
ME 170 Lab 1

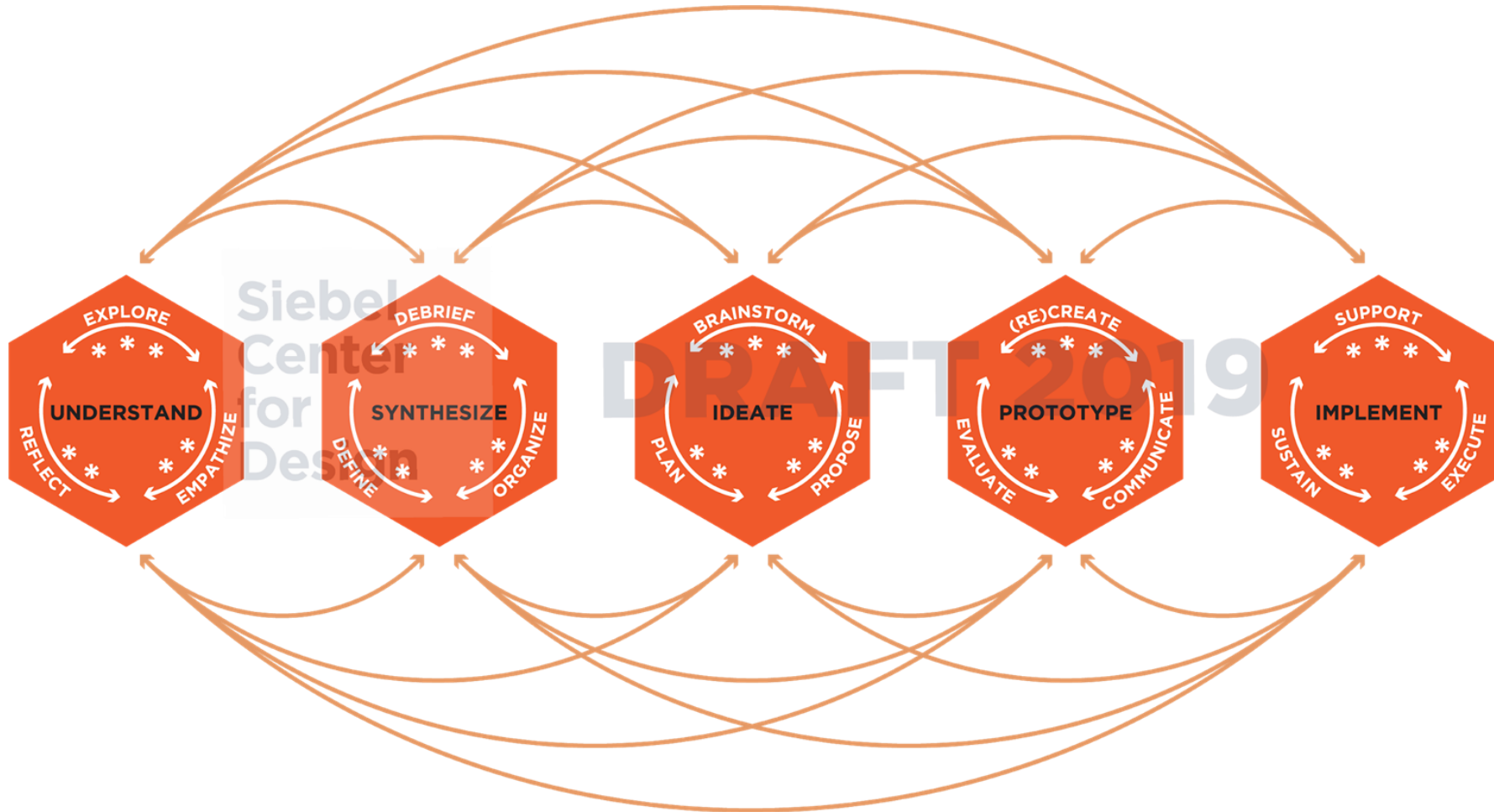
Finding Needs

Sit with your team! Come to the front to look at the team roster

Learning Objectives

After this lab you should be able to...

