



From Droplet to Deluge: Redesigning Water Conservation

The world is full of **BIG** problems...

War

Natural Disasters

Health care

Education

Water

Environment

Homelessness

Design thinkers solve

**BIG
PROBLEMS.**

But instead of
designing
solutions for
EVERYONE...

THEY DESIGN
SOLUTIONS
FOR
ONE PERSON.

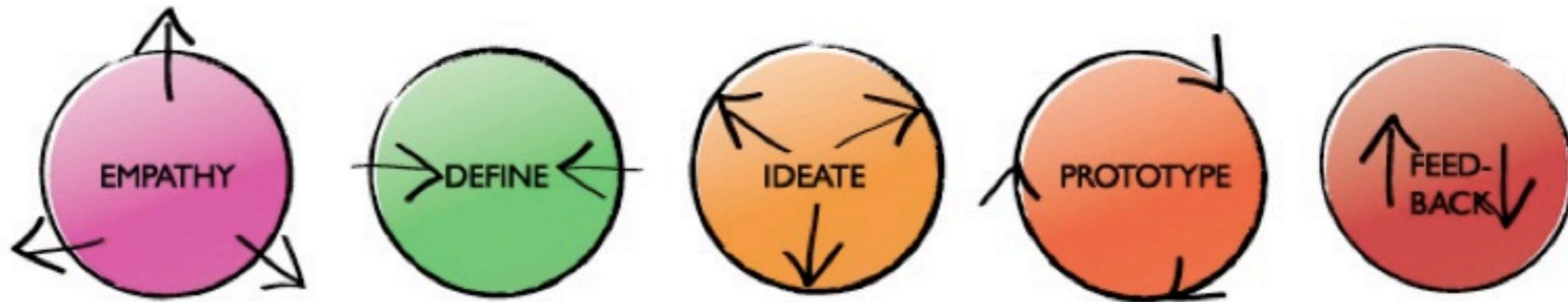
THAT PERSON

IS CALLED

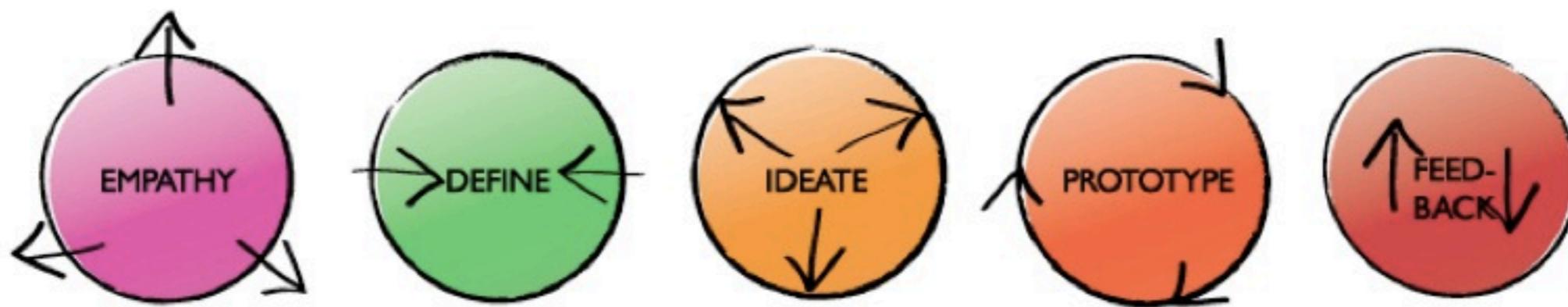
THE USER.

Design thinkers are PEOPLE-CENTERED PROBLEM SOLVERS.

Design Thinking Process



Design Thinking Process



Design Thinkers dive in even
when
they are are not totally sure
what will happen next!

A school in Georgia used design thinking to solve a problem...



<http://vimeo.com/35233751>

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You are going to learn the

DESIGN
THINKING
PROCESS

so you can become

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The way you learn the design thinking process

is by diving into a

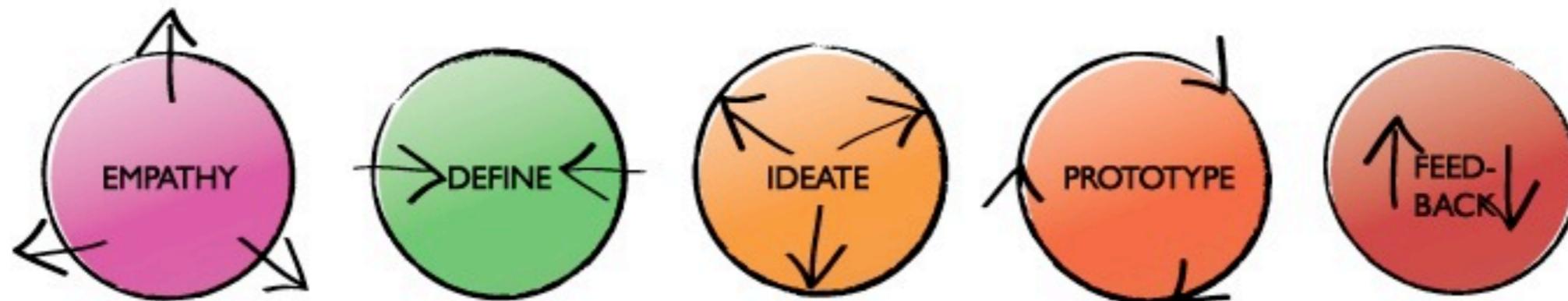
DESIGN CHALLENGE.

Your **DESIGN CHALLENGE** is...



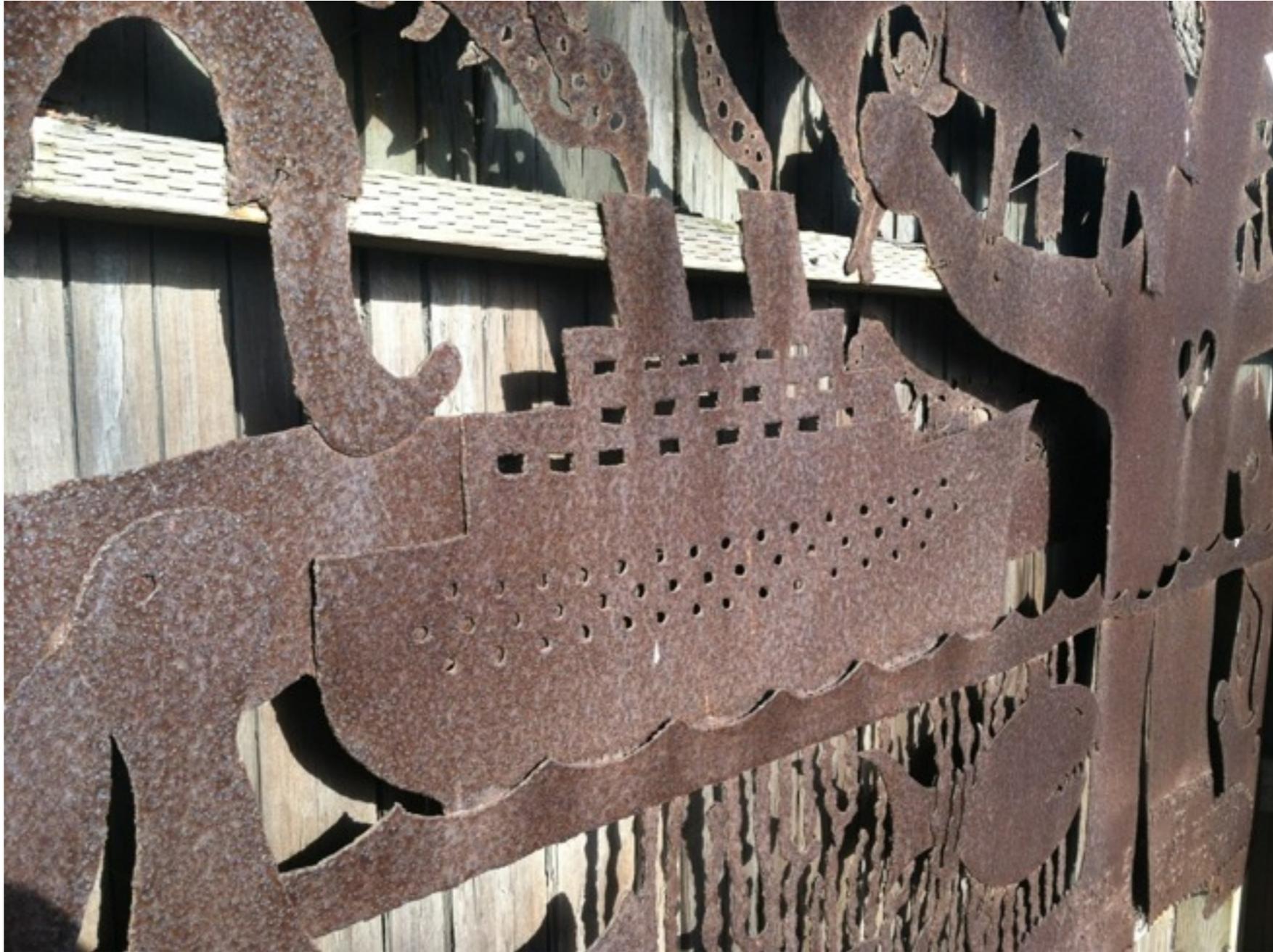
Redesigning Water Conservation AT HOME

Empathy



First, you learn a little about the
problem space, in this case,
water....

You will be doing LOTS of water
activities that will help you solve
this design challenge.



As you watch the water videos, take brief notes and make sketches about your reactions and responses.



Water Around Us

<http://www.youtube.com/watch?v=HW5eBfZhE4M>

Planet Earth

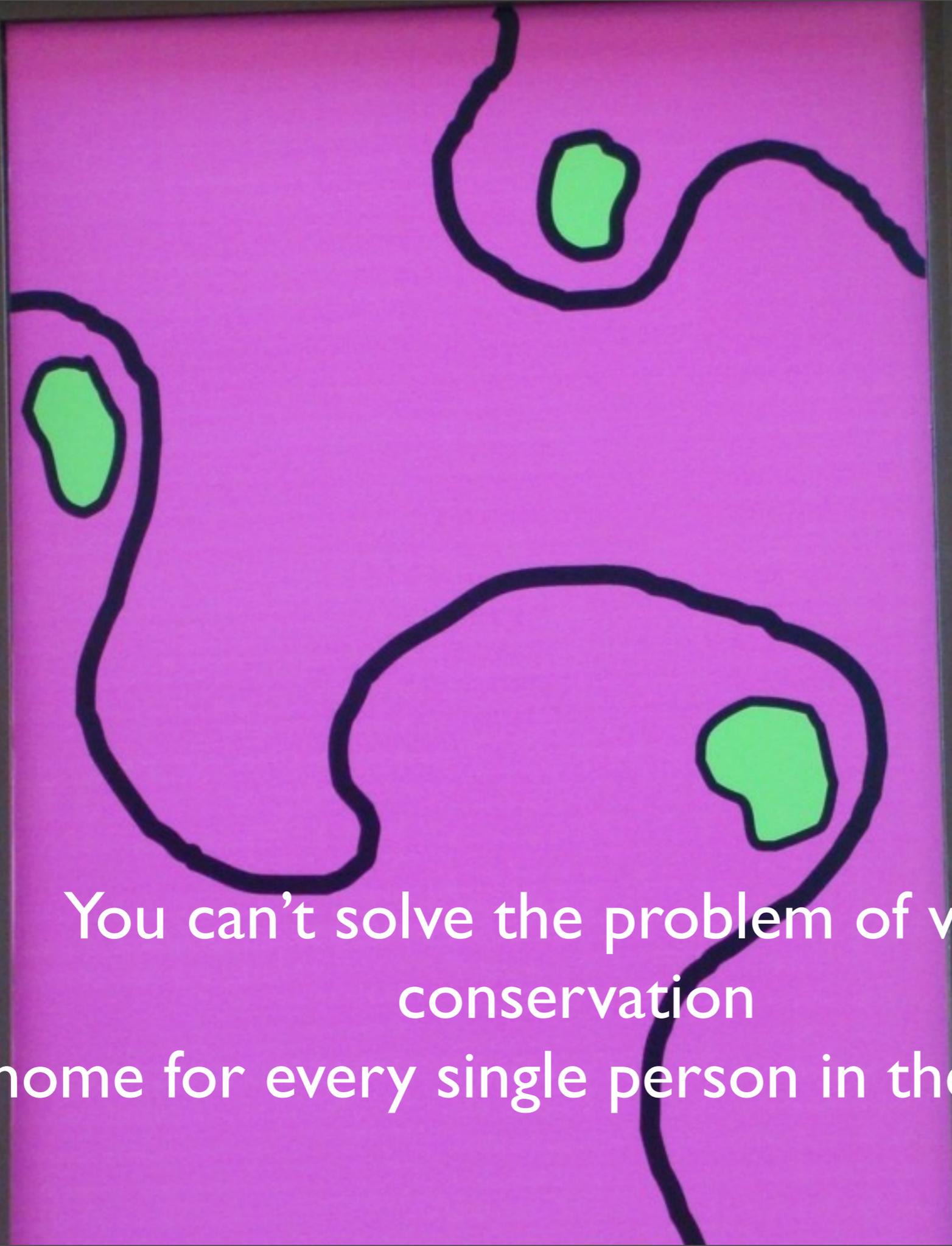
<http://www.youtube.com/watch?v=9n2yGQsX2vl&feature=related>



