Google User Experience (UX) Design

UX Design Process: Empathize, Define, and Ideate

notes along my way - Bonnie Cooper

2021-04-15

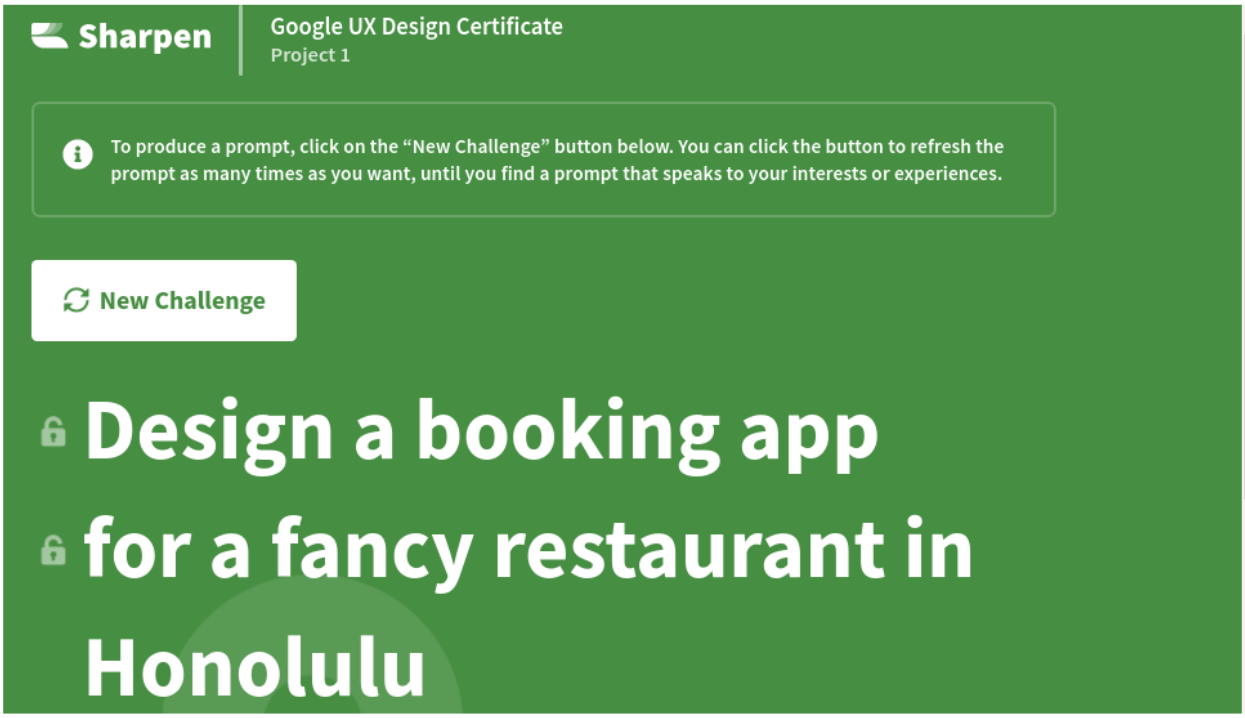
Course Objectives:

- Describe the role of UX Research in the Design Process
- List Common Research Methods that are used in UX Design
- Explain Research Methods Used During the Product Development Life Cycle
- Identify and Account for Biases in UX Research

Empathy is key to creating phenomenal experiences for our users
In this course we will learn how designers predict what a user or group of users might think as they interact with your product.

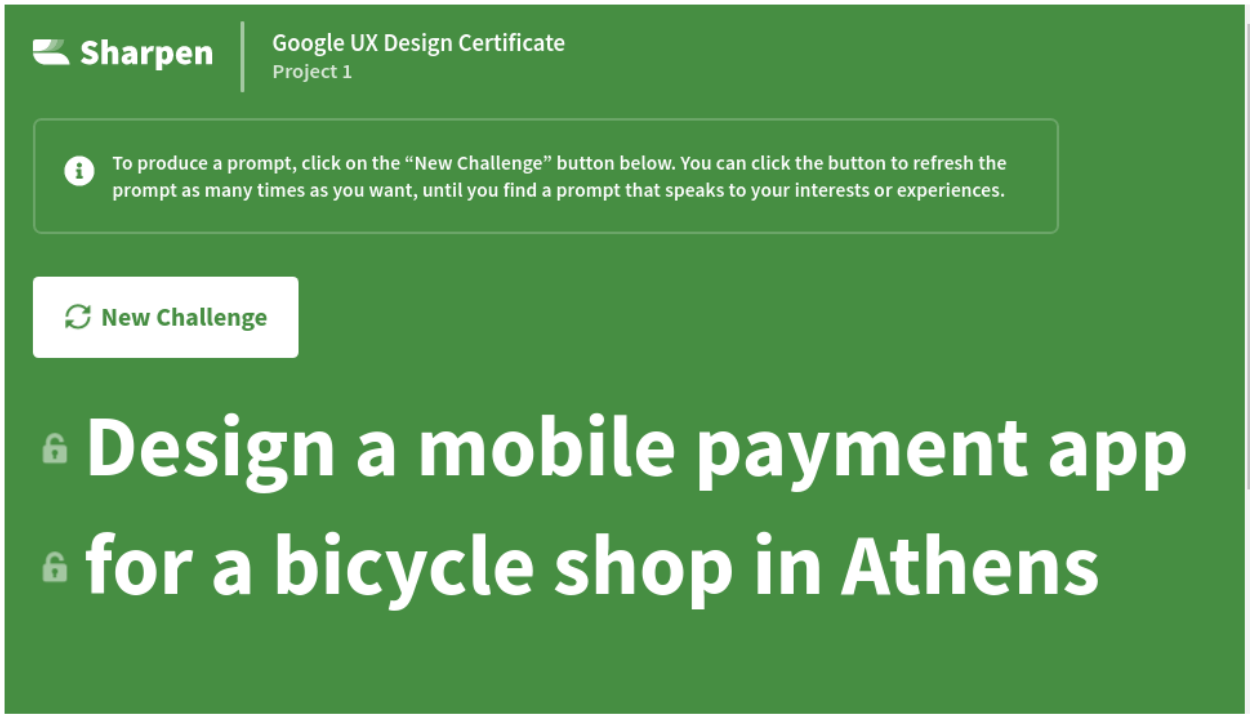
Portfolio Project 1

Designing a Mobile App to meet the specific need of a hypothetical business or organization. The project will focus on designing a process within a mobile app, and the Sharpen prompt generator will give you lots of ideas to choose from.




