

NEEDFINDING

and Assistive Technologies

Lecture	Needfinding – What, Why and How
Exercise	Discover by Interviewing
Discussion	Your ideas, your questions Project dynamics

What are Needs? Maslow's Hierarchy

Independence



Q: But do I/you/they really *need* that?

Definitions

Needfinding

To identify a person's unsatisfied wishes, requirements or aspirations, related to a particular task or goal.

Context Discovery

To identify the circumstances, forces and limitations that affect how people satisfy their needs



Capability

Resources, skills, tools, systems that enable a person to satisfy their needs and reach their goals.

Assistive Technology

Devices, systems or technologies that enable a person with limited abilities reach their goals

Three things to know about needs...

Things don't have needs; people do.

It helps to define the need in *experience* terms.

What happens when the need is satisfied?

Who are all the people in the problem space?

How does the person experience the need?

What changes when the person experiences satisfaction?

What are their needs related to the problem and the person?

What about the other people in the picture? How are they affected?

How are the other key people affected?

Warm Up Exercise – How did you get here today?

**Think about what you did to get here today –
From the time you woke up, or from your last stop.**

Make a list

The things you did to get here...

Make a note

1. What things were important?
2. Why was it important to be done that way?
3. Tools / enablers you used
4. Blocks you managed

Self-actualization
Esteem
Love & belonging
Safety needs
Physiological needs

Four things we want to learn about needs & context

WHAT

Goals

What does the person want to do, have, or accomplish?

WHY

Values

What's important about what they want or the way they achieve it? What does it mean for them?

Four things we want to learn about needs & context

WHAT

Goals

What does the person want to do, have, or accomplish?

HOW

Capabilities

What resources, skills or abilities does the person have or bring to the situation?

WHY

Values

What's important about what they want or the way they achieve it? What does it mean for them?

BLOCKS

Constraints

What kinds of obstacles, limitations, or deficits are at work in the situation?

How do we do it?

Interview – talk to people

Observation – watch people's activity, in context

Prototype – make something and see what they do with it



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Then what?

CRITICAL THINKING

Facts

Assumptions

Inferences

DESIGN THINKING

Ideate

Sketch

Prototype

Iterate

Interviewing

Tips

Avoid leading questions

Ask them to show as well as tell



- + We get information directly from the person – the user
We get their perspective, how they feel about it
- Time and skill intensive
Must be careful when generalizing
What people say is often different than what they do

Observing

Tips

Observe *actual* activity

Approximate the design target

Immerse yourself in context

Shadow, record, review

Collect a rich description of activity

Look for

Resources used to accomplish

Hindrances that get in the way



Exercise – How they got here today

Work in groups of 2-4

One person volunteers to be ‘interviewee’ – or –

Work with a community member who is here today

Ask about how *they* got here today

Activity | Materials | Gear

See what you can learn about their

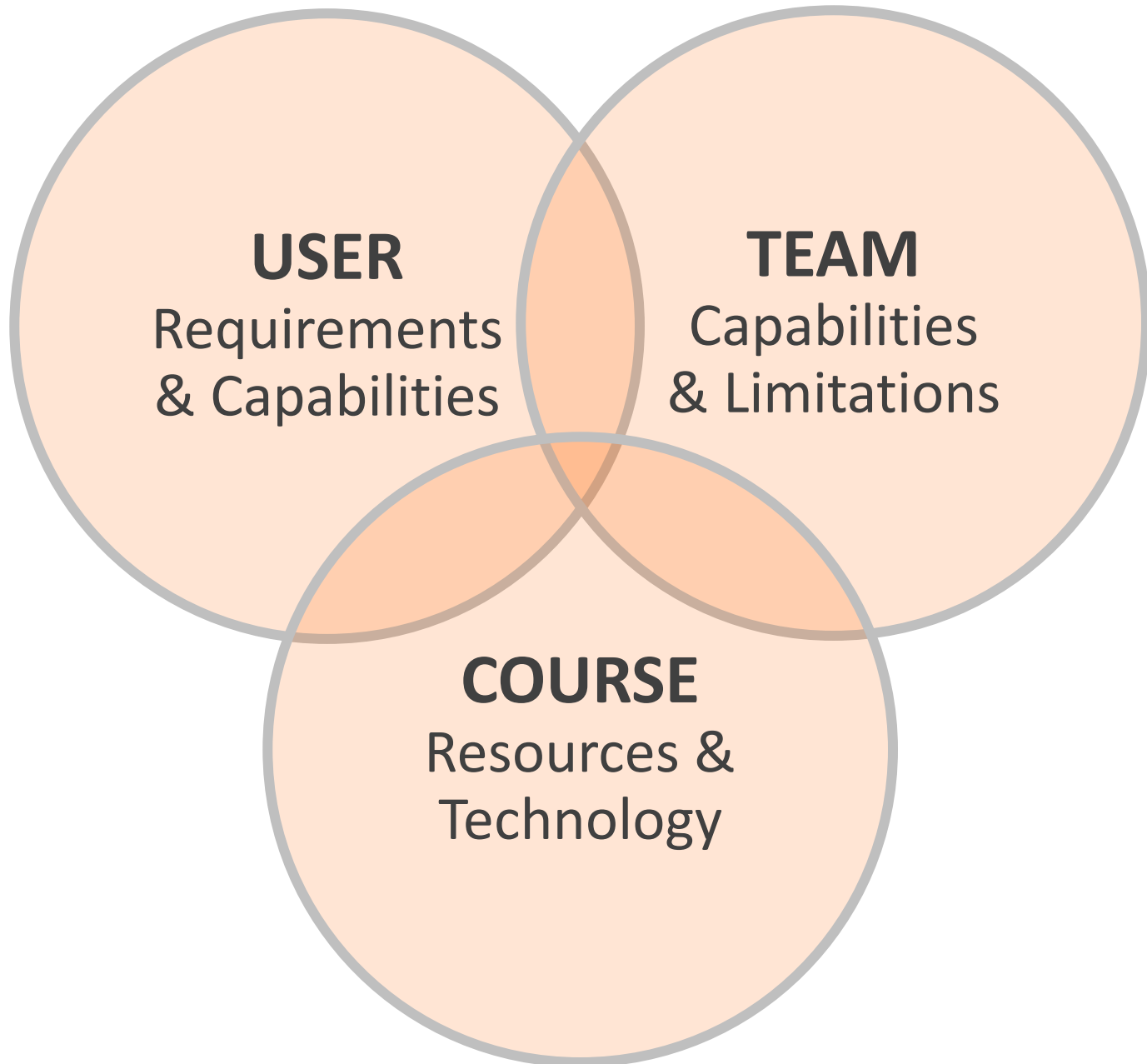
Goals – why they wanted to be here – their goal in coming