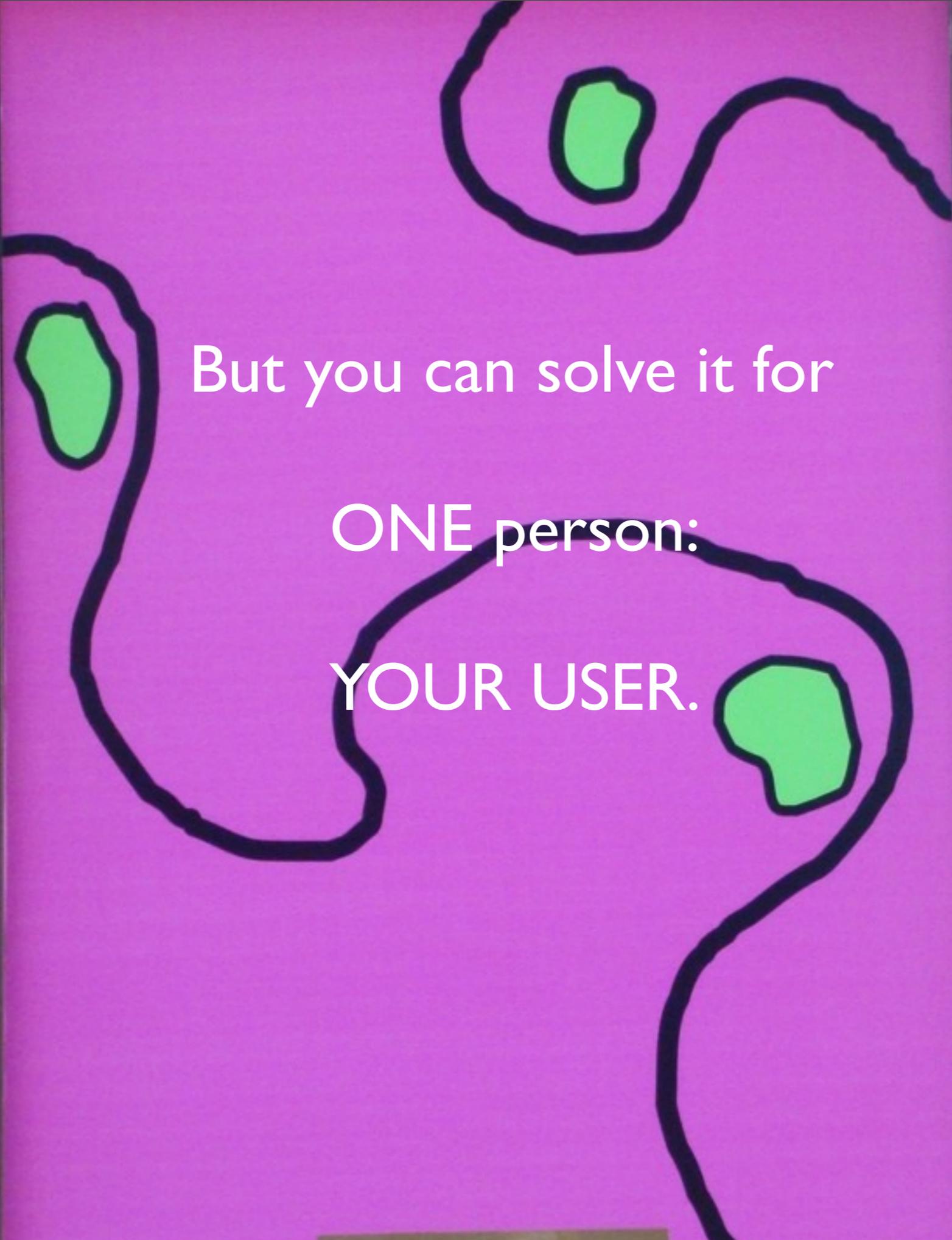


<http://www.youtube.com/watch?v=4MDLpVHY8LE>

Water Conservation Tips



You can't solve the problem of water conservation at home for every single person in the universe.

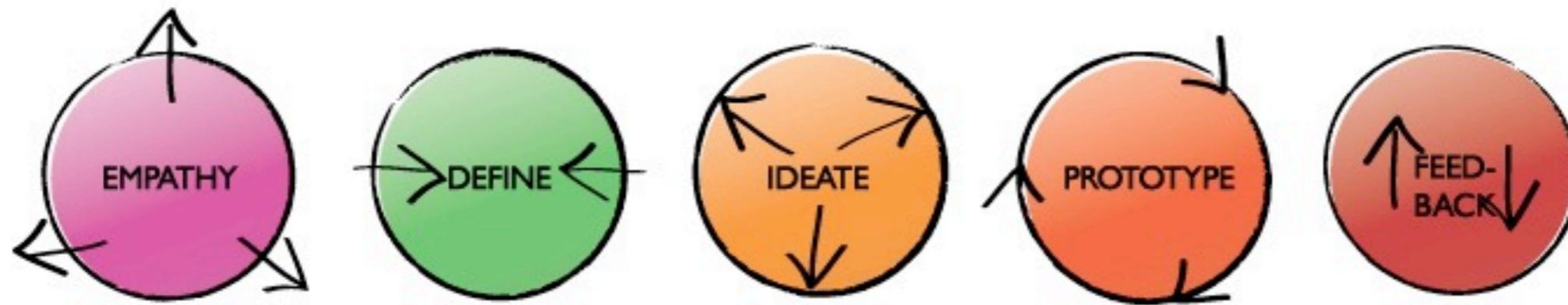


But you can solve it for

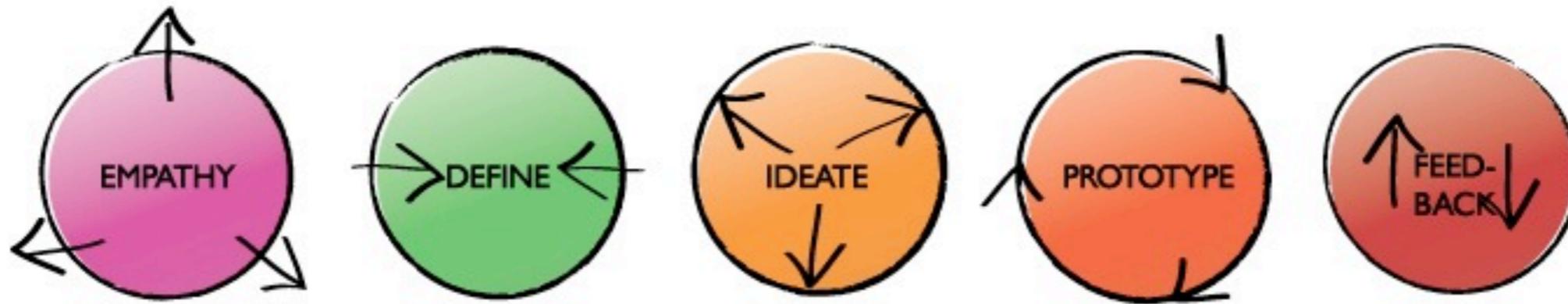
ONE person:

YOUR USER.

Empathy



Empathy



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To solve your design challenge,
**REDESIGNING WATER
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you need to learn about your
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WHY???

TO

BUILD EMPATHY FOR

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THAT is an important
part of becoming
a people-centered problem solver-
A DESIGN THINKER.

Your goal is to develop **empathy for
your user,**
which means putting yourself in
their shoes.

You did this when you built your
MEMORY BOXES.

What is Empathy?



Empathy is **NOT**

~feeling sorry for someone

~a sense that you have had
a similar feeling

~being compassionate



A close-up photograph of a wave crashing, with white foam and blue water. The text "Empathy means..." is overlaid on the image.

Empathy means...



looking closely....

and listening closely.

and sensing connections that need no words.



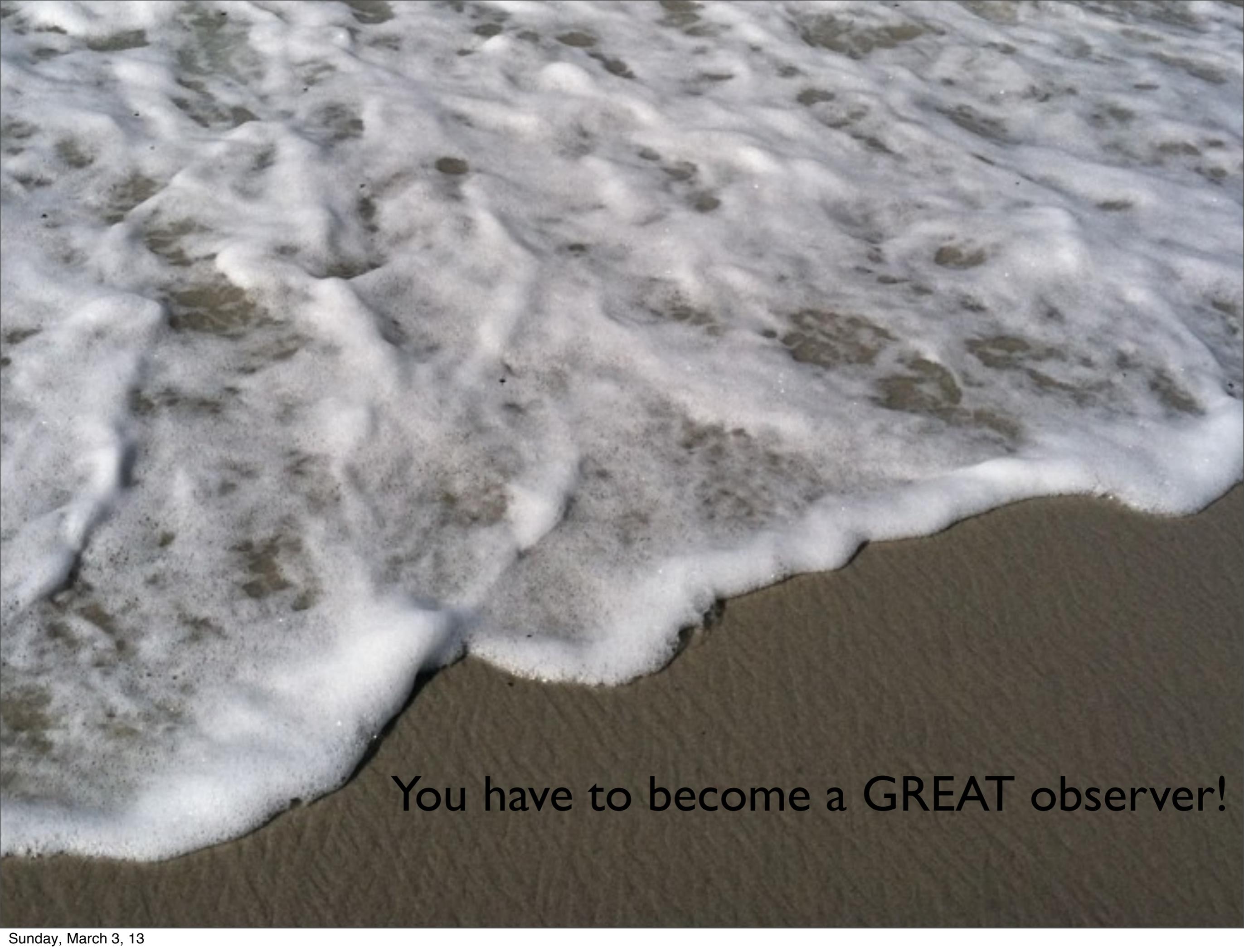
Empathy is feeling what
someone else feels...



and asking questions about
what you **THINK** you see.

HOW do you develop
EMPATHY?

Your toolbox



You have to become a GREAT observer!

Your have to observe with fresh eyes.



How good an observer are you?

Source: <http://www.youtube.com/watch?v=ubNF9QNEQLA>

Describe what you observe in the following pictures.



Sunday, March 3, 13



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Sunday, March 3, 13

Summing Up:

What makes a good observer?