Sharpen
Google UX Design Certificate
Project 1
To produce a prompt, click on the "New Challenge" button below. You can click the button to refresh the prompt as many times as you want, until you find a prompt that speaks to your interests or experiences.
New Challenge
Design a concert merchandise app
for an Indie Rock band


prompt as many times as you want, until you find a prompt that speaks to your interests or experiences.
New Challenge
Design an ingredients preview app
for a subscription dog food vendor



Course Instructor: Emily. UX Qualitative Researcher

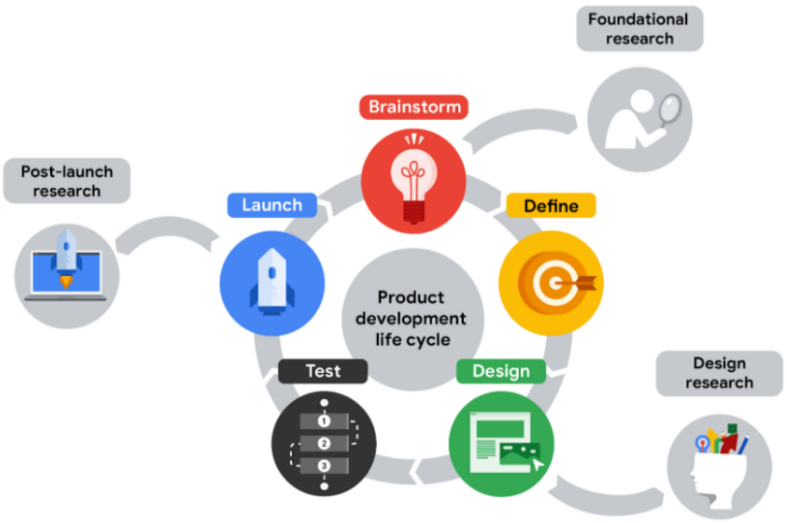
WK1 Integrating Research into the Design Process

At really large companies like Google, UX designers often have a dedicated UX Research partner, so designers don't have to do much research. However, at smaller companies, one UX designer might be responsible for both the UX research and the UX design.

Introduction to UX Research

UX Research - focuses on understanding user behaviors, needs and motivations through observation and feedback.
UX research can help bridge the gap between what a business thinks it's users need and what the user actually needs before an expensive and time-consuming product is made. By observing users and collecting feedback, UX Researchers can better understand user behaviors, needs and motivations.
Product Development Life Cycle - the process used to take a product from an idea to reality.
UX Research is continually involved in the product development life cycle: before, during and after a design

Recall the product development life cycle: (1) Brainstorm, (2) Define, (3) Design, (4) Test, (5) Launch



Foundational Research - (strategic or generative research) define the problem you would like to design a solution for

- What should we build?
- What are the user problems?
- How can we solve them?
- Am I aware of my own biases, and am I able to filter them as I do research?
- happens: before you start designing (brainstorm stage)
- conducting foundational research (primarily through observation)
  - interviews
  - surveys
  - focus groups - a small group of people whose reactions are studied
  - competitive audit - overview of competitors strengths and weaknesses
  - field studies - out in the wild
  - diary studies - users log activity to inform your designs

Design Research - (tactical research) goal: inform how the product should be built

- How should we build it?
  - How was your experience using the prototype today?
  - How easy or difficult was it to use?
  - Did you encounter any challenges?
  - happens - while you design
  - **usability study** - evaluate a product by testing it on users. identify pain points that the user experiences with the prototype so that issues can be fixed before product launch
  - **A/B testing** - evaluate and compare two different aspects of a product to learn which is more effective
  - **Cafe or Guerrilla studies** - spring a prototype on the unsuspecting public (i.e. at a cafe) to get feedback
  - **Card Sorting** - subjects sort labels into groups that make sense to them. is great for figuring out the information architecture of a product
  - **Intercepts** - a research method that gathers on-site feedback from users as they engage in the activities being researched

Post-Launch Research - How well a product is meeting the needs of users. Validates whether the product is meeting the users needs.

- Did we succeed?
  - was it a good/poor experience
  - how does it compare to others?
  - happens: after the design is complete and the product has launched.

UX Researcher Qualities

- **Empathy** - able to understand someone else's feelings or thoughts in a situation
- **Pragmatism*** - focused on reaching goals
- **Collaboration** = can work with a range of people, personalities and work styles
- **A?B testing**
- **Usability studies**
- **Surveys**
- **Logs Analysis** - a research method used to evaluate recordings of users while they interact with the design.

The key to a user-focused product: RESEARCH - Research is crucial to creating a product that satisfies users. As an entry-level designer, it might be tempting to assume what the user needs based on your own experience, but as you know: The user comes first. Always make sure that your opinions are backed up by your research. You should get feedback from your users before, during, and after you design!

Choose the Right Researh Method

Methods - how you get the research done.
Primary Research - research you conduct yourself. Information from direct interactions with users (interviews, surveys, usability studies etc)
Secondary Research - research that uses information someone else has put together. Usually done early on (brainstorming stage) get to know the stats, facts and figures that already exist about our users. includes information from sources like books, articles or journals
- Benefit: can save your team time & money. Is immediately accessible (online) & can be used to back up primary research
- Drawbacks: get no direct feedback from first-hand interactions with your product/feature. no specific user feedback.
- for more information about secondary information **Quantitative Research** - (What) focuses on data that can be gathered by counting or measuring. Generally works with a larger number of uses with surveys that gather numeric data.
- How many?
- How much?
Qualitative Research - (Why) focuses on observations about why and how things happen. Generally works with a smaller number of users via interviews to focus on their needs in greater detail. is primarily collected through observations and conversations.
- Why did this happen? - How did this happen?

Common Research Methods

- **Interviews** - a research method used to collect in-depth information on people's opinions, thoughts, experiences, and feelings. can be 1:1 or a small (focus) group.
  - Qualitative Interview: open ended questions that return narrative answers
  - Quantitative Interview: closed end questions (y/n, or numeric scores)
  - Benefits: can understand what users think and why. can ask follow-up questions. can adjust questions based on the user's responses. can ask questions specific to a user's needs. can even receive direct suggestions from a user.
  - Drawbacks: take time & money which usually results in a small sample size. group interviews can show signs of bandwagon effect (people go along with a previous answer instead of sharing their unique opinion)

  - Rule of Thumb: collect at least 5 interviews to get a variety of responses.

  - for more info on interviews

- **Surveys** - an activity where many people are asked the same questions in order to understand what most people think about a product
  - Qualitative Survey: collects an open ended response
  - Quantitative Survey: closed end questions (y/n or numeric scores)
  - Benefits: larger sample size, fast and inexpensive

  - Drawbacks: survey responses are limited. don't allow for detailed responses. don't allow for personalization

  - for more info on surveys
- **Usability Studies** - a technique to evaluate a product by testing it on users - see how users interact with a product/feature with interviews, surveys or observations. Is the product on the right track or does the design need adjustment?
  - Benefits: get in-depth feedback and first-hand observations of interactions. can challenge our assumptions about the user's experience and help reduce bias in designs.

