

HCI and Design

User, Subject, or Participant?

“User” and “subject” connote a more passive role

One perspective: “subjects” are “subjected to” experiments as a designer develops understanding

Another: “participants” instead “participate” in helping the designer develop understanding

“Participant” is the more common term in HCI - but also it’s a mindset that matters



What is Contextual Inquiry?

A design-oriented, ethnographically inspired technique for finding out what users currently do and problems they encounter.



The core premise of Contextual Inquiry is very simple: go where the customer works, observe the customer as he or she works, and talk to the customer about the work. Do that, and you can't help but gain a better understanding of your customer.

Hugh Beyer and Karen Holtzblatt, “Contextual Design”

What is Contextual Inquiry?

In a nutshell:

You are observing/shadowing the participant as they go about their day/work, and asking probing questions about what you observe to get a deep understanding of their actions/thinking/challenges.

What is the relationship?

The “master/apprentice” relationship is at the heart of contextual inquiry

In a master/apprentice relationship:

- The master is doing stuff
- The master explains what they’re doing
- The apprentice asks clarification questions
- The master answers



Obviously, the participant is the master and you are the apprentice 😊

It's Not Quite Master/Apprentice

The goal is not to learn to do the task

Instead, the goal is to learn how the participant does the task in order to learn how to support it

And for the researcher to enlist the participant's active assistance in understanding the task

Principles of Contextual Inquiry

Context

- Must be done in the setting of the participant.

Focus

- Themes that emerge during the inquiry. You cannot pay attention to all facets of someone's work at all times.

Partnership

- Master/apprentice model; investigator is humble.

Interpretation

- Observed facts must be regarded for their design implications. Raw facts without interpretation are not very useful.

Do it in the context of the task

Go to the workplace & see the work as it unfolds

Ask participants to think aloud

People summarize, but we want specific details

Keep it concrete when people start to abstract

“Do you have one? May I see it?”



Choose a Focus

Focus defines the point of view

- Clear focus steers the conversation
- Everyone in the team should have an entering focus

Focus lets the interviewer see more, reveals detail

Focus may conceal the unexpected

- Focus on one, and lose the other

Start with a focus and then expand



Choose a Focus

Nods

- Question assumptions even if they match
“Do they really do that? Why would they do that?”

What you don't know

- Treat the enquiry as an opportunity to learn new stuff
- Even if the participant is not knowledgeable, the extent of their knowledge / misinformation will be useful

Choose a Focus

Surprises, contradictions, idiosyncrasies

- Nothing any person does is for no reason

“Take the attitude that nothing any person does is done for no reason; if you think it’s for no reason, you don’t yet understand the point of view from which it makes sense.

Take the attitude that nothing any person does is unique to them, it always represents an important class of customers whose needs will not be met if you don’t figure out what’s going on.”

(p. 63, Contextual Design)

Establish a Partnership

Designer should create a partnership

Alternate between watching and probing

Questions lead to withdrawal and return

- Designer observes action that indicates something meaningful

- The designer asks about the action, and the pair withdraw from the task

- They discuss the question

- Then they return to the task

Interviewer: *Could I see that again?*

Customer: *What?*

I: *What you just did with the box.*

C: *Oh, I'm just using it to position this text here. The box doesn't matter.*

I: *But why are you using a box?*

C: *See, I want the white space to be exactly the same height as a line of text. So I draw the box to get the height. (He repeats the actions to illustrate, going more slowly.) Then I drag it down, and it shows where the next line of text should go.*

I: *Why do you want to get the spacing exact?*

C: *It's to make the appearance of the page more even. You want all the lines to have some regular relationship to the other things on the page.*

Keep it as a partnership

Avoid Other Relationship Models

Interviewer / Interviewee

- You aren't there to get a list of questions answered

Expert / Novice

- You aren't there to answer questions

Guest / Host

- Move closer, ask questions, be nosy, fill in holes

Do interpretation as you go

Chain of Reasoning

- Fact, Hypothesis, Implication for Design, Design Idea

Design is built upon interpretation of facts

- **So interpretation had better be right**

Share interpretations with users to validate

- Teaches participant to see structure in the work

Do interpretation as you go

Instead of asking open ended questions...

- “Do you have a strategy to start the day?”
- “Not particularly.”

... give participants a starting point

- “Do you check urgent messages first, no matter where they are from?”
- “Actually, things from my boss are the most important, because they are for me to do. Messages or emails may be for anybody.”

Participants fine-tune interpretations

- Probe contradictions, don't make assumptions

We once asked a secretary how she started her day. Her answer was, "I guess I just come in and check my messages and get started." She wasn't able to go beyond this brief summary overview. It was the first thing in the morning and she had just arrived at the office, so we asked her to go ahead and do as she would any other morning. She unhesitatingly started her morning routine, telling us about it as she went: "First I hang up my coat, then I start my computer. Actually, even before that I'll see if my boss has left something on my chair. If he has, that's first priority. While the computer's coming up, I check the answering machine for urgent messages. There aren't any. Then I look to see if there's a fax that has to be handled right away. Nope, none today. If there were, I'd take it right in and put it on the desk of whoever was responsible. Then I go in the back room and start coffee. Now I'll check the counters on the copier and postage meter. I'm only doing that because today's the first of the month. . . ."

Interpretation is nuanced

Non-verbal cues can confirm or negate

