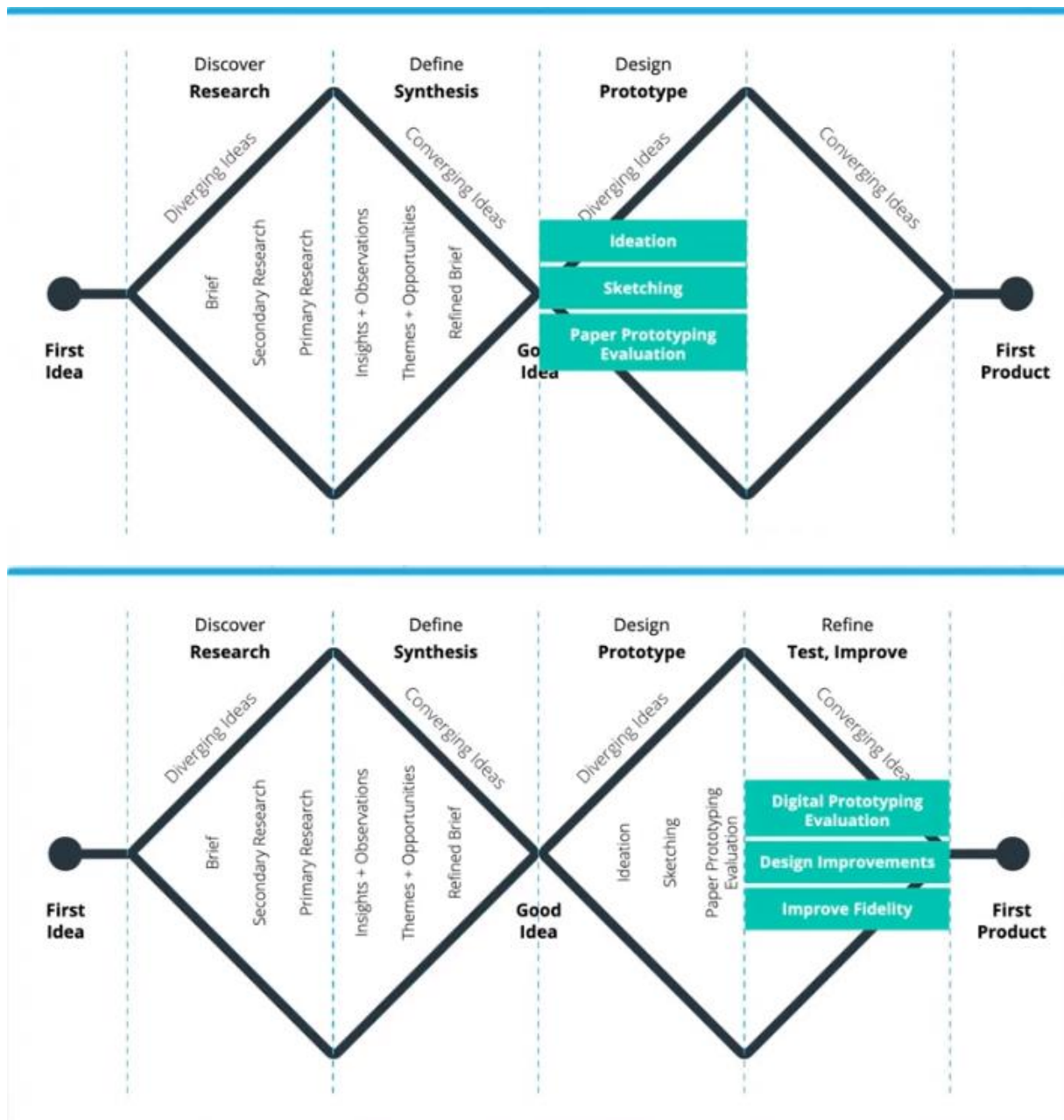
In this lesson, we'll explore design sprints. Specifically, we'll get into:

- The ideal design process—and how the constraints of your situation may make this ideal process impossible
- How you can apply techniques like *Guerilla design sprints* to get the job done in non-ideal scenarios
- How to collaborate with others, including tips on how to hold design workshops
- How to use techniques like *active listening* to incorporate research and user data into your design ideas

## The Ideal Design Process

[https://www.youtube.com/watch?time\\_continue=3&v=OlycEBIOqKs&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=3&v=OlycEBIOqKs&feature=emb_logo)





## Guerrilla Design Sprints

### Designing Within Constraints

The traditional double-diamond design process can be expensive and time-consuming. When we are designing in the presence of real-world constraints, it can sometimes be a good idea to step outside the traditional design framework, to get creative, and to improvise—to engage in what we might call **guerilla design**.

[https://www.youtube.com/watch?time\\_continue=12&v=NJj-yG1\\_iso&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=12&v=NJj-yG1_iso&feature=emb_logo)

## Collaborative Design

Building a really well-designed product is almost always best done by a team, not an individual. Every team member brings a different perspective and skillset, and this diversity is not simply something to tolerate—it is an incredible resource that you should deliberately build into your process and benefit from.

For example, effective collaboration can help to ensure you're not designing too deeply with your own bias. Let's say you are building a travel application. If you are a frequent flyer, you might have some personal pain points you'll want to solve. If you don't involve others, you might go down a path that is specific to your own unique experiences instead of designing something that is generalizable to other users. You also may not have the skills to build the product from end to end. In this case, you might miss key technical risks or business operations risks that will limit the project's impact later on in the process.

Collaborating early and often prevents these kinds of issues.

*Where Designers Design* [https://www.youtube.com/watch?v=hQh8mPvfNUw&feature=emb\\_logo](https://www.youtube.com/watch?v=hQh8mPvfNUw&feature=emb_logo)

#### *Understanding How to Obtain Buy-In*

Asking the questions presented in the video helps you to communicate effectively with your stakeholders. What you don't want to do is not learn from these conversations. If an engineer you're working with expresses they want to see more empirical, qualitative data, you should probably add some form of numerical analysis to your presentations for the next meeting instead of only including user quotes. I've seen designers fail to iterate on their own interactions, which leads to a strained, distant relationship between the designers who are interfacing with customers and the engineers who are interfacing with code.

#### **Share Key Progress**

Along our design journey, we'll be collecting data to inform our designs. "Data" can be anything, from what someone said or did, to some statistic about the state of an industry. As you watch the following video, think about the types of data and information you can present to stakeholders along the way so that they understand how your design came into existence.

[https://www.youtube.com/watch?time\\_continue=68&v=kMP09Bf1bU4&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=68&v=kMP09Bf1bU4&feature=emb_logo)

## Running a Workshop

### Facilitating Collaboration Sessions

As you're collaborating, you'll often want to engage your team in a workshop. These are a great way to ensure that everyone's ideas are being shared in a structured format. You'll often find that stakeholders who are not that engaged, will start to understand the process after a well-run workshop. People love to break from their day-to-day tasks to think creatively about interesting problems!

### Using Digital Collaborative Tools for Remote Workshops - Miro

It's great to have everyone in a single room, where you're able to move around, spread ideas on the walls, and keep **design artifacts** in view to aid inspiration.

#### **Design Artifact**

*A physical or digital graphic representing a key design step. Artifacts might be key user quotes, sketches, or other synthesized insights that can be shared with others so they understand the state of the project.*

However, your team may be distributed around the world or you might be exploring a start-up idea with no budget for an office. Getting everyone in the same room may simply not be possible or practical.

But don't worry; these days, there are some great tools that you can use to create a virtual space to house your design artifacts and work with your teammates. The tool we'll be using is an application called **Miro**. I'll show you the main features, and then you'll be using it throughout this course (and you'll use it for your final project as well).

first steps Sticky notes:

[https://www.youtube.com/watch?time\\_continue=168&v=Ael3Jz4KuCo&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=168&v=Ael3Jz4KuCo&feature=emb_logo)

<https://miro.com/app/dashboard/>



## Building Understanding

### Research Basics

You got some underlying knowledge in primary research techniques from the first course in this Nanodegree. But to make sure the ideas are fresh in your mind, let's do a quick refresher on some basic research principles.

[https://www.youtube.com/watch?v=IX2JB4ABCY8&feature=emb\\_logo](https://www.youtube.com/watch?v=IX2JB4ABCY8&feature=emb_logo)

### Active Listening - Writing Research as Atomic Nuggets

[https://www.youtube.com/watch?time\\_continue=61&v=4-19-1d3Tvl&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=61&v=4-19-1d3Tvl&feature=emb_logo)

The term **Atomic Unit** (with regard to design) was coined by WeWork's design team while building a research tool called Polaris. Ultimately as you're conducting research you'll want to be actively listening for these nuggets of knowledge.

As you're exploring your research, you can write **Active Listening** notes to capture these nuggets. These are post-it notes that contain just enough text to communicate a little bit of knowledge. These notes can include:

- User Quotes
- Facts and Desktop Findings
- Observations and AHA moments of inspiration (anything that stands out as important)

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### Example

Creating and organizing your active listening notes can be challenging. To help you get a feel for the amount and type of information to include (and how you might want to organize that information), you can check out [Gabe's Miro board](#) (or the screengrab of the board below).

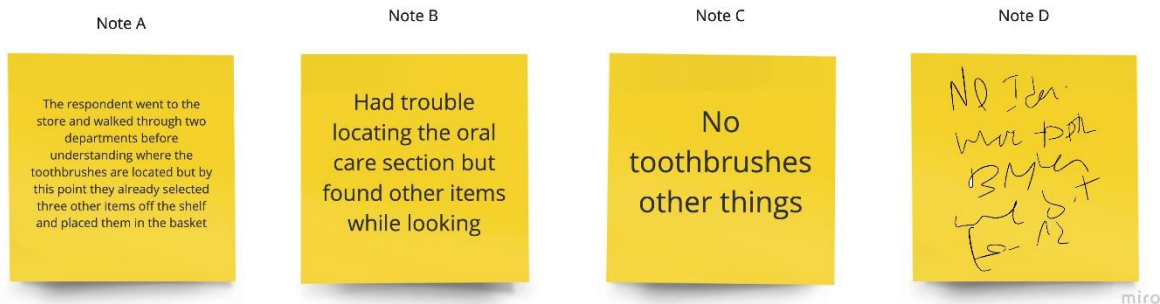
While reading the notes, try to think about:

- the level of detail of the note
- the choice of color of the card
- high-level themes that you might be noticing



miro

Use the graphic below to answer the following quiz question:



miro

**Process:** [https://miro.com/app/board/o9J\\_kxdWlQk=?moveToWidget=3074457346791138947](https://miro.com/app/board/o9J_kxdWlQk=?moveToWidget=3074457346791138947)

## Interview Notes

### Frequent Flier

- creates an itinerary in Google Docs
- carries extra cash in pouch in case of emergency
- books cancelable hotels - last minute issues
- doesn't buy trip insurance because it didn't pay out once
- usually takes rideshare to airport
- downloads airline apps and checks notifications
- travels primarily for pleasure
- checks weather a few days before trip
- keeps a few sets of clothes in carryon in case checked bag is lost
- flies on two main airlines to collect points
- feels good when airlines give bonus points
- checks TSA app for security line time

### Busy Business

- Emails all trip details to self
- Expenses most trips to corporate account
- Has hotel allowance, can only stay at specific brands
- Usually on a tight schedule and can't afford delays
- Lost bag twice - ended up buying new clothes at nearby shop
- usually rents a car at destination
- doesn't buy travel insurance - "it's not really my money"
- uses concur and tripit to keep track of details
- expects at least a 30 minute delays
- usually has meetings same day as arrival
- is able to accumulate personal points for work travel
- Checks Uber time a little bit before flight

### Allowance Adventurer

- collaborates on Google Docs for trip plan
- never buys trip insurance because thinks it's a scam
- saves money with public transit
- uses google maps to find transit
- studies languages before travel
- books cancelable hotels - last minute issues
- stumbled in lost airport for 36 hours with no updates from budget airline
- stayed at airport when flight was canceled - \$\$\$
- Called parents when flight was canceled
- stayed at airport when flight was canceled
- never downloaded an airline app
- tries to only pack a carry on bag to avoid issues and fees
- tries to only pack a carry on bag to avoid issues with bags
- upset by airport food prices - especially when stranded
- Missed a flight once because traffic and security line

### Fancy First

- status members get priority service
- flight rebooked by customer service within 30 minutes
- only flies with one airline due to loyalty program
- flights booked by assistant
- trip details summarized in an email
- transportation to airport arranged by assistant
- kept informed to flight status by assistant
- has means to cover unexpected costs
- has booked multiple flights as backup if one flight is canceled
- enjoys the meal on preferred airline
- spends time in lounge before flights

