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

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.

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

Context Discovery
To identify 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 to know about needs...

<table>
<thead>
<tr>
<th>Things don’t have needs; people do.</th>
<th>It helps to define the need in experience terms.</th>
<th>What happens when the need is satisfied?</th>
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</thead>
<tbody>
<tr>
<td>Who are all the people in the problem space?</td>
<td>How does the person experience the need?</td>
<td>What changes when the person experiences satisfaction?</td>
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<tr>
<td>What are their needs related to the problem and the person?</td>
<td>What about the other people in the picture? How are they affected?</td>
<td>How are the other key people affected?</td>
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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
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

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

USER
Requirements & Capabilities

TEAM
Capabilities & Limitations

COURSE
Resources & Technology
Six things to remember when observing what people do

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 shouldn'ts.

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?