

# DESIGN THINKING: EMPATHIZE & DEFINE

2021 *FIRST* California Workshop Series:  
Product Development + Design Thinking

David Song + Amy Zhou  
Stanford University  
9 January 2021

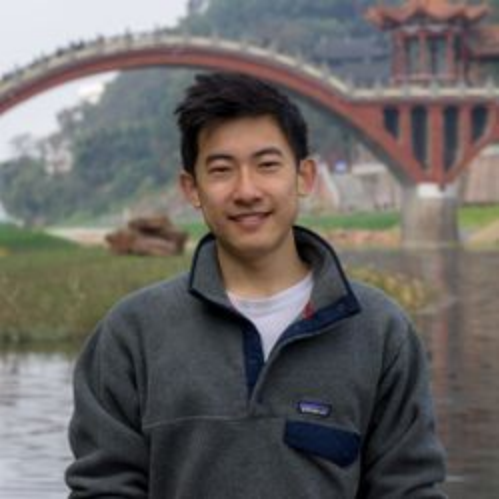
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HASSO PLATTNER  
Institute of Design at Stanford

# Who we are

Stanford students passionate about robotics!



# David

Sacramento, CA

B.S. Computer Science

Likes: Tennis, Running, Startups

FRC Alumni 295



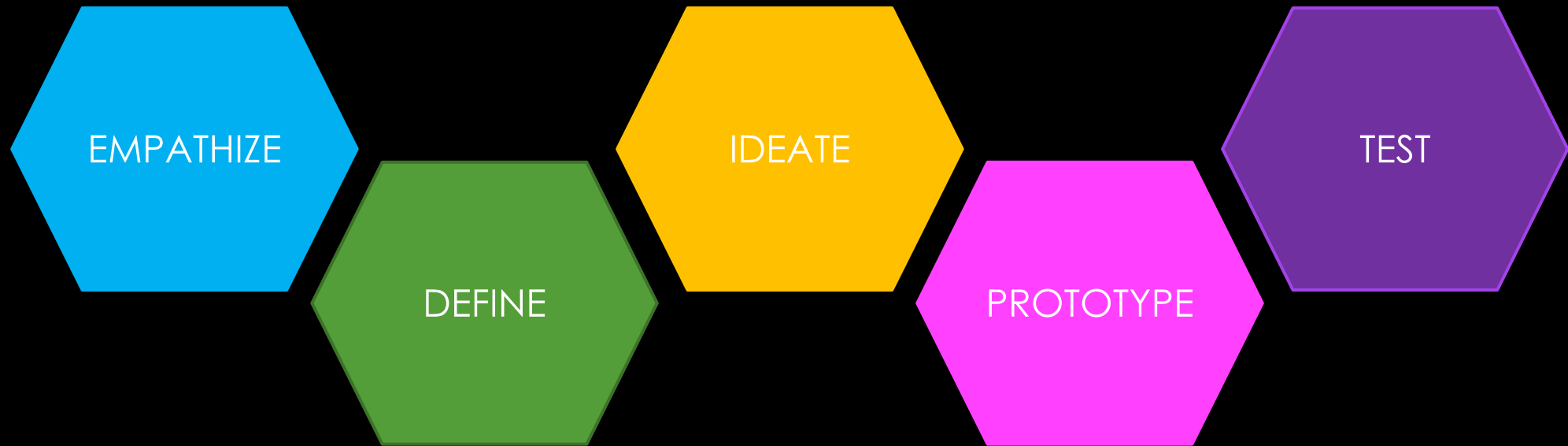
# Amy - she/her

In Davis, California

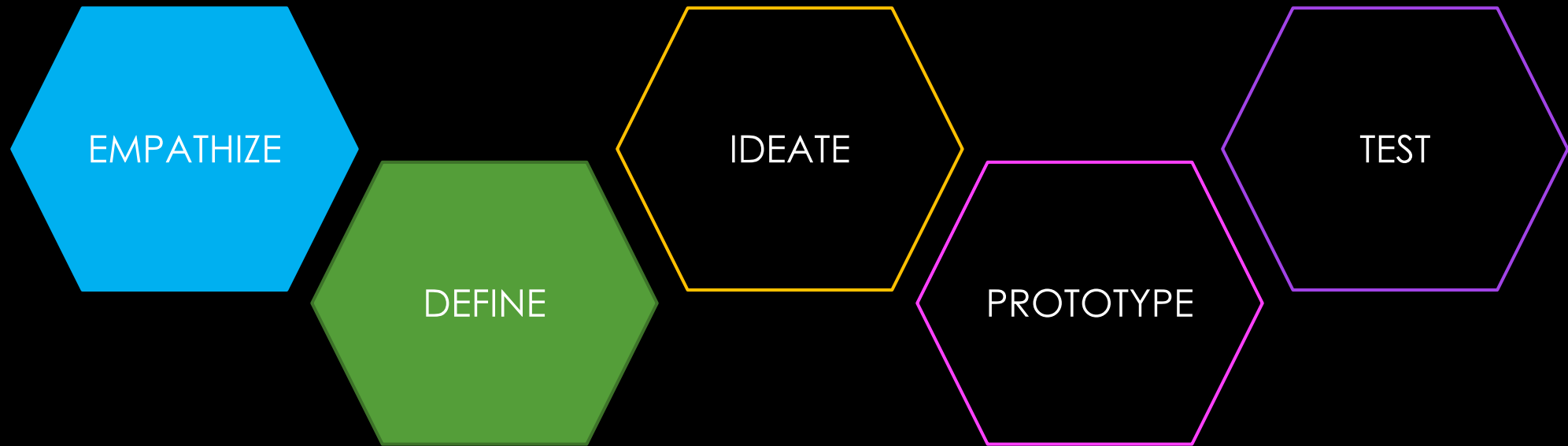
B.S. Product Design Engineering; Minor: Music

Likes: Nature hikes, classical music, animals, sustainability, design, clarinets, fun arts/crafts, pocky!

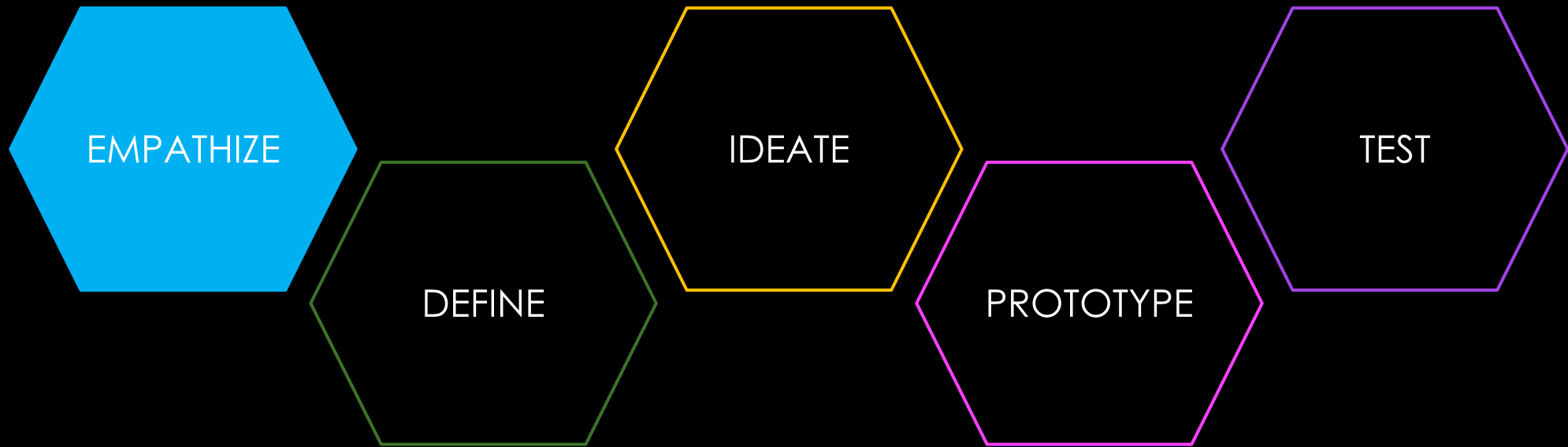
# Design Thinking: BRIEF OVERVIEW



# Today's Focus



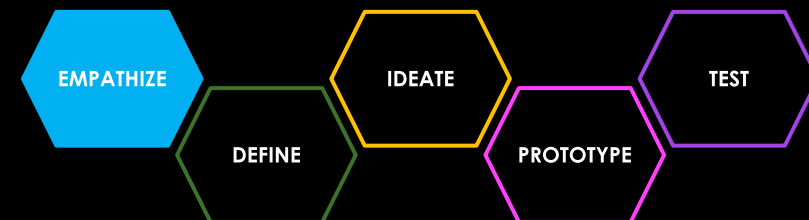
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# Empathy is the foundation of a human-centered design process