  - Drawbacks: Only measures how easy a product is to use. Also expensive. also, also may not reflect how users interact with the product/feature outside of the UX lab

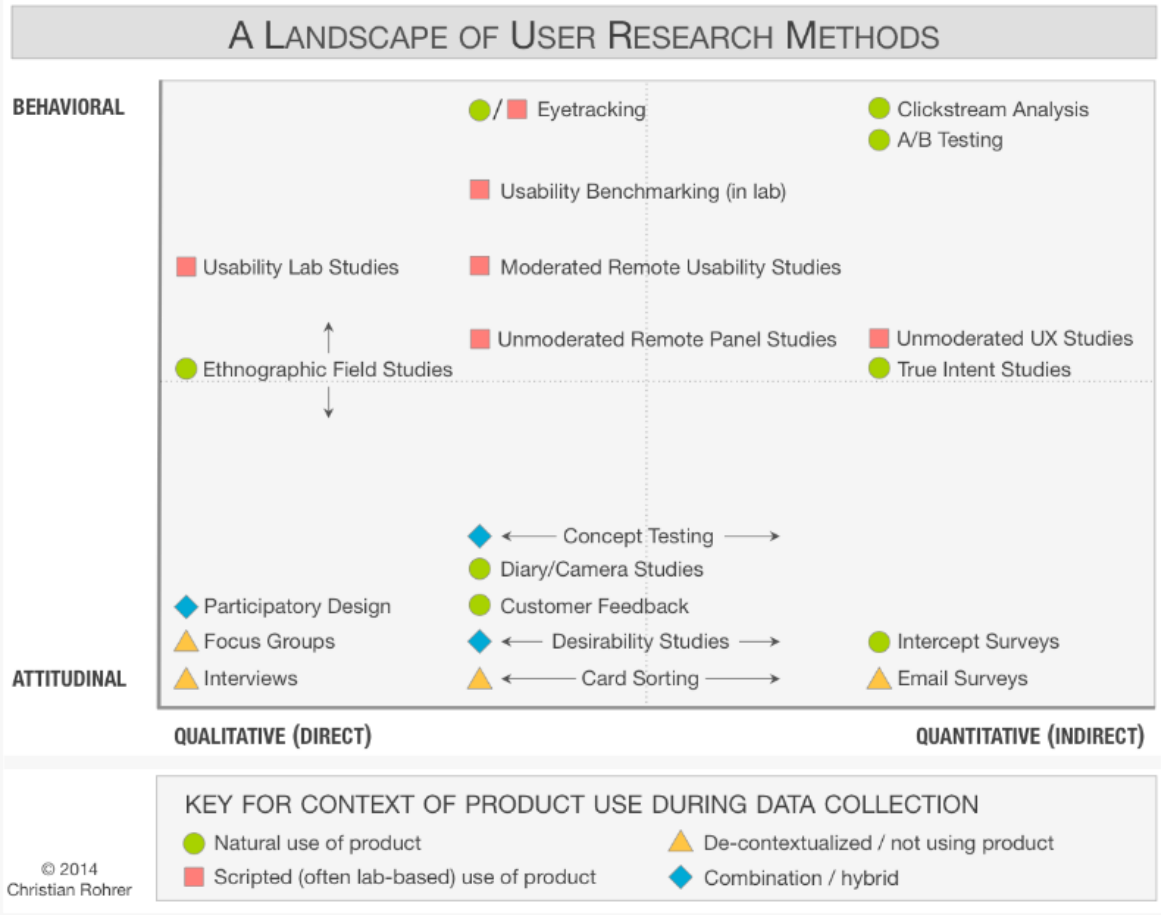
  - for more info on usability studies

- **KPIs**: Key Performance Indicators - critical measures of progress toward an end goal.

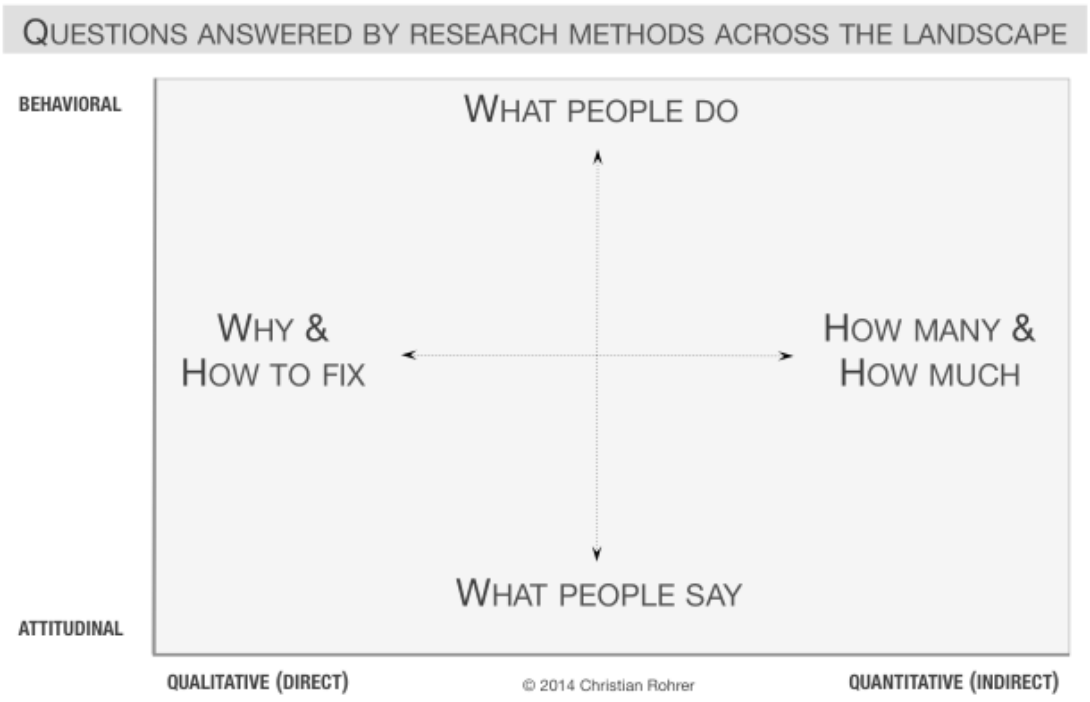
The research method we choose is decided by the question we're trying to answer.

"Within technology, you get a chance to just explore and play with stuff that maybe doesn't even exist yet"

For more on UX Research Methods



Each dimension provides a way to distinguish among studies in terms of the questions they answer and the purposes they are most suited for.



Identifying Types of Bias in UX Research

Bias - favoring or having prejudice against something based on limited information.
While we can't completely remove biases, we can be more aware of them and work to overcome them.
Types of Bias

- Confirmation Bias - occurs when you start looking for evidence to prove a hypothesis you have.
  - Overcoming confirmation bias - ask open ended questions. actively listen without leading towards the answer. include a large number of diverse users.
- False Consensus Bias - assumption that others will think the same as you do. This happens when we overestimate the number of people who will agree with out idea or design
  - Overcoming false consensus bias - identify and articulate your own assumptions. reach out to large groups of diverse people
- Primary Bias - Remember the first participant most strongly.
  - Overcoming Primacy bias - take detailed notes of conversations/observations for future reference. interview participants in a consistent way
- Recency Bias - It's easiest to remember the last thing you heard.
  - Overcoming recency bias - take detailed notes of conversation/observations for future reference. interview participants ina consistent way.
- Implicit Bias - (unconscious bias) the collection of attitudes and stereotypes we associate with people without our conscious knowledge
  - Common UX Mistake - when we only interview people within a limited set of identity profiles
  - Overcoming implicit bias - reflect on our own behavior. ask others to point out our implicit bias.
- Sunk Cost Fallacy - the deeper we get into a project we've invested in, the harder it is to change course
  - **sunk cost** - how much time/resources we have already spent on a project
  - Overcoming sunk cost fallacy - break your project into smaller phases. outline points where you can decide whether to continue or stop

Preventing Bias in Data Collection

- **Choose your words carefully** - don't lead the user to your conclusion. **framing effect**: when users make a decision of choice based on the way information was presented to them
- **Foster Independent Thinking** - combat bandwagon effect by asking users to write down or record their thoughts before discussing as a group
- **Avoid Specific Language** - avoid questions or answer options that use specific phasing that leads towards evidence for a hypothsis of yours (confirmation bias)
- **Limit the Guidance you give users** - it's important to let users find their own path through a products use. avoid false consensus: don't assume a user will use a product as you would. rather, let them interact and learn from them how a product is used.