1. Identify needs beyond your own personal experience
 2. Employ techniques for empathetic interviewing
 3. Differentiate between a needs-oriented approach and a solution-oriented approach
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Siebel
Center
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Design

DRAFT 2019

INSPIRATION

I have a design challenge.

- How do I get started?
- How do I conduct an interview?
- How do I stay human-centered?

IDEATION

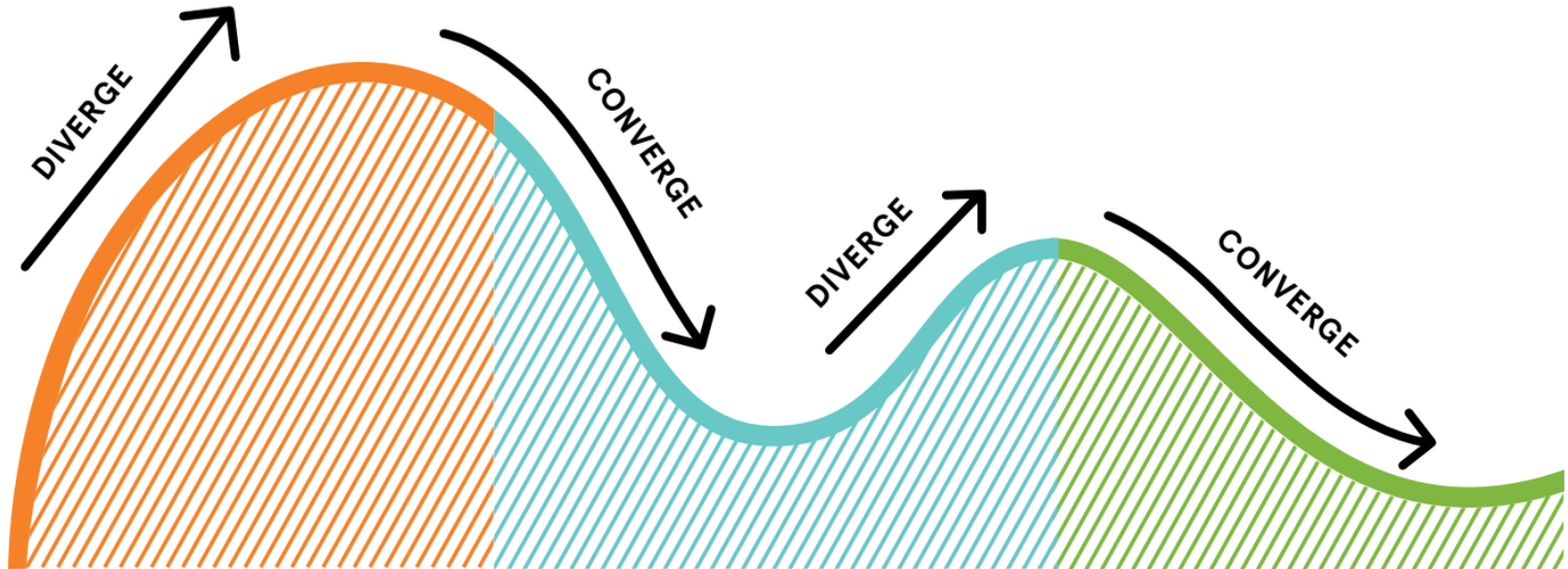
I have an opportunity for design.

- How do I interpret what I've learned?
- How do I turn my insights into tangible ideas?
- How do I make a prototype?

IMPLEMENTATION

I have an innovative solution.

- How do I make my concept real?
- How do I assess if it's working?
- How do I plan for sustainability?