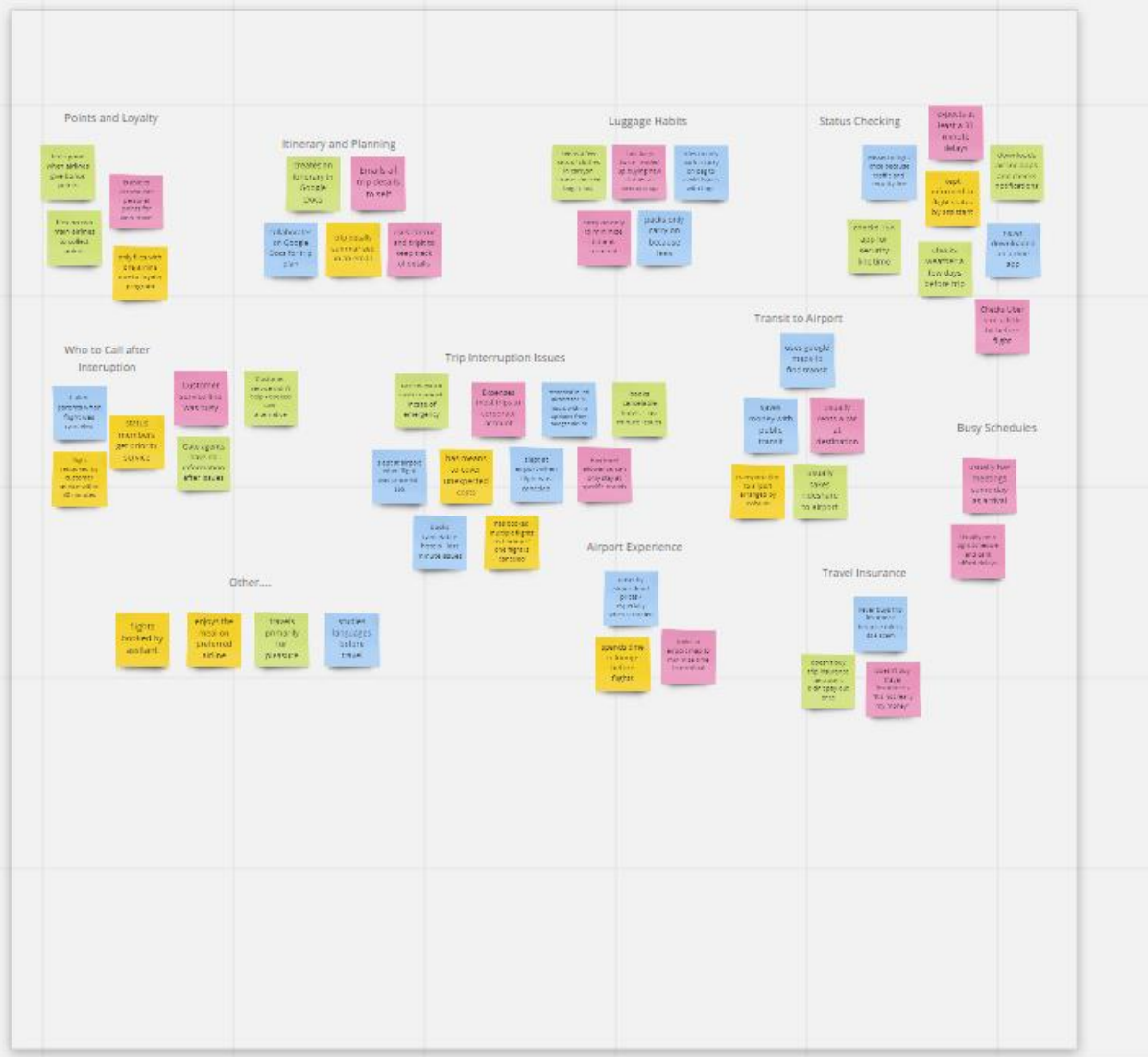
## Affinity Map



## Interview Synthesis

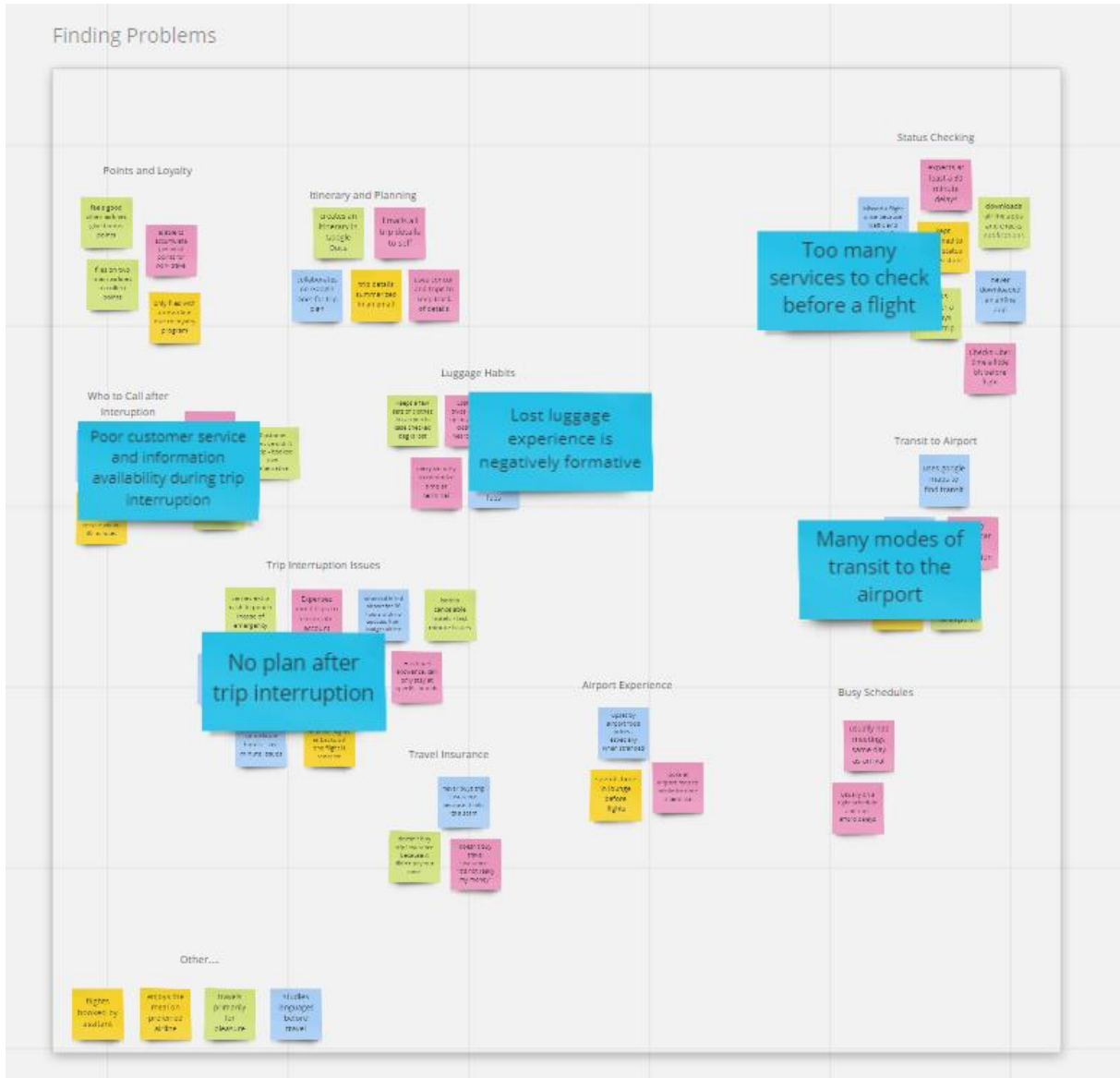


## Theme Names





## Finding Problems



How Might We provide more relevant information about trip status to frequent travelers so they can experience less frustration during their trip?

Weather  
Predictions  
from Raw Data

Weather  
Predictions  
from Service

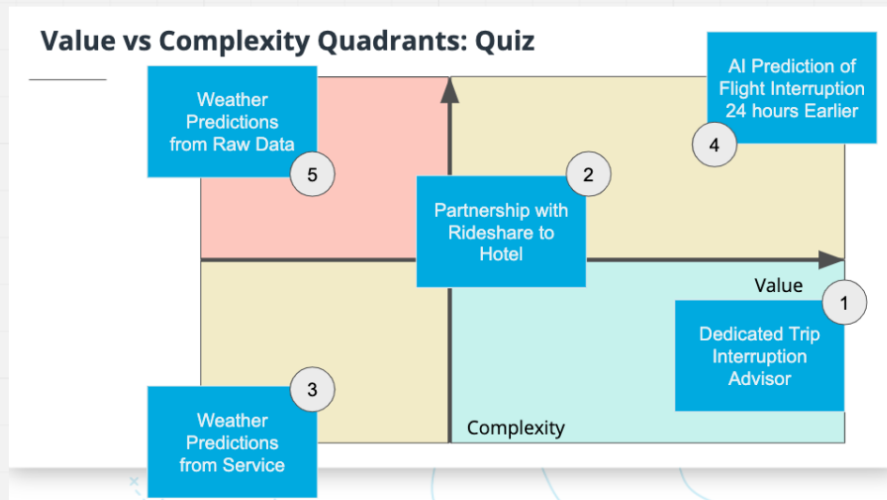
Partnership with  
Rideshare to  
Hotel

AI Prediction of  
Flight Interruption  
24 hours Earlier

Dedicated Trip  
Interruption  
Advisor

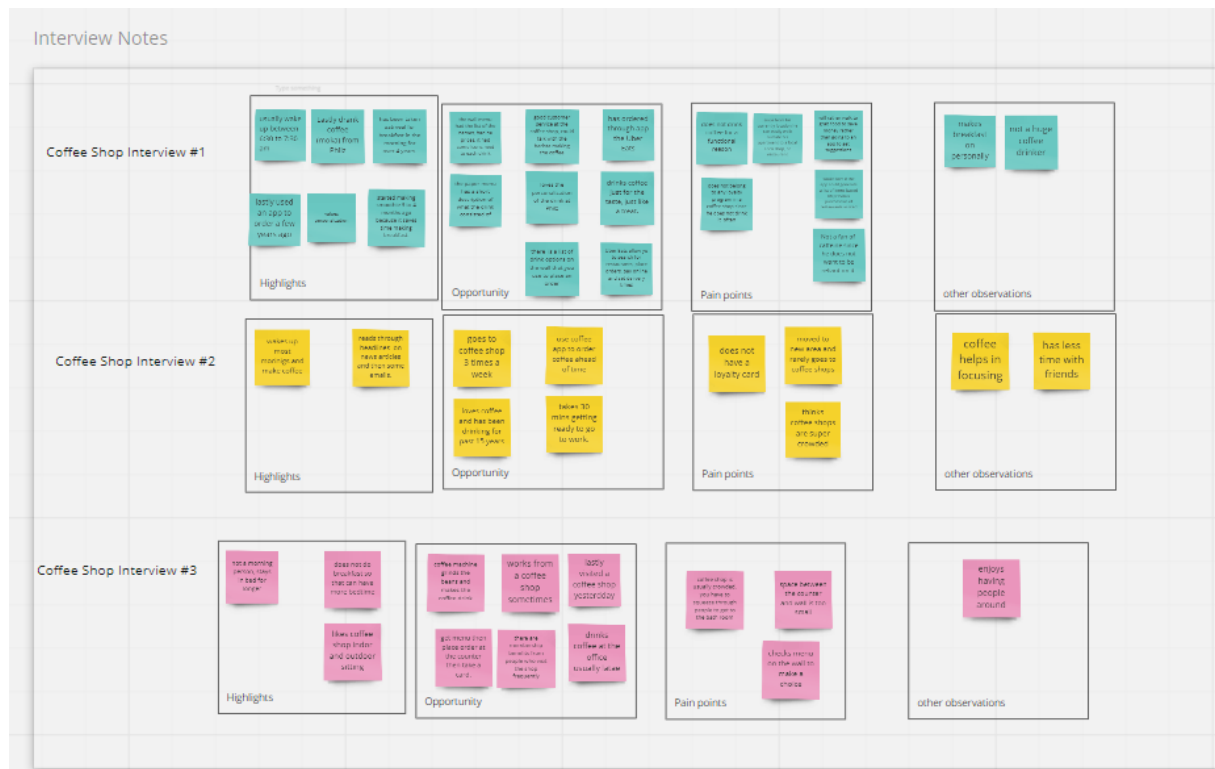
AI Prediction of  
Favorite In-Flight  
Snack