- **Consider Users' Tone and Body Language** - interpret nonverbal cues like tone and body language
- **Be Careful of your own Body Language and Reactions** - avoid **social desirability bias** (participants response based on what the think you want to hear). ex: your tone of voice can influence a subject
- **Plan your Research Effectively** - take the time to properly recruit the right users for your research. avoid **Availability bias** (you rush the user recruitment process and fail to adhere to ideal user criteria)
- **Remain Open Minded** - work hard to treat all information equal to prevent primacy/recency bias

for more info on avoiding Cognitive Bias

"...channel to voice of people, their motivations, their desires, their needs"

THE GOAL OF UX RESEARCH IS TO PRIORITIZE THE USER

WK2 Empathizing with Users and Defining Pain Points

Empathize with users

User empathy brings you closer to your potential user, and helps you create positive user experiences.
Empathy - the ability to understand someone else's feelings or thoughts in a situation. when you empathize with someone, you share their mental and emotional experiences.
UX design is not about solving problems we *assume* users want solved. it's about solving problems that users *actually* want solved.

Understand empathy in UX design

empathizing with users enhances the products you create because you experience the product as your user does.

How to Empathize with Users

- Ask lots of questions - what, how, why to gain a deeper understanding of your user' perspective
- Become more observant - take detailed notes, or even record sessions with users
- Request input - use open ended questions to understand the user's actual thoughts on the experience/product
- Have an open mind - set bias aside to better empathize with users
- Keep current on UX research - research is always changing and evolving. staying current will give you an advantage to understanding your audience

Empathy vs Sympathy

- Empathy - Actually understanding another person's thoughts or feelings by using your own experiences to understand theirs. understanding someone's feelings or thoughts often by experiencing the emotions yourself
- Sympathy - Identifying another person's situation and reacting with support and comfort that stays superficial and impersonal. the experience of showing concern or compassion without feeling the emotions yourself

- By empathizing effectively with your users and doing your best to understand their needs, you build a great foundation for a product experience that will help solve their unique problems.

EMPATHY:: *"I'm stuck. It's dark. I'm overwhelmed."....."I know what it's like down there and you are not alone."*

Recruiting Interview Participants

How to find and recruit people who want to be interviewed

1. Determine clear interview goals ... to make sure both you and the user get the most of the time. Are there certain user problems or pain points that you need to empathize with.

2. Write interview questions ... the more aligned the interview questions are with your goals, the more useful the data you obtain will be.

- Ask open-ended questions ... the user will answer freely instead of yes/no
- Keep questions short and simple ... should be easy for users to follow
- Ask follow-up questions ... interviews should be conversational ... encourages users to elaborate on their experience

3. Use a screener to select a representative sample of study participants ... the participants you select for a research study should be based on your research goals and the target users of the product you're designing

- **screener survey** - a detailed list of questions that help researchers determine if potential participants meet the requirements of the research study.
- **demographics** - characteristics of a group or individual ... 'in the spirit of inclusive design, we are asking these questions to make sure we're reaching out to a diverse group of people'
- **representative sample** - is a small group of participants who represent both the target user group *and* user groups that are often marginalized

4. Find Research Participants ...

- **Personal Network** - family, friends, colleagues who fit the demographics of the target users
- **Existing User Base** - group of established user connections
- **Online** - use social media or websites created specifically to connect with research participants (UserTesting & User Interviews)
- **Hallway Testing** - asking people that happen to be passing by
- **Third-party Recruiting Agencies** - expensive, but save time and can reach diverse users

5. Reach out to Participants - send a message & maybe offer an incentive

Conducting user interviews ...

1. Prepare for the interview

- Collect supplies - gather equipment or technology needed for the interview & make sure you know how it works
- Research the users - if possible, it is nice to know the name &/or demographic of a user beforehand because this can be great to help build a rapport
- Script interview questions - develop a list of questions so that the interview process can be consistent across users. You can deviate from the questions is necessary to learn more about pain points
- Practice - practice your delivery before you conduct a real interview

2. Meet the Participant

- Build a rapport - establish a professional but friendly interaction
- Thank the users for participating - show gratitude and let the users know that their time & opinions are valued

- Gather basic details - get any basics you need done first before moving on the the meat of the interview (e.g. demographics)

3. Conduct the Interview

- Follow Interview Etiquette - speak clear & concise. be professional. be an active listener
- Ask open-ended questions - avoid yes/no questions. ask questions that provoke ellaboration. ask follow up questions.

4. Take Notes

- Highlight compelling quotes - Interesting quotes are strong indicators about how users really think and feel
- Document observations about participants - mood, expressions, body language and behaviors.
- Consider recording interviews - consent is key. recorded interviews can be really helpful later

5. End the Interview

- Ask for final thoughts. some participants may open up about their opinions and reveal insights that they didn't share earlier
- Thank the participants one last time. you want the participants to leave the interview on a good note

Create Interview Transcripts

interview transcripts - typed or written version of the conversation
you will need: interview recordings, a way to play the recording back, pen/paper or something else to transcribe with

1. Create a blank document for each interview

- participant's name on top
- brief introduction to the participant including demographics: age, job title, context that is relevant to the product

2. Write in the interview questions in the order they were asked

- place [**UX Researcher**] before each question
- place [**<participant's name>**] before each answer space
- make sure you have enough space to transcribe

3. Play the interview recording and write the participant's responses to each question word-for-word

---

Portfolio Project 1: Design a Mobile Payment app for a Bicycle Shop in Athens

Interview Goals: I want to understand common challenges that bicycle shop customers face when they are trying to make payments for goods or services
I want to identify frustrations that bike shop customers experience when trying to make purchases

Interview Questions

- Could you describe your bike needs at this shop?
- Have you recently taken your bike here to be serviced and if so what challenges did you face?
- Have you recently purchased a bike here and if so what challenges did you face?
- Have you made any other purchases for bike parts or accessories and if so, what challenges did you face?
- Is there a way that you feel these challenges could be resolved?

Target Participant Characteristics

- Bike riders
- Ages 16+ or otherwise making independent purchasing choices
- Include participants of different genders
- Include participants with different bikes, purposes for riding, & riding abilities

