Needfinding
and context discovery
for assistive technologies

Lecture   Needfinding – what, why and how

Exercise   Interviewing

Discussion   Your ideas, your questions

Gayle Curtis   E110/210   13 January 2015

NEEDS: 3 things...

Things don't have needs; people do
>Look at all the people in the problem space
>What are their needs around the problem?

Define the need in experience terms
>What is the experience of the need from the user's POV?
>What about all the other people in the picture?

What is it like when the need is satisfied?
>Look at the experience of satisfaction
>Look at all the key people in the picture

Needs & context

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

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

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

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

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

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

Needs & context

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

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

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

Constraints – Why not
What kinds of limitations, deficits, or blocks are at work in the situation?

How do we do it?

We have ways to learn

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?   **Design thinking**

Critical thinking   Ideate

Facts   Sketch

Assumptions   Prototype

Inferences   Iterate

Interviewing

Tips

Avoid leading questions

Ask them to show as well as tell

+'s   We get information directly from user

We get their perspective, how they feel about it

–'s   Time and skill intensive

Must be careful when generalizing

What people say 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 you start your day

Work in groups of 2-4

> One person volunteers to be the 'interviewee'

Ask about what they do to 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
>
> Constraints – what blockers are there too

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.

Six things to remember when observing what people do

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

Takeaway

From your exercise, note on one sheet of paper:

Top two QUESTIONS you want to ask

Two kinds of OBSERVATIONS to make

One thing you would BUILD to learn more