

Design Challenge



This is a toolkit for the design challenge.

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Research

Interviews

Interviews are a research method we use to help us learn more about the people we are designing for.

To prepare for an interview, you should:

1. **Plan:** think about the questions you want to ask someone who might use your product
2. **Recruit:** find people who are members of your target audience
3. **Conduct the interview:** Ask questions, take notes
4. **Analyze:** Review your notes, think about what it means and how it impacts your product

Plan

What do you want to learn about your users? Think of specific questions that will help you understand who they are and what they need.

Come up with a list of questions. Here are a few to get you started:

Ex 1: Think about a specific time you were stressed out at school. What did you do to feel better? Did it help? What might you do differently next time?

Ex 2: If you were going to design a robot that could live in your school, what would it look like? How would it behave?

Now, come up with up to 5 more questions you want to learn about.

1. ...

2. ...

3. ...

4. ...

5. ...

Recruit

Find people who would be interesting in talking to you. They should be willing and interested and have at least 10-15 minutes to talk with you. You should prioritize feedback from teens. However, you could also interview people with special knowledge of teen stress, like a teacher, parent, social worker, guidance counselor.

Here is a recruiting script to help you ask people to participate.

Do you have 10-15 minutes of time to talk to me? I'm working on a project about social robots and teen stress? If you have the time, I'd like to ask you more about what you think about a social robot who would live in our school? It would really help us design something that people might like to interact with.

Conduct the Interview

To conduct the interview, try and find a quiet place where you can talk to the person you are interviewing. You can talk to one person at a time or in groups of 2 or 3. Note that a larger group will make it harder to hear everyone's individual responses.

Take notes. Focus on what people say and write down their words, rather than your interpretation of their words.

Notetaking form

Your name: _____

Participant's name: _____

Age _____ Group: teen, parent, counselor, other: _____

1.

2.

3.

4.

5.

Making sense of the data

Once you have interviewed some people, try and make sense of what you have learned. Look over your notes from all of the interview sessions and come up with some ideas for your robot.

Design criteria or features

List three things you learned in the interview that your robot must do or have.

1.

2.

3.

Design constraints

List three things you learned in the interview that is a limitation or constraint for the type of robot you should build.

1.

2.

3.

Observing and talking with peers

Another way to get ideas for design, is to ask other people help design ideas and solutions. Go to a place where people you are designing for hangout and ask them questions or ask them to draw ideas about how to solve the problem you are working on. See more: <http://www.designkit.org/methods/47>.

For example, you can ask:

Draw a picture of a robot who could imagine living in our school and help with stress. Tell me about your design and what the robot should or shouldn't do.

After they draw a picture, you can then have a conversation about why they took the pictures they did and what they mean.

Photo journaling

Yet another way to generate ideas or understand people you are designing for is to ask them to take pictures about their lives. See more: <http://www.designkit.org/methods/65>

For example, you can ask:

Take a series of pictures today of your life and what makes you feel stressed and what makes you feel calm.

After they take the pictures, then ask them to show you the pictures they took. You can then have a conversation about why they took the pictures they did and what they mean.