---

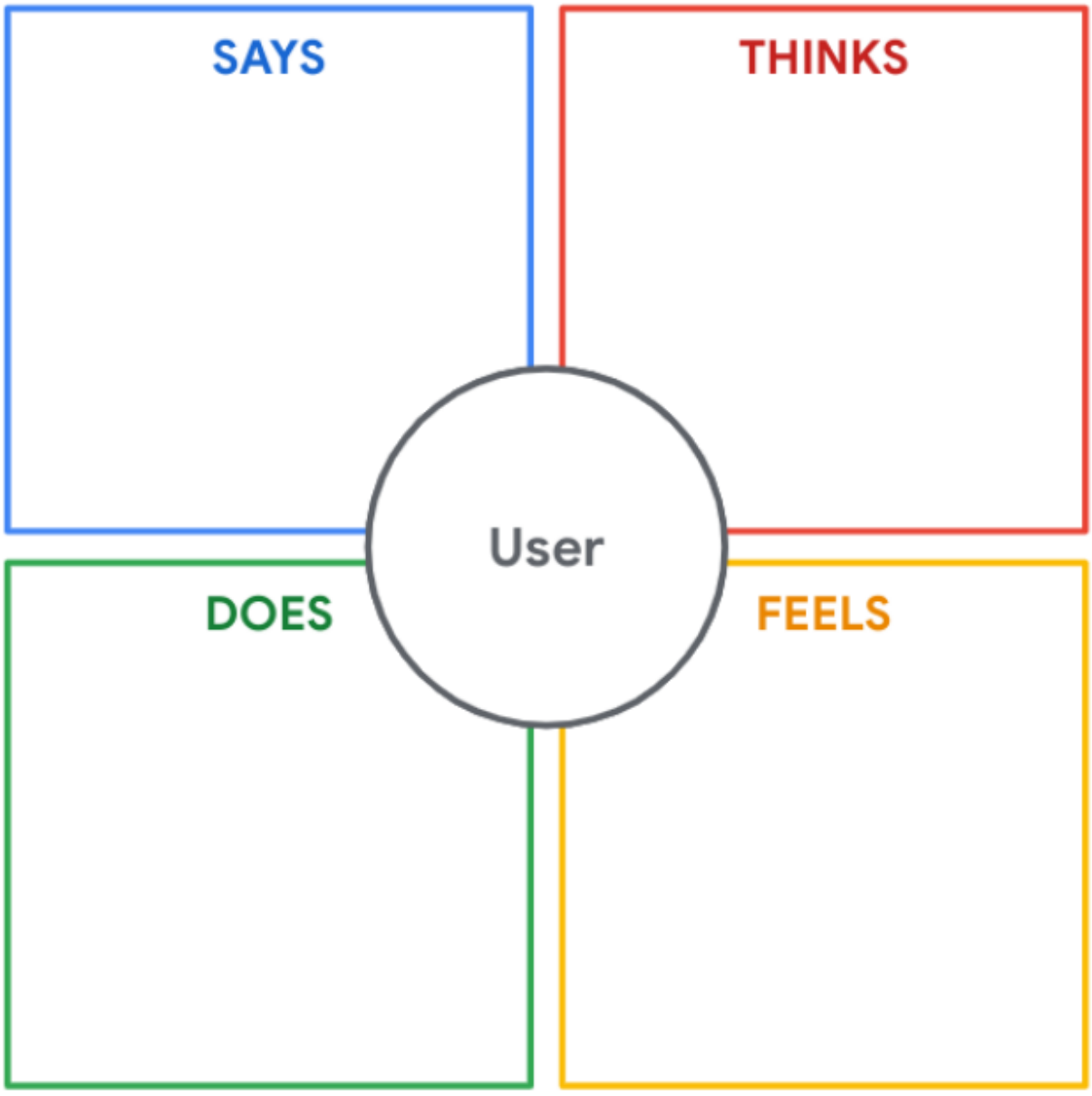
Interview #1

- [**UX Researcher**] Could you describe your bike needs at this shop?
  - [**Zach Blackburn**] I need new sealant in my tires
- [**UX Researcher**] Have you recently taken your bike here to be serviced and if so what challenges did you face?
  - [**Zach Blackburn**] There was a line out the door
  - [**UX Researcher**] Oh, I'm sorry about that. The lines have been pretty long during COVID aren't they? Could you tell me about your experience in that line ... what stand out in your mind?
  - [**Zach Blackburn**] Uh... it really only took about 5 or 6 minutes and the staff was really friendly
  - [**UX Researcher**] That's good to hear. I'm sure they would really appreciate to know you noticed that.
- [**UX Researcher**] Have you recently purchased a bike here and if so what challenges did you face?
  - [**Zach Blackburn**] Uhhhmmm... it was tough to find a saddle because they were not in stock ... the saddle I was used to was not in stock and normally they'd be able to order it but they couldn't order it because the supply lines were jammed up. some stuff is just not available for months
  - [**UX Researcher**] Wow. yeah that can be quite frustrating. What did you end up doing to resolve the situation?
  - [**Zach Blackburn**] I found it and bought it off ebay.
  - [**UX Researcher**] OKay so you were able to get a seat that's great
  - [**Zach Blackburn**] but I wasn't able to get the one I was used to so I just bought it online
  - [**UX Researcher**] Do you happen to remember the timeline or would they even have been able to gove you an estimate of how long it would take to order the seat?
  - [**Zach Blackburn**] Uhh it looked like it was gonna be about three weeks
  - [**UX Researcher**] Alright, so yeah, its seems three weeks is a bit too long to go without something to sit on!
  - [**Zach Blackburn**] (laughs)
  - [**UX Researcher**] Yeah, OKay
- [**UX Researcher**] Have you made any other purchases for bike parts or accessories and if so, what challenges did you face?
  - [**Zach Blackburn**] (exhales & long pause)
  - [**UX Researcher**] I guess an example might be, did you have trouble finding things?
  - [**Zach Blackburn**] well the shop is immaculate and organized and there's so much helpful staff around
  - [**UX Researcher**] That's great..they'll definitely appreciate that feedback
- [**UX Researcher**] (Overall) Is there a way that you feel these frustrations/challenges could be resolved? -obviously we can't make a new saddle ourselves but is there anything offhand you can think of that could be improved
- [**Zach Blackburn**] There could be a livefeed camera of the line outside so I would know when it was busy or not
- [**UX Researcher**] Interesting!, yes we didn't think to do that (laughs) but that would be a really interesting feature or even just a general livefeed outside the shop so anyone could see if it was recycling day or not. That might be interesting to some people.
- [**UX Researcher**] OKay, well that was my last question and I want to thank you for your time and we definitely appreciate you taking some time to help us understand how to make our jobs work more for

you. So thank you very much and I will leave you to your day. Appreciate you and have a good day!
- [**Zach Blackburn**] glad to help

Build an Empathy Map

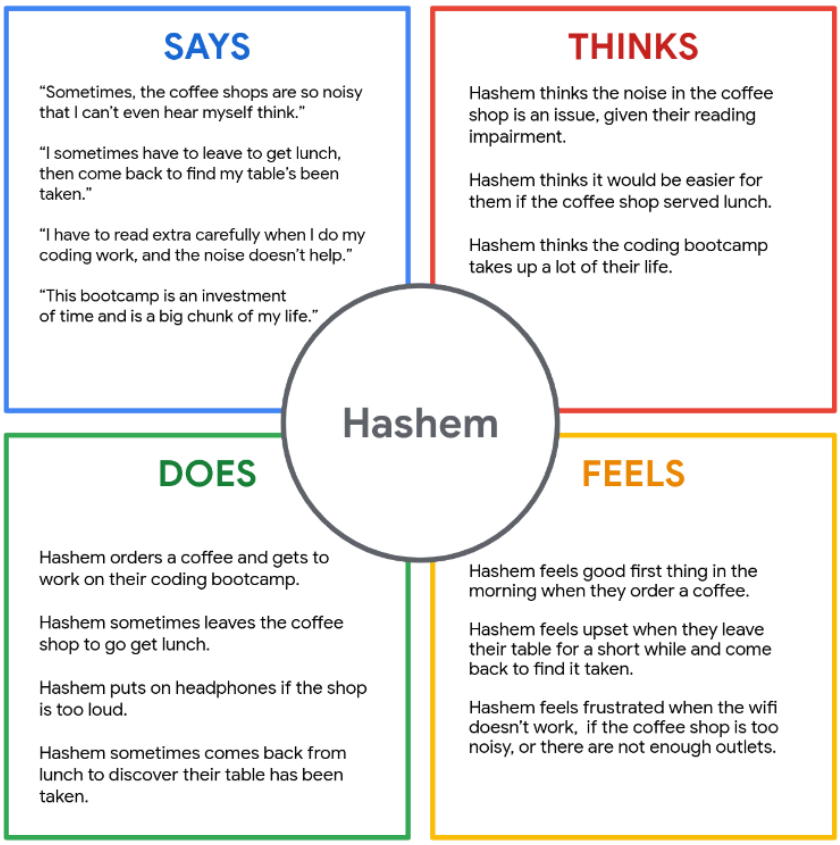
Empathy Map - an easily understood chart that explains everything designers have learned about a type of user
Visualize empathy. An empathy map consists of four squares, which show what the user says, does, thinks and feels. Empathy maps break down each interview into easy to understand pieces of information