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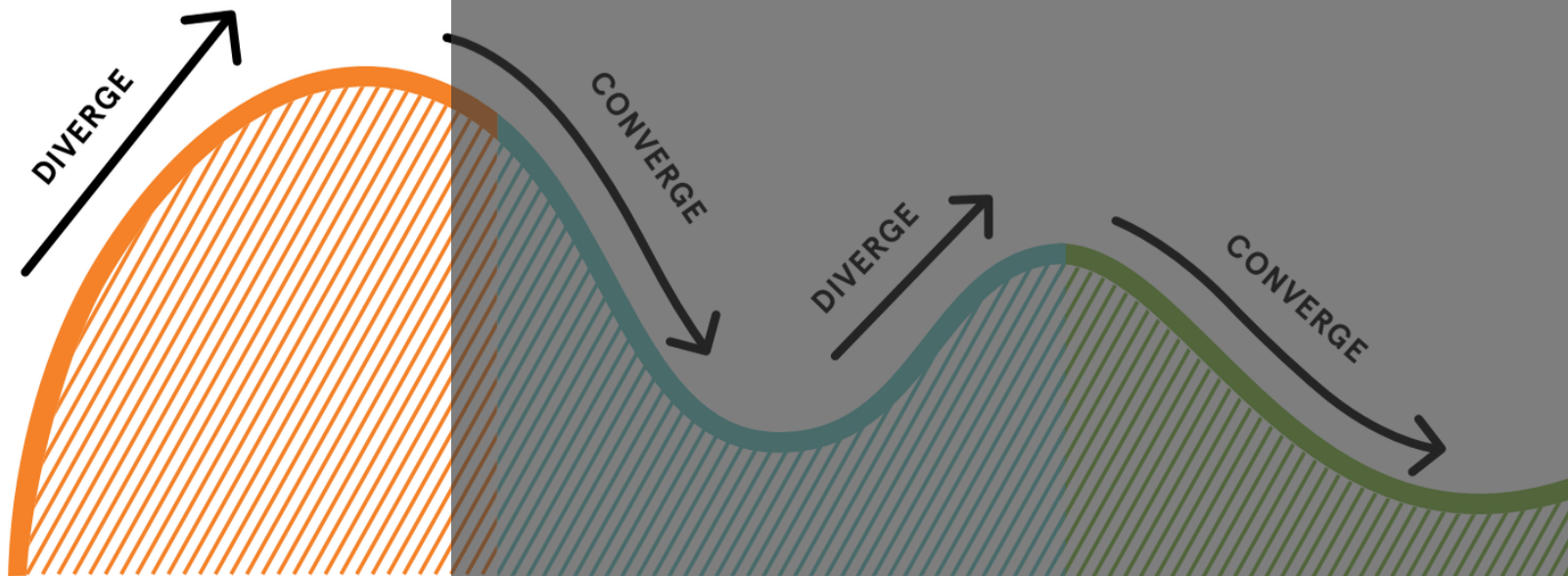
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Icebreaker!

—
Write down at least 10 objects...

Partner A

you might find in your “junk drawer” or that one spot in your dorm or home that just seems to accumulate stuff