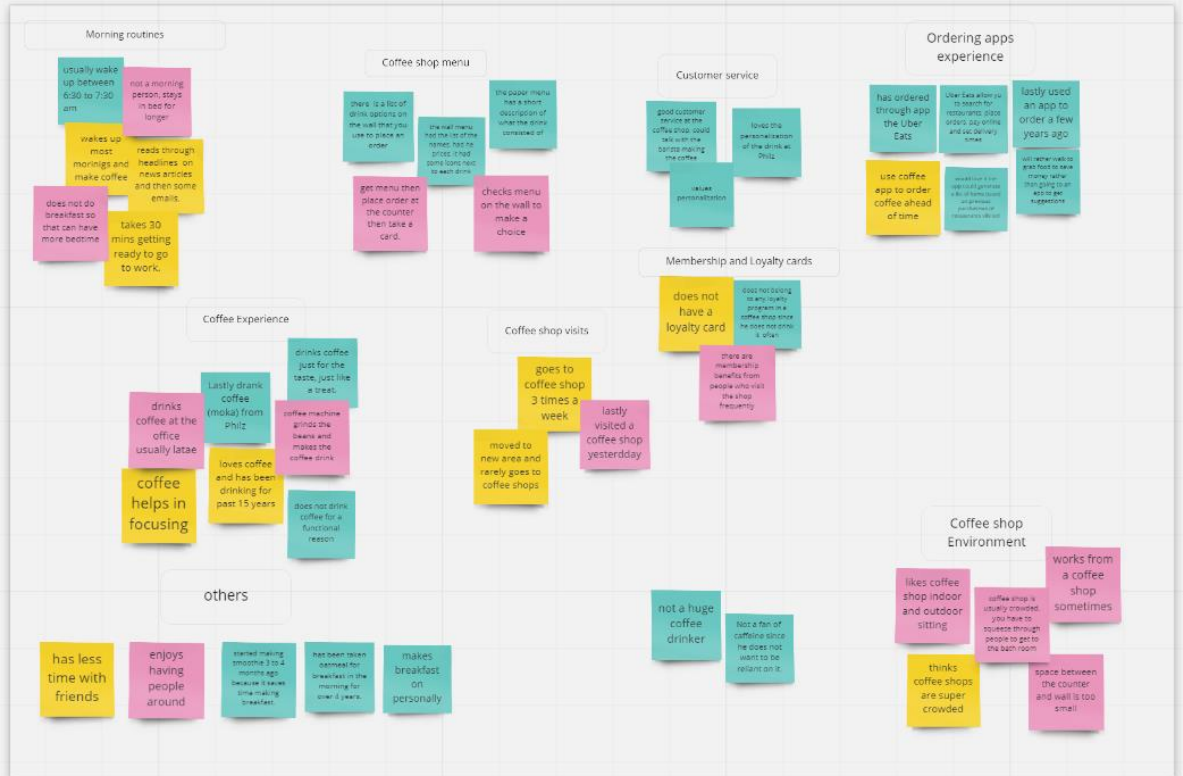


## Példa

### Interview Notes



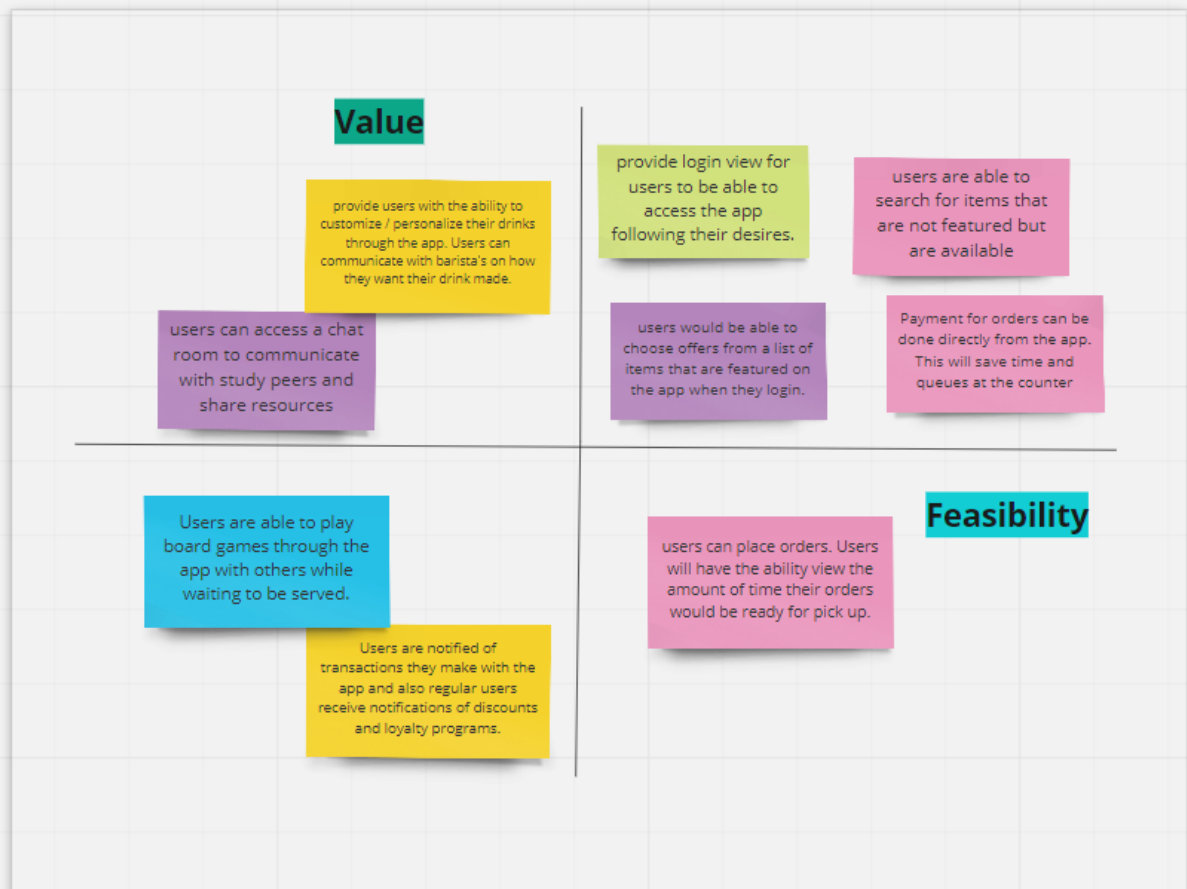
## Theme and Opportunities



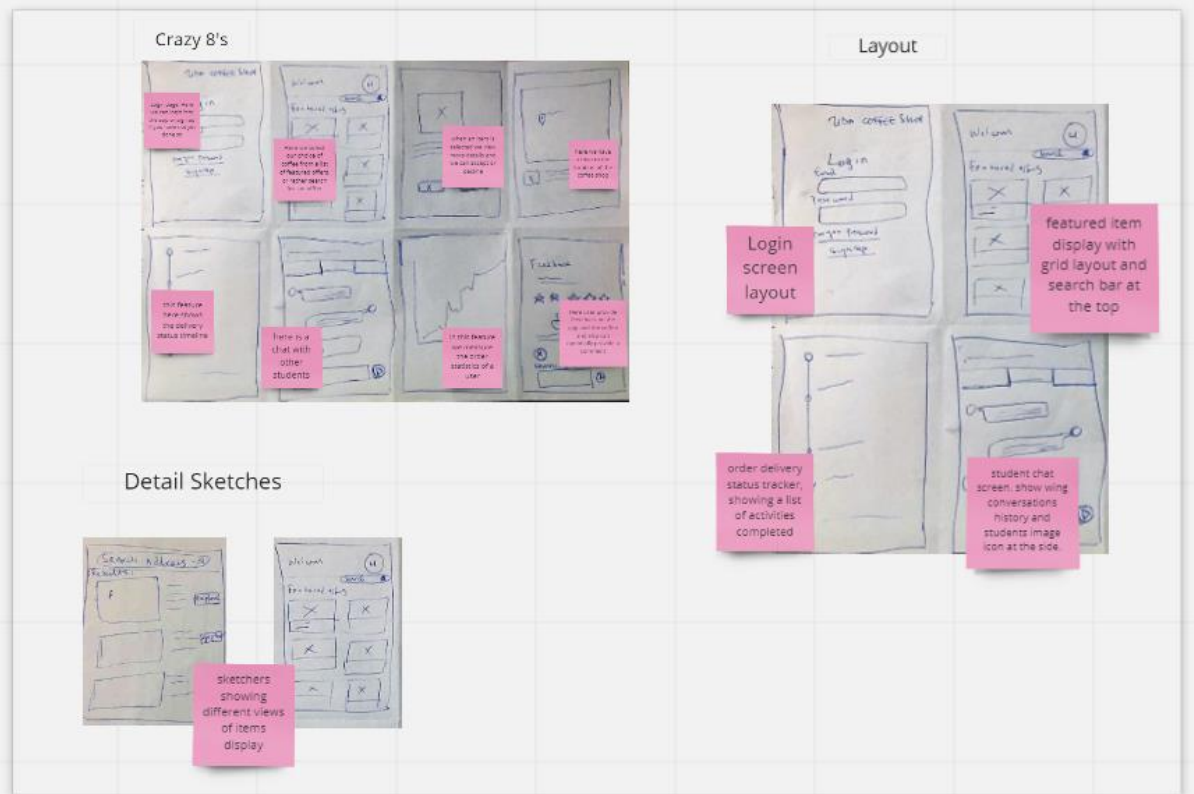
## Feature ideation

- provide login view for users to be able to access the app following their desires.
- users would be able to choose offers from a list of items that are featured on the app when they login.
- users are able to search for items that are not featured but are available
- users are able to cancel offers and change offers after paying the agreed fee.
- users can access a chat room to communicate with study peers and share resources
- users can place orders. Users will have the ability view the amount of time their orders would be ready for pick up.
- Payment for orders can be done directly from the app. This will save time and queues at the counter
- users can modify profile and include recommended menus to be displayed in the featured items screen
- provide users with the ability to customize / personalize their drinks through the app. Users can communicate with barista's on how they want their drink made.
- Users are notified of transactions they make with the app and also regular users receive notifications of discounts and loyalty programs.
- Users are able to play board games through the app with others while waiting to be served.
- users can find out at what time coffee shops are open and what time they close so they can plan their day.

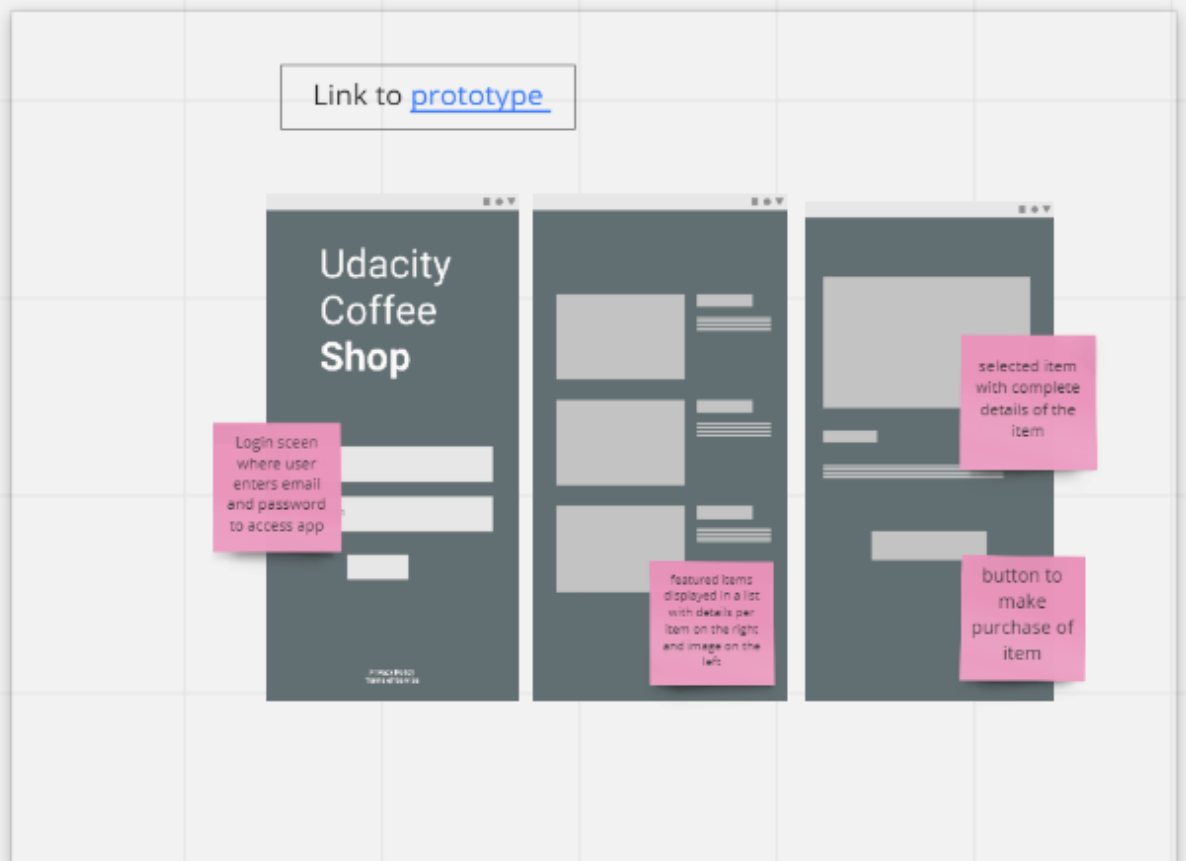
## Feature Prioritization



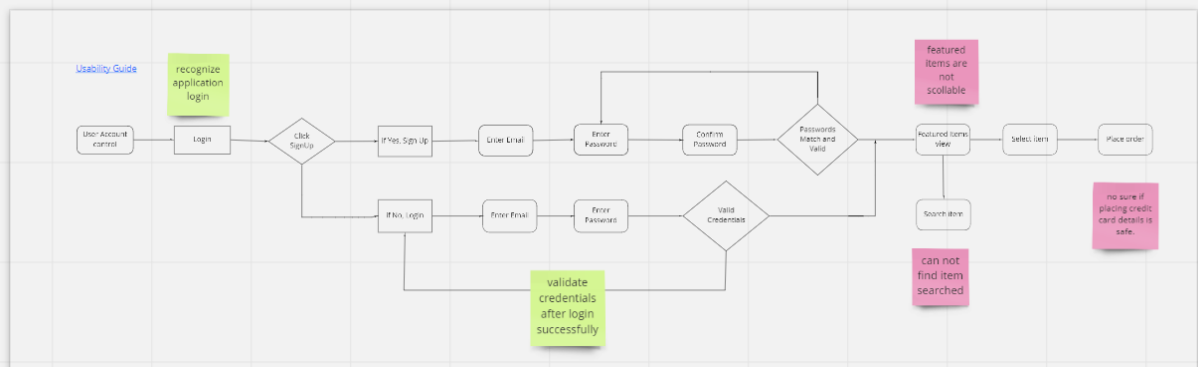
## Paper Sketches - Iteration 1



## Digital Prototype - Iteration 1



## Usability Study - Iteration 1



<https://docs.google.com/document/d/1pfvwxBDJcP3nztR5hBPtuzsakFjjl4zmitKy8rKwA/edit>

# Synthesis: research to Features

## What is Synthesis?

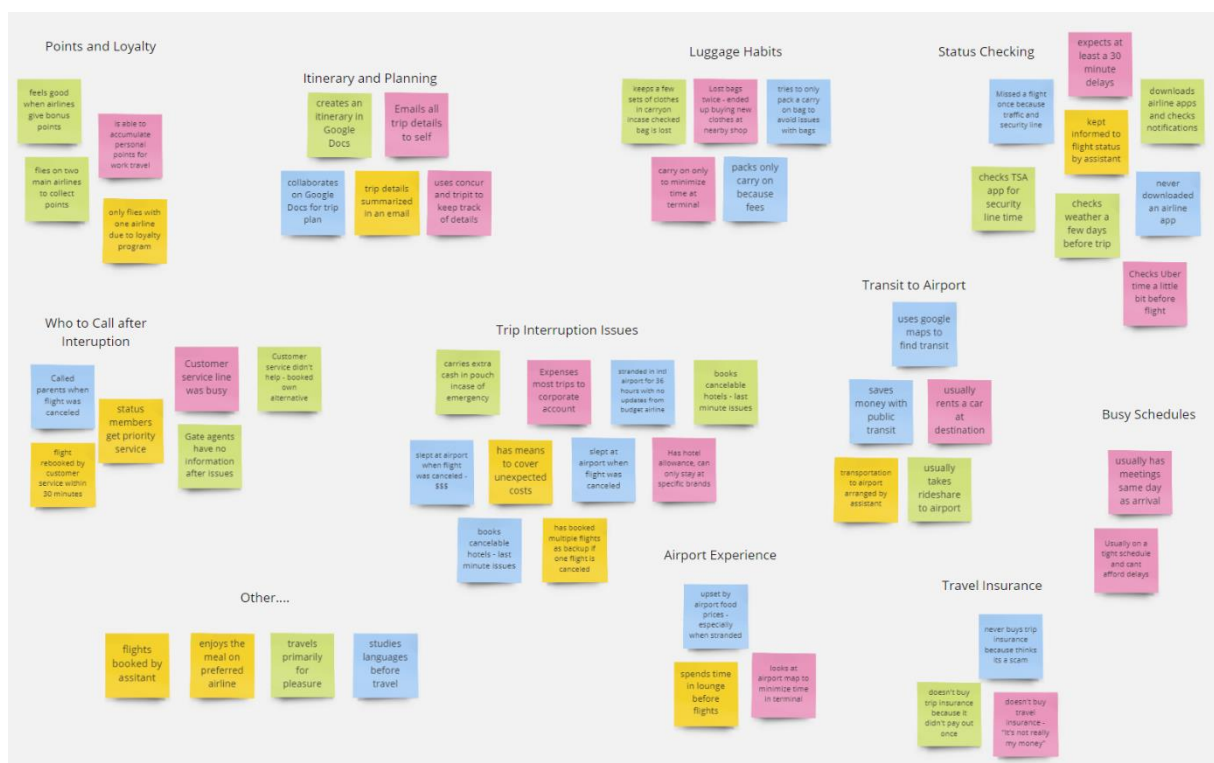
After conducting research, we'll be left with a tremendous amount of information and no sure direction. Specific patterns and behaviors might not be totally obvious to us. **Synthesis** is the process where we bring our research ideas together to form a fundamental understanding. In our context, this will help us to understand the problems our users are facing so we know *why* we're building a specific product. As with almost everything in design, the synthesis process is ambiguous and there will be many different ideas brought to the table by different stakeholders. We'll explore some skills to help guide the discussion and discovery process with the end goal of a clear feature list to implement in our designs.

## Affinity Mapping:

[https://www.youtube.com/watch?time\\_continue=218&v=59txE8ZgmMU&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=218&v=59txE8ZgmMU&feature=emb_logo)

## how todo in Miro:

[https://www.youtube.com/watch?time\\_continue=107&v=U9DBypoKvYg&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=107&v=U9DBypoKvYg&feature=emb_logo)



# Defining Problems as Opportunities

Identifying Opportunities:

[https://www.youtube.com/watch?time\\_continue=99&v=i1ef5o26BIs&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=99&v=i1ef5o26BIs&feature=emb_logo)

Writing Our Problem as a *How Might We* question

[https://www.youtube.com/watch?time\\_continue=168&v=4N0o0kC8bBE&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=168&v=4N0o0kC8bBE&feature=emb_logo)

## Ideation Techniques

Crazy-8s and Sketching

[https://www.youtube.com/watch?time\\_continue=96&v=9VS8bQWlQAg&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=96&v=9VS8bQWlQAg&feature=emb_logo)

Introducing the Idea of Bad Ideas

When you're working with stakeholders, you'll need to explain why you're using certain techniques. It's a *good idea* to introduce the *Bad Idea* technique clearly before jumping in. You should communicate clearly that this technique is a warmup to make sure everyone in the room is ready to design. When using any of these tools in a workshop, it is a good idea to set expectations for how long things will take—people will be more open to trying something different if they know it will only take 5 minutes.

Combinatorics:

[https://www.youtube.com/watch?time\\_continue=20&v=k8fiDwb9eQg&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=20&v=k8fiDwb9eQg&feature=emb_logo)

### Combinatorics

Snapchat

It's like **SMS Texting**

**without Text**

**plus Videos**

# Google Docs

## It's like Word 2016

## without Installing

## plus Collaboration

COMBINATORICS PROMPT	COMPANY
It's like <u>Yellow Taxi Cabs</u> without <u>needing to stand on the street</u> plus <u>realtime trip GPS information</u>	Uber
It's like <u>a Hotel</u> without <u>the formality of a Hotel</u> plus <u>local hosts who are real people</u>	AirBnB
It's like <u>a whiteboard</u> without <u>the need to buy markers</u> plus <u>distributed collaboration around the world</u>	Miro

Focusing Ideas

Using Affinity Mapping to Ideate

Earlier we used *affinity mapping* to build themes from our research data. Now we'll look at how we can use it to *ideate* and to *focus our ideas*.

[https://www.youtube.com/watch?v=SslXzxuolCo&feature=emb\\_logo](https://www.youtube.com/watch?v=SslXzxuolCo&feature=emb_logo)

Collaborative Ideation: Dot Voting

[https://www.youtube.com/watch?time\\_continue=14&v=W4e0za7tM-k&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=14&v=W4e0za7tM-k&feature=emb_logo)

### *Danger of Dot Voting*

When using dot voting, be wary of [herd behavior](#)—where people in a group think or behave differently than they would as individuals. This can come up in behavioral studies (such as focus groups) where many people might verbally agree with a statement said in a group conversation, even though they individually do not *actually* agree with the statement.

In our context, the first person who places dots might bias the group's thinking. If they feel especially strongly about a dot, they might run over and place the dot. Often it is a

good idea to offer time for everyone to silently think about where they want to place dots before providing the dots.

*The following graphic is some output from an affinity-mapping and dot-voting workshop. Everyone was allowed to place at most one of each dot. Use the graphic to answer the questions below.*



# Understanding Scope

[https://www.youtube.com/watch?time\\_continue=19&v=5Z4ThOSAmOo&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=19&v=5Z4ThOSAmOo&feature=emb_logo)

## Understanding Scope

### Bad ways to ask

- Can we build this?
- How long will this take to build?
- Is this easy?

## Understanding Scope

### Good ways to ask

- Have we done something like this before?
- Has anyone done something like this before?
- What do we need to do before this is possible?
- Assign a t-shirt size to how much effort this would be
  - XS, S, M, L, XL, XXL
- Who else needs to be involved?
- How does this compare to \_\_\_\_\_?

## How to "De-Scope"

When you're talking about scope in the context of engineering, there are a few ways you can reduce the work or complexity of a task. You can:

- **Use frameworks, packages, or open-source code.** If a developer can reuse something that is already built, it becomes much more manageable.
- **Reduce expectations.** If your system has a technical requirement, it may be possible to relax that requirement to reduce the scope. For example, there might be a specification for the time it takes to complete a particular computation. Making this required time longer may make the task easier. This also applies to things like accuracy (percentage of the time the system will be correct) or throughput (the number of concurrent requests or number of users).
- **Not do the thing.** Sometimes the best option is simply to find an alternative solution or feature.

