

# Need Finding for Assistive Technologies

*Today*

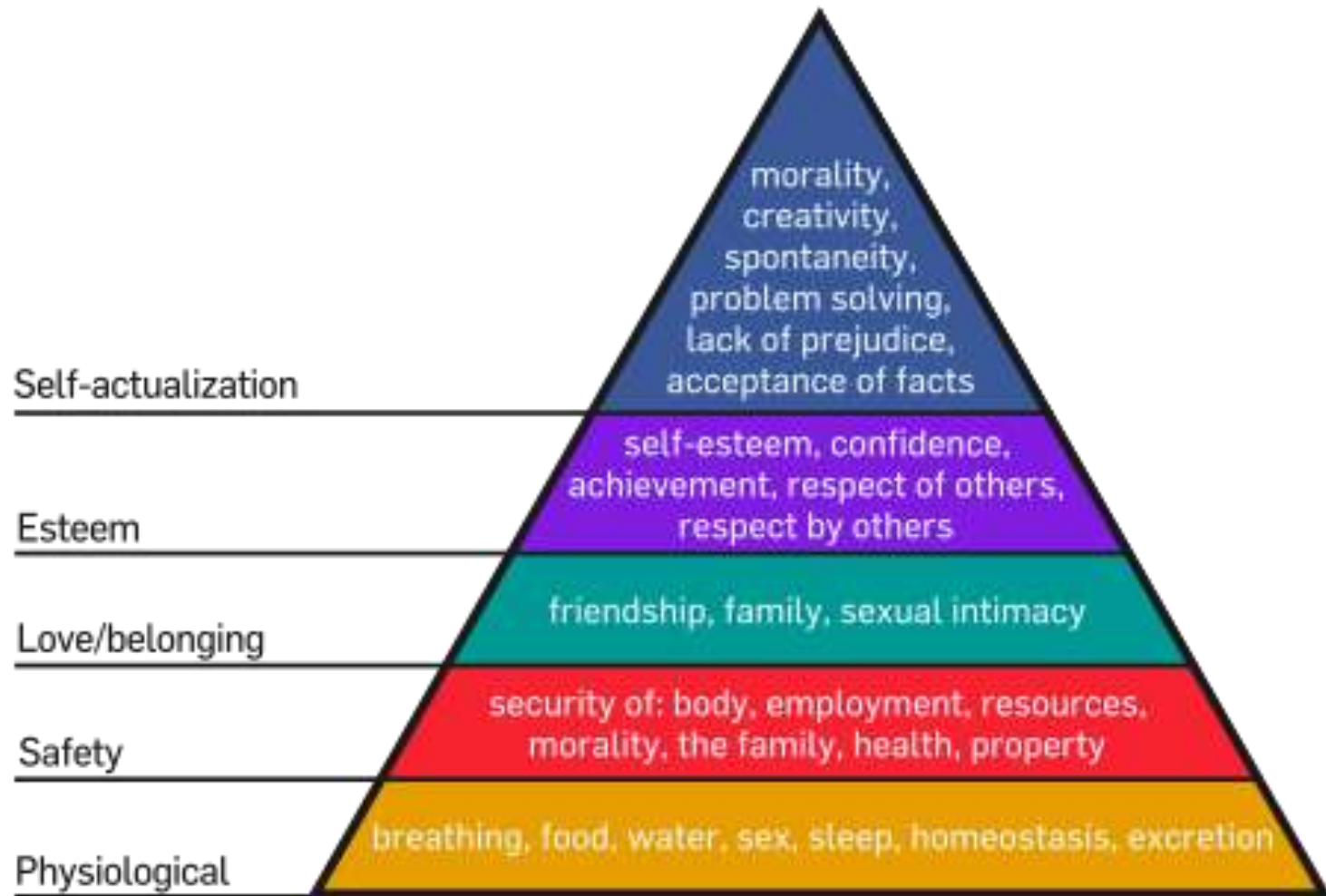
Lecture: Need Finding

Exercise: What questions to ask?