- **Step 1: Add the user's name** distinguish the map from the others
- **Step 2: The 'SAYS' square** use verbatim quotes
- **Step 3: The 'THINKS' square** thoughts expressed by the user. can be verbally expressed or conveyed through expression, body language etc. you can always ask for clarification

- **Step 4: The 'DOES' square** actions made the user describes making
- **Step 5: The 'FEELS' square** feelings/emotions the user expresses

My first attempt:



Exemplar Empathy Map:

One-user empathy map - content from one user's interview
Aggregated empathy map - content from multiple users' interviews. helpful for identifying similar tendencies & themes in users

The user would be very happy (FEELS) if the app would provide the exact solution that he needs (SAYS) because currently he has to work harder (DOES) than he can and should (THINKS).

Identify User Pain Points

$$\text{Brain} + \text{Heart} = \text{User Experience}$$

Empathizing is your number one superpower, because it helps you spot user problems
To make sure you research is addressing something that will have impact, set clear actionable goals by focusing on user problems.

Pain Points: any UX issues that frustrate the user and block the user from getting what they need.

Identifying user pain points:

- **research** - to get into the user's head and understand where they are coming from
- **anticipate** - both the needs the user knows they have and the needs the user doesn't yet know they will face

Types of Pain Points:

- **financial** - money related. e.g. getting interrupted by a paywall. unexpected fees etc.
- **product** - quality/performance issues related to the product. product does not work as anticipated (e.g. Norman doors)

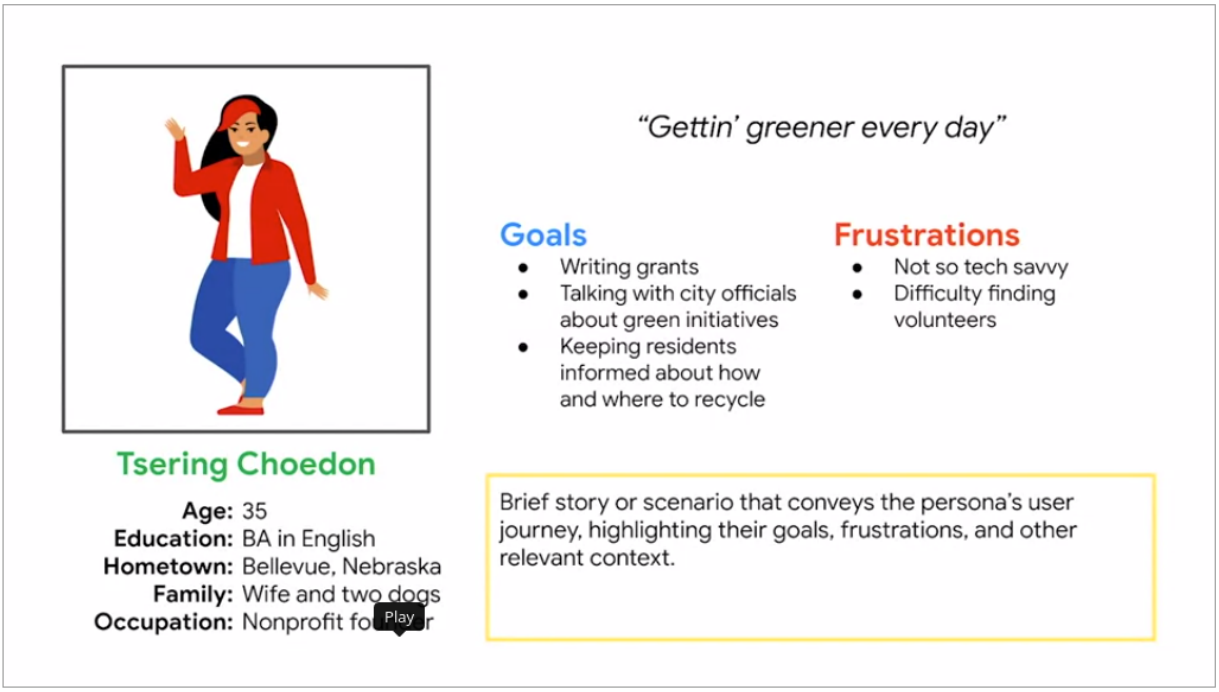
- **process** - frustrations that prevent a user from navigating a product (getting from point A to point B e.g. getting to checkout while shopping)
- **support** - if customers can't get answers an how to use a product

Empathy maps help us to identify pain points by showing us what the user thinks, says and does. When you can identify pain points, you can develop more meaningful solutions.

Create Personas

Personas - fictional users whose goals and characteristics represent the needs of a larger group of users
User group - A set of people who have similar interests, goals or concerns

Example persona:



"I'm not sure how I feel about having a stranger in my house and trusting them with our puppy."

Goals

- Find a dog walker while she and her family are traveling
- Hire an experienced, knowledgeable dog walker

Frustrations

- Traveling more for work so she has less time with the puppy
- Concerned about trusting strangers in the house or with dog

Daniela

Age: 48
Education: Master's degree
Hometown: Atlanta, Georgia, USA
Family: Married, two children
Occupation: Film producer

Daniela is a 48-year-old freelance film producer who lives with their partner and two children. The family recently adopted a golden retriever named Cisco. Daniela often travels for work, and the family takes regular trips for the kids' gymnastics competitions. Daniela wants to find a dog walker to care for their puppy while the family is traveling. Daniela would be most comfortable hiring someone who knows how to properly care for puppies.