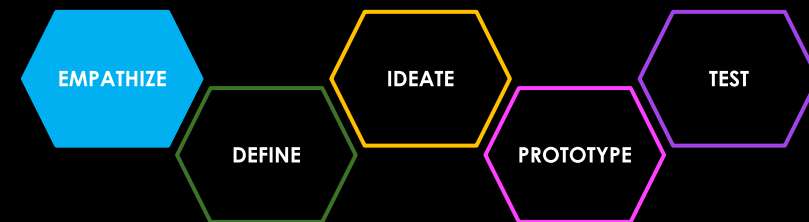
- To empathize, you:
  - **Observe**. View users and their behavior in the context of their lives
  - **Engage**. Interact with and interview users through both scheduled and short ‘intercept’ encounters
  - **Immerse**. Experience what your user experiences





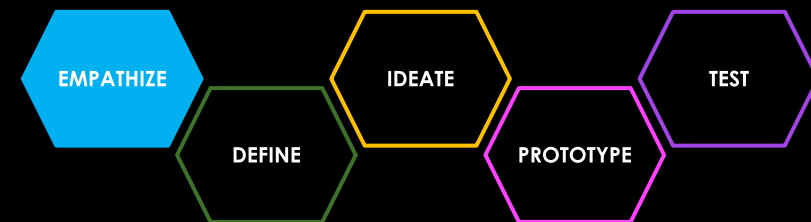
# Understand who your users are and what is important to them

- Watching how people interact with their environment gives you clues about what they think, feel, and need
- Watch with "a fresh set of eyes"
- Listen to what they say; capture quotes
- Engage with them directly
- Understand their beliefs and values
- Learn about what people **care** about



# Tip: Assume a beginner's mindset

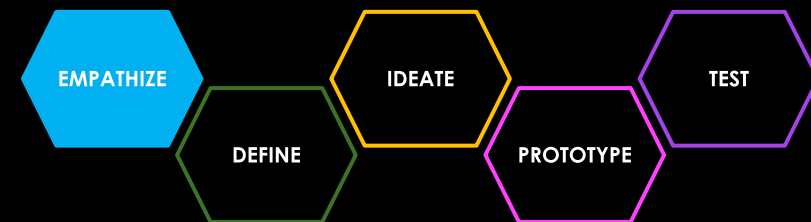
- Don't judge
- Question everything
- Be truly curious
- Find patterns
- Listen



# Tip: Use the What-How-Why tool

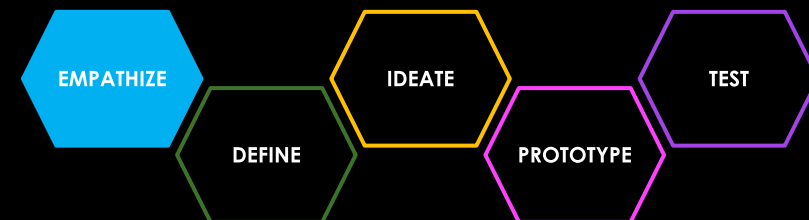
WHAT	HOW	WHY
<ul style="list-style-type: none"><li>• <i>Concrete observations: what is the user doing?</i></li></ul>	<ul style="list-style-type: none"><li>• <i>How is the user doing what they are doing?</i></li><li>• <i>Does it require effort?</i></li><li>• <i>Are they rushed?</i></li><li>• <i>Is this a good experience?</i></li><li>• <i>Use a lot of adjectives!</i></li></ul>	<ul style="list-style-type: none"><li>• <i>Why are they doing it that way?</i></li><li>• <i>Make informed guesses about motivation and emotions</i></li></ul>

concrete emotional



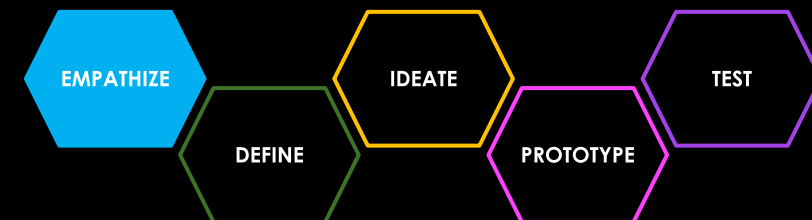
# Tip: Prepare for interviews

- Brainstorm questions
- Identify and order themes
- Refine questions
- Figure out your top 3



# Tip: Interview for Empathy

- Ask why
- Never say “usually” when asking a question
- Encourage stories
- Look for inconsistencies
- Pay attention to nonverbal cues
- Don't be afraid of silence
- Ask questions neutrally and **don't suggest answers. Validate need before asking for feedback or validation.**



# How to interview:

- Be human.
  - Build rapport. Have a conversation
- Seek stories.
  - Prioritize concrete examples over hypotheticals.
- Talk about feelings.
  - Thoughts? What's important? Tell me more!
- Don't talk about ideas first

# Not the best questions:

- Do you think this is a good idea?
- Would you use it?
- How much would you pay for it?