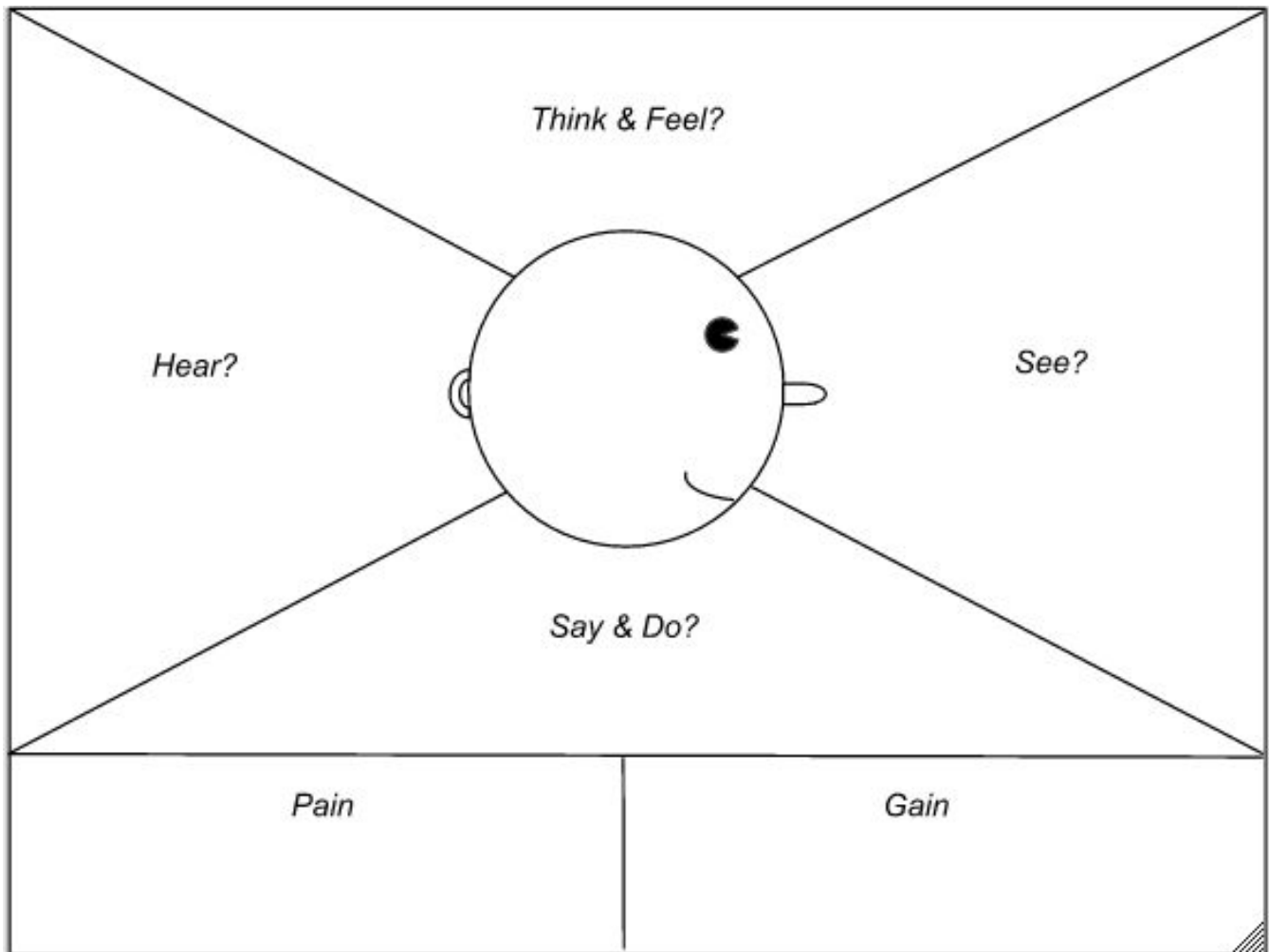
Empathy mapping

Think about what you have learned from the research you have conducted. Use this empathy mapping exercise to help organize what you have learned about the users of the robot. Imagine what their experience would be like? Mape your ideas to the chart below.

See more about Empathy mapping here:

<http://gamestorming.com/empathy-mapping/>

<https://www.interaction-design.org/literature/article/empathy-map-why-and-how-to-use-it>



Ideation

Ideate means to formulate, imagine, or conceive of an idea. After you research the needs of your users, it's time to brainstorm solutions. To help turn your research into a product design, it's helpful to sketch, draw, and capture ideas in a visual way.

There are lots of ways to come up with ideas. Check out these methods.

Brainstorming

Brainstorming is a way to get everyone to offer their ideas for a design or solution as a group. To have a helpful brainstorming session, we suggest you print out and follow some simple rules. Find the rules here: <http://www.designkit.org/methods/28>

Storyboarding

Storyboarding is a way to help visualize your prototype by drawing a story. See more: <http://www.designkit.org/methods/35>

Co-Creation

Get a group of your team members or peers together to design ideas and solutions together. See more: <http://www.designkit.org/methods/33>

Draw it

A way to work alongside with people you are designing for and draw ideas and concepts together. See more: <http://www.designkit.org/methods/49>

Prototyping

During prototyping, it's time to start working on what your design will look like, sound like, and act.

When designing the appearance of your robot, think about:

1. What does the robot look like?
2. Does the robot have a face, body, arms and legs?
3. How big is the robot?
4. How will the robot move (it doesn't have to move for this challenge, but what do you think you should keep in mind for your school?)
5. In what ways can you be really creative and innovative in the ways the robot looks? What would be surprising, interesting, funny, or cute?

Check out some additional ideas on prototyping here:

- Body storming: <https://dschool-old.stanford.edu/groups/k12/wiki/48c54/Bodystorming.html>
- Paper prototyping: <https://www.uxpin.com/studio/blog/paper-prototyping-the-practical-beginners-guide/>
- Rapid prototyping: <http://www.designkit.org/methods/26>

Testing

Once you have a prototype, it's time to get feedback from the people who would use the design.

Determine usability issues: Pose questions

Take a closer look at the information product to understand what it does and how it does it.

Brainstorming potential problems

Make a list of questions you have about the design and how it works for users. Come up with at least 5.

For example:

- Do users understand the purpose of the robot?
- What are users' reactions to the robot's voice?

1.

2.

3.

4.

5.

Scenarios

Scenarios are little stories we give to users to replicate the experience of using a product. They should be realistic, written in the users' language, and sound conversational. Write three scenarios that you can give to users to attempt.

1. _____

2. _____

3. _____

Roles for the study

Choose roles for the study

- Facilitator: Gives the participant each scenario, one at a time.
- Notetaker(s): Takes notes of everything the participant does and says.

Taking notes

For each participant, write down what they do or say. Hold off on making any interpretations, just listen, watch and note what they do.

Making sense of the data

As a group, step through each scenario for each participant. Ask yourself?

1. What did they do?
2. What problems did they encounter?
3. What does it mean for the design?

Iteration

After testing, it's time to make changes to the design based on what you learn. Sometimes this means making small changes or adjustments. Sometimes this means throwing out the first design and starting again.

What worked well?

Based on testing and what you have learned from others, first focus on the positive:

1. What works well about the design?
2. What was clear to users?
3. What did users like or appreciate?

What can be improved?

Next, it's time to think about what didn't work. We never get the design right the first time, so you will definitely have things to change.

1. What was unclear to users?
2. What was frustrating to users?
3. Was there any aspect of the design that made users feel uncomfortable?
4. What suggestions did users have for changes?
5. What parts of the design do you feel need more work?

Showcase: Get ready to show off your design

After several iterations of your design, it's time to show off your final product! You can demonstrate it through storytelling, role playing, and simulating its functionality.

Keep in mind, your prototype does not need to be fully functional, but it should:

- give people a sense of what it will do
- how it will behave
- and what it might be like to interact with it

Your presentation should address the following:

1. Introduce your robot
2. Show us how the robot works
3. Show us what's unique about your robot
4. How do teens interact with the robot?
5. Demonstrate how the robot will help understand and support teens with stress?

You will be asked questions like:

- What did you learn about the needs of teens in your school that influenced the robot's design?
- What did you change about the robot after showing your prototype to others?
- If you had more time and resources, what would you do next?