Values – what was important about how they did it

Capabilities – what resources were available or used

Constraints – what blocks stood in the way

Project dynamics



Six things to remember when observing what people

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.

Six things to remember when observing what people do

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.

Resources

hci.stanford.edu/courses/dsummer/handouts/NeedFinding.pdf

What to do in Need Finding

hci.stanford.edu/courses/cs247/2012/readings/dschool-observing.pdf

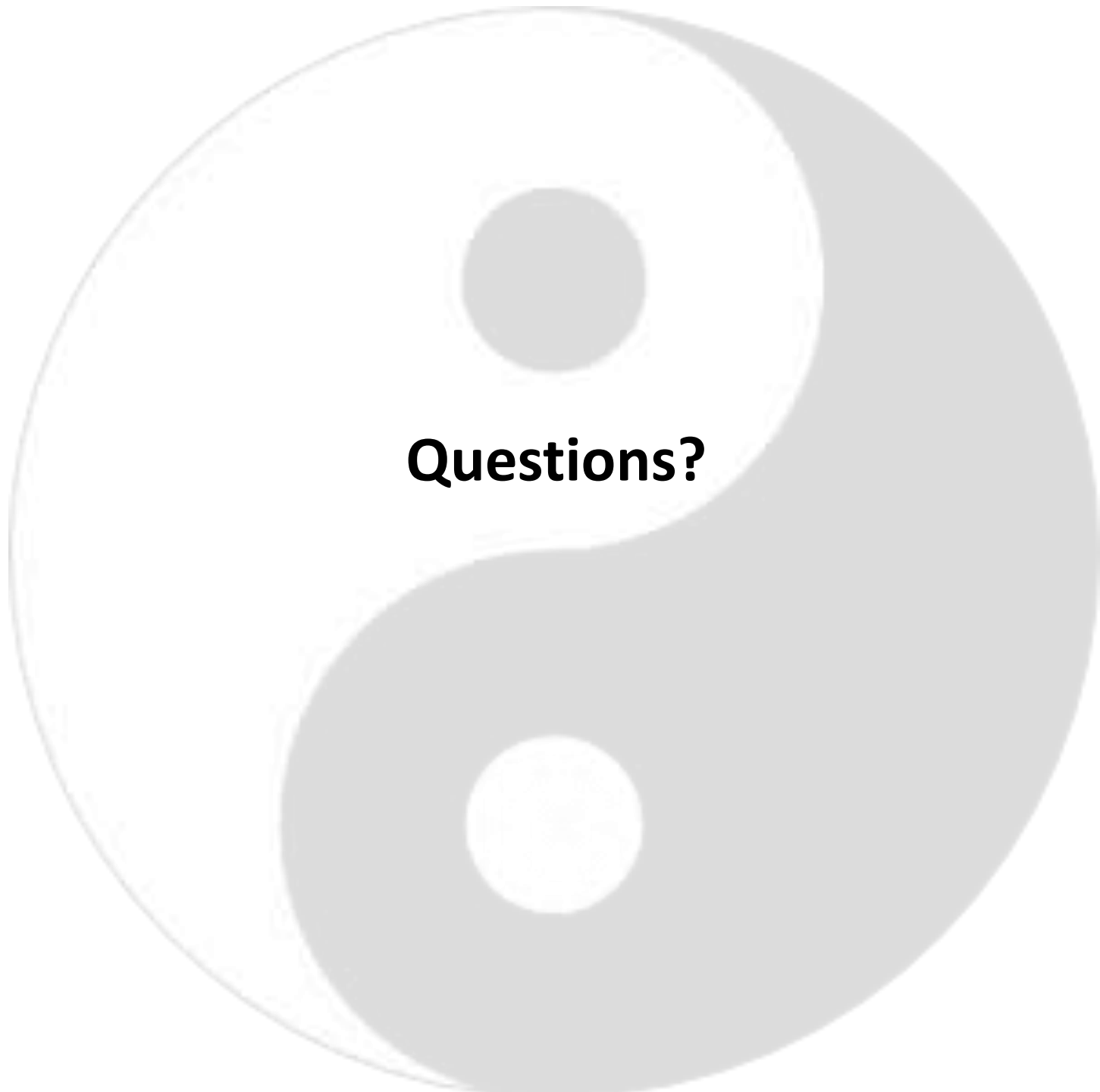
Observant Observing

hci.stanford.edu/courses/agile/handouts/Interviewing-observing.pdf

Interviewing and Observing – Agile Aging

hci.stanford.edu/courses/cs447/docs/NeedFindingCribSheet.pdf

Need Finding Tools



Questions?