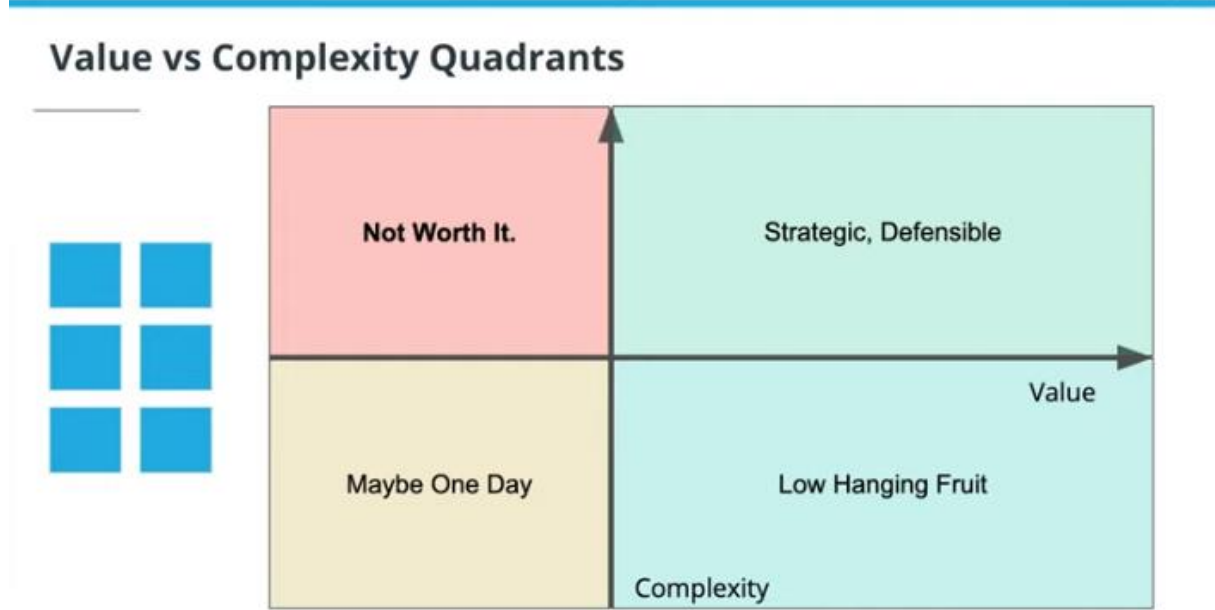
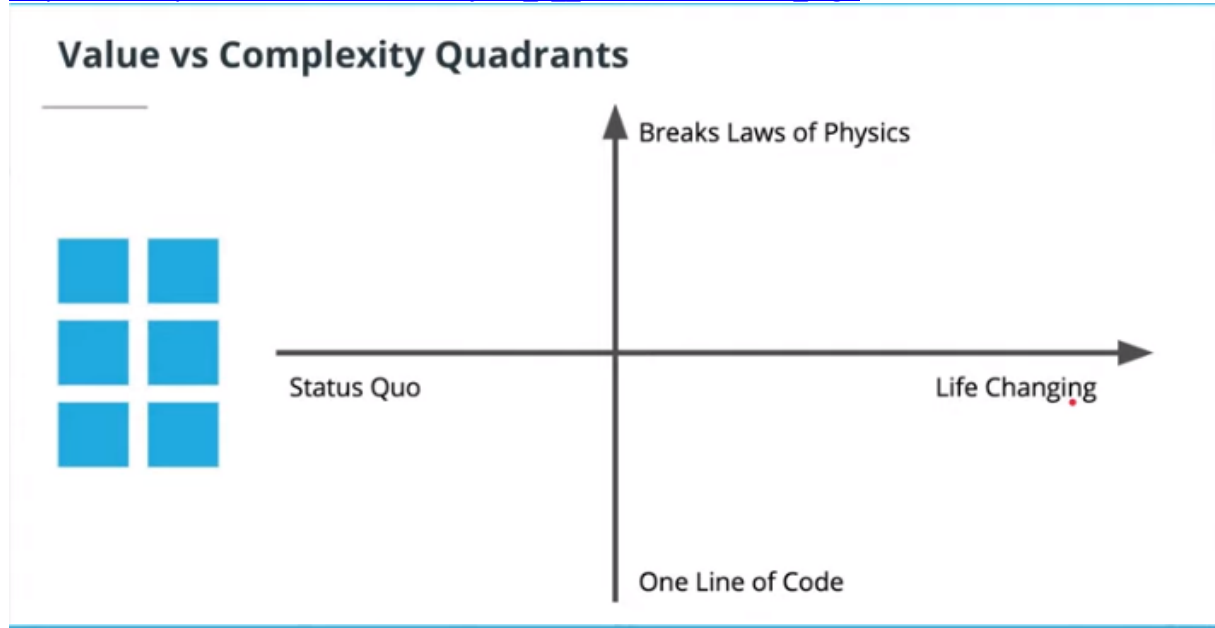
## Identifying "Rat-Holes"

Sometimes when it is unclear how complex a task is, an engineer might recommend trying a few experiments to see what things are possible. And in the next meeting, they might propose more experiments, followed by more experiments... and this cycle can continue forever. Try to identify when a scope might lead to this type of time-consuming exploration so you can catch it early and determine if there are alternative paths.

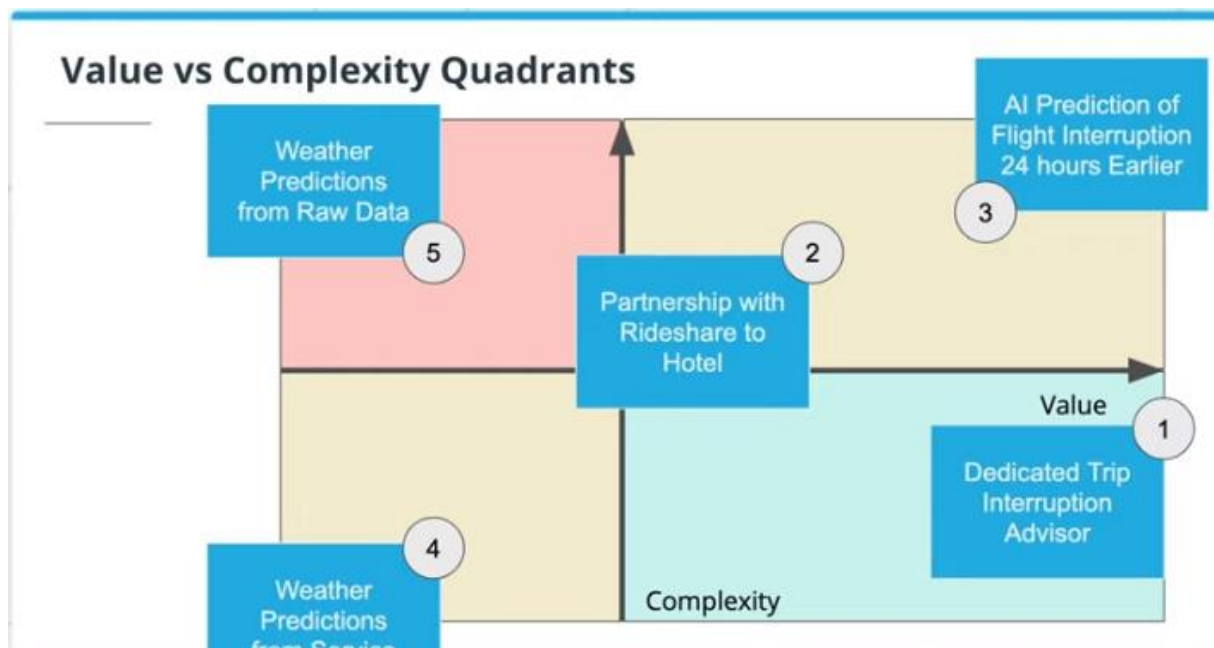
## Prioritizing Features: Value vs Complexity Quadrants

Value vs Complexity Quadrants

[https://www.youtube.com/watch?v=5jNLZ\\_S\\_GU&feature=emb\\_logo](https://www.youtube.com/watch?v=5jNLZ_S_GU&feature=emb_logo)



példa: [https://www.youtube.com/watch?time\\_continue=6&v=YsMuz3qaayk&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=6&v=YsMuz3qaayk&feature=emb_logo)



## Prioritizing Features: Score Matrix

Setting up the Matrix

[https://www.youtube.com/watch?v=YTc7sEqJSuY&feature=emb\\_logo](https://www.youtube.com/watch?v=YTc7sEqJSuY&feature=emb_logo)

how to do it: [https://www.youtube.com/watch?time\\_continue=1&v=76P-2fR35M&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=1&v=76P-2fR35M&feature=emb_logo)

You can get your own copy of the feature prioritization matrix Gabe showed in the video [by making a copy of this Google sheet](#).

### Choosing Our Weights

When we select weights for our columns, there is no hard rule - you should allow the conversation to organically assign points to criteria. However, you should aim to keep all of the weights within the same ballpark so no single criterion completely dominates the others. One approach to solve this problem is to choose a fixed number of points and distribute those points across your criteria.

### The Math Behind The Score

Ideally, we'll want to be able to use the 1 (low) to 5 (high) for both Values and Costs. To accomplish this goal, we can transform our scores for our values simply by dividing by the maximum value (5). However, we want our costs to have the inverse effect - where a high value adds a smaller amount to our score. This adds a little bit of complexity to the score computation, but it avoids negative numbers. By keeping all of our scores positive, we avoid bias if we're building something that has a very high relative cost. In other words, decision-makers may use 0 as an arbitrary threshold and reject any proposed features less than zero. We can avoid this by transforming our costs by subtracting the score from the maximum value (5) before dividing by 5. We can then use these adjusted scores multiplied by our weight to produce our weighted score. We can sum all of these

weighted scores to give us our final feature score. Although the ranking is mathematically equivalent, it is psychologically perceived as different!

This math is described in the figure below:

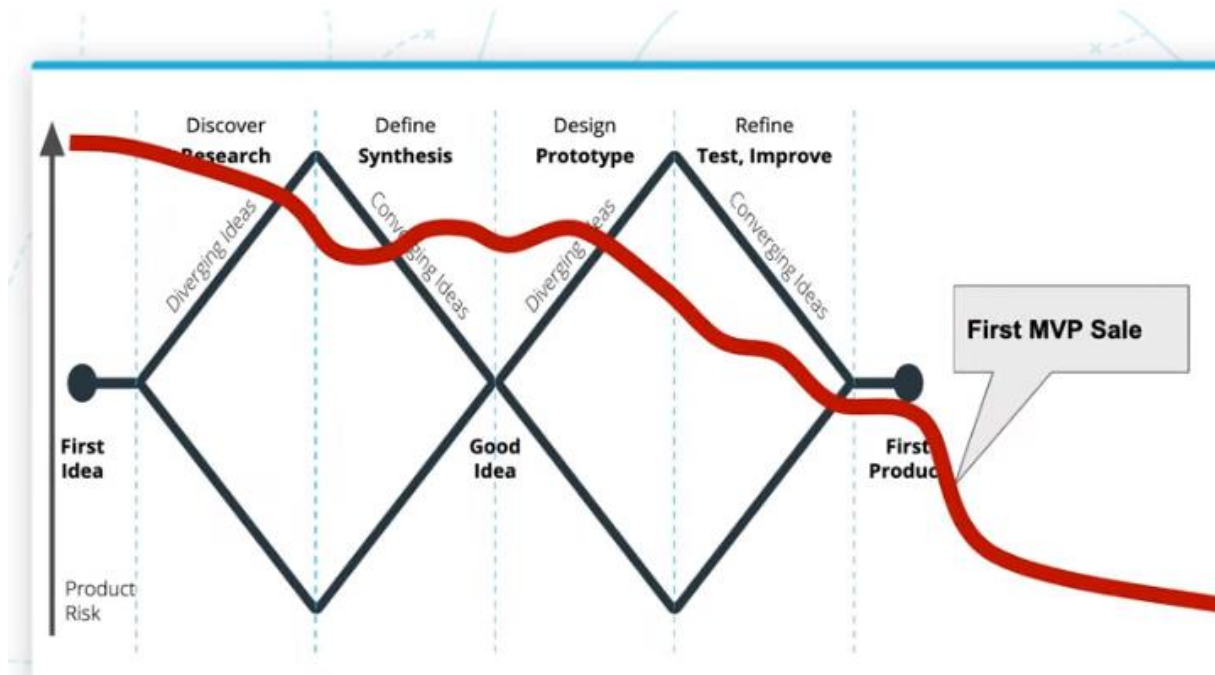
	Value			Cost		
weights	W_a	W_b	W_c	W_d	W_e	W_f
input score	a	b	c	d	e	f
adjusted score	a/5	b/5	c/5	(5-d)/5	(5-e)/5	(5-f)/5
weighted score	W_a * a/5	W_b * b/5	W_c * c/5	W_d * (5-d)/5	W_e * (5-e)/5	W_f * (5-f)/5

Use the following matrix to answer the question:

	Value			Cost				
	Satisfaction	Revenue	Marketability	Engineering	Operational	Marketing		
<b>WEIGHT</b>	25	20	10	50	20	20	<b>145</b>	
<b>Feature Title</b>							<b>Score</b>	<b>Rank</b>
AI Prediction of Favorite In-Flight Snack	2	2	1	5	4	3	<b>32</b>	3
Push Notification of Flight Status	3	0	2	1	2	2	<b>83</b>	1
Automatic Rebooking of Canceled Flights	4	3	3	3	3	3	<b>74</b>	2

# Managing Minimum Viable Product Scope

Why Aim for "Minimum"?



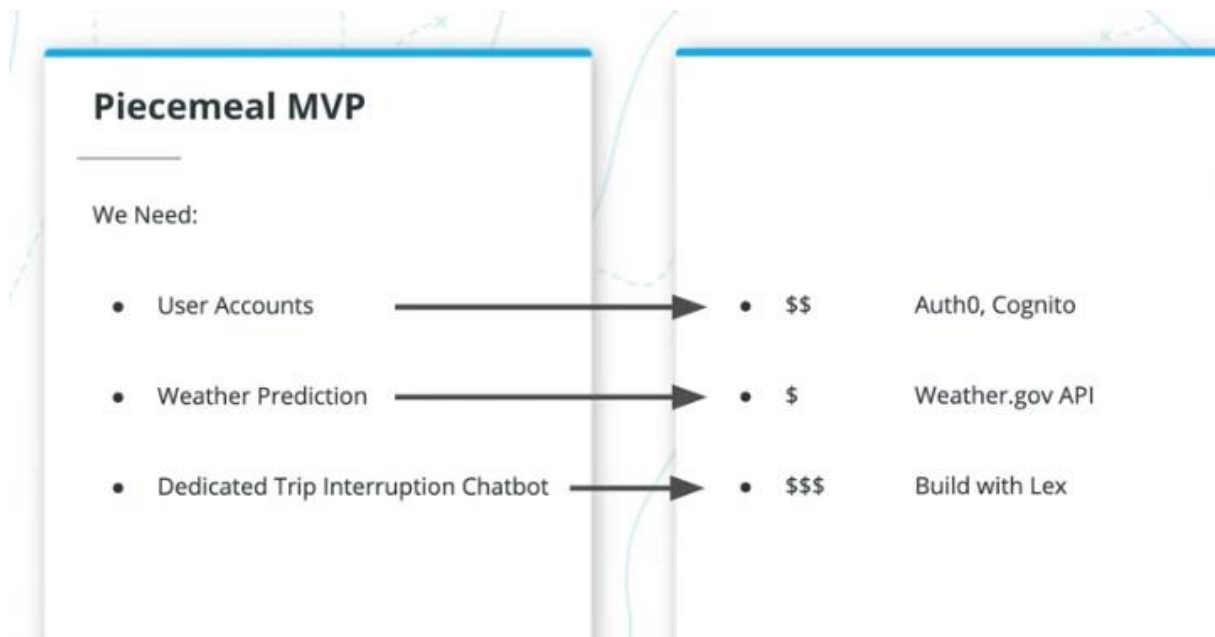
[https://www.youtube.com/watch?time\\_continue=89&v=PMpOLF7bTHY&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=89&v=PMpOLF7bTHY&feature=emb_logo)

## Tips for

### Minimal Viable Products

- De-risk Product Technical Viability
- De-risk Market Demand
- Featureset Should Offer a Complete Narrative
- Doesn't need to be perfect
- Doesn't need to be for everyone

[https://www.youtube.com/watch?time\\_continue=3&v=o-qrH\\_6S4f0&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=3&v=o-qrH_6S4f0&feature=emb_logo)



### Concierge is Hard

Before jumping into a *concierge* MVP consider if the solution can be achieved by a human. The example of a trip interruption advisor still might need some technology built to accomplish the task. For example, they will need to have some interface to see flight statuses or weather. The key here is that it is easier to build a complex interface and train a human to interpret the information than it is to build a simple interface and train a machine to interpret information for our user.

