NEEDFINDING
and Assistive Technologies

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

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Definitions

Needfinding
Identifying a person's unsatisfied wishes, aspirations, and requirements related to a particular task or goal.

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

Context Discovery
Identifying the circumstances, forces and limitations that affect how people satisfy their needs

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

Three things about needs…

Things don't have needs; people do

Who are all the people in the problem space ?

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

Define the need in experience terms

How does the person experience the need?

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

What is it like when the need is satisfied?

What changes when the person experiences satisfaction?

How are the other key people affected?

Warm Up Exercise – How you start your day

Think about what you do from the time you wake up until you engage with the world. A typical day.

Make a list

The things you do

Make a note

What's important & why

Tools you use

Blocks you manage

Four things 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 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	**DESIGN THINKING**
Facts	Ideate
Assumptions	Sketch
Inferences	Prototype
	Iterate

Interviewing

Tips

Avoid leading questions

Ask them to show as well as tell

+ We get information directly from 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 start their day

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* start their day

> Activity | Materials | Gear
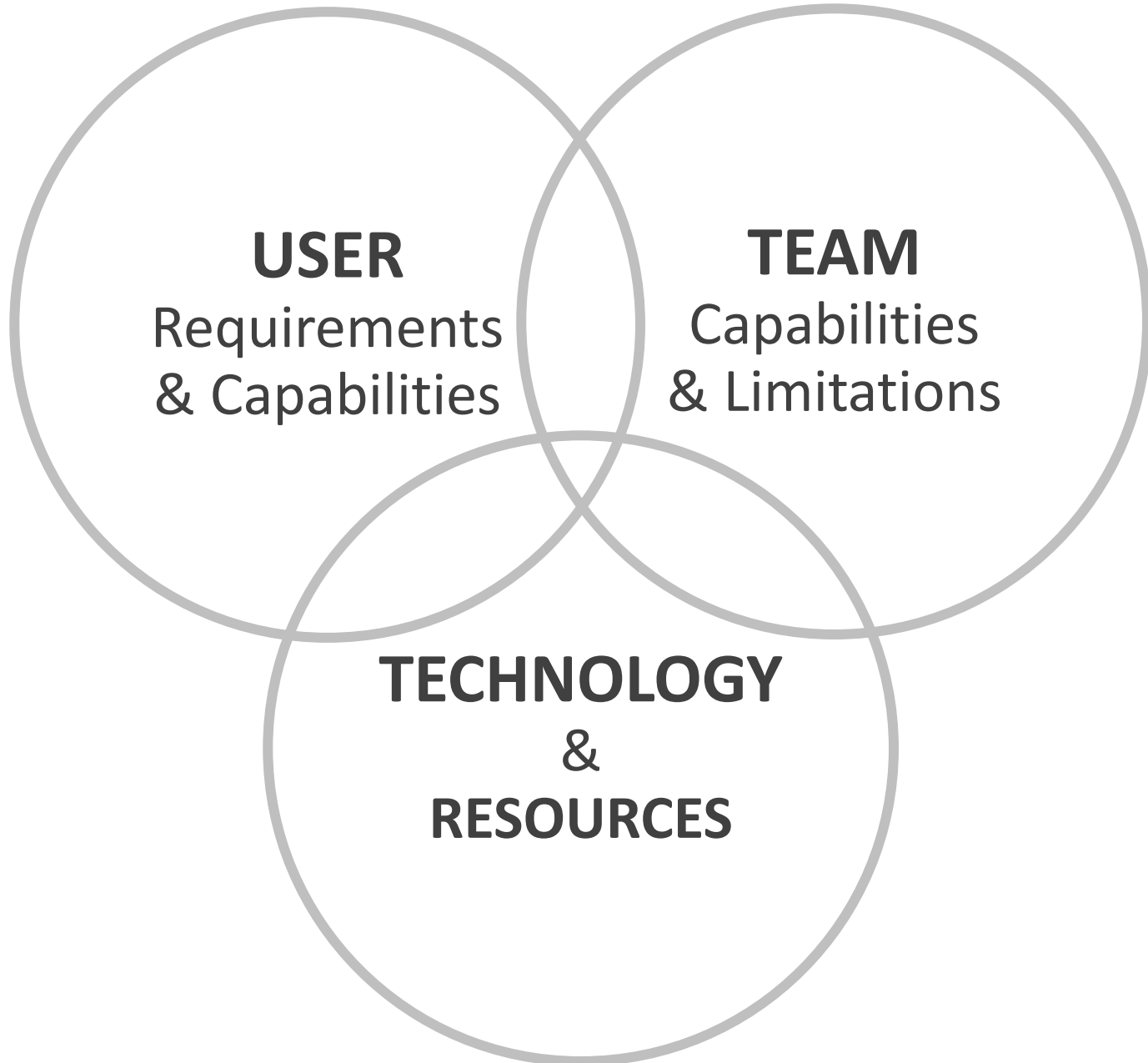
See what you can learn about their