Benefits of Personas:

- **Build Empathy** - help to humanize our users
- **Tell Stories**
- **Stress-test designs**

Construct a set of user personas such that all user groups are represented. this shows the diversity of user groups and lets you test features against them and let us stress-test a design

Building Personas Look for common themes in your data and group your users who personify those themes together. Generally, creating 3 - 8 personas is enough to represent the majority of a product's user base. Personas are content-specific, meaning they should be focused on the behaviors and goals of users interacting with the product efficiently

WK3 Creating User Stories and User Journey Maps

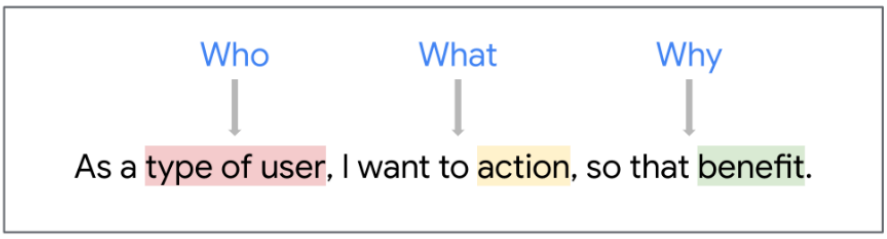
Craft User Stories

User Stories - (scenarios or user cases) a fictional one-sentence story told from the persona's point of view to inspire and inform design decisions. It introduces the user, lays out an obstacle, and states the ultimate goal.

$$\text{User Story} = \text{Hero} + \text{Goal} + \text{Conflict}$$

$$\text{As a} < typeofuser >, \text{I want to} < action >, \text{so that} < benefit > .$$

where $< typeofuser >==$ Who, $< action >==$ What and $< benefit >==$ Why



EX: *"As an online shopper, I want to receive texts when the product arrives so that I may pick it up right away."* my EX1: *"A a Jr. Business Professional, I know they're a complicated mess, but I need a notification of when to pick up my large order so that I can return to the office without needing to second guess whether the order was completed correctly"* my EX2: *"As a freelancer who uses the CoffeeHouse as my office on the regular, it is important that I can have space to work with wifi as strong as my coffee so that I can be productive"*

Advantages of user stories

- Prioritize design goals
- Unite the team around a common design goal
- Inspire empathetic design decisions that make the effort more 'usercentric'
- Personalize pitches to stakeholders by presenting design updates that help specific types of people

Consider Edge Cases

Happy Path - a user story with a happy ending
Edge Case - what happens when things go wrong that are beyond the user's control

Spotting & Resolving Edge Cases

- Create personas and user stories - develop personas and user stories for a wide variety of users to help keep the most vulnerable users on the happy path
- Thoroughly review the project before launch - review from the user's perspective to identify edge cases
- use wireframes to help visual the project which makes it easier to identify user pain points

"an edge case is a situation within a product experience that the product team doesn't think is going to be common . . . is outside of the typical flow"
"Often, what you think is going to happen when your app is in the hands of a user is actually not what happens"
"Identifying future use cases vs current use cases . . . "

Create a User Journey Map

User Journey - The series of experiences a user has as they interact with your product. It's an illustration of what the user goes through to achieve their goals.

Benefits of User Journey Mapping

- A user journey map helps UX designers create obstacle-free paths for users.
- Reduces impact of designer bias
- Highlights new pain points
- Identify improvement opportunities

Creating a User Journey Map

1. Add each action in the journey until the user reaches their goal
2. Add descriptions of each action: what tasks does the user have to do to complete the action?
3. Add how the user feels at each point (guesstimations are okay!)
4. Add opportunities for improvement (this is where new ideas come in)

Example:

ACTION	Determine the subway line and route	Find the nearest station with wheelchair accessibility	Buy a ticket	Find the right platform	Board the subway	Find the right exit
TASK LIST	Tasks A. Find and read subway map B. Identify fastest route C. Use map app	Tasks A. Use map app B. Check station accessibility C. Get to station	Tasks A. Find accessible kiosk B. Determine ticket to buy C. Pay for ticket	Tasks A. Follow signs B. Find the line number or letter C. Go uptown D. Find elevator	Tasks A. Find space for wheelchair	Tasks A. Open map app to find exit to use B. Follow signs
FEELING ADJECTIVE	• Confused • Intimidated	• Lost • Hopeful	• Confused • Satisfied	• Overwhelmed • Excluded	• Relieved • Glad • Alert	• Excited • Confused
IMPROVEMENT OPPORTUNITIES	• Better wayfinding	• Better wayfinding • Accessibility key on map app	• Ticket explanations	• Better wayfinding • Designated walk lanes	• Phone vibrates to inform user when to get off of subway	• Signs mention landmarks (not corner)

Consider accessibility when empathizing

People with disabilities share the same goal for any given user problem that you are trying to solve. Accessibility is not just designing to include a group of users with varying abilities. Instead, it extends to anyone who is experiencing a permanent, temporary or situational disability.
Accessibility is the design of products, devices, services or environments for people with disabilities. Designing for accessibility is about considering all users' journeys, keeping their permanent, temporary or situational disabilities in mind.
Assistive technologies services and apps designed to help bridge usability gaps for differently abled

"Inclusive design is a win-win for customers and business. It expands your product's reach, sparks innovation, and helps your company take on a position of social responsibility"

Understanding the Curb Cut Effect

Curb-cut Effect A phenomenon that describes how products and policies designed for people with disabilities often end up helping everyone

WK4 Defining User Problems

Create Problem Statements

entering the **Define** stage of the design process framework....
Problem Statement - a clear description of the user's needs that should be addressed. Problem statements provide clarity about your users' goals and help UX designers identify constraints that prevent users from meeting those goals.

- Human-centered
- Broad enough for creative freedom
- Narrow enough to be solved by a design
- takes the following form: (user name) **is a** (user characteristics) **who needs** (user need) **because** (insight)
  - ex: Amal is an athlete who needs to sign up for workout classes because the class he wants to participate in fills up fast.
- we can learn from effective problem statements
  - establish goals

  - understand constraints
  - define deliverables
  - create benchmarks for success
- framework to create problem statements: **5 Ws and H** - who, what, where, why, when and how

Define Hypothesis Statements

Hypothesis Statements our best educated guess on what we think the solution to a design problem might be

- if/then form (focus directly on the needs of the user): **If** (action) **then** (outcome)
  - ex: If Amal downloads the gym's app, then he can reserve his favorite class in advance
- "We believe" form (take the perspective of your team into account): **We believe** (design feature) **for** (user) **will** (outcome)
  - ex: We believe that a simplified mode for a dog walker app for Arnold will allow them to hire dog walkers efficiently
- however, there is no rule for how a hypothesis needs to be stated... can be more flexible
  - ex: Amal needs an app that allows him to reserve his favorite class in advance and notifies him of the first opportunity to sign up.
- a problem statement might need multiple solutions for your users' problems... that's okay

The **empathizing phase** allowed us to consider the users perspectives. Then, the **defining phase** involves sorting through the information gathered in the empathizing phase to formalize the user's problems (i.e. **problem statements**) so that we can begin coming up with solutions as we create **hypothesis statements**.

Create a Value Proposition

UX design goal $\longrightarrow$ create products that provide a clear value for users
Value Propostitions - summarize why a customer should use a product or service. i.e. what does your service/product offer that could benefit the user... perhaps even over the competition.

- What does your product do?
- Why should the user care? ..how does the product/service address pain points

1. **Step1: Describe your products features and benefits.** list everything that comes to mind
2. **Step2: Explain the value of the product.** arrive at this by sorting the product features/benefits into categories
3. **Step3: Connect these features and benefits with the needs of your users** identify what is truly valuable to the user. try matching personas to the value propositions that meets the biggest pain point
4. **Step4: Review your official value proposition list** review the value propositions. learn what makes your product stand out by looking at the reviews of for the competition. Does your service/product's value proposition meet any of these needs?...