[https://www.youtube.com/watch?time\\_continue=30&v=5vhkxe2SNy0&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=30&v=5vhkxe2SNy0&feature=emb_logo)

## Finding Design Inspiration

### Searching for UI Elements

As you build a portfolio and a personal brand as a designer, you'll want to consider using some of the sites mentioned in the video (like [dribbble](#) or [behance](#)) to share your work with potential employers. These networks are great not only for finding inspiration, but also for sharing inspiration. The design community is welcoming and offers a ton of opportunity to highlight your skills as you build them!

### Choosing a Design Framework

In this video, Gabe introduces [material-ui.com](#). However, this is far from the only option. There are many popular and well-maintained UI libraries to choose from ([here are six popular examples](#)). Before you design, you should have a conversation with your engineers about which framework would work best with the team's technical capabilities—and share which framework you think has the best components for your project.

<https://material-ui.com/>

Cloud dashboard: <https://demos.creative-tim.com/material-dashboard-pro-react/#/admin/dashboard>

### Using Icon Libraries

At this stage of design, you're experimenting. Unless you're highly proficient in graphic arts (I'm not) it will probably take you a bit of time to draw icons to represent your desired actions. Even if you are highly proficient, you'll often find standardized buttons perform better for certain actions, since the user will know how to interpret the graphic. Thankfully, there are many open-source icon libraries we can fall back on to download icons as we're exploring our interface:

- Google Material Icons: <https://material.io/resources/icons/>
- Ion Icons: <https://ionicons.com/>
- Font Awesome: <https://fontawesome.com/icons>
- 

### Controls in Material-UI

The Material UI design system has built-in components to help you implement navigation and controls. You can start by looking at the [link](#) component and then explore the more complex [button](#) component.

*REMEMBER: This is a technical document for developers. If you're not an engineer, don't worry about the code—just focus on the interactive demonstrations of the components and component properties!*

## Getting Started with Figma

<https://www.figma.com/>

getting started: [https://www.youtube.com/watch?v=UMQzAUQSXwU&feature=emb\\_logo](https://www.youtube.com/watch?v=UMQzAUQSXwU&feature=emb_logo)  
object properties:

[https://www.youtube.com/watch?time\\_continue=163&v=IjiUbrlUAjU&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=163&v=IjiUbrlUAjU&feature=emb_logo)

creating components:

[https://www.youtube.com/watch?time\\_continue=139&v=vQBcvTs5iX8&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=139&v=vQBcvTs5iX8&feature=emb_logo)

components layout:

[https://www.youtube.com/watch?time\\_continue=216&v=FVCJghnu1t0&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=216&v=FVCJghnu1t0&feature=emb_logo)

[https://www.youtube.com/watch?v=vQBcvTs5iX8&feature=emb\\_logo](https://www.youtube.com/watch?v=vQBcvTs5iX8&feature=emb_logo)

[https://www.youtube.com/watch?v=FVCJghnu1t0&feature=emb\\_logo](https://www.youtube.com/watch?v=FVCJghnu1t0&feature=emb_logo)

Finding and Using Figma UI Assets:

[https://www.youtube.com/watch?time\\_continue=20&v=DYof3jo3uyc&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=20&v=DYof3jo3uyc&feature=emb_logo)

<https://www.figma.com/resources/assets/>

<https://www.figma.com/resources/assets/wireframe-component-library/>

## Prototyping with UI Kits

Sketching a Login View

[https://www.youtube.com/watch?time\\_continue=213&v=FHwH3uzAnQ0&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=213&v=FHwH3uzAnQ0&feature=emb_logo)

*Why Place Elements Low on the Screen?*

At first glance, it may not be obvious why Gabe placed the design elements towards the bottom of the screen, leaving a lot of whitespace at the top. The answer is that phones are getting large and people's thumbs can't reach to the top. This is a design principle made popular by [Samsung's One UI](#) where elements are pushed down on the page so they can be comfortably reached by the user, even on super tall screens.

[https://www.youtube.com/watch?time\\_continue=115&v=gnkRCV2BsCU&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=115&v=gnkRCV2BsCU&feature=emb_logo)

defining flow:

[https://www.youtube.com/watch?time\\_continue=86&v=krWHxqMR1tM&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=86&v=krWHxqMR1tM&feature=emb_logo)

Clickable Prototypes

### Creating Login *View States*

On this page, we'll be creating some *view states*. A **view state** is a representation of a screen with a certain configuration or user interaction. For example, a user may have entered text or hovered over a specific element; each of these actions would need to be represented as a different *view state*.

In Figma, we'll need to create a frame and change the frame with whatever information is relevant for that state. To keep things consistent, it's usually a good idea to use



components to represent the overall view and then override the component for each view state.

[https://www.youtube.com/watch?time\\_continue=188&v=wgDBM\\_W20RE&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=188&v=wgDBM_W20RE&feature=emb_logo)

[https://www.youtube.com/watch?time\\_continue=211&v=K5fBPuG9ry4&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=211&v=K5fBPuG9ry4&feature=emb_logo)

<https://youtu.be/K5fBPuG9ry4>

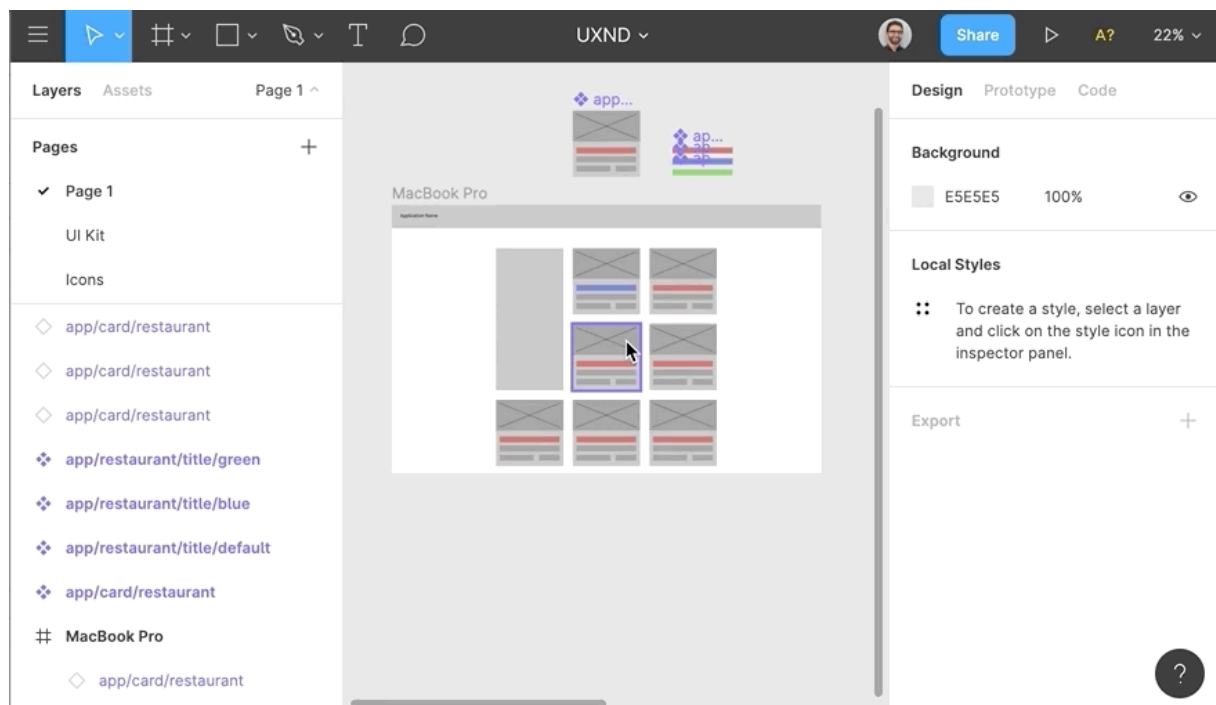
## Design Handoff

Throughout the design process, you'll often find yourself needing to share your designs with different stakeholders. You may be seeking feedback or approval from stakeholders, or your engineering team might need a reference so they know what they're implementing. So let's look at some of the different ways to share a Figma design.

### Share the Figma Link

You can share the design itself by simply sending a link to your design file. It's as easy as clicking *share*, setting the link-sharing permissions (`can view` or `can edit`) and copying the link. You can then paste this link into whatever tools you use to communicate (email, Slack, teams) and the recipient can view the contents.

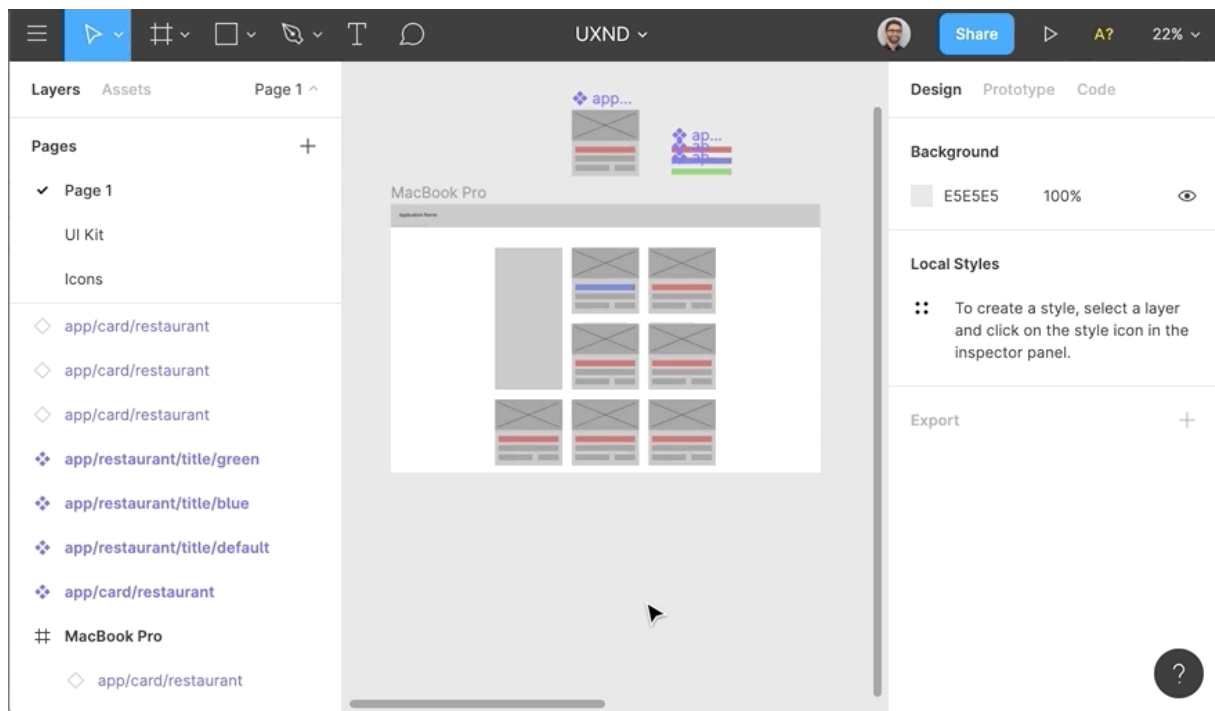
Keep in mind, this link is live. That means as you edit the design, the recipient of this link will see those changes.



### Export as Images

If you're looking to simply share one or more screens in a fixed way (something you won't change as you continue working), you might want to export your screens as images.

You can do this by simply clicking on the element (*frame* or *shape*) and using the export tools in the right sidebar. This will produce a graphic that you can send to a stakeholder for their review without them needing to navigate or browse through the entire design.



### Design to Code with Spec Sheets

The most advanced sharing use-case is sharing with engineers. Developers might need more information (colors, spacing, sizes) while implementing your design. By sharing a link with `can view` permissions, engineers can view properties for each element so they don't need to reach out to you with simple questions.

[https://www.youtube.com/watch?time\\_continue=67&v=sSe8zIZEAKQ&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=67&v=sSe8zIZEAKQ&feature=emb_logo)

### Why Usability Test?

#### Getting Ready to Be Wrong

[https://www.youtube.com/watch?time\\_continue=135&v=g8ldN4VpePg&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=135&v=g8ldN4VpePg&feature=emb_logo)

In the video, we mentioned that un-moderated studies are almost always remote, and are conducted with specialized tools where you can have many users accomplish a task in parallel. [UserTesting.com](https://www.userTesting.com) is a good example of a specialized service that helps you run un-moderated, remote sessions.

### Moderating a Usability Session

#### Parts of a Moderated Usability Session

Before watching the video below, download the usability guide so you can follow along: [Google Doc](#), [docx](#), [pdf](#)

[https://www.youtube.com/watch?time\\_continue=227&v=HQuejgkZubd4&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=227&v=HQuejgkZubd4&feature=emb_logo)

Defining Task: [https://www.youtube.com/watch?time\\_continue=238&v=kocTJKGss-4&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=238&v=kocTJKGss-4&feature=emb_logo)

digital journey map: [https://www.youtube.com/watch?time\\_continue=68&v=-PeYwRwUI9A&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=68&v=-PeYwRwUI9A&feature=emb_logo)

## **The 10 UX Deliverables Top Designers Use**

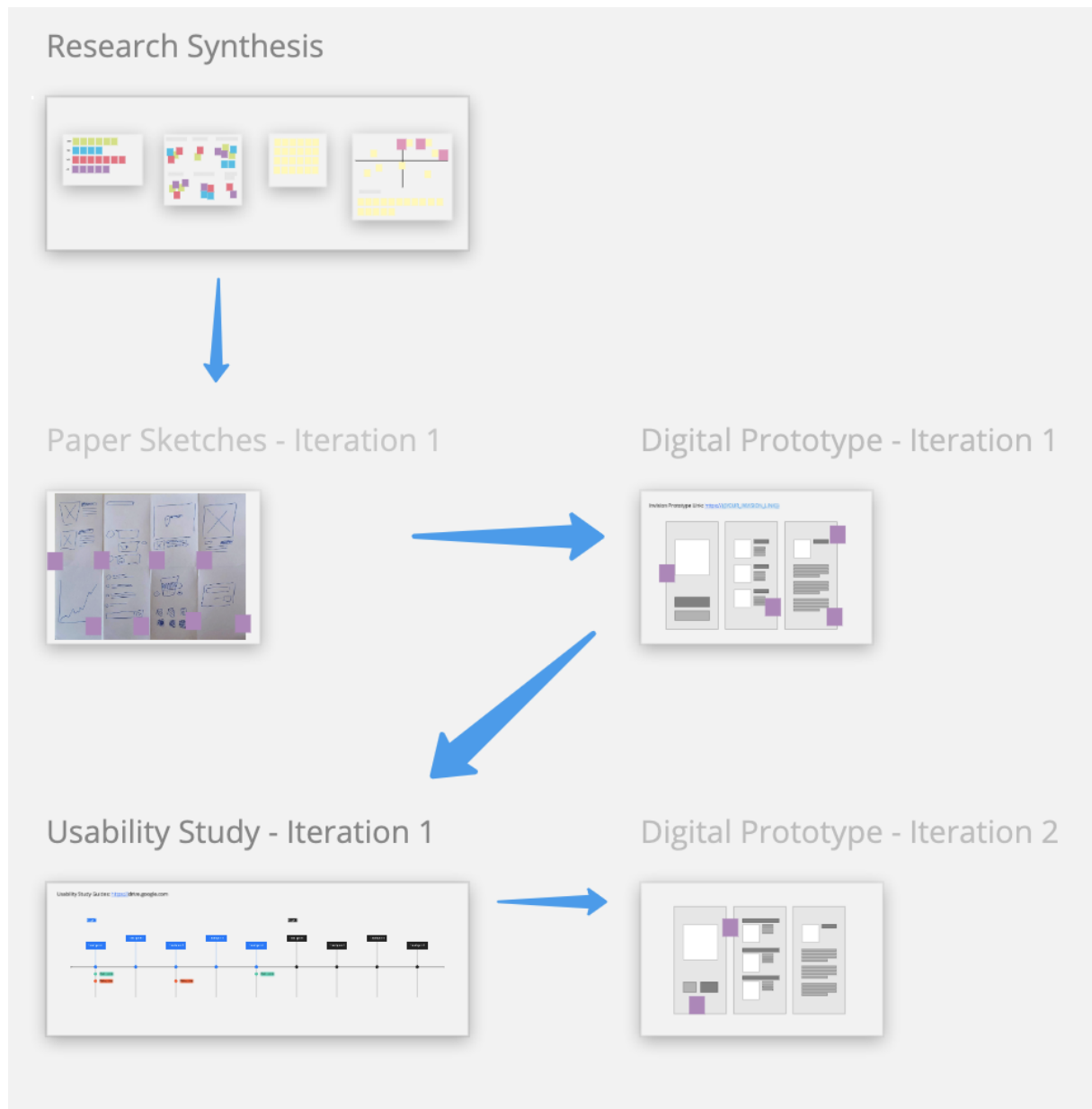
<https://www.toptal.com/designers/ux/10-common-ux-deliverables>