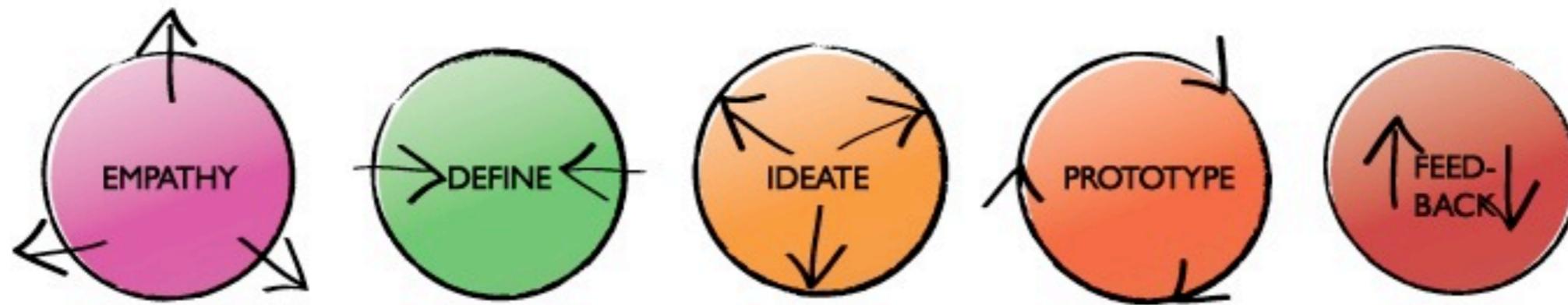
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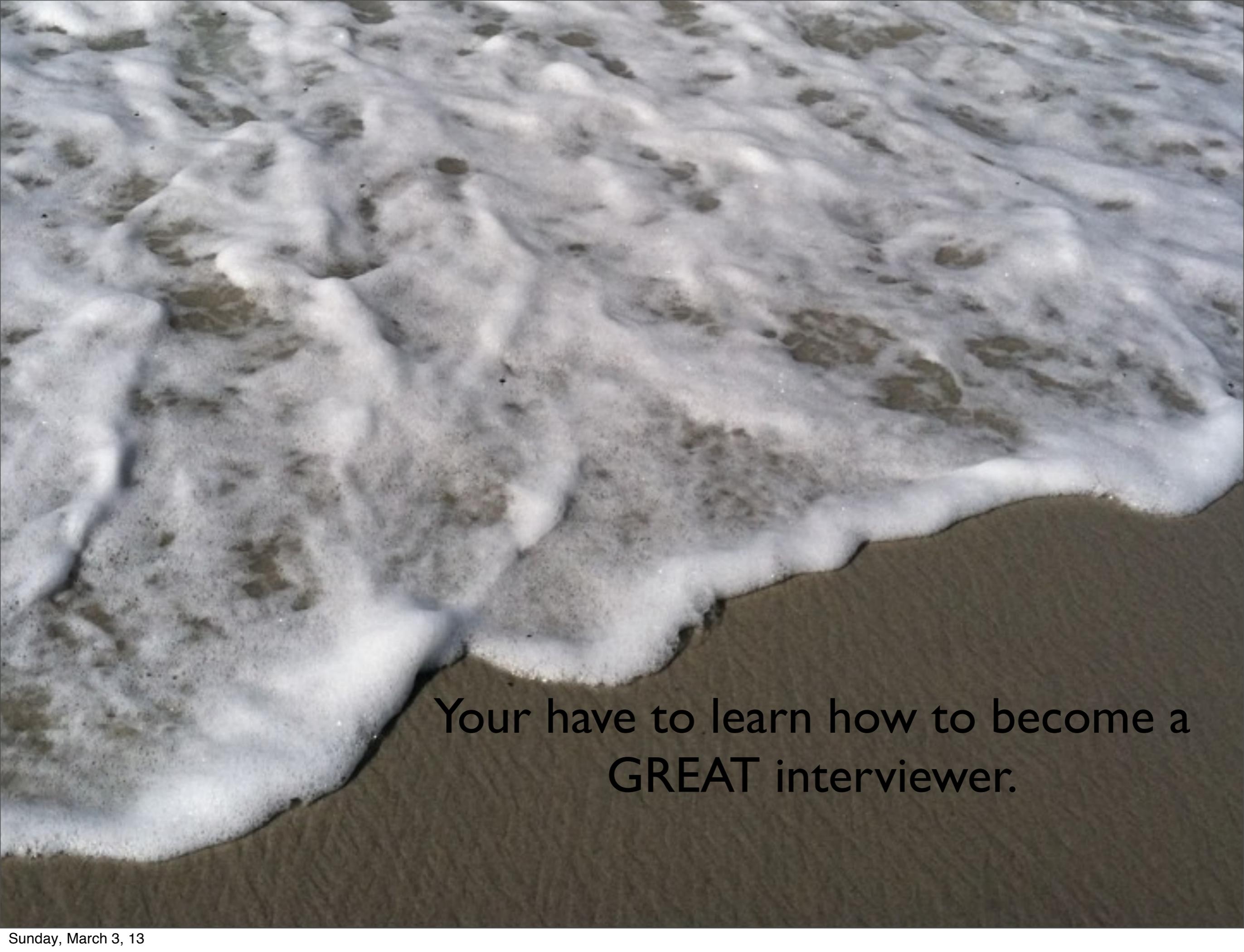
are

PEOPLE-CENTERED

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Empathy





Your have to learn how to become a
GREAT interviewer.

You learned about interviewing in the good
interviewing/bad interviewing activity.

What do you remember?

You are going to use what you learned now as you
INTERVIEW YOUR USERS.

Let's practice by doing some

ROLE PLAYING.

What Went Well

What Could Be Improved

Scenario I:

A new teacher who is being interviewed by a principal.

Max, a new math teacher, wants to get a job at a San Francisco middle school.

Ms. Robinson, the school principal, wants to make sure Max will do a good job because he has never taught middle school students before.

What Went Well

What Could Be Improved

Scenario 2:

A high school student who is being interviewed by a mother looking for a summer babysitter.

Mrs. Garcia, wants to find someone to take care of her two sons, ages 5 and 7, for two days a week because she has a job in San Francisco. Her sons are very high energy and she really wants to find the right person for the job.

Kevin, a 16-year-old honors student, wants to make money during the summer to pay for his college tuition. He has three younger sisters and has done some babysitting for them. If he gets this job, it will be his first paying job.

What Went Well

What Could Be Improved

Create your own scenario and conduct a role play!

What Went Well

What Could Be Improved

Each team should come up
with a list entitled:

**“HOW TO BE A GREAT
INTERVIEWER!”**

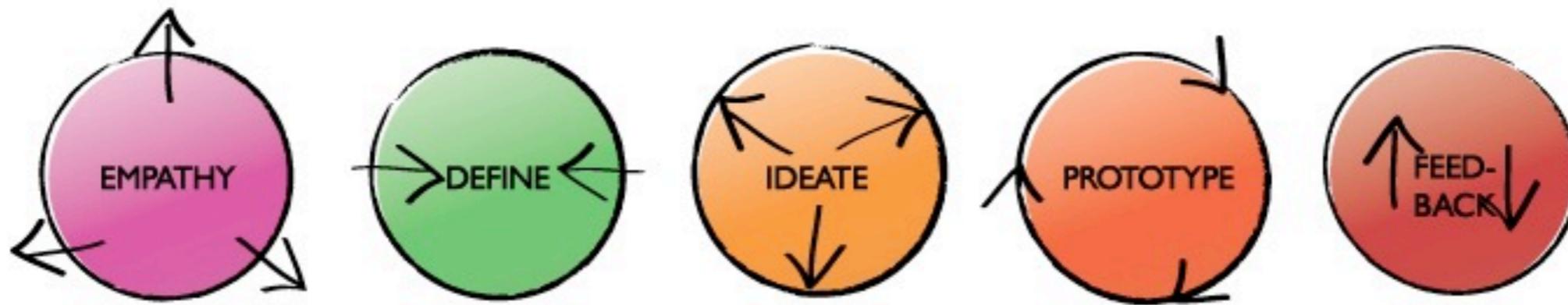
GALLERY WALK DIRECTIONS

EACH PERSON has 3 stars.

**Walk around the room and read each
group's list.**

**Draw a star on YOUR 3 FAVORITE
IDEAS.**

Empathy



Remember, when you interview you don't always need to know EXACTLY where you are going- just DIVE IN!



It is time for INTERVIEWS.

As a team, decide on ROLES for the interview.

Interviewers: 2 people should conduct the interview. The interviewers are responsible for coming up with questions, building rapport with the interviewee, and keeping the flow of the interview going.

Time Keeper: 1 person should time the 15 minutes of interviewing and give a 5 minute warning before the time is up.

Recorders: The rest of the group should take notes and draw sketches during the interview. They should make sure to capture **exact** quotes of what the interviewee is saying.

Here's some questions to get you started:

1. Tell me about how you use water when you are getting ready for school.

2. Tell me about how you and your family use water when you get home from school and on the weekend. Think of specific examples or stories that happened this week.

3. Tell me where you get your water (sink, bottles, etc.)

4. Why do you think people care about water conservation? What do YOU think about it?

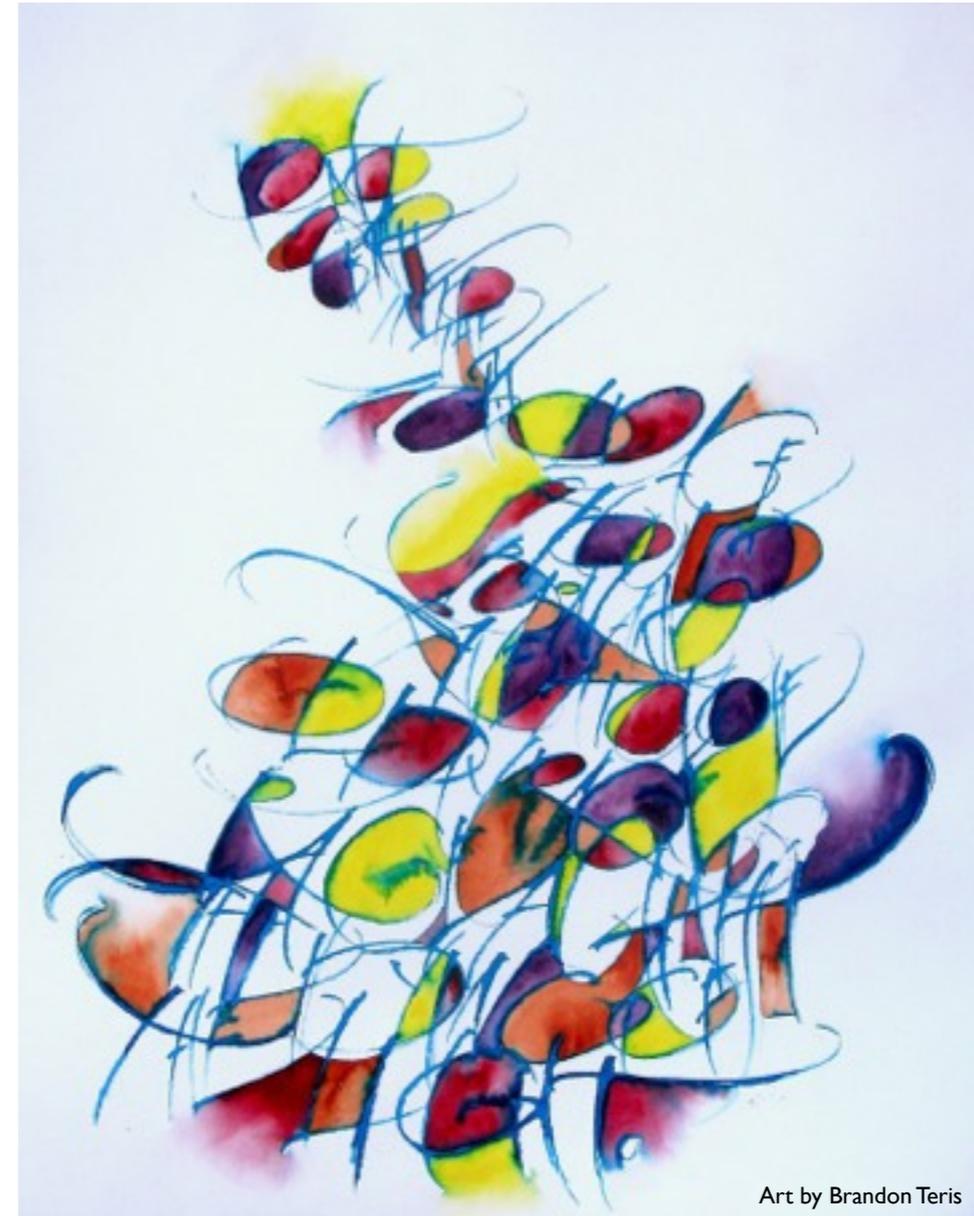
START YOUR INTERVIEWS!

Remember:

Go for stories!

Ask open-ended questions.

Ask why.

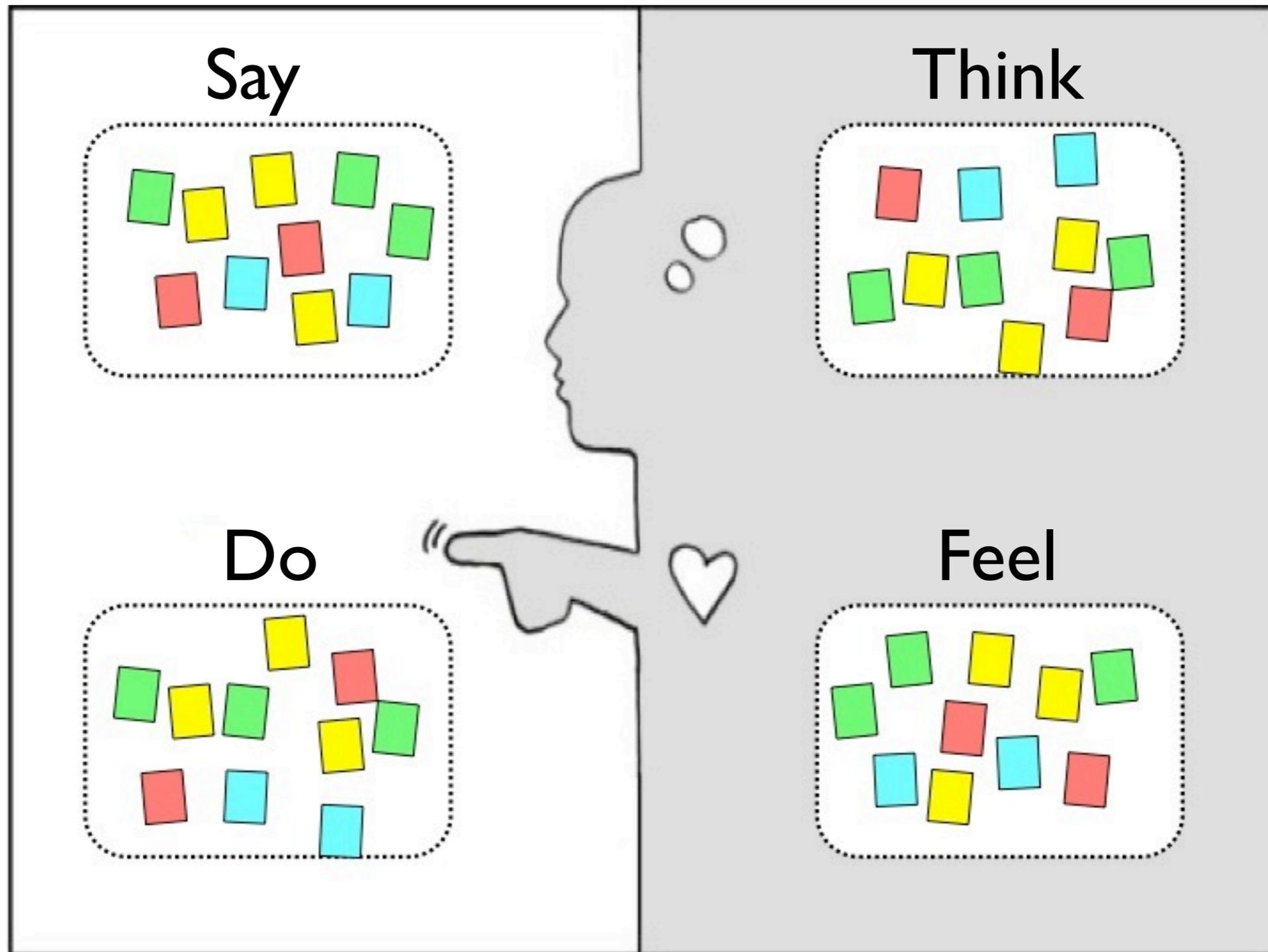


You have 15 minutes to complete your interview.