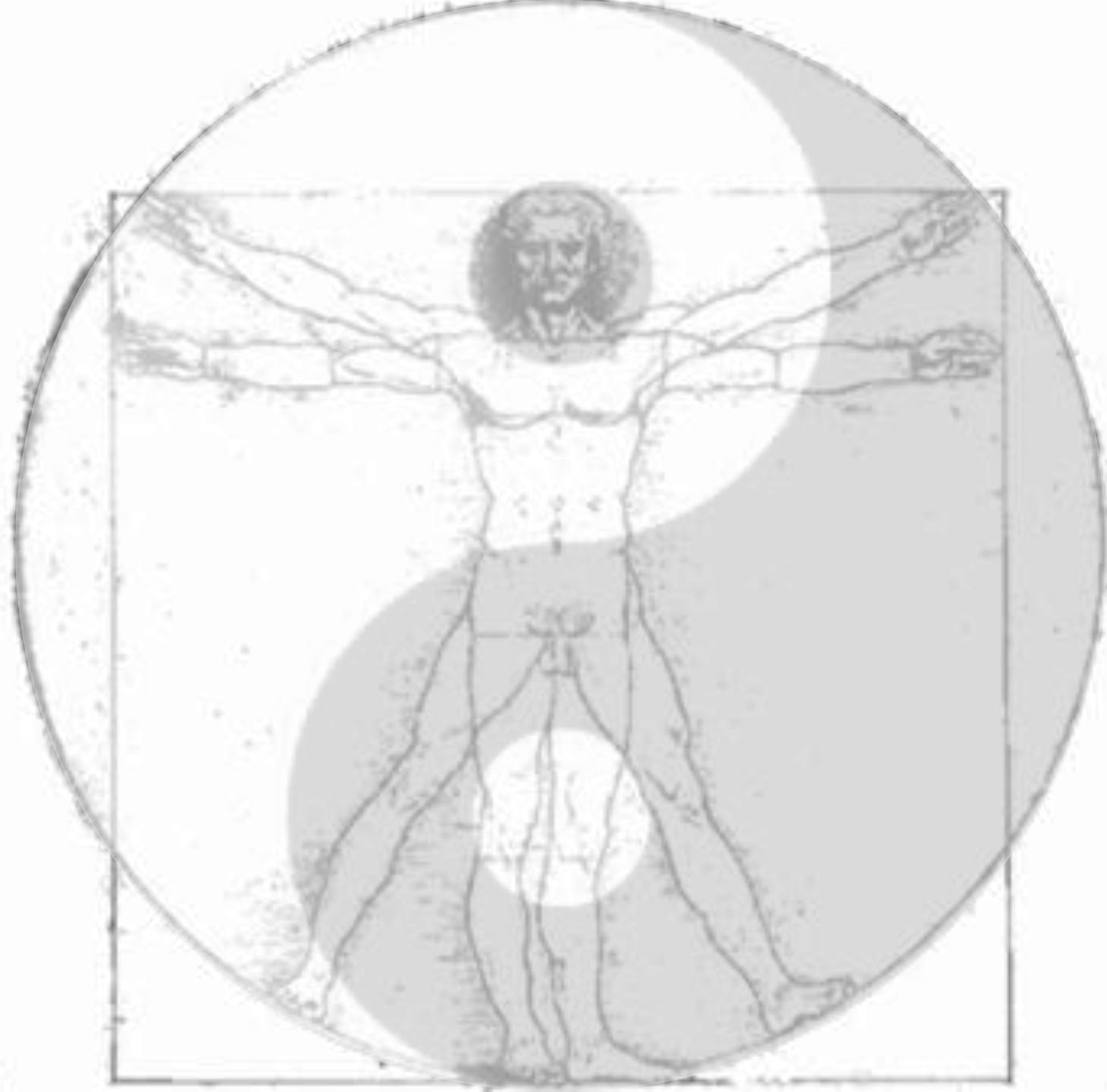> **Goals** – what they want/need to do

> **Values** – what's important about how they do it

> **Capabilities** – what resources are available or used

> **Constraints** – what blocks stand in the way

Project dynamics

USER
Requirements
& Capabilities

TEAM
Capabilities
& Limitations

TECHNOLOGY
&
RESOURCES

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 peoples 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