# Good questions:

- Tell me about the last time it happened?
- Why do you bother?
- What else have you tried?



# Breakout: Practice Interview

Goal: Empathize with someone to learn about how they watch sports games. Find insights or problems about this experience.

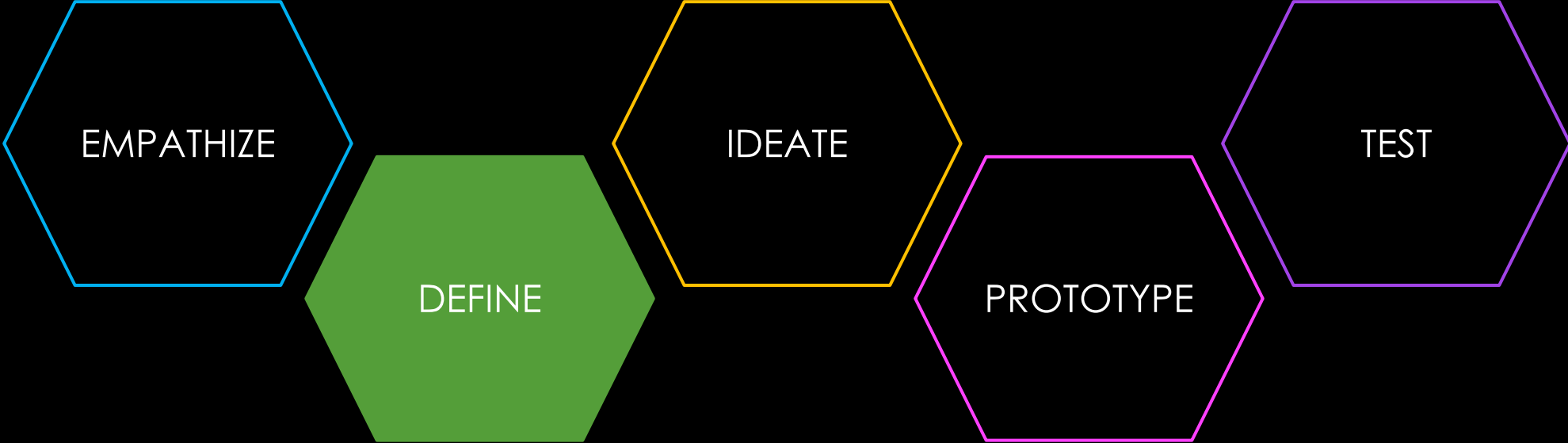
1. Develop interview questions
2. Ask them to our mentors in break out rooms.
3. Record findings and think of follow up questions

Structure it as:

- 1) Get to know - Small Talk
- 2) Q/A
- 3) Wrap up - Thank You

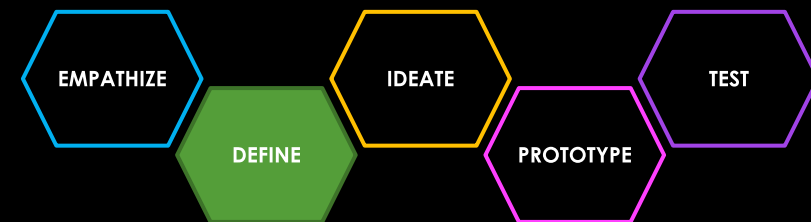
Ex: When was the last time you watched a sports game(or FRC Match)? What was happening? What were you doing? How were you feeling?  
You mentioned you felt claustrophobic, why was that?