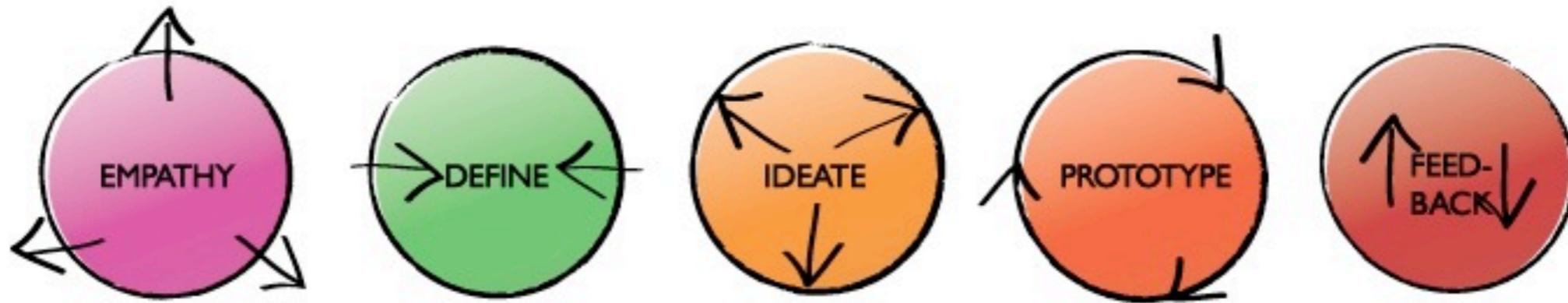
WHAT DO YOU DO WITH YOUR INTERVIEW DATA?



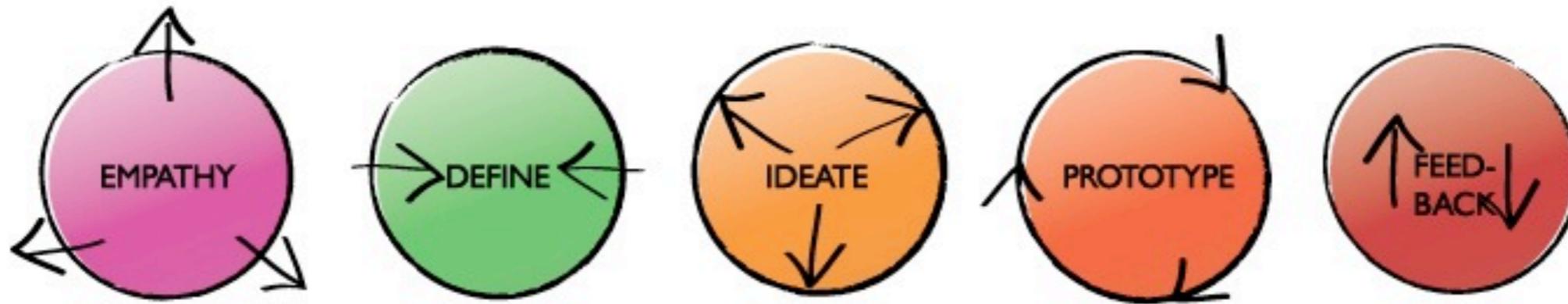
Construct an Empathy Map



Define



Define



WHAT DO YOU DO WITH YOUR INTERVIEW DATA?

Create a Point of View Statement.

POINT OF VIEW STATEMENT

_____ needs a way to _____
(User name) (Verb)

because _____
(Surprising Insight)

Neema: New Teacher



<http://www.youtube.com/watch?v=ewlHN9SGuv0>
(0:47-1:18)



Shanda: First Year Teacher

<http://www.youtube.com/watch?v=kcfD0GDkYiA&feature=related>

(0:27-1:22)

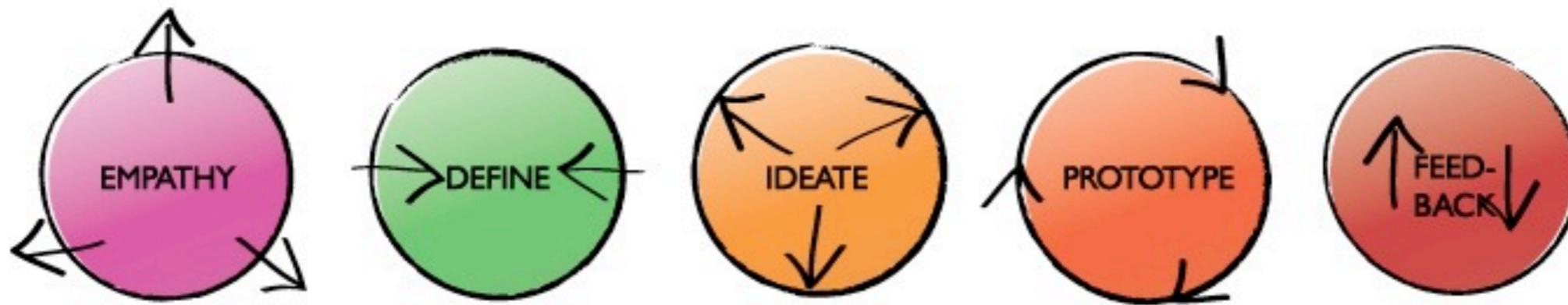
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Ideate



BRAINSTORMING MINDSETS

Build on the ideas of your team!



Go for wild ideas!



Don't judge other's ideas... or your own!



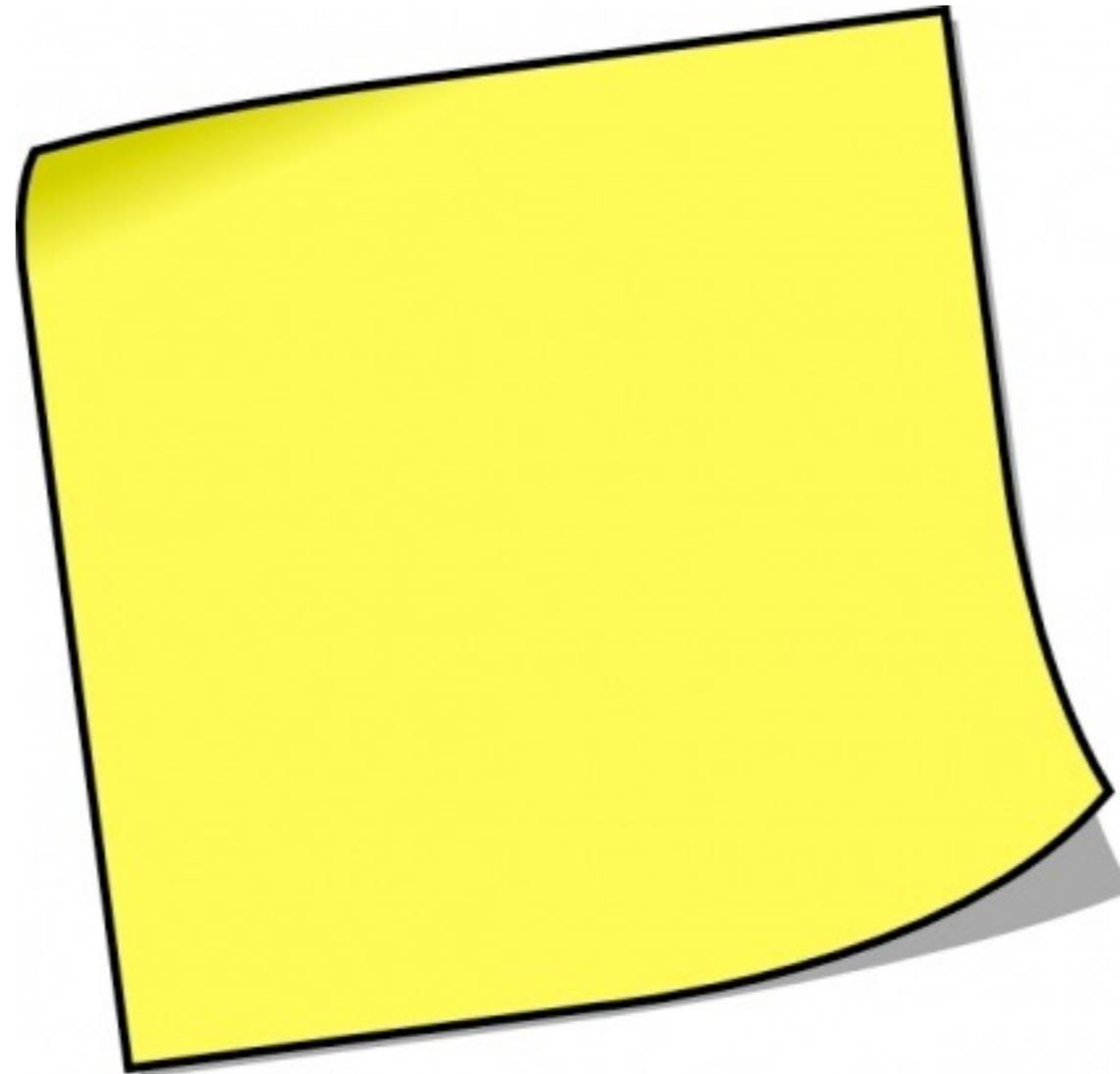
Go for quantity!



**Listen to others:
only 1 person talks at a time!**



Keep your idea short-
it has to fit on a post-it note!



Source: <http://wwwcdn.net/ev/assets/images/vectors/afbig/blank-sticky-note-clip-art.jpg>

Capture **EVERY SINGLE IDEA!**



HOW MIGHT WE?s

Neema, a nervous first year teacher, needs a way to feel confident, because he wants to do a good job as a new teacher.

How might we help Neema feel confident?

Neema needs a way to remember his lessons, because he gets confused when everyone is staring at him.

How might we help Neema remember his lessons?

Shanda, a new teacher, needs a way to make her students enjoy learning because she wants them to have as much fun as she did when she was a student.

How might we help Shanda find a way to make learning fun for her students?

Shanda needs a way to feel prepared for her first day of teaching because she is nervous about having her first class of students.

How might we help Shanda feel better prepared for her first day?