### **Interviews:**

[https://www.youtube.com/watch?v=sID4fXZ-9Dw&feature=emb\\_logo](https://www.youtube.com/watch?v=sID4fXZ-9Dw&feature=emb_logo)

[https://www.youtube.com/watch?v=UlleJxwe3NA&feature=emb\\_logo](https://www.youtube.com/watch?v=UlleJxwe3NA&feature=emb_logo)

[https://www.youtube.com/watch?v=C2bdwQaOOK8&feature=emb\\_logo](https://www.youtube.com/watch?v=C2bdwQaOOK8&feature=emb_logo)



Step 1: Research Synthesis

[https://www.youtube.com/watch?v=-k0mDCwLvII&feature=emb\\_logo](https://www.youtube.com/watch?v=-k0mDCwLvII&feature=emb_logo)

Step 2: Rapid Prototyping

[https://www.youtube.com/watch?v=mviD4Cpggvw&feature=emb\\_logo](https://www.youtube.com/watch?v=mviD4Cpggvw&feature=emb_logo)

Step 3: Usability Study and Design Iteration

[https://www.youtube.com/watch?time\\_continue=67&v=38vyol0qk3Y&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=67&v=38vyol0qk3Y&feature=emb_logo)

## Design System

[https://www.youtube.com/watch?time\\_continue=170&v=4ZiFy91clrU&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=170&v=4ZiFy91clrU&feature=emb_logo)

### Design systems

A design system serves as a north star for a project, collecting all the aspects that enable a team to develop a design. It can grow and evolve over time with more assets & components.

### Atomic design

Atoms, being the smallest, then molecules, then organisms, then templates, and finally pages. Atoms are things like: colors, icons, type and form components.

Molecules are things like buttons and input fields in a form you fill out. Organisms are things like nav bars and forms.

### Navigation Systems

#### *Hamburger Menus*

- *Advantage:* Can be activated when needed
- *Disadvantage:* Hides potentially important menu items from the user

#### *Mega Menus*

- *Advantage:* Robust and can hold a lot of menu items
- *Disadvantage:* Danger of cognitive load on the user

#### *Call to action buttons*

- *Advantage:* Focuses user to one clear goal / destination
- *Disadvantage:* This could go wrong with poor Copywriting

#### *Breadcrumbs*

- *Advantage:* Allows users to know where they came from
- *Disadvantage:* Doesn't work well for large menu sets

### Style guides

A style guide is a part of a design system that focuses on elements such as: icons, color, typography, and graphics.

#### Additional Resources

Below are a few examples of different design systems.

- Checkout [Google's Material Design](#).
- More on Brad Frost's [Atomic Design](#).

- See [Udacity's Veritas](#) design system - does it seem similar to the classroom design?
- Take a look through [Shopify's Polaris](#) design system.
- Lastly, [Atlassian](#) also has a design system (the makers of JIRA).  
<http://stylifyme.com/>

## High-fidelity design with Figma

[https://www.youtube.com/watch?time\\_continue=164&v=RYirls44TuQ&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=164&v=RYirls44TuQ&feature=emb_logo)

- [Figma Tutorial](#)
- Another tool I like to use is called [Sketch](#), although you do have to pay for it. We'll focus on Figma, which you can use free, throughout the course.

### Figma plug-ins:

[https://www.youtube.com/watch?time\\_continue=124&v=Dd7KuTSCXm8&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=124&v=Dd7KuTSCXm8&feature=emb_logo)

<https://uxdesign.cc/10-best-figma-plugins-september-2019-30b4dd4e5708>

### Building a Style Guide

Let's look at how to build a Style Guide in Figma. First, we'll do a quick recap of what makes up a style guide.

[https://www.youtube.com/watch?time\\_continue=155&v=ISlimZh63gk&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=155&v=ISlimZh63gk&feature=emb_logo)

### UI Kits with Zeplin

Now, let's walkthrough how to build style guides and/or UI Kits with the [Zeplin app](#).

[https://www.youtube.com/watch?time\\_continue=130&v=IXnjpgjttPc&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=130&v=IXnjpgjttPc&feature=emb_logo)

### Adding Interactivity in Figma

[https://www.youtube.com/watch?time\\_continue=220&v=ermsza\\_PUmo&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=220&v=ermsza_PUmo&feature=emb_logo)

[https://www.youtube.com/watch?time\\_continue=125&v=jLBmB59MLzE&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=125&v=jLBmB59MLzE&feature=emb_logo)

### Working with Engineers

[https://www.youtube.com/watch?time\\_continue=246&v=L\\_cN\\_z--cWM&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=246&v=L_cN_z--cWM&feature=emb_logo)

## What to ask Engineers

### Some examples of these questions are:

#### [Accessibility]

- What are **your thoughts** on making our site accessible to people who use screen readers?

#### [Constraints]

- How might **we understand** any technical constraints that would limit the user experience?

#### [Data Retention]

- May I have **your guidance** on how to ensure users data is not held longer than necessary?

#### [Style Guides]

- What components would **be helpful** to include in the style guide?

### Exercise: Hand-off

You've just started a new app project at work and you are about to have a kickoff meeting with engineers. You don't know much about the app but you know that it's set to service a wide demographic of users in: age, gender, occupation, and education. You want to take leadership and bring the designers perspective to the table. You present a few ideas, but the engineers aren't happy with them. In a Google

doc, write bullet point notes on what questions you would ask the engineers to get the best feedback on your work.

**Keep in mind the following things you've learned:**

- Feedback is always a positive thing
- Keep the lines of communication open
- Be humble about your work
- Don't forget to take notes
- Socialize your work from the ideation phase
- Ask great questions - One of your greatest tools
- Accessibility (WCAG - A,AA,AAA)

[https://www.youtube.com/watch?time\\_continue=2&v=sKK\\_E3ZwMH4&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=2&v=sKK_E3ZwMH4&feature=emb_logo)

Here are my questions from the video - remember, there are many potential options here!

- Thank you for your feedback, what are your thoughts on how the design could be improved?
- Are there any domain experts we can talk to on the topic that would have valuable information to offer us?
- What are your thoughts on putting together a design sprint to get a variety of ideas for how to approach this to kick things off?
- How might we implement user testing at the appropriate time so that we are making sure we are building what users really want?
- Do we have any existing data that we can leverage?
- Seeing that our app will service a large demographic, what considerations are we giving to accessibility to accommodate people with special needs?

**Handoff Deliverables**

[https://www.youtube.com/watch?time\\_continue=14&v=yIJboeu2UUY&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=14&v=yIJboeu2UUY&feature=emb_logo)

We covered a lot here, so let's briefly summarize.

User stories allow you to create a scenario around a user need, based on research, that helps inform you of how they might interact with your application. They typically follow a format of:

*As a user role, I want goal, so that benefit.*

The task flow helps show the high level process, step by step, that a user takes to achieve their goal. It helps you determine how they navigate through your application, and can help uncover roadblocks along the way.

In the video, we use a tool called [Whimsical](#) to help build out a task flow. As shown early on in the video, user stories may be in something as simple as a Google Doc to start with, then get transferred to Whimsical for use in the task flow from there. You could then transition into Figma for high-fidelity mockups and prototyping, and then



into Zeplin for creation of style guides, UI Kits and other assets. All of these deliverables together are part of your engineering handoff deliverables.

## From User Stories to Task Flows

---

- Who is your user?
- What are their motivations?
- What is their end goal?
- If they achieve their goal, then what?
- Will they encounter any issues along the way?

**Tool:** <https://www.toptal.com/designers/ux/10-common-ux-deliverables>

Exporting Assets to Zeplin

Below, let's do a quick recap of the Zeplin tool, which makes it easier to hand off deliverables to engineering.

[https://www.youtube.com/watch?v=Qgkn\\_8w3xtU&feature=emb\\_logo](https://www.youtube.com/watch?v=Qgkn_8w3xtU&feature=emb_logo)

## Improving Design Performance

### KPI

Key Performance Indicators, or KPIs, allow you to measure the impact of your product on a broad scale, and then use that data to make decisions on adjustments to your design.

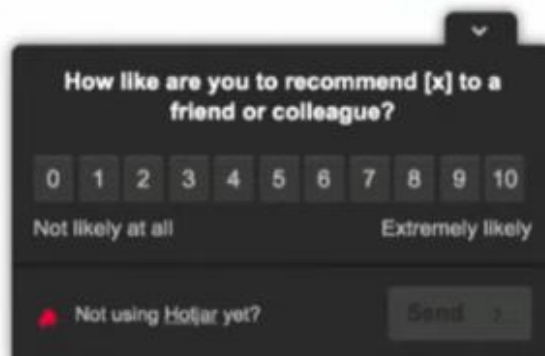
Let's take a look at Google's HEART Framework next - a helpful framework for evaluating the effectiveness of your design.

## Google's HEART Framework

[https://www.youtube.com/watch?v=OSBx3v9gl8w&feature=emb\\_logo](https://www.youtube.com/watch?v=OSBx3v9gl8w&feature=emb_logo)

### Google's HEART framework

- Happiness
- Engagement
- Adoption
- Retention
- Task Success



How like are you to recommend [x] to a friend or colleague?

0 1 2 3 4 5 6 7 8 9 10

Not likely at all Extremely likely

Not using Hojar yet? Send

### Google's HEART framework

- Happiness
- Engagement
- Adoption
- Retention
- Task Success



LESSON 1

Welcome to SDC Fundamentals: Featuring Apollo

Identify the key parts of self-driving cars, and get to know the Apollo team and architecture.

CONTINUE →

0% 2 hours 45 minutes left

## Google's HEART framework

- Happiness
- Engagement
- **Adoption**
- Retention
- Task Success

Default Channel Grouping	Acquisition		
	Users	New Users	Sessions
New Users	30,659 % of Total: 70.15% (43,708)	30,659 % of Total: 100.00% (30,659)	30,659 % of Total: 33.18% (92,407)
1. Direct	12,218 (39.85%)	12,218 (39.85%)	12,218 (39.85%)
2. Organic Search	6,424 (20.95%)	6,424 (20.95%)	6,424 (20.95%)

## Google's HEART framework

- Happiness
- Engagement
- Adoption
- **Retention**
- Task Success

User Type	Acquisition	
	Users	New Users
	9,936 % of Total: 100.00% (9,936)	9,397 % of Total: 100.00% (9,397)
1. New Visitor	9,264 (93.22%)	9,397 (100.00%)
2. Returning Visitor	2,126 (21.47%)	0 (0.00%)

## Google's HEART framework

- Happiness
- Engagement
- Adoption
- Retention
- **Task Success**

**990**  
Sessions  
**181**  
Responses  
**18.3%**  
Completion Rate  
**3.38 Sec**  
To Complete



using: [https://www.youtube.com/watch?time\\_continue=1&v=bi1sVVcNSCg&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=1&v=bi1sVVcNSCg&feature=emb_logo)

	Goals	Signals	Metrics
<b>Happiness</b>	Fully satisfied with food delivery service	- Ratings on the app store - In app survey	- Tracking app store ratings - Tracking survey results

<b>Engagement</b>	Increasing frequency of orders	- How many orders the average customer makes per day	- Track average customer spend over time
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<b>Adoption</b>	Increasing number of app sign ups	- New users over time	- Track rate of new registrants over time
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<b>Retention</b>	Reduce number of users who unsubscribe	- Users who subscribe stay subscribed	- Track number of unsubscriptions
------------------	--	---------------------------------------	-----------------------------------

<b>Task success</b>	Decrease number of incomplete orders	- Number of users who don't complete their order.	- Track where users are dropping off in app
---------------------	--------------------------------------	---	---

példa: [https://www.youtube.com/watch?v=Jk43V1F0Hg4&feature=emb\\_logo](https://www.youtube.com/watch?v=Jk43V1F0Hg4&feature=emb_logo)

Safely App - HEART Framework			
	Goals	Signals	Metrics
<b>Happiness</b>	Allows users to add friends while alone at night easily	- Users provide a 5 star rating - Positive survey results	- Customer satisfaction survey
<b>Engagement</b>	Users make 1 community related action every week	Community engagement numbers increasing every week	- Length of session for community engagement
<b>Adoption</b>	100 new users every week	100 new users joining every week	- Rate of new registrants
<b>Retention</b>	Continued use after subscription	Users returning after subscription	- Number of users who renewed their subscriptions
<b>Task success</b>	Users to complete their goal fast	Amount of time it takes a user to complete their goal	- Time measured from when they enter app to time when their goal is achieved

UX Analytics Tools

[https://www.youtube.com/watch?time\\_continue=7&v=KghKDi87vcl&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=7&v=KghKDi87vcl&feature=emb_logo)

UX analytics tools can help us determine what users want and how to keep them engaged. Luckily, there are plenty of these tools at our disposal, each with their own use cases, strengths and weaknesses:

- Funnels
- Heatmaps
- Forms
- Polls
- Surveys
- A/B Testing
- User flows

- Data in numbers

Similarly, there are many online platforms that implement these analytic tools for you. For instance, [Hotjar](#) is a great platform using using funnels, forms, heatmaps, polls and surveys, [Unbounce](#) is great for A/B testing, and [Google Analytics](#) can help with user flows and easily viewing charts of data.

Data Analysis

[https://www.youtube.com/watch?time\\_continue=8&v=bQOALzdwMf8&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=8&v=bQOALzdwMf8&feature=emb_logo)

## Data Analysis

### Ask yourself key analysis questions

- Are there roadblocks for the user?
- Does it work the way they expect?
- Is it easy enough? Too many steps?
- Any technical constraints like error pages?