Presentation: Your questions



# Needfinding: Maslow's Hierarchy of Needs



# What do *we* want to know about needs?

## Needs

- Self-Actualization
- Esteem
- Love & Belonging
- Safety
- Physiological



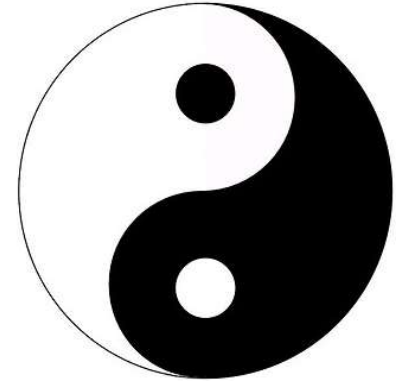
## Vectors

- Mobility
- Manipulation
- Perception
- Cognition
- Expression

# Exercise: What questions to ask?

## For this exercise...

- **Form small groups now**
- **Quickly share your list of 3 top projects with this group**
- **Pick one that everyone can talk about today**



10 minutes

# Brainstorm: What questions to ask?

## For this user and this problem...

- **What do you want to know about the user?**  
Goals, Values, Capabilities, Constraints
- **What questions do you want to ask?**
- **How will you ask them?**
- **Who do you want to talk to?**
- **What do you want to see?**
- **What could you sketch or build to learn more?**
- *20 minutes*

## Brainstorming

### Defer Judgment

Say Yes!

Save analysis and evaluation for later

### Go for quantity

Fluency - lots of ideas

Flexibility - lots of *different* ideas

### Get radical

Encourage wild, eccentric, improbable ideas

Easier to tone down than pump up

### Leapfrog

Build on others' ideas

Let yours go into the mix

# Share: What questions to ask?

## The top items from your group today...

**On one sheet of paper:**

- **Top questions to ask**
- **People to talk to**
- **Sketches/mockups to show**

*3 minutes per group*

# Six Things to Remember when Observing What People Do

[hci.stanford.edu/courses/cs447/docs/NeedFindingCribSheet.pdf](http://hci.stanford.edu/courses/cs447/docs/NeedFindingCribSheet.pdf)

1.



## Cast aside your biases, listen and observe

Let subjects tell their own story, and listen for the things that elicit emotion, cause them concern or frustration.

"If you want to find out what people really need, you have to forget about your problems and worry about their lives."

2.



## Note the contradictions between what people say and what they do

Opportunities for innovation lie within the disconnect between action and words.

3.



## Listen to people's personal stories

Let them relate their successes and failures.

Stories encompass the implicit rules that govern and organize people's lives and reveal what they find normal, acceptable and true. They reveal moral codes, sources of pride, shames, shoulds and should-nots.

4.



## Watch for "work arounds"

People make do and work around the shortcomings of products and situations.

In everyday life, we all come up with "work arounds," clumsy or clever, that we usually are totally unaware of.

You must take note.

5.



## Distinguish between needs and solutions.

Needs open up possibilities, solutions constrain them.

If you start with a solution then you may overlook the possibility of coming up with an entirely new and revolutionary product or service.

6.



## Look beyond the obvious.

Your research may seem so routine and familiar that you feel there is nothing new to be learned.

Boredom and frustration easily set in. Stay alert.

The epiphanies and insights emerge from the nuances.

# More on Need Finding

- [hci.stanford.edu/courses/dsummer/handouts/NeedFinding.pdf](http://hci.stanford.edu/courses/dsummer/handouts/NeedFinding.pdf)
  - **What to do in Need Finding**
- [hci.stanford.edu/courses/cs247/2012/readings/dschool-observing.pdf](http://hci.stanford.edu/courses/cs247/2012/readings/dschool-observing.pdf)
  - **Observant Observing**
- [hci.stanford.edu/courses/agile/handouts/Interviewing-observing.pdf](http://hci.stanford.edu/courses/agile/handouts/Interviewing-observing.pdf)
  - **Interviewing and Observing – Agile Aging**
- [hci.stanford.edu/courses/cs447/docs/NeedFindingCribSheet.pdf](http://hci.stanford.edu/courses/cs447/docs/NeedFindingCribSheet.pdf)
  - **Need Finding Tools**