HOW TO BRAINSTORM

1. Say your idea.

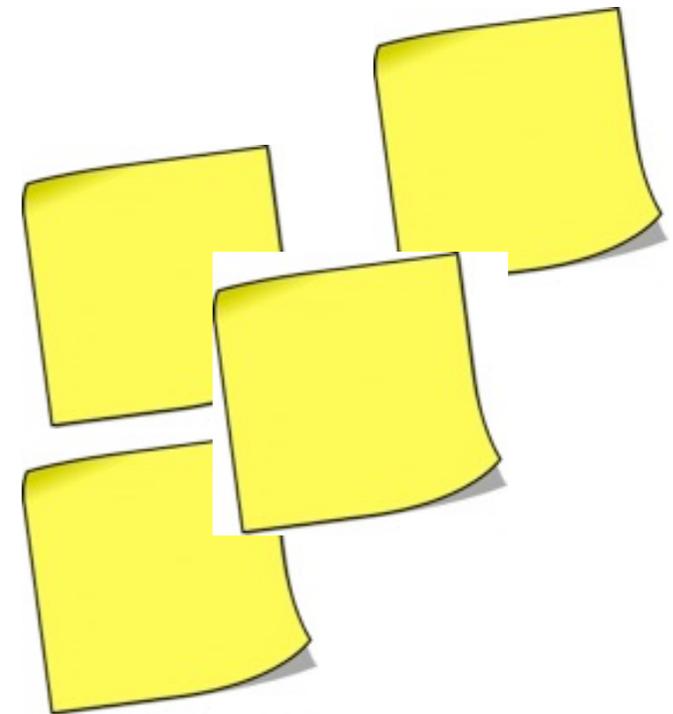
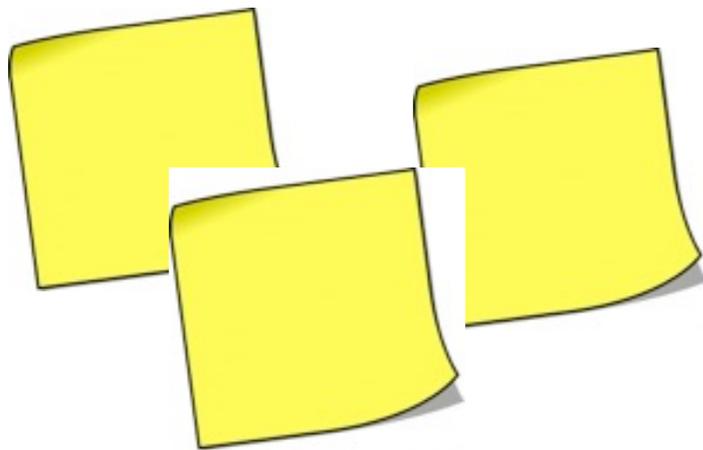
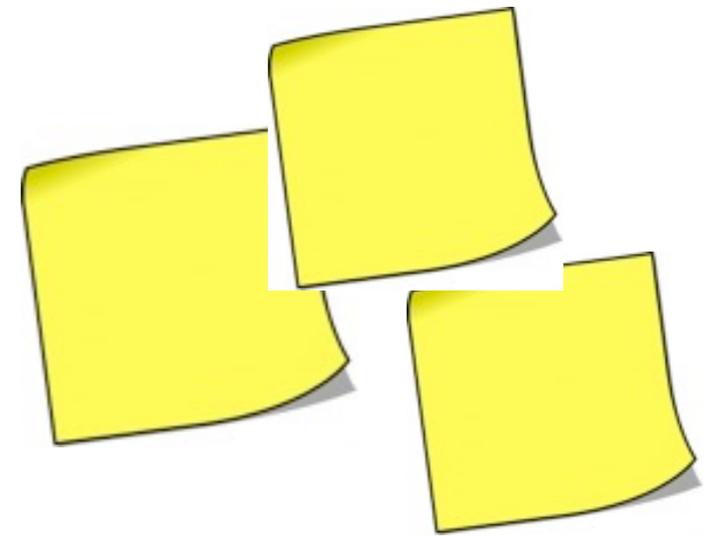
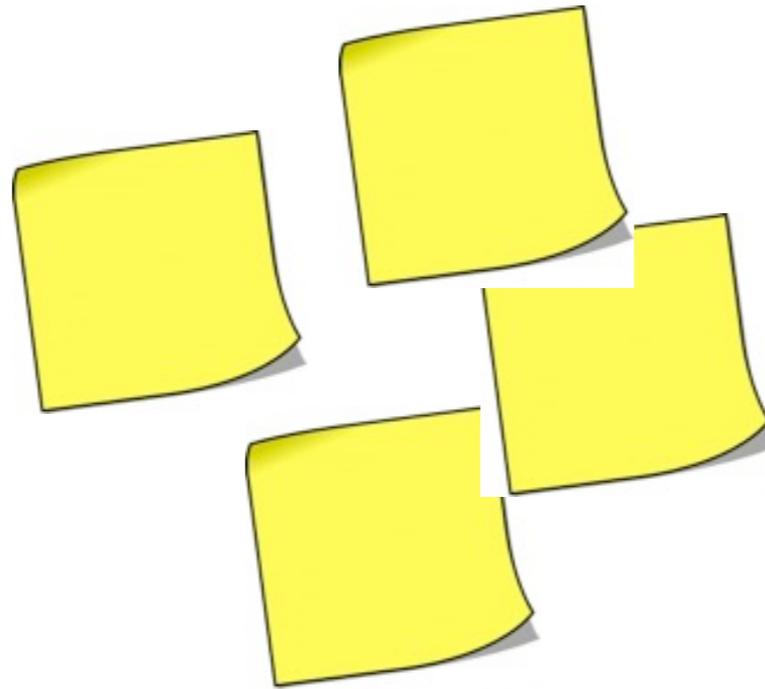
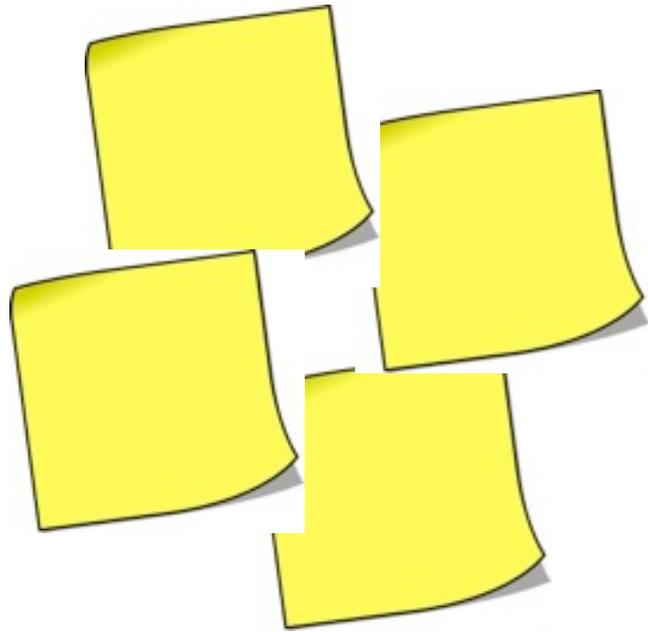
2. Write your idea on a post it note.

3. Stick it on a wall.

Idea Clustering



Rearrange your post-it notes into clusters by themes.



Idea Selection

Place a check mark
next to your 3
favorite ideas.

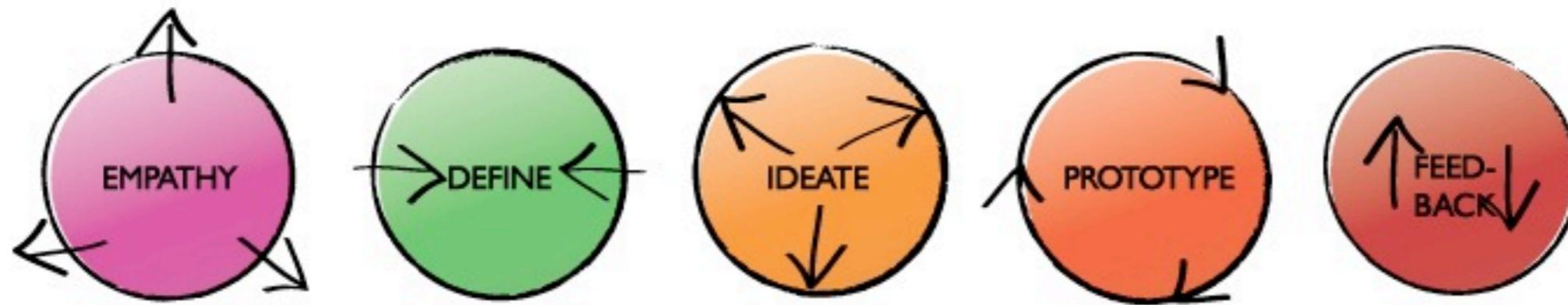


Idea Sharing



Share your group's top 3 ideas.

Prototype



The Marshmallow Challenge

Your goal is to build the tallest free-standing structure with the materials provided.

20 sticks of spaghetti, one yard of tape, one yard of string, and one marshmallow.



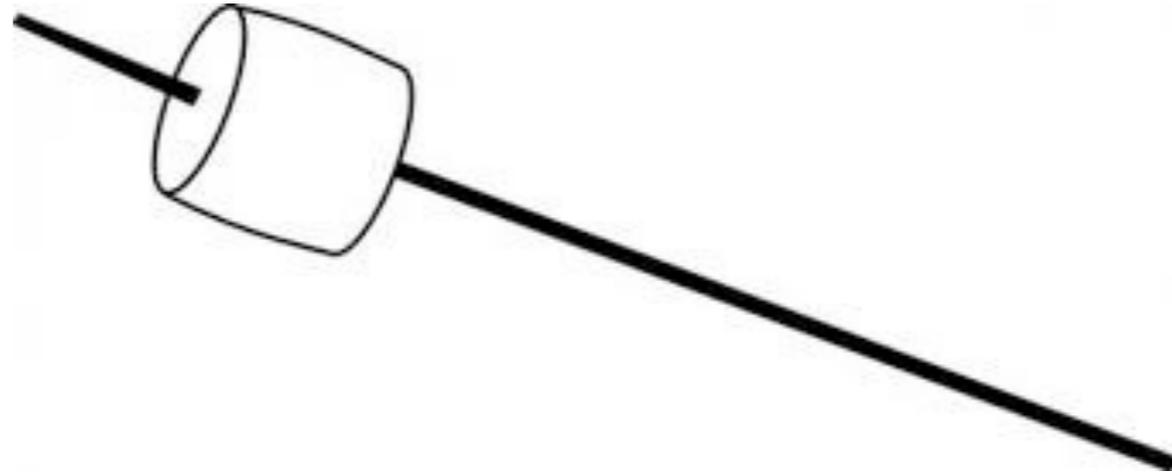
The Marshmallow Challenge Rules

The entire marshmallow needs to be on top.

Use as much or as little of the kit as you want.

You may break up the spaghetti, string or tape.
You have 18 minutes.

When time runs out, you cannot be touching
or holding the structure.



The Marshmallow Challenge

One boy's prototyping story:

Caine's Arcade



A PROTOTYPE

... is NOT a model.

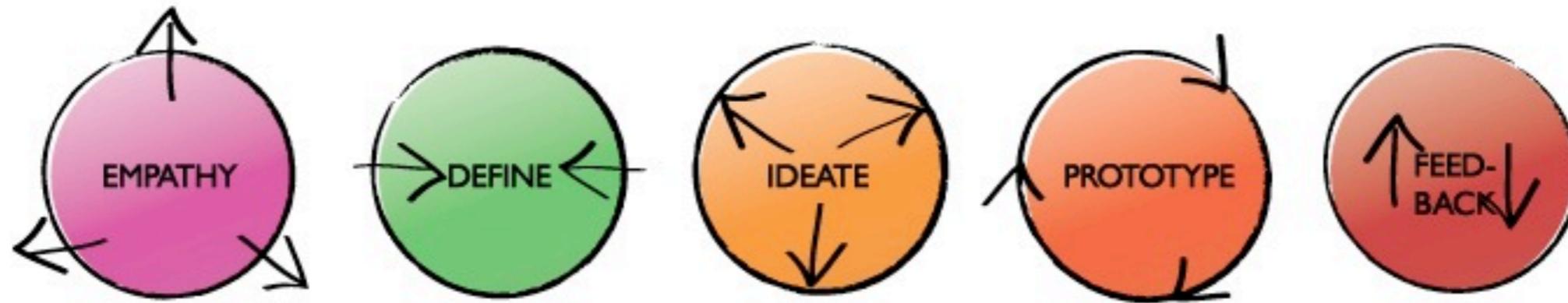
... does not have to LOOK or BE perfect.

...does have to give your user something to INTERACT with.

...does have to be something that gives your user an experience.

**BUILD YOUR
PROTOTYPES.**

Testing/Feedback



Capture User Feedback

What worked?

What didn't?

What could be improved?

What would you do next?



Redesigning Water Conservation AT SCHOOL.

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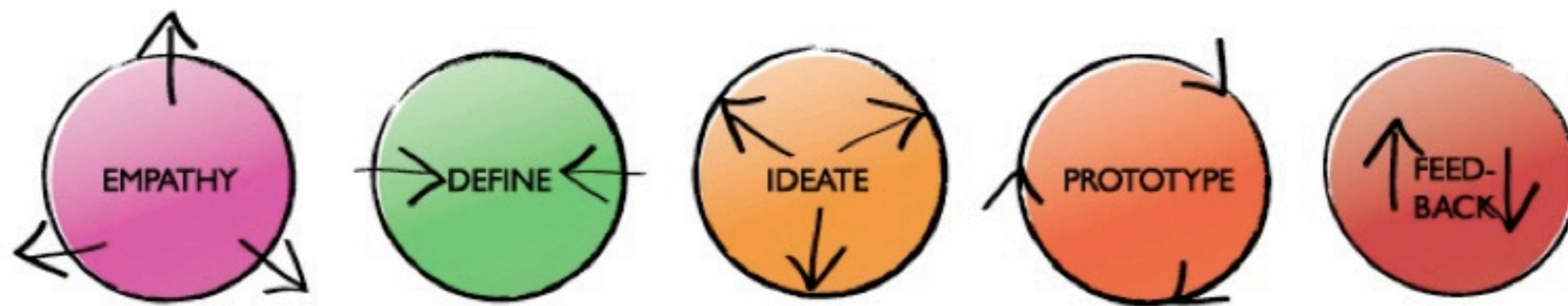
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Design Thinking Process



You are going to practice the
DESIGN THINKING PROCESS
so you can become more skilled

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The way you learn the design thinking process

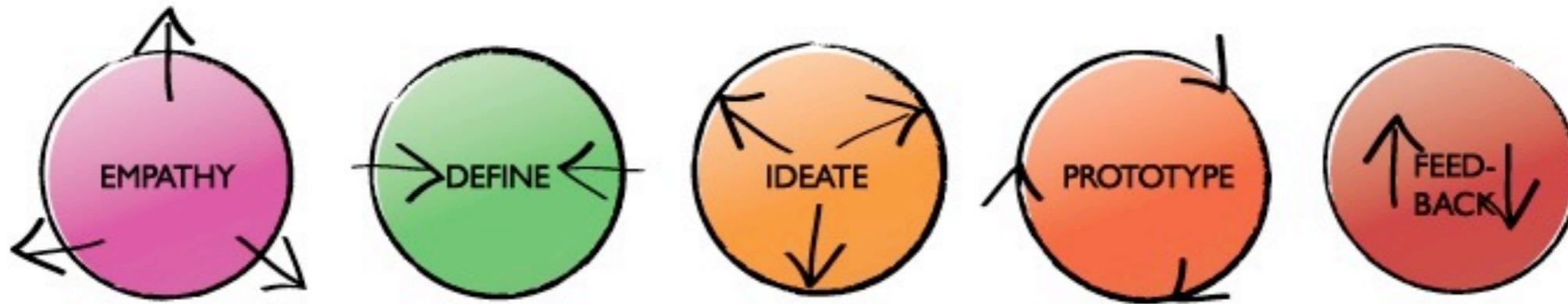
is by diving into a

DESIGN CHALLENGE.

Your **DESIGN CHALLENGE** is...