## Hypothesis

*"We believe changing the the **call to action button copy** will increase conversions"*

- An educated prediction based on data
- Provides a framework to prove or disprove
- Helps to solve the "*right*" problem

## Product Page

KPI  
HEART Signal:  
**Task Success**  
Decrease number  
of incomplete orders

UDACITY

Order Summary

Contact Information

Billing Address

Shipping Method

Payment Information

Complete Purchase

## A/B Test

### Variant A

### Variant B

UDACITY

Order Summary

Contact Information

Billing Address

Shipping Method

Payment Information

Complete Purchase

UDACITY

Order Summary

Contact Information

Billing Address

Shipping Method

Payment Information

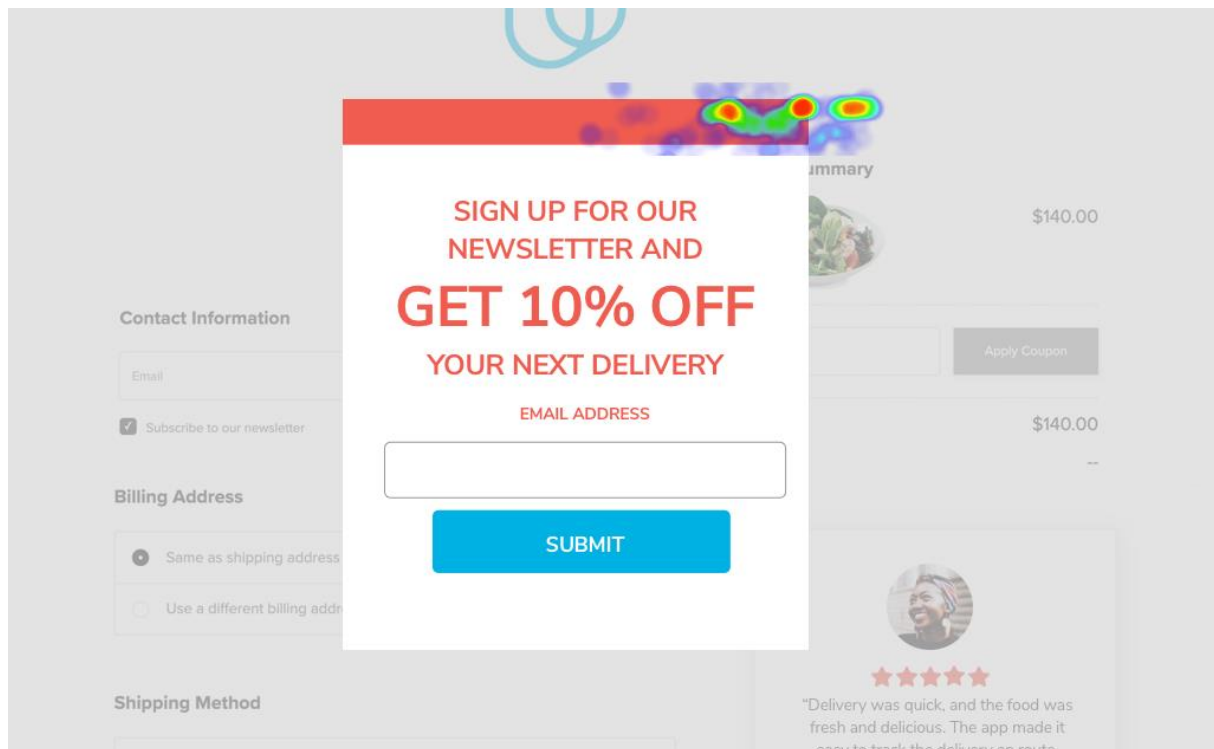
Complete Purchase

★★★★★  
"Delivery was quick, and the food was fresh and delicious. The app made it easy to track the delivery en route. Now I can focus on studying!"  
Michelle L., New York

Feladat

## HEART Framework

- **Goal:** Increase newsletter subscriptions on our webpage
- **Signal:** Subscription rate of number of sign ups
- **Metric:** Tracking what users are doing and where users are clicking on the site using Hotjar's funnels and heatmap data



The heatmap data to be used for this exercise

#### Instructions

- Analyze the Heatmap data provided above. Look for part of the page people click on the most. The hotter the section the more someone cares to click on it. Click and Tap Heatmaps provide insight into which elements are causing a distraction. It can also tell us what content people are most interested in.
- Make a hypothesis about why people aren't signing up to our newsletter
- Identify the metric points that helped you identify the pain point

#### Deliverable

A Google Doc with written Hypothesis and rationale based on the data.

#### Solution

To reiterate from the solution video, I determined my hypothesis originally based on heatmap data that seemed to suggest a lot of activity where an exit button might be expected, but not in the form itself. Therefore, I came up with the hypothesis:

*Users may feel frustrated by the popup and don't have a way to close it. Changing the signup from a popup to a section at the bottom of the page may increase signups.*

#### QUIZ QUESTION

Which of these three potential CTAs might be the most effective if you were trying to get users to join your streaming service app?

[https://www.youtube.com/watch?v=1iG3IOP2c40&feature=emb\\_logo](https://www.youtube.com/watch?v=1iG3IOP2c40&feature=emb_logo)

## Unique Selling Proposition (USP)

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- What is unique about your application
- Gives users a reason to stay or switch from another app to yours
- **Unique selling features, amazing experience, original brand, competitive price and social proof**

[https://www.youtube.com/watch?time\\_continue=213&v=hpj2YN7fCQs&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=213&v=hpj2YN7fCQs&feature=emb_logo)

More on A/B Tests

[https://www.youtube.com/watch?time\\_continue=88&v=4GqbE2skqlc&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=88&v=4GqbE2skqlc&feature=emb_logo)

[https://www.youtube.com/watch?time\\_continue=94&v=eQvI4uw1eJ0&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=94&v=eQvI4uw1eJ0&feature=emb_logo)

<https://youtu.be/yTYNuGGj75Q>

<https://youtu.be/np4FaqQ99dw>



# Portfolio Design

<https://youtu.be/yplgEX7FJR4>

<https://youtu.be/ms2iw4ANvFI>

<https://youtu.be/9mlA6ZxJnLg>

## On-Demand Services Startup

Service Designer & Design Strategist // San Francisco, CA

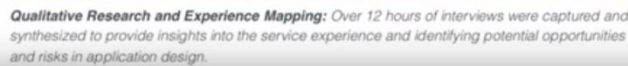
### Outcomes

I drove projects in the following areas:

- **Market Research:** Psychographics and attitudes towards socio-economic disparities, urbanization and the rise of the sharing economy and the on-demand economy. Identifying price sensitivities and consumer purchasing habits surrounding convenience and luxury products and services.
- **User Modeling:** Research and articulation of the expectations of on-demand services and technologies, productivity needs and aspirational wants of the modern urban dweller vs. suburban-to-city commuter in the San Francisco Bay Area (e.g. travel habits, daily and personal habits, social habits).
- **Qualitative Research:** In-depth interviews and contextual inquiry to optimize the user and customer experiences and branding.
- **Service Design:** End-to-end experience mapping, customer and employee experience programs, and new features development. Development of a loyalty and rewards system and program to support on-going customer engagement.
- **Product Design:** iOS application design (UI, UX).

Location	Preliminary Status	Preliminary Recommendation	Priority Level	Level of Difficulty	Start Timing (Before/After)	Purpose (What does it inform?)	Method / Approach (How to get the information?)	Timeline	Notes
What types of services or tasks do customers want?	Closed	Start with offering basic information on transportation services (e.g. directions, traffic, reservations, and purchases). Identify the clearing process, car wash, gas service, and other services that will then allow to add or provide services once customer data is available.	High	High	Before Beta	Additional value / revenue streams	Survey	Operations, Product, Research	Separate analysis for any benefits of outside of the test beta website
What are the limitations or boundaries of what the coverage can extend to?	Open	Wait on customer data to see what customer request, but a well-timed car for the center to the existing process with coverage required / available to fulfill or not possible. Continually research with more critical concerns / features can further customer effort and information is available, can not be fulfilled.	Medium	High	Post Beta	What requests are we able to accommodate from a user perspective and how can we calculate / determine that		Operations, Product, Engineering	What does a coverage do / not when they are unable to assist?
Are there any customers willing to pay for services (B or services or tasks)?	Open	We will need to build partnerships with existing services (e.g. Fuelman, Petco, etc.) to establish things that we aren't able to do right now (e.g. that require significant planning on the operations side). This may be able to have commercial affiliate sales. Our goal should not be to get paid in these services, but to be an effective contributor for customers and these services.	High	High	Before Beta	Price sensitivity towards and interest in additional services / tasks	Survey, what people currently pay either in time or money	Operations, Product, Research	
Are customers willing to use 8 hours of free riding in exchange for gas service?	Open	Launch / test with 2 hours free / pay for parking every hour after should reach a daily rate. But not sure if response of customers will meet actual customer design to determine.	High	Medium	Before Beta	Price sensitivity and attitudes towards gas service	A/B testing or prompting customer with options	Operations, Product, Research	Additionally, are they willing to take a hour of free parking in exchange for any combination of A/B/C/D services?
What types of items / purchases ("General store") a customer want to be able to make?	Open	Launch / test with 2 hours free / pay for parking every hour after should reach a daily rate. But not sure if response of customers will meet actual customer design to determine.	Medium	Medium	Before Beta	Customer need for a "general store" service (e.g. Amazon, Target, etc.) to provide frequently requested products or items that we may need to purchase in volume / otherwise	Place items into the "General store" and see what they buy (if not all customer data from connecting with coverage?)	Operations, Product, Research	Is it possible to sell the total design with "General store" coverage service needed for the first few weeks to encourage new customers to explore the feature?
How do customers typically move or plan for additional services / items that they need?	Closed	Interface between customer arrival when and how they plan or think of transportation, before heading out, while on route, after drop-off but before head. The last thing to do is have coverage ready and accessible for them when they need it.	Medium	High	Post Beta	When speed/track should anticipate customer requests and/or urgent customers. Design for how customers can request (voice vs. in-app vs. text)	Look at customer data from interactions with coverage related to the (connecting on their location) around (if needed) the coverage plan on a basic push-to-ask app in closed beta or with Customer team members who contribute to general sample data	Operations, Product, Research	
Can we use position / location from a marketing perspective?	Open	<a href="https://cloud.google.com/location-api/">https://cloud.google.com/location-api/</a>	High	High	Before Beta	Mapping / positioning	This will come from the value proposition	Operations, Product, Marketing	
What percentage of our customers have access to internet / connected or subscription pricing?	Closed	80% of our customers are 80% from the Bay Area have access to internet / connected or subscription pricing (if customer benefits that encourage them to take public transit options)	Medium	Medium	Before Beta	Customer actual addressable market among subscribers	Public Data		Provided / subscription pricing is necessary for companies of 20 or more full-time employees. 20+ options for customer use benefits

**Research Planning:** Interviews and discussions with internal teams and stakeholders helped to source areas of uncertainty and opportunities for validation. These questions helped to identify high-priority research to inform the business, customer development, operations, product development and design.



City of Residence		County	Zip Code	Segment A	Segment B	Place of Work	Place of Residence	County of Residence	Year Bikes	Drive Name	2 Person Comm	3 Person Comm	Average Comm 2 Person	3 Person Comm	4 Person Comm
San Francisco	Alameda	Alameda	94611	1% City Lights	25% Transients	1% Urban Office	San Francisco	Alameda	6,639	2,000	360	47	45.5	57.9	40.0
Alameda	Alameda	Alameda	94602	3% Eucalyptus	10% Transients	1% City Lights	San Francisco	Alameda	1,572	200	80	180	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94701	1% City Lights	1% City Lights	1% City Lights	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94702	20% City Lights	20% Urban Office	4% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94703	1% Urban Office	1% Urban Office	1% Urban Office	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94704	20% Urban Office	1% City Lights	1% City Lights	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94705	20% Eucalyptus	20% Eucalyptus	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94706	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
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Berkeley	Alameda	Alameda	94708	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94709	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
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Berkeley	Alameda	Alameda	94783	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94784	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94785	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94786	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100	47.2	57.9	45.4
Berkeley	Alameda	Alameda	94787	20% City Lights	20% City Lights	1% Transients	San Francisco	Alameda	2,402	140	70	100			

**Quantitative Analysis:** Pulling from publicly available transportation and census data as well as data from surveys I had conducted with over 500 respondents, I analyzed commuting and lifestyle patterns to determine key characteristics of prospective customers to develop user models and personas.

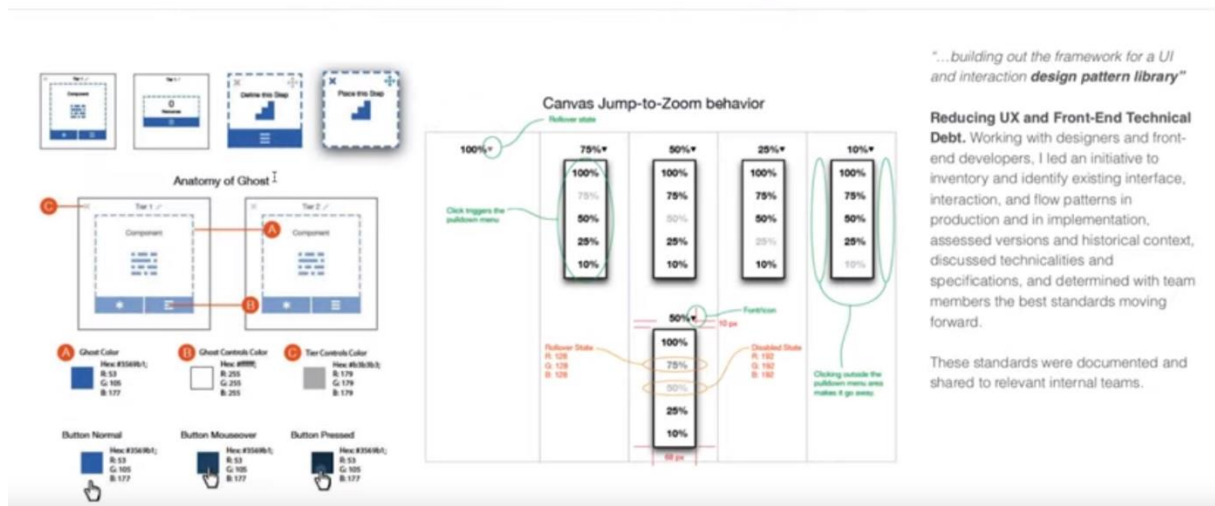
Product Strategy Consultant // San Francisco, CA

I worked to capture and articulate each team's respective **context, process, workflows, tools** and **domain knowledge**, bridging gaps in standards and design specifications, identifying how to build better documents for developers, and eventually building out the framework for a UI and interaction **design pattern library**.

Their product management team then sought out guidance in validating a new **SaaS product offering** in development.

I drove projects in the following areas:

- Establishing shared understanding of various **user and customer segments** across the organization and applying findings to design team objectives and activities;
- Uncovering **usability concerns and misalignments** between the product's implemented flows and user tasks and goals.
- Conducted planning, validation testing, usability testing, analysis and reporting of the alpha and beta products.
- **Delivering early product validation research and design recommendations** to C-level, directors, and leads.



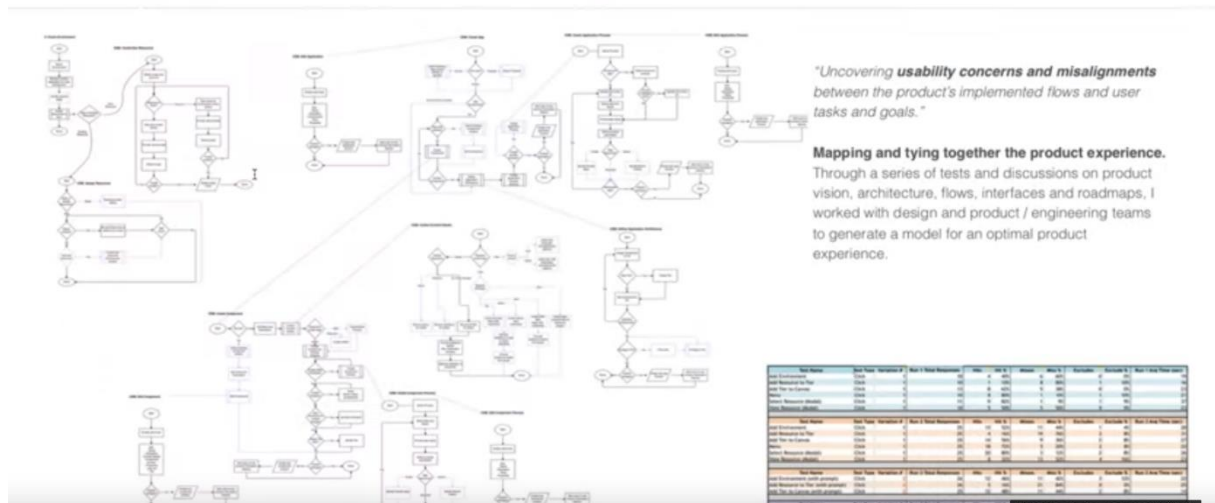
Reducing UX and Front-End Technical Debt. Working with designers and front-end developers, I led an initiative to inventory and identify existing interface, interaction, and flow patterns in production and in implementation, assessed versions and historical context, discussed technicalities and specifications, and determined with team members the best standards moving forward.

These standards were documented and shared to relevant internal teams.



“Establishing a shared understanding of various **user and customer segments**...”

**Identifying current customers and users.** By identifying and aggregating data and insights from Customer Support and Sales/Account Management teams, I created an assessment of the current customer base. From there, I worked with internal teams to build organizational knowledge of current and active customers (buyers) as well as validating current and prospective end-user segments through customer and user interviews.