One of the most important things to know about value propositions is that they need to be short, clear, and to the point. Users want to be able to easily identify exactly how your product will meet their unique needs and what sets your product apart in the market. Sometimes users won't know what they need until you explain it to them. That's the real heart of product design innovation.

Understanding Human Factors

The human factor describes the range of variables humans bring to their product interactions
ex: TL;DR $\rightarrow$ Too Long; Didn't Read accounts for the limited attention span of many human users.
Mental Models - Internal maps that allow humans to predict how something will work.
Feedback Loops - the outcome a user gets at the end of a process.

Common Human Factors that Inform Design

- Impatience
- Limited Memory
- Needing Analogies
- Limited Concentration
- Changes in Need
- Needing Motivation
- Prejudices
- Fears
- Making Errors
- Misjudgment

Von Restorff effect/ Isolation Effect - when multiple, similar objects are present, the one that differs from the rest is most likely to be remembered. This is the main reason why all 'call-to-actions (CTAs - a visual prompt that tells a user to take an action) look different from the rest of the action buttons on a site or application
Serial Position Effect - when given a list of items, people are more likely to remember the first few and the last few, while the items in the middle tend to blur. This is why most applications place the most important user actions to the right or left of a bottom or top navigation bar.
Hick's Law - The more options a user has the longer it takes for them to make a decision. If the number of choices increases, the time to make a decision increases logarithmically this also has the effect of making the users experience more difficult.

WK5 Ideating Design Solutions

Understand Design Ideation

Ideation - the process of generating a broad set of ideas on a given topic, with no attempt to judge or evaluate them. A broad set that allows any idea to be included no matter how 'crazy'. At this stage, there are no bad ideas.
The more you practice with coming up with lots of ideas, the more natural it will feel.

Ideation in the real world

- Brainstorm out loud
- Document all ideas
- Focus on quantity
- Do not allow evaluation
- Gather a diverse team
- Question the obvious
- then, take a break ....
- after a break get everyone together to evaluate the ideas
  - Feasibility: technically possible to build
  - Desirable: best at solving the user problem
  - Viable: financially beneficial for the business

Preparing for Ideation:

- Empathise with your user -know who you're solving for and what their needs are.
- Define the problem - know exactly what user problem needs to be addressed.
- Establish a creative environment - a comfortable & distraction free space
- Set a time limit - set a time to stop brainstorming and start evaluating ideas
- Assemble a diverse team - diverse group will generate diverse ideas
- Think outside the box - think big and get creative

Explore lots of Ideas

push past the obvious ideas to get to the innovative ones.

Why should we come up with lots of ideas?

- List of ideas is narrowed based on constraints
- Need to focus on equity for more people- the first idea might not work for everyone, but if you have many ideas, you might finds solutions
- Let users test the ideas

Recognize business needs during design ideation

Small changes in language communicate a brand's voice and tone and help improve the user experience.

Scope the Competition

Competitive Audit - an overview of your competitors' strengths and weaknesses. competitive audit is a tool to explore ideas for designs so that we can learn from others about what has worked or not worked. It's helpful to audit a wide range of products that compete with yours to get a full picture of the landscape.
Direct Competitors - having offerings that are similar to your product and focus on the same audience.
Indirect Competitors - Have a similar set of offerings but focus on a different audience, or have a different set of offerings and focus on the same audience.

- Identify your key competitors
- Review the products that your competitors offer
- Understand how your competitors position themselves in the market
- Examining what your competition does well and what they could do better
- Consider what your competitors think about themselves

Benefits to competitive audits:

- inform your decision process - how did competitors attempt the user problem?
- solve usability problems - are there identifiable pain points in the competitions product?
- reveal gaps in the marketplace - what user needs does the competition's product not meet?
- provide reliable evidence - deeper understanding of business needs and market gaps.
- demonstrating the expected life cycle of a product in the same market place as yours
- informing all the different iterations your product could take and how those performed for your competitors
- save time, money & energy

Limits to competitive audits

- May stifle creativity - innovation doesn't happen by copying the competition. the key is to understand what the competition is doing and to use that as a starting point
- Depends on how well you interpret the findings
- Not all designs work in all use cases
- Comp. audits need to be done regularly - keep up with competition

Steps to conduct a competitive audit

1. Outline the goals - Create an outline or rubric that lays out the details of the audit. what product features do you want to focus on?
2. List the Competitors (rows) - Create a spreadsheet of competitors (direct & indirect)
3. List of features to compare (columns) - Call out the specific features you want to compare. e.g.: audience, first impressions, interaction, visual design, content
4. Research each company
5. Analyze your findings - what are the similarities
6. Summarize your findings in a report

Presenting a Competitive Audit

Organizing and presenting competitive audit results

- Start out with the Goals of the competitive audit
- Clearly section of parts of the presentation
- Summarize what you learned using uncluttered easy to digest slides with summary of key points

Use insights from competitive audits to ideate

- Take your team through the matrix of the competitive audit
- Identify low hanging fruit
- Brainstorm gaps or opportunities
- Sort the ideas - uncover patterns and get a short list of ideas

"Research is like party planning. You have to just think of everything ahead of time."

Analyze a competitive audit

Consider the features you want to evaluate (column labels of the competitive audit spreadsheet)

- Compare strengths and weaknesses
- Brainstorm about the low-hanging fruit
  - Low-hanging fruit: easy to accomplish tasks that can make a difference to your product with a minimal effort
  - Gaps - the differences between what you and your competitors offer
  - Opportunities - things you can do to fill the gaps

Use 'How Might We' to Ideate

a design thinking activity used to translate problems into opportunities for design

- How - Explore a bunch of ideas
- Might - Our ideas are possible solutions, not the only solution
- We - Collaborative effort
- Ex:
  - How might we design a safe and comfortable seat for a child to ride a bike with an adult?
  - How might we design an eating ware set for children and toddlers that will keep meal time appealing, comfortable and mess-free?
- Ways to create 'how might we' phrases:
  - Amp up the good - use any positives in a problem as a solution
  - Explore the opposite - how would you design the opposite of your problem
  - Change a status quo - completely change the process
  - Break the point-of-view into pieces - for looong and complex problems
  - Remove the bad - how might you remove the negative of a problem
  - Go after adjectives - take negative adj. and turn them into positives
  - Question an assumption - change/remove components of a problem that you assumed need to be part of the solution
  - Create an analogy using the established need or context -think of ways to compare one UX to another
  - Identify unexpected resources that can provide assistance
- Best practices for thinking of HMWs
  - Be broad - HMWs should allow for many many possible solutions
  - But don't be too broad - keep the focus narrow enough that the solutions maintain focus
  - Make multiple drafts - write, rewrite, change, alter etc.
  - Be creative - be imaginative and fun
  - Write as many HMWs as you can - the more HMWs, the more solutions you'll think of

Use Crazy Eights to Ideate

Sketch eight different designs, each with a new idea for solving a user problem. Crazy Eights generates a lot of ideas in a small amount of time and forces you to think outside of the box.

Crazy Eight Best Practices

- Do a creative warm-up exercise
- Make sure your problem is well defined
- Don't judge your ideas
- Don't judge other peoples ideas
- Include a diverse group
- Ideate in a comfortable environment
- Don't be afraid of sketching

Consider the User's Journey during Ideation

User's Journey - The series of experiences a user has while interacting with a product