**Redesigning Water Conservation
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Empathy



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<http://www.schooltube.com/video/a492b00a80509cbc4a40/>



<http://www.youtube.com/watch?v=Xz8sVG6GVWw>

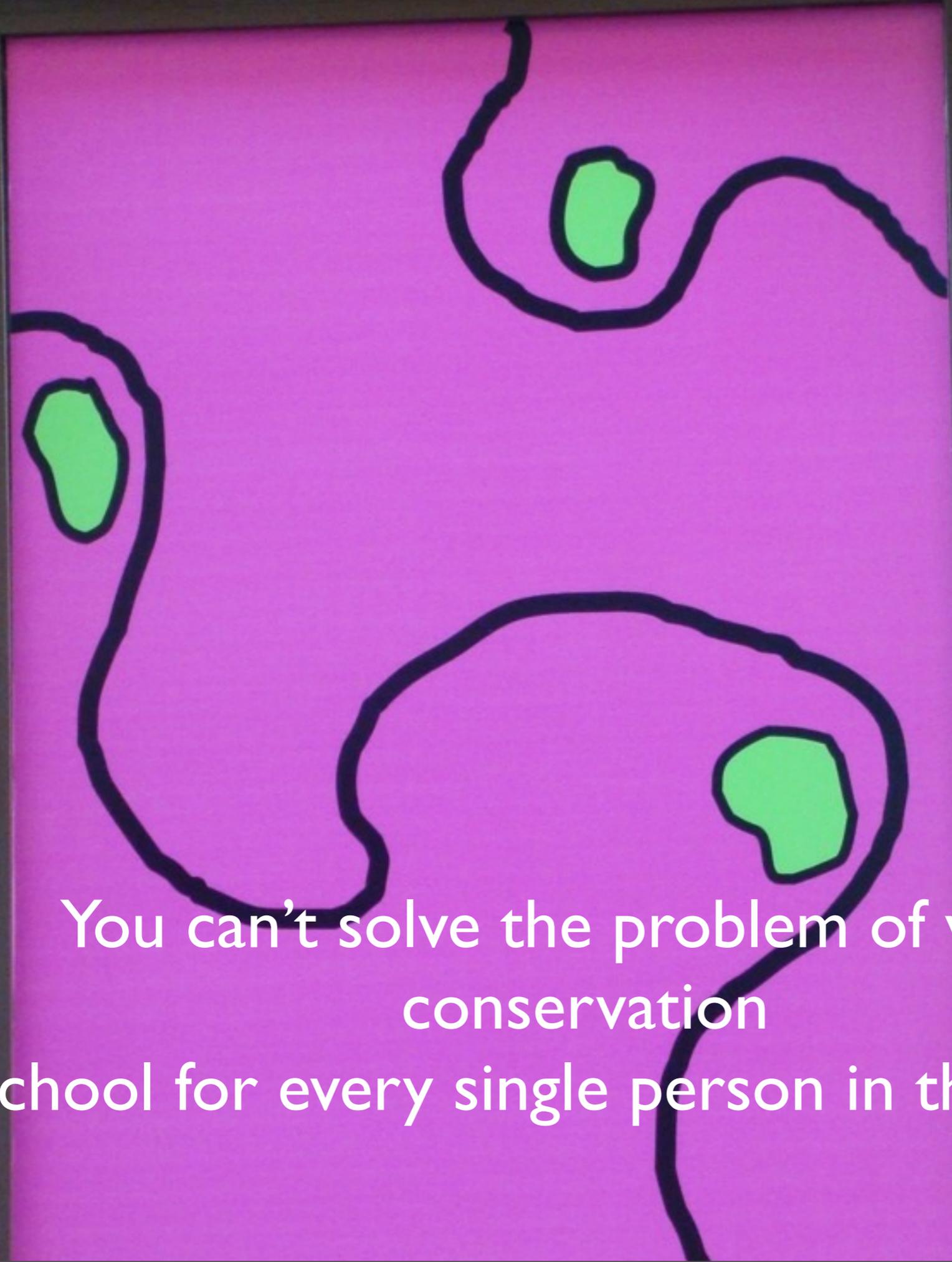


<http://www.monkeysee.com/play/18518-garden-water-conservation>

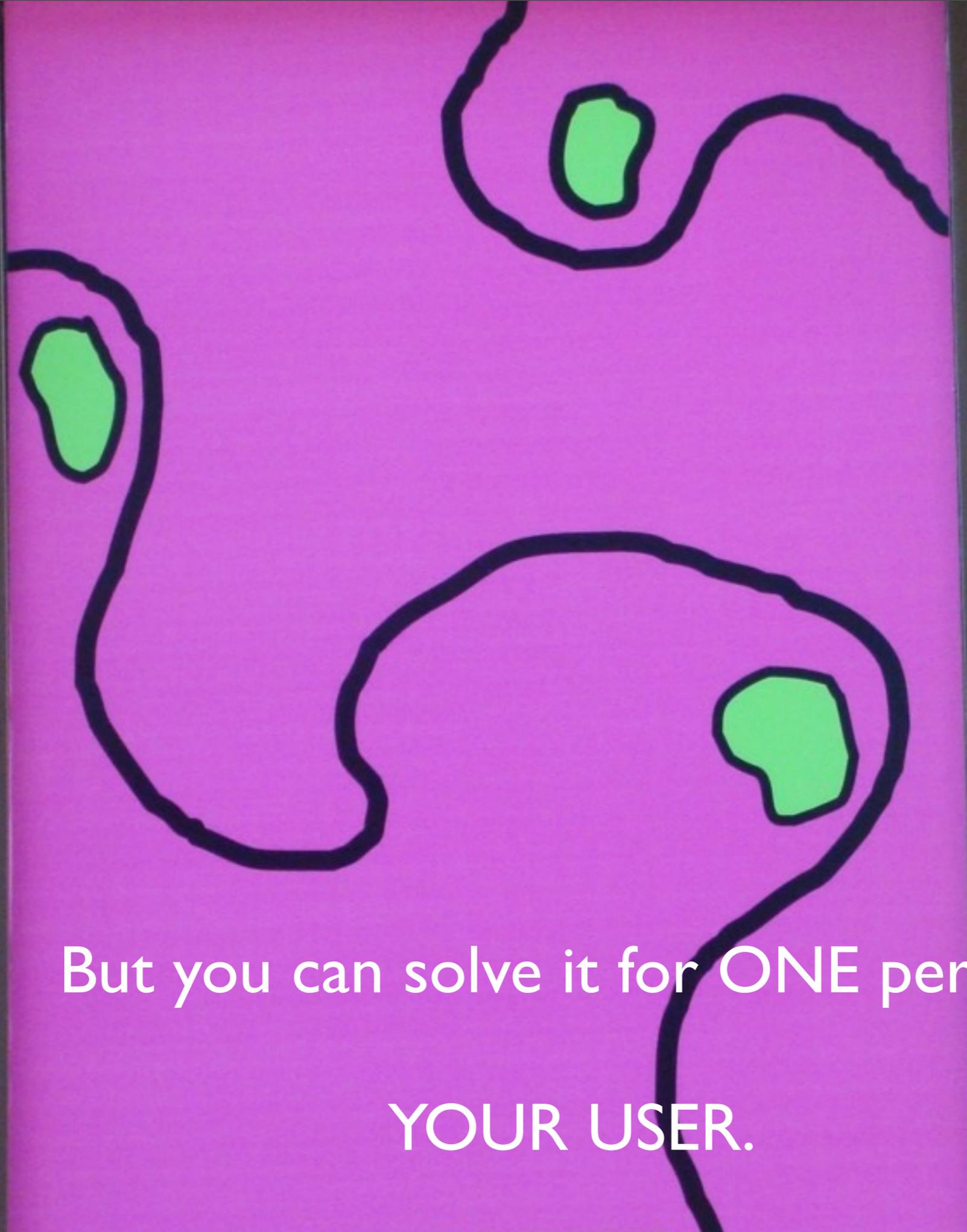


Water Access

<http://www.youtube.com/watch?v=Fvkzjt3b-dU>



You can't solve the problem of water
conservation
at school for every single person in the universe.



But you can solve it for ONE person:

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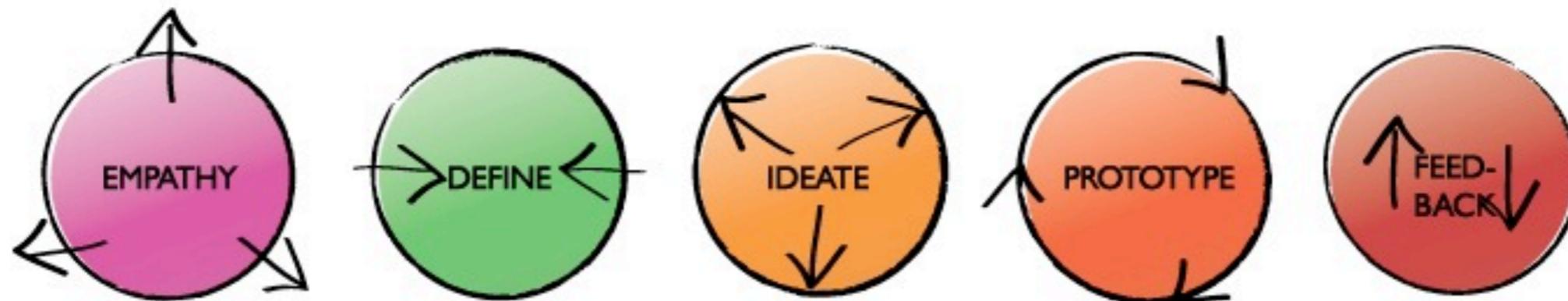
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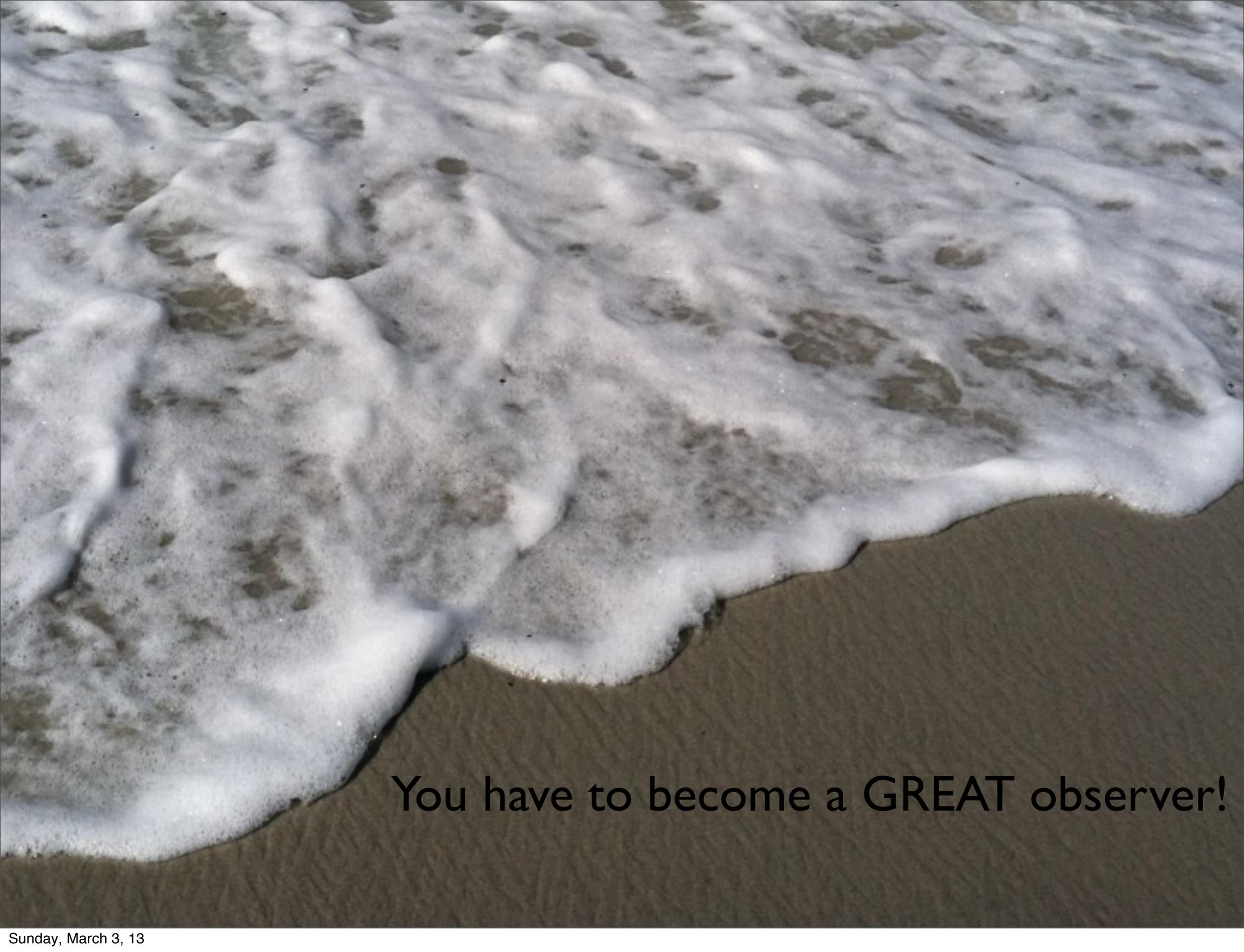
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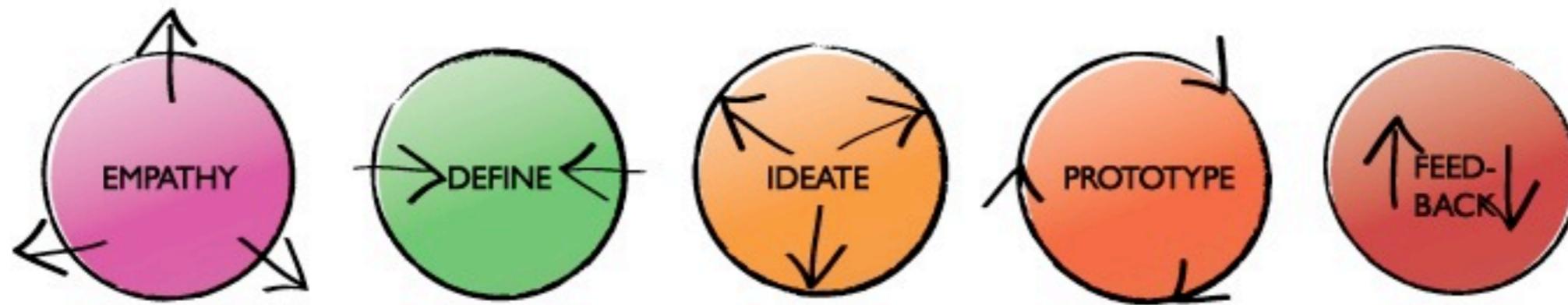