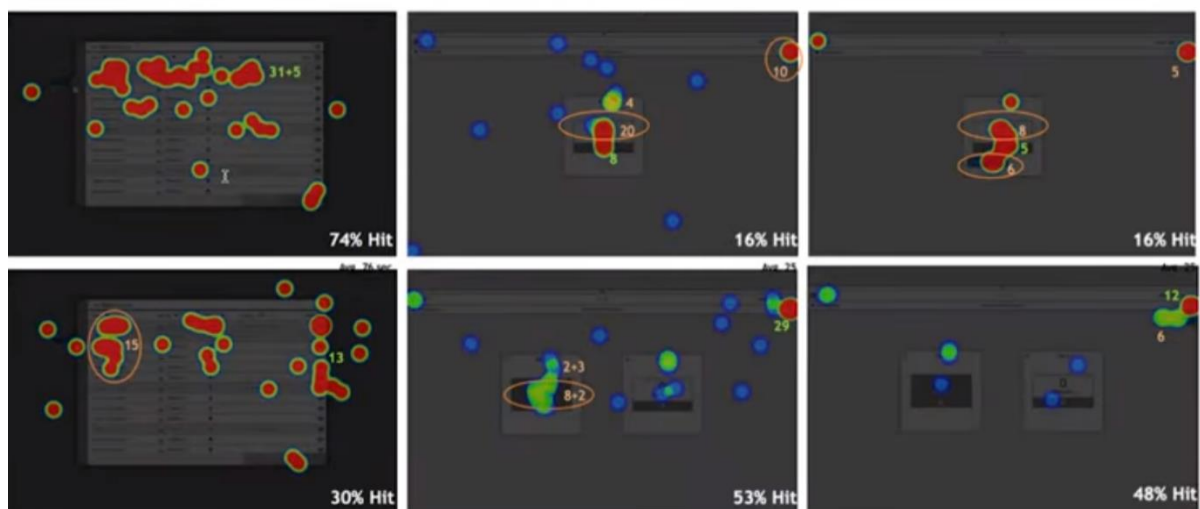


“Uncovering **usability concerns and misalignments** between the product's implemented flows and user tasks and goals.”

**Mapping and tying together the product experience.** Through a series of tests and discussions on product vision, architecture, flows, interfaces and roadmaps, I worked with design and product / engineering teams to generate a model for an optimal product experience.

Task ID	Success Count	Success %	First Click Count	First Click %	Average Time on Task	Insights	Recommendation
A1 - Login	5	100%	5	100%	0.17	None	None
A2 - Register to Application	5	100%	5	100%	0.04	None	None
A3 - Create a New Application	5	100%	5	100%	0.13	Users suggest auto advance "Next" button	Auto advance for the "Next" button will help cut down on the time and an extra click
A4 - Rename Starter Tier	4	87%	0	0%	0.59	Users preferred to click on Tier Name to edit. In absence of something that appears clickable, Add Component was the next place they clicked. The menu (dropdown) was not immediately clear and once upon testing it, users were confused about whether Edit Name was to Properties or Details. Responder labeling will be helpful.	Double clicking on the Tier Name will enable the "edit" mode. Adding a new tier to the screen will add the context with the "edit" mode enabled. If the user adds more than one tier to the screen of a form, a default action assigned to the tier will be given to all other tiers through the most recently added one which will have the "edit" mode enabled.
A5 - Add a Component	5	100%	5	100%	0.15	Most users were able to successfully find component. One user commented that he remembered seeing it while looking for Edit Name for the tier.	Consider testing icon or text buttons to use if users recognize "Create" functionality.
A6 - Point Component to Content	5	100%	5	100%	0.23	Another user commented that the Component icon did not communicate "Pointer to form file, and would have used responder tags.	None
A7 - Monthly Content	5	100%	5	100%	0.42	"Select Player" was the only direction available. No users assumed that it was where they could find the file itself.	Consider indicators for required fields and getting information field tip to explain what certain fields are or what they do.
A8 - Create Deployment Process (for Component)	5	80%	2	40%	0.21	One user asked how much of the form was mandatory (purple) looking for indicators of required information. Another user commented that he/she didn't know what they were actually doing in filling out the form.	Responder labeling tags.
A9 - Define Step 1 (Component Process)	5	80%	2	40%	1.00	One user had uncertainty between the Add Component Process icon and the New Component icon in the top, would have used responder labels to determine the difference between icons. Another user clicked on "Add Tier" to add the component process. A third user clicked on the "New Component" icon and then moved the mouse to the "Resizer" in toolbar before finding a connection between the Resizer icons.	None
A10 - Define Step 2 (Component Process)	5	80%	2	40%	1.00	Users displayed a preference to click on the middle of the "Define this Step" to define the step. One user searched the Component Process menu to look	Make the entire step clickable to "Define this Step".

... Provided product and design recommendations to C-level, directors, and lead/senior product and engineering team members...



## Template

[https://docs.google.com/presentation/d/1Gc5ZhzpScPUE1rM1N18Ok-Wu\\_T00quk60BxqrqTk7GU/edit#slide=id.p1](https://docs.google.com/presentation/d/1Gc5ZhzpScPUE1rM1N18Ok-Wu_T00quk60BxqrqTk7GU/edit#slide=id.p1)

## Helpful Resources

- **Keynote:** <https://www.apple.com/keynote/>
- **PowerPoint:** <https://products.office.com/en-us/powerpoint>
- **Free Portfolio Building Websites.** For free portfolio websites to make your portfolio digital and available online:
- Cargo: <https://cargo.site/>
- Adobe Portfolio: <https://portfolio.adobe.com/> (free with Creative Cloud)
- Dribbble: <https://dribbble.com/>
- Behance: <https://www.behance.net/>
- Carbonmade: <http://carbonmade.com>
- Google Sites: <https://sites.google.com/>
- Webflow: <https://webflow.com/>
- Wordpress: <https://wordpress.org>
- **Free Images and Photos.** For free visual content such as photos or images to help visually enhance your case study:

- Unsplash: <http://www.unsplash.com>
- Shutterstock: <https://www.shutterstock.com/explore/royalty-free-images>
- Pexels: <https://www.pexels.com/>
- Pixabay: <https://pixabay.com/>
- Freepotos.cc: <https://freepotos.cc/>
- Burst by Shopify: <https://burst.shopify.com/free-images>
- StockSnap.io: <https://stocksnap.io/>
- Reshot: <https://www.reshot.com/>
- Foodiesfeed.com: <https://www.foodiesfeed.com/>
- Kaboompics.com: <https://kaboompics.com/>

## **Complete Analyzis**

<https://github.com/deco3500-2018/Pirates-of-Design/wiki>

concept proposal: <https://github.com/deco3500-2018/Pirates-of-Design/wiki/1.-Concept-Proposal>



# Eco Lawn (Elawn) Care Research Plan

## Study 1: Semi-Structured Interview

### Background

Global warming has become the number one problem worldwide. I discovered that gas mowers [produce up to 5% of the US nation's air pollution](#). Analyzing the current lawn care service market, our team determined that most lawn care companies use fossil fuel gas to power their equipment. Eco Lawn (Elawn) Care is a new lawn care service provider in Pittsburgh. This company uses non fossil-fuel equipment to deliver outstanding lawn care, providing a necessary service to customers while reducing gas emissions that are contributing to climate change. I am interested in developing the lawn care service (desktop and mobile application) for residential homeowners to provide and promote an eco friendly lawn mowing service that will benefit not only them and their families but also everyone around them by reducing air pollution.

### Research Goal

[Why do you want to conduct a study? What you want to get out of the study?]

I want to learn about how homeowners use lawn care services, as well as what they think about global warming/climate change and how it will affect their future and the future of their families. I want to find out if they are in any way reducing fossil fuel emissions and which main pain points they encounter when using lawn care service providers. This data will help me to better understand customers' pain points and see their readiness to help with global warming/climate change.

### Additional Research Studies

[Americans are Increasingly "Alarmed" About Global Warming](#)  
[The New York City Global Warming Survey](#)

### Research Questions

[Overarching questions]

- [Needs] What is essential for lawn care service?
  - What are customers' current pain points?
- [Behaviors] How do private home owners manage their lawn yard service?
  - What lawn care providers do the customers use?
  - How do users feel about existing lawn care companies?
  - How does the customer pay - cash, online credit card/paypal, debit card , check?
  - What is the name of the plan the customer is using?
  - What is the plan price?

- Is the cost per cut, monthly, yearly?
  - What is included in the plan (grass cut, trimming, grass patch repairing )?
- [Feelings] How do customers feel about climate change/global warming?
  - What do customers do to reduce the impact of climate change/global warming?

## Method

[Is this a survey? An interview? What kind of people do you plan to recruit? Where will you find them?]

- 30-minute in-person or VOIP semi-structured interview to gather in-depth qualitative data
- The researcher will use the interview script as a guide and ask follow-up questions based on answers from the users

## Recruiting

### *Homeowners*

- 3 participants
- Adults with a full-time job who:
  - Own a house with a yard of not less than 1000 sq/f
  - Use a lawn care service at least once a month
  - Have been using a lawn care service for at least 3 months
- To recruit participants, I will send emails to full-time employees at Washington School District, a greater Pittsburgh area school district.

## Screening Questions for Homeowners

1. Do you own a house?
  - a. No (screened out)
  - b. Yes
  
2. Do you use a lawn care service?
  - a. No (screened out)
  - b. Less than once a month (screened out)

- c. At least once a month
- 
- 3. What is the size of your yard?
    - a. Less than 1000 sq/f (screened out)
    - b. More than 1000 sq/f but less than 5 acres
    - c. More than than 5 acres (screened out)
- 
- 4. How do you feel about global warming/climate change?
    - a. Alarmed
    - b. Concerned
    - c. Cautious
    - d. Doubtful (screened out)
    - e. Dismissive (screened out)
- 
- 5. Do you believe that global warming is caused mainly by:
    - a. Humans
    - b. Humans and natural changes
    - c. Natural changes (screened out)

## Script

Notes: { curly brackets } are used to document what we wish to learn from each question

### *Introduction*

My name is Serhiy. Thank you very much for participating in this study. I am currently working on a project with lawn care services. I would love to learn more about your experience with lawn care services. This interview will take about 30 minutes. If you want to leave the session or take a break at any point, please let me know. Do you have any questions before we start?

Do you mind if I record this session for note-taking purposes? The recording won't be shared with anyone outside of our team.

Warm-up Questions { *Build rapport. Start with easy questions to get to know the participant.* }

- 1. Could you tell us more about yourself?
- 2. Which lawn care service provider are you using now?



3. Which apps or websites are you currently using for managing/purchasing lawn care services?

Probe into needs and behaviors

4. How did you get started using this lawn care service? {Motivation: what did participants hope to achieve?}  
Follow-up questions:
  - When did this happen?
  - What was the trigger?
  - How did you choose your lawn care service provider? Why?
5. How long have you been using the lawn care service? { Behaviors }
  - How is the lawn care service experience?
  - Have you considered changing lawn care service providers? Why? { Pain points }
6. How often do you use the lawn care service to mow your lawn?
  - Do you plan to continue to use the lawn care service? Why? { Does customer feel beneficial or non beneficial to use lawn care service }
7. Do you pay for the lawn care service online? { Behaviors }
  - Do you pay per cut, monthly, yearly?
  - Do you pay with a credit card, debit card, paypal?
  - Could you please show me the payment process?
  - How much do you pay?
  - What is the name of the lawn care plan?
  - What included in the lawn care plan?
8. In a previous (screening questions) study you mentioned that you are concerned about global warming. Can you explain why?
  - Do you personally do anything to help fight global warming/climate change?
9. In the past 12 months, have you ever purchased an eco-friendly product that was more expensive than a similar, traditional product, even if it was more expensive?
  - Why? { Motivation }

10. In the period of the last 12 months, have you purchased any eco-friendly garden/yard care equipment?

- If YES
  - Why did you purchase it? { Motivation }
- If NOT
  - Why not (too expensive compared to fuel, bad ratings, concern about battery, etc. )? { Motivation }

11. When you choose your lawn care service, did you consider getting more eco friendly lawn care provider?

- If YES
  - Why?
- If NOT
  - Why not (too expensive compared to none eco friendly , bad ratings, concern about battery etc. )? { Motivation 2 }

### *Wrap-up*

Thank you so much for sharing your experience and insights. Your answers will help me to build a better product. If you have any additional thoughts and comments, I would love to hear about them at any time. I can be reached at [s.vdovichenko@gmail.com](mailto:s.vdovichenko@gmail.com). I hope you have a wonderful day.

## Study 2: Survey

### Background

In our previous study, we learned that people are ready to think about lawn care services that are eco-friendly. This is a promising opportunity that we may be able to target, but more data is needed to better understand the customers' needs and whether the larger population is also prepared to move to a more eco-friendly lawn service; in particular, how much the general population is willing to spend for such a service and whether ease of service (for example, being able to pay through a web and mobile application) would play into their decisions.

### Research Goal

This study focuses on better understanding users' needs related to an eco-friendly lawn care service as well as how much the cost of such a service affects their choices.

## Research Questions

How can an eco-friendly lawn service help customers to meet their lawn care needs while also meeting the customers' desires to reduce climate change?

How much would people be willing to pay for the extra benefits?

## Method & Recruiting

User surveys to collect data from at least 30 users of lawn care services

Test survey question with 3 volunteers recruited from our team

Send surveys to Washington School District employees whose answers in our screener met the recruiting criteria:

- Adults with a full-time job who:
  - Own a house with a yard of not less than 1000 sq/f
  - Use a lawn care service at least once a month
  - Have been using a lawn care service for at least 3 months

## Survey Questions

### Questions

1. How often do you have the lawn service take care of your lawn? [frequency]
  - a. More than weekly
  - b. Weekly
  - c. Biweekly
  - d. Monthly
  - e. Less than monthly
2. How much do you pay for the service, per cut (approximately)? [typical cost]
  - . Less than \$100
  - a. Between \$101 and \$200
  - b. Between \$201 and \$300
  - c. More than \$300
3. What is the name of your current lawn care service provider? [competitors]
4. Have you ever purchased lawn care products that were more expensive than other products, simply because they were better for the environment? [readiness to switch]
  - . Yes (what products: push mower, trimmer, leaf blower etc )
  - a. No
5. If you have purchased such products, how much more did you pay than the typical cost? [readiness to switch]
  - . Approximately 10-30% more
  - a. Approximately 31-50% more
  - b. Approximately 51-70% more

- c. Approximately 71-90% more
  - d. Approximately 91-100% more
  - e. More than twice as much
6. If you have not purchased such products, why not? [pain point]
- . Cost was too high
  - a. The eco-friendly benefits were not effective enough
  - b. The machines didn't work as well
  - c. Other: \_\_\_\_\_
7. Have you ever switched lawn care providers? [loyalty]
- . Yes
  - a. No
8. Is switching providers something you would think about, provided that the benefits were strong enough? [readiness to switch]
- . Yes
  - a. No
9. In the past month, which types of mobile products did you use? (select all that apply) [use of technology/comfort with apps and paying online]
- . Shopping apps (e.g., Amazon, Walmart)
  - a. Podcasts
  - b. Video platforms (e.g., YouTube)
  - c. E-books
  - d. Websites in my browser
  - e. Other: \_\_\_\_\_
10. In the past week, how often did you use technology to make a payment? (frequency)
- . A few times per day
  - a. About once per day
  - b. 4-6 times per week
  - c. 2-3 times per week
  - d. Once per week
  - e. I did not pay for anything using technology
11. In the past week, how often did you use a mobile application to manage a service (e.g., make appointments, provide feedback, send messages)? [frequency]
- . A few times per day
  - a. About once per day
  - b. 4-6 times per week
  - c. 2-3 times per week
  - d. Once per week
  - e. I did not manage anything using technology
12. Based on your current lawn care service, how essential are the following features?

	Not necessary	Nice to have	Must have	Does not apply
Reliable				

Exceptional results				
Eco-friendly				
Less expensive than other services				
Locally owned				

### Demographic questions

13. How old are you? [assumption: people in different age groups may have different priorities about lawn services]

- a. 18-25
- b. 26-35
- c. 36-45
- d. 46-55
- e. 56 and above

14. What is your education level? [assumption: education level affects the way different people feel about climate change]

- . Less than a high school degree
- a. High school degree or equivalent
- b. Associate's degree
- c. Bachelor's degree
- d. Graduate degree

15. What is your political affiliation? [assumption: people in different political parties may have differing beliefs about climate change]

- . Democrat
- a. Republican
- b. Libertarian
- c. Other: \_\_\_\_\_