# How might we...



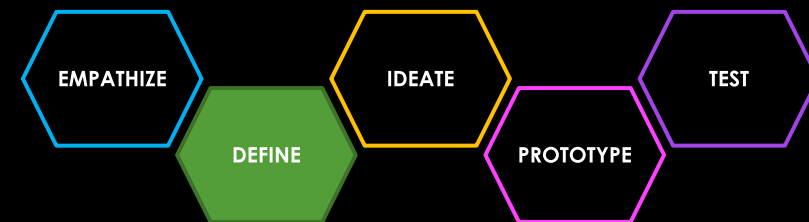
# Define is when you translate your Empathy findings into compelling needs and scope a specific challenge

- To define, you:
  - **Focus.** Narrow things down rather than flare them out
  - **Understand.** Get to know your users and their specific needs
  - **Develop.** Create an actionable problem statement focused on your users
- Specifying a meaningful challenge to address and the insights that you can leverage in your design work is fundamental to creating a successful solution



# The define mode is critical because it explicitly expresses the problem you are striving to address

- Reframe the challenge based on new insights you have gained through your design work
- Use the reframed problem statement as a solution-generating springboard
- A good point of view (POV):
  - Preserves emotion and the individual you're designing for
  - Includes strong language
  - Uses sensical wording
  - Includes strong insight
  - Generates lots of possibilities



Scoping: **selecting, framing, and communicating** the intentions of a design project.

- A design approach can be inserted into many junctures of almost any project.

# How to start to use design?

- The most important thing is to take action
- Use pieces of design before doing a “full project”
- Do it yourself, before telling others to do it

# What should I use design for?

- Use design for human, subjective challenges
- Use design for discovery
- Use design to question assumptions

# What about my first real project?

- Take on a product or service challenge, not a strategy- or systems-level challenge
- Pick a project that is important but that has space for experimentation
- Choose a project focused on end-users (the people that will use what you create)



# How should I scope a design challenge?

- In general,
  - constrain the challenge space,
  - broaden the solution space
- Avoid embedding assumptions of the users' needs
- Scope for excitement

# Breakout: Working Session

- Define doable projects with realistic goals
- Review existing alternatives
- Write the problem statement
  - Who is it for?
  - What is the need?
  - How many people need it?
  - What insight did you get from users?
  - Why does it matter?

Validate the interview questions / responses  
*What did you come up with? Let's discuss!*

**Homework:** choose the problem you would like to focus on and develop a clear statement of the product concept, scope, capabilities.

# Q/A: DESIGN THINKING: EMPATHIZE & DEFINE

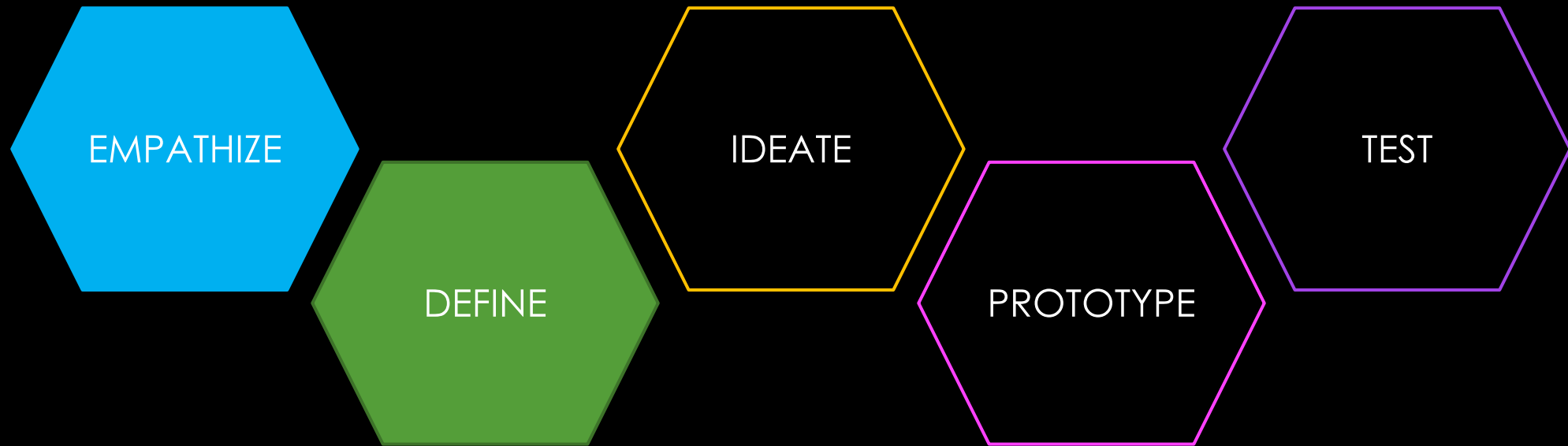
If you have any questions, please enter them into the chat



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# Today's Focus



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# Thank you!

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