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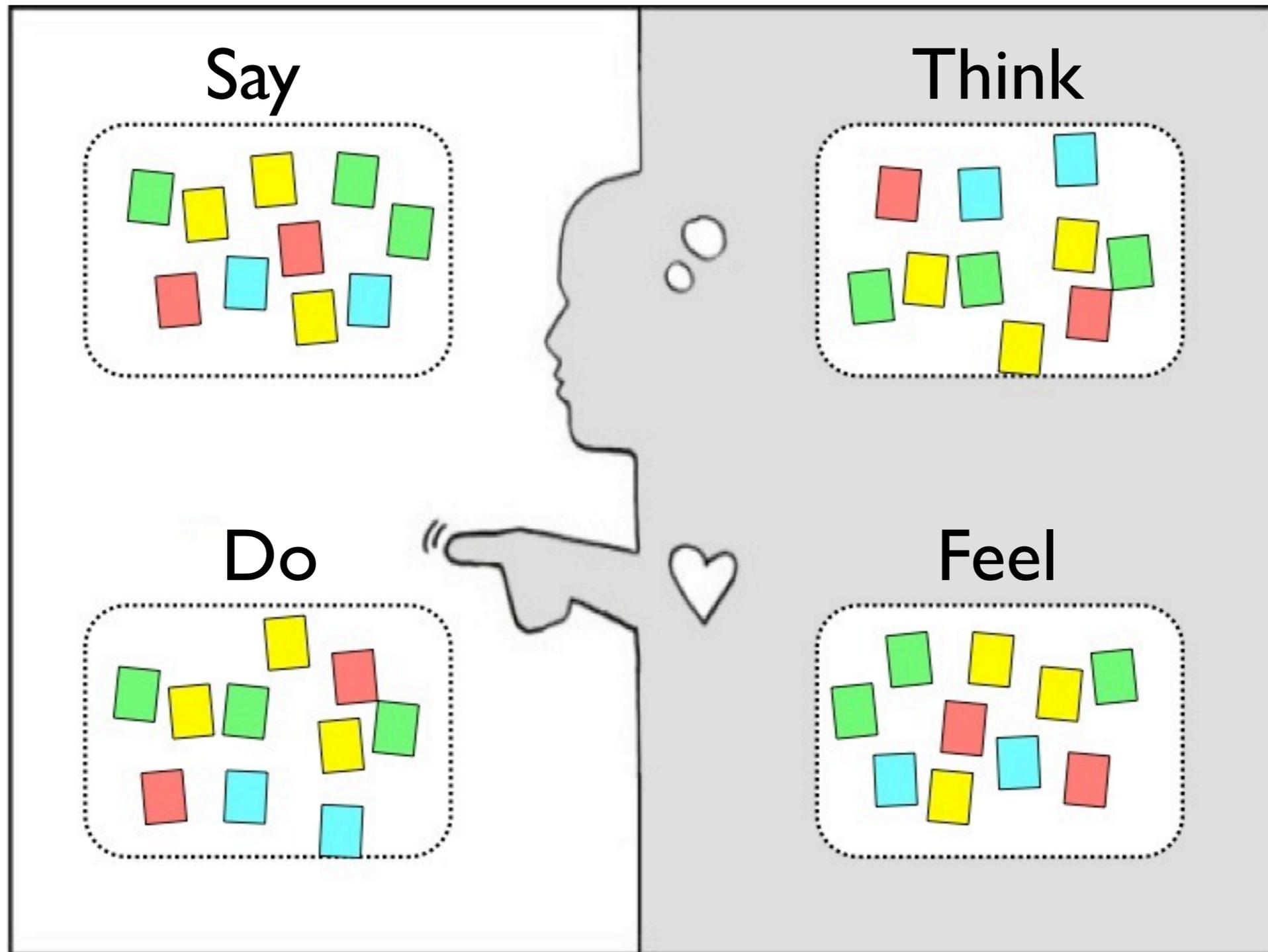
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It is time to
INTERVIEW
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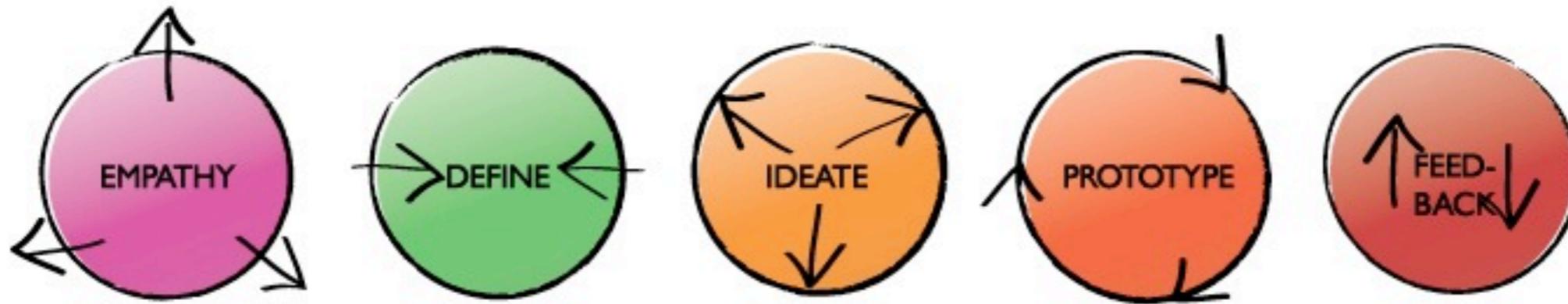
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Construct an Empathy Map



Define



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Create a Point of View Statement.

Point of View Statement

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(User name) (Verb)

because _____.
(Surprising Insight)

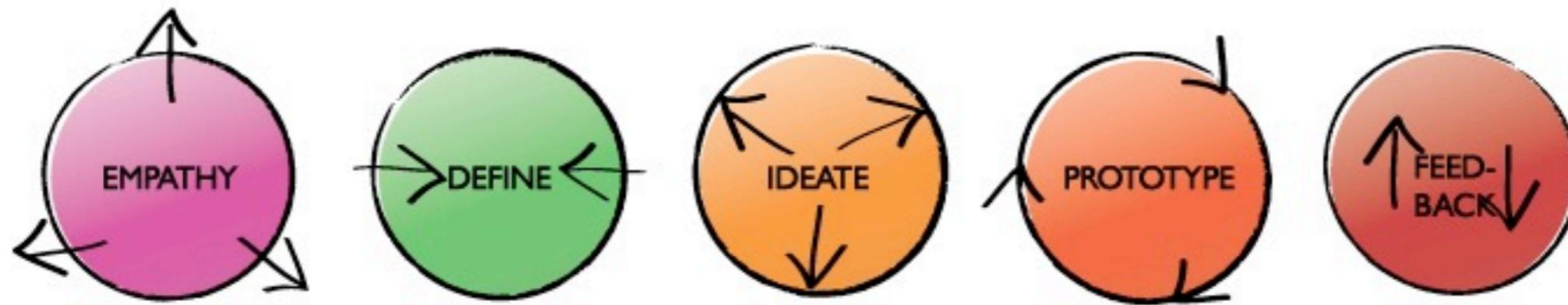
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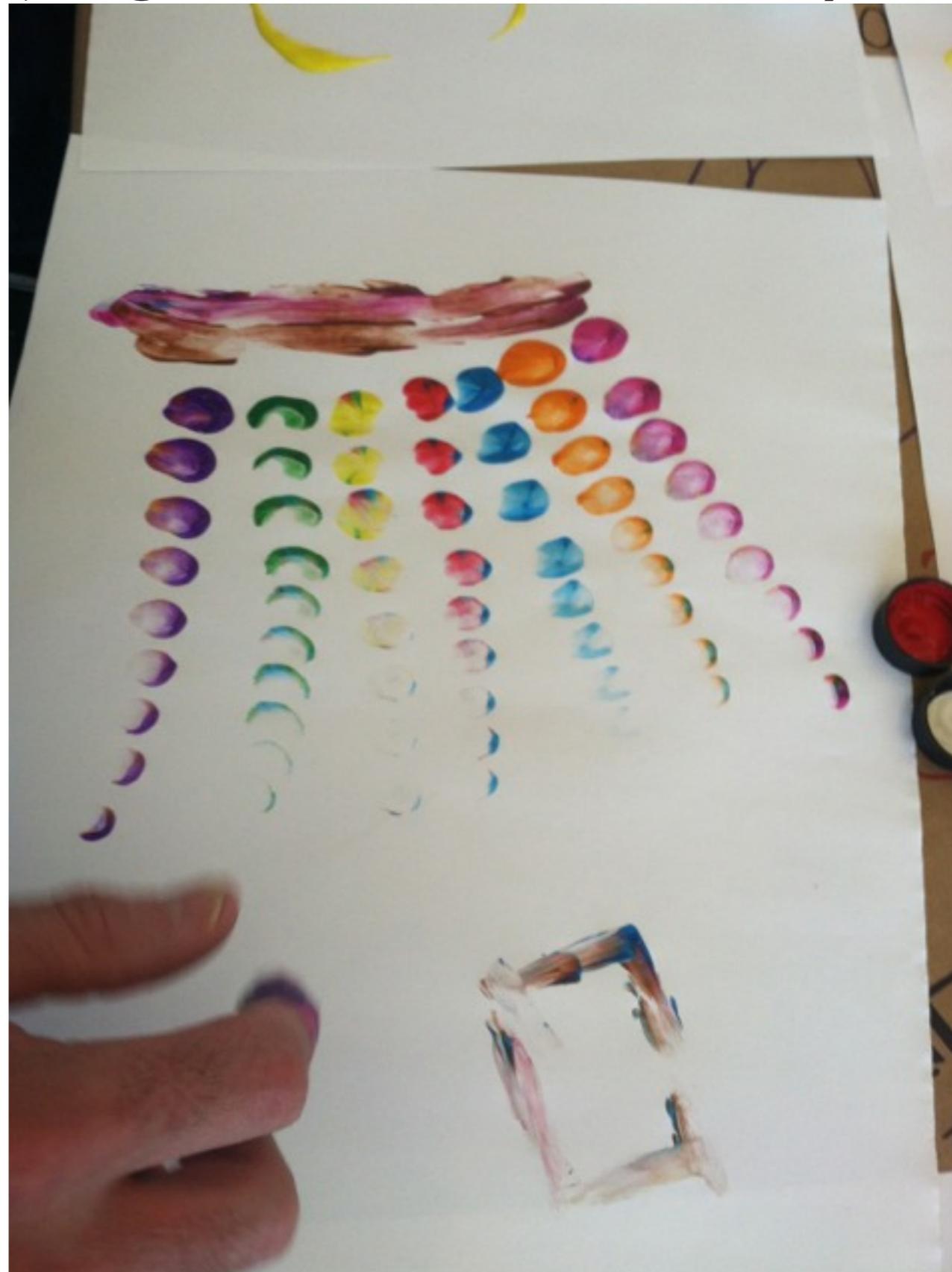
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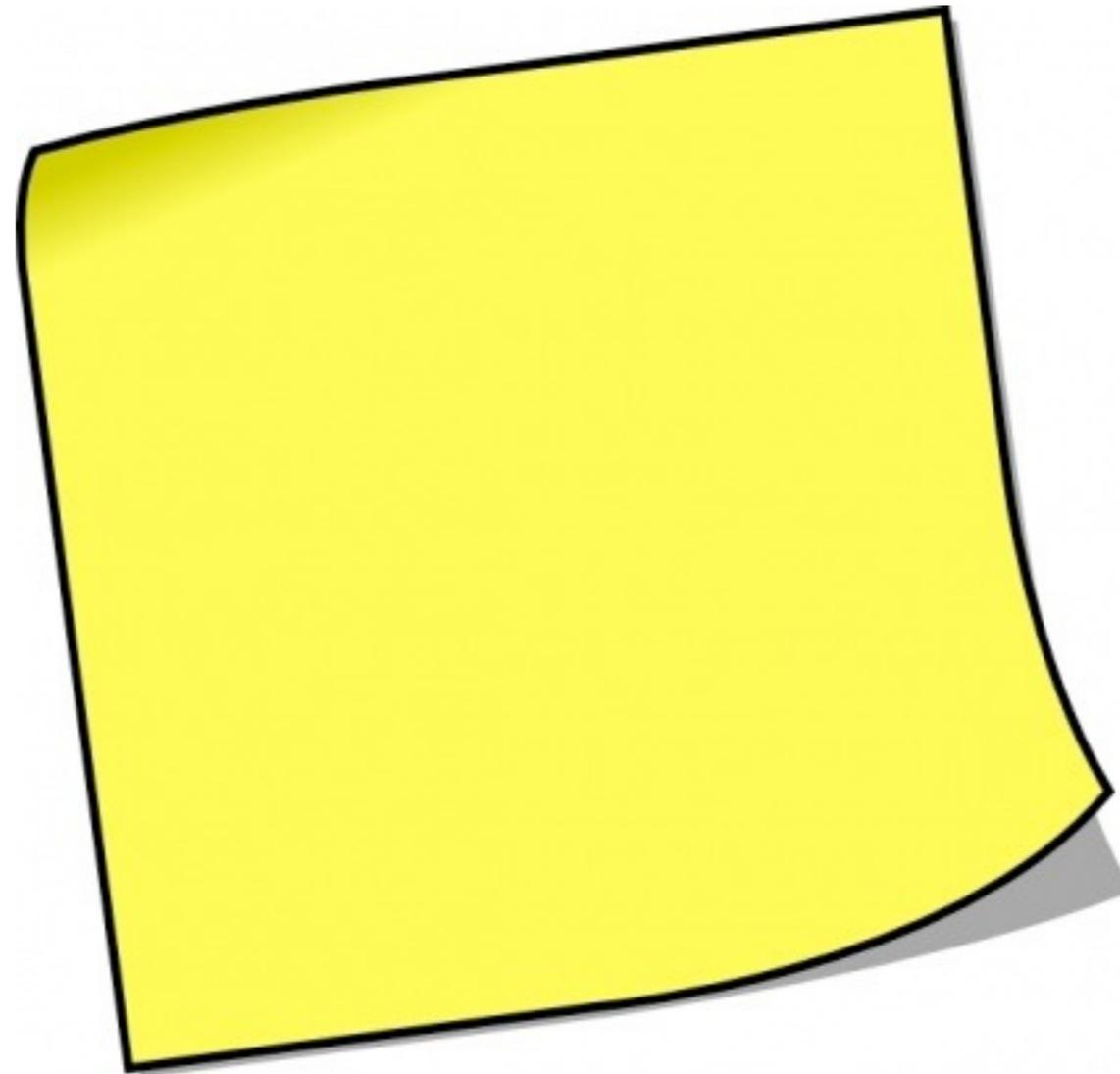
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How might we help Neema feel less nervous?