Partner B

you might find in a convenience store like CVS or Walgreens

—
Now share your lists with each other

**“Mash-up” objects from each list to
create a new product. Make it fun
and give it a name!**

**Find another team nearby and share
your favorite mash-up with them!**

**What's the best or funniest or
wackiest mash-up that you heard?**

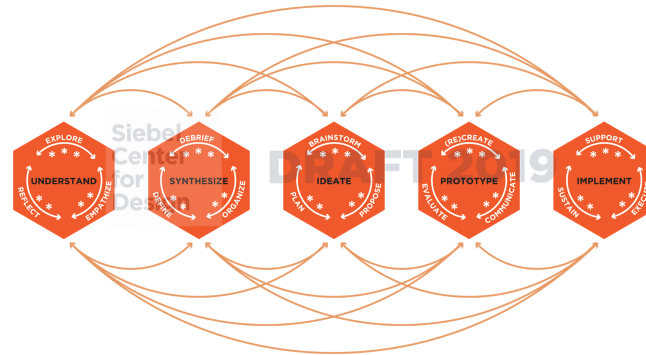


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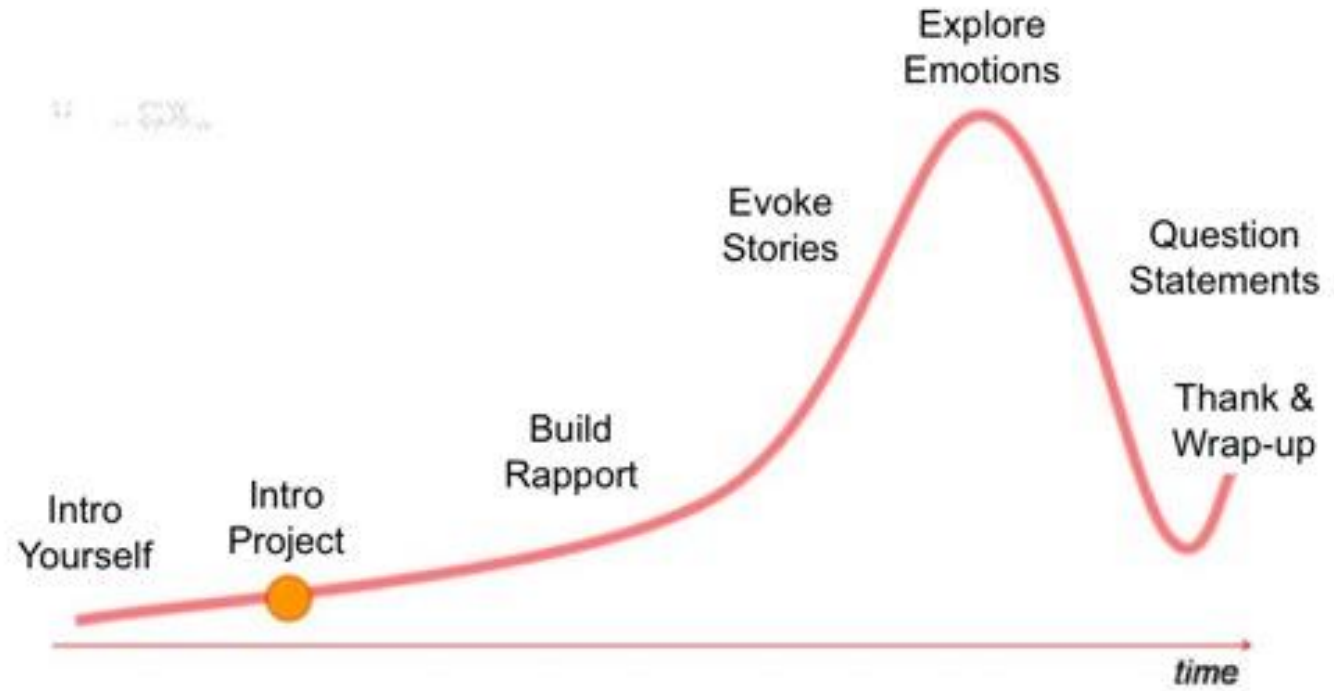
Class Project

Design Challenge

Design a **mechanical or electro-mechanical product** to address unmet needs related to **food on campus**



Arc of an Interview



User research simulation

Understanding experiences and expectations of food on campus to identify unmet needs

Example baseline questions:

- What's your name?
 - How long have you been on campus?
 - Where do you typically eat? Why?
 - *Write your own questions in the handout*
-

Switch partners and repeat!

Understanding experiences and expectations of food on campus to identify unmet needs

Example baseline questions:

- What's your name?
 - How long have you been on campus?
 - Where do you typically eat? Why?
 - *Write your own questions in the handout*
-

Solution-Oriented vs Needs-Oriented

Solution -Oriented Approach

- Assumes problem is well understood
 - Assumes a solution exists to address the unmet needs
- “Alex needs an automated veggie chopper to reduce the time it takes to prepare meals”

Needs-Oriented Approach

- Assumes problem is ill-defined
 - Seeks a solution by understanding unmet needs
- “Alex needs a low-tech way to reduce the time it takes to prepare meals while letting him enjoy the manual process”
-

Question Initial Assumptions

“Needs outlast solutions”



Pre-interview Debrief

How might we find problems related to food on campus?