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How might we help Joanna feel confident?

Jackson, a Starbucks employee, needs a way to talk to his customers and get their order finished at the same time, because when he doesn't say anything he feels that he is being rude.

How might we help Jackson get two things done at the same time?

Harper, a working mother, needs a way to remember her 4 children's after school activities, because she is very busy at work.

How might we help Harper remember her children's schedules?

Elena, a singer, needs a way to remember the lyrics to her song, because she gets nervous when she is performing.

How might we help Elena remember song lyrics?

BRAINSTORMING REFRESHER

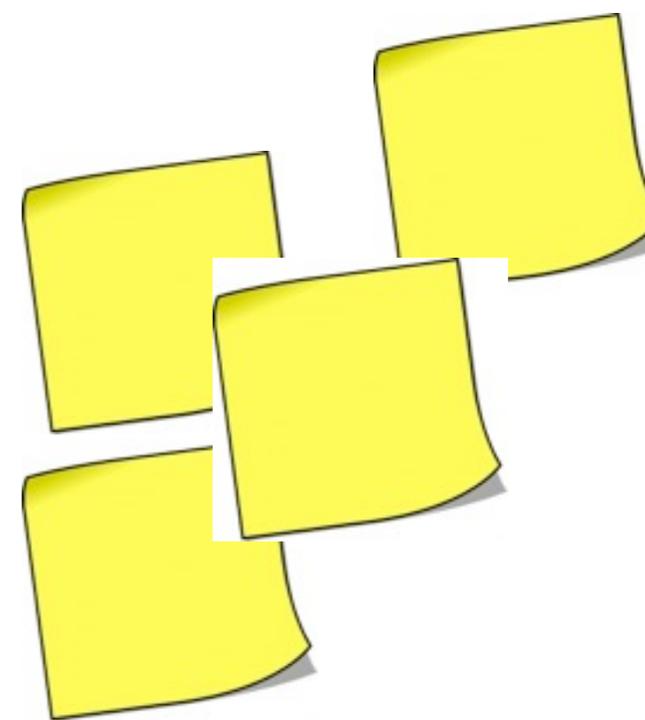
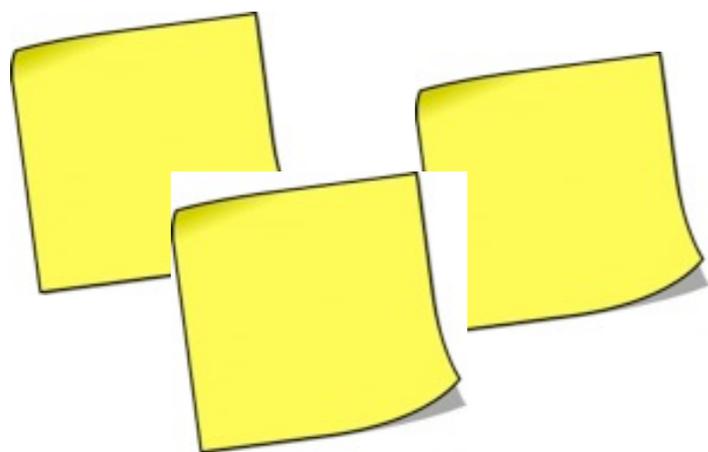
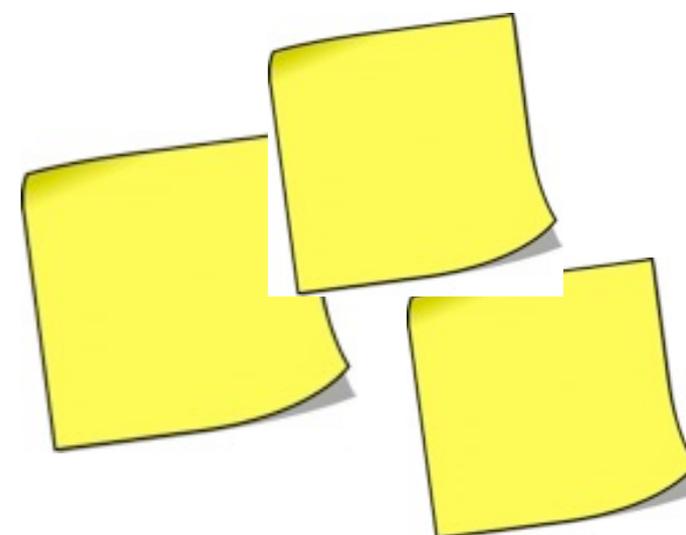
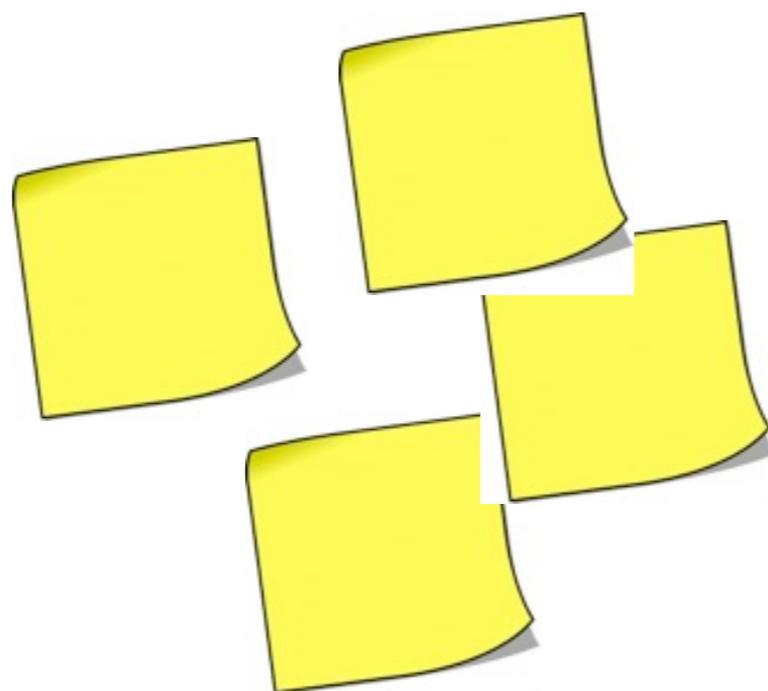
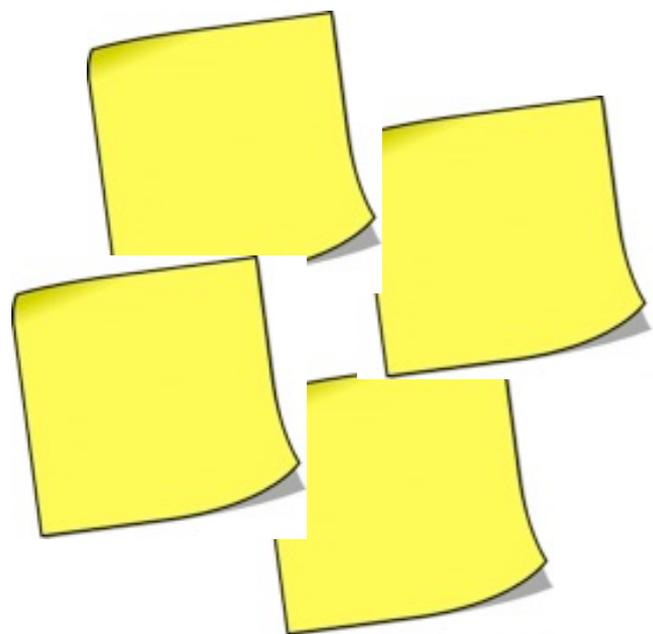
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Source: http://www.flickr.com/photos/fresh_squash/5595161871/sizes/z/in/photostream/

Rearrange your post-it notes into themes.



Idea Selection

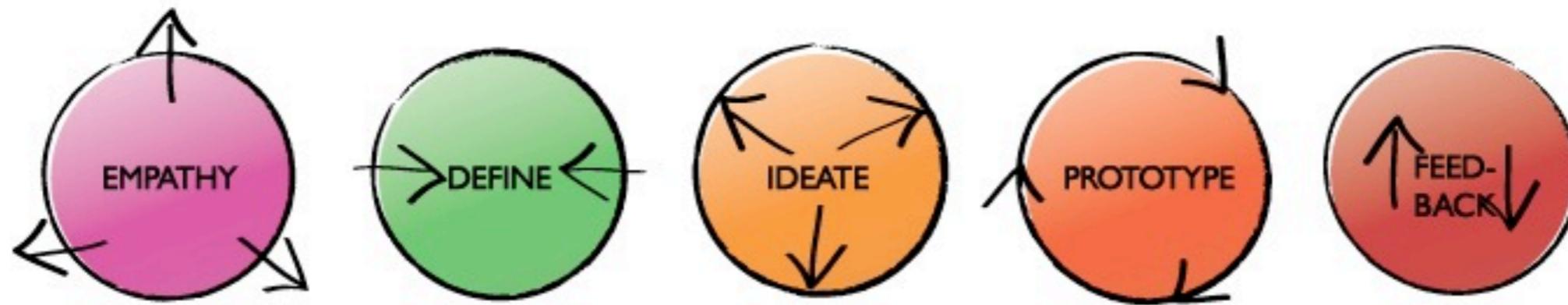
Place a check mark
next to your 3
favorite ideas.



As a team, choose your
favorite idea to move
forward to prototyping.



Prototype



A PROTOTYPE

... is NOT a model.

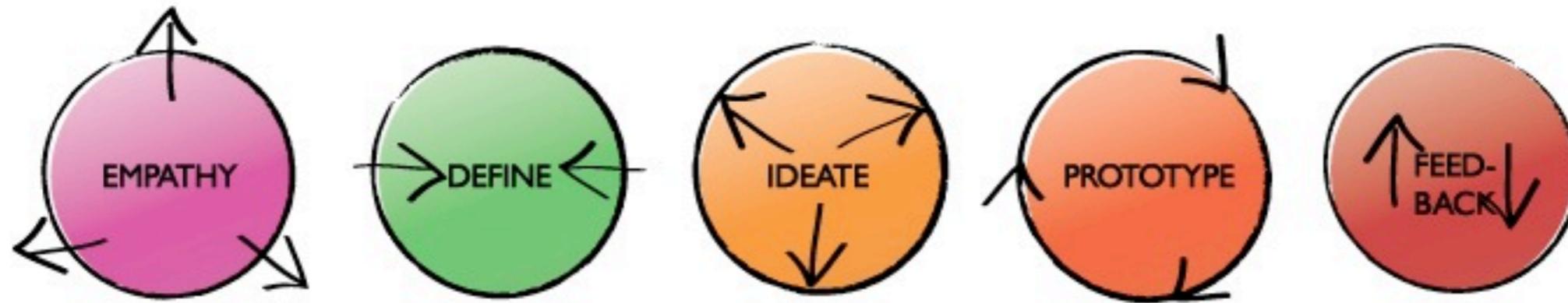
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Testing/Feedback



Capture User Feedback

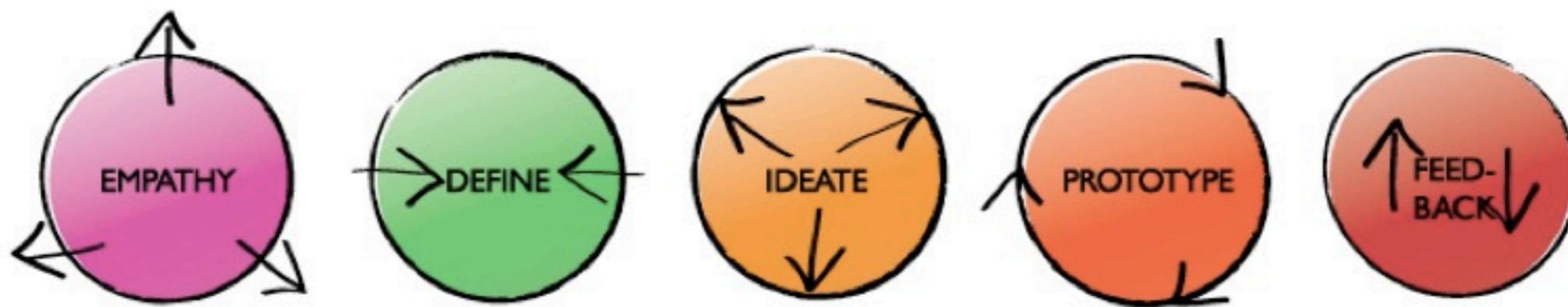
What worked?

What didn't?

What could be improved?

What would you do next?

Design Thinking Process



Now you are design thinkers who will change
the world...