- Discuss with your team
 - Pull from your own experience and expectations
 - What problem area are you most interested in?
 - What are you most capable of addressing?
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Design Challenge Discussion

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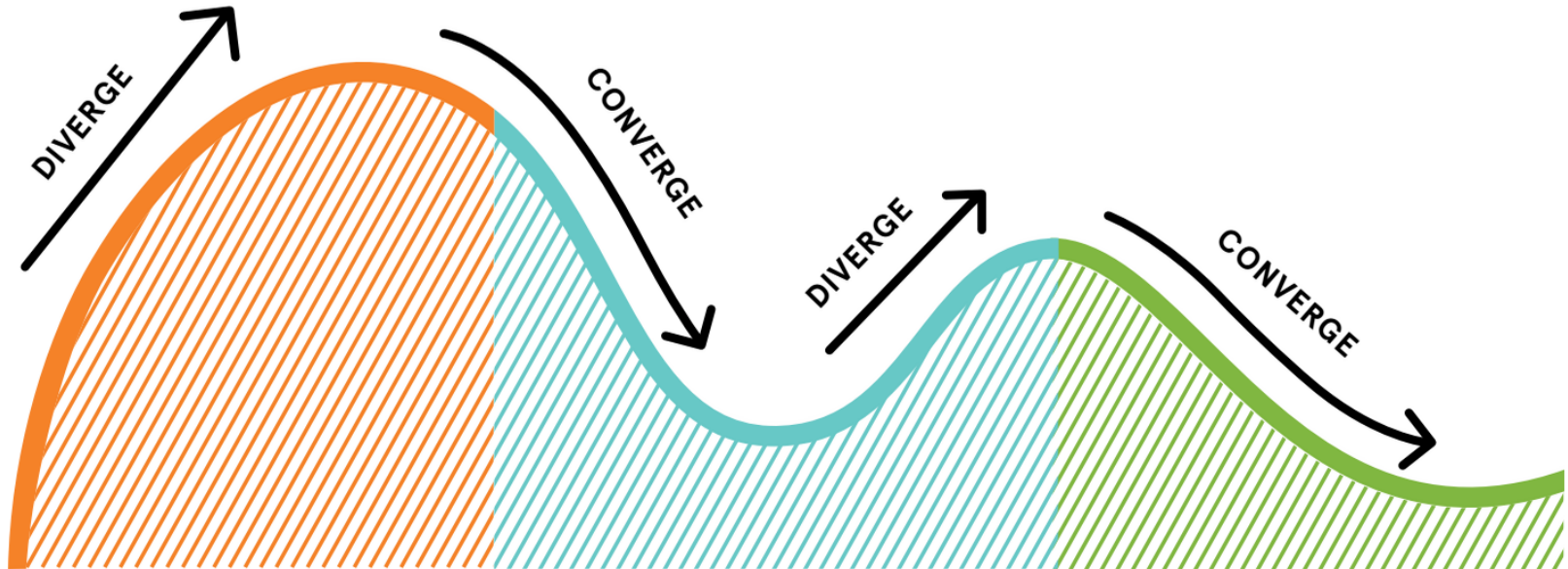
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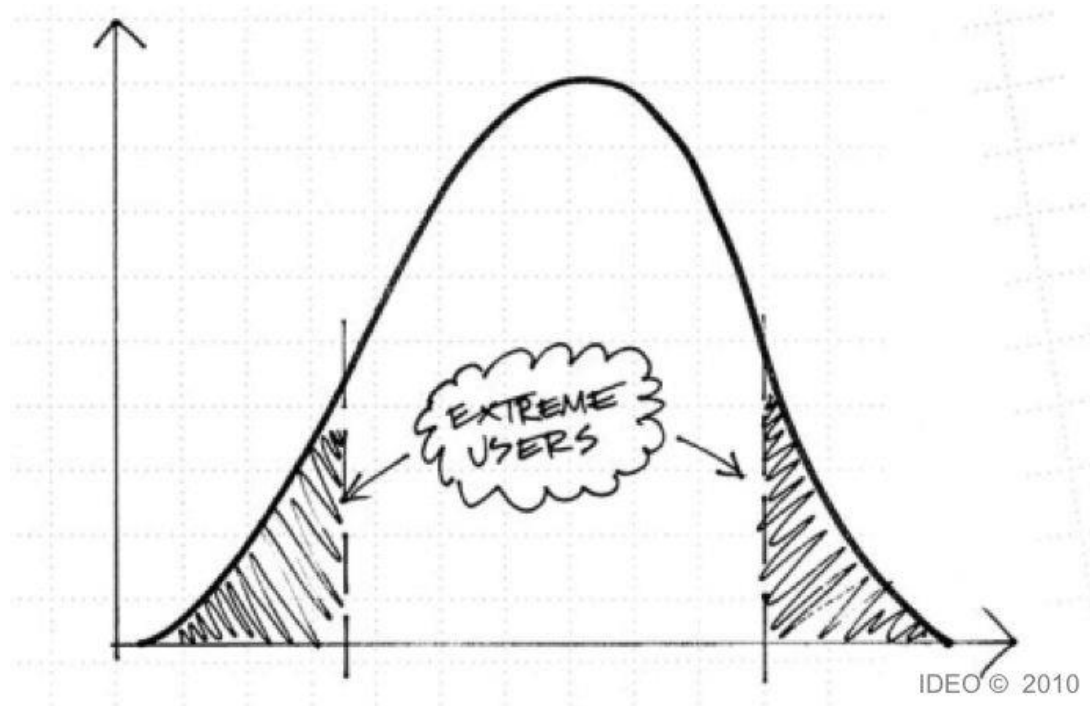
Define a Research Goal

- Goal should explain the impact you want to create
 - Needs oriented
 - Good goal: I want to improve the oral hygiene experience to reduce cases of gingivitis
 - Goal should not describe the solution you think is right
 - Solution-oriented
 - Bad goal: I want to redesign a new toothbrush that cleans mouths better
 - What are your indicators of success?
 - What are your constraints?
-

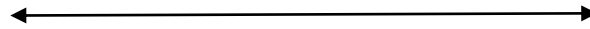
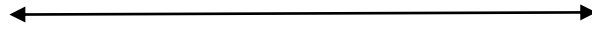
Before the Interview

- Identify who you want to interview
 - Extreme users
 - Seek many, varied perspectives
- Prepare open ended, neutral questions
 - Seek out stories

“Extreme” Users



Extreme Users



Analogous Experiences



- Where can you go to have an inspiring experience related to your challenge?
 - What are analogous settings or extreme experiences where you might witness similar or relevant behaviors and activities in a different context?
-

Before the Interview

- Identify who you want to interview
 - Extreme users
 - Seek many, varied perspectives
 - Prepare open ended, neutral questions
 - Seek out stories
 - Decide roles during interview
 - Interviewer
 - Note-taker
 - Photographer
 - Consider what kind of information you want to capture and how
 - Sketching, bullet notes, photos, audio recording
-

Know Your Strengths

- How do you build rapport?
 - Funny? Quiet? Relatable? Inquisitive?
- If you need more prep before interviews take that time!
 - You don't have to wing it to be successful
 - If you think you don't, you still probably do
- Different people have different perspectives. That's what makes teams strong.

Need extra help? Contact Alex: apagano2@illinois.edu

During the Interview



- Build Rapport
 - Be human
 - Talk about feelings
 - “Can you tell me more about...”
 - “Why did you choose to do that?”
 - Write down exactly what they say
 - Don’t assume to know what they intended
 - Observe context of the setting
 - What does their room look like?
What does this mean?
 - Seek stories
 - Experiences uncover actionable insights
-

Interview Tips



1. Always say yes to an offer
 2. Treat people like partners in research
 3. Leave comfortable silences
 4. Take the spotlight off the other person, seek common ground
 5. Ask “WHY”
 6. Try very intentionally to fall in love with each person (even if it’s just a little bit)
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Interview Reflection Assignment

What questions do you still have?

Would you ask different questions?

Would you approach the interview differently?

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Make an interview plan

Feel free to contact SCD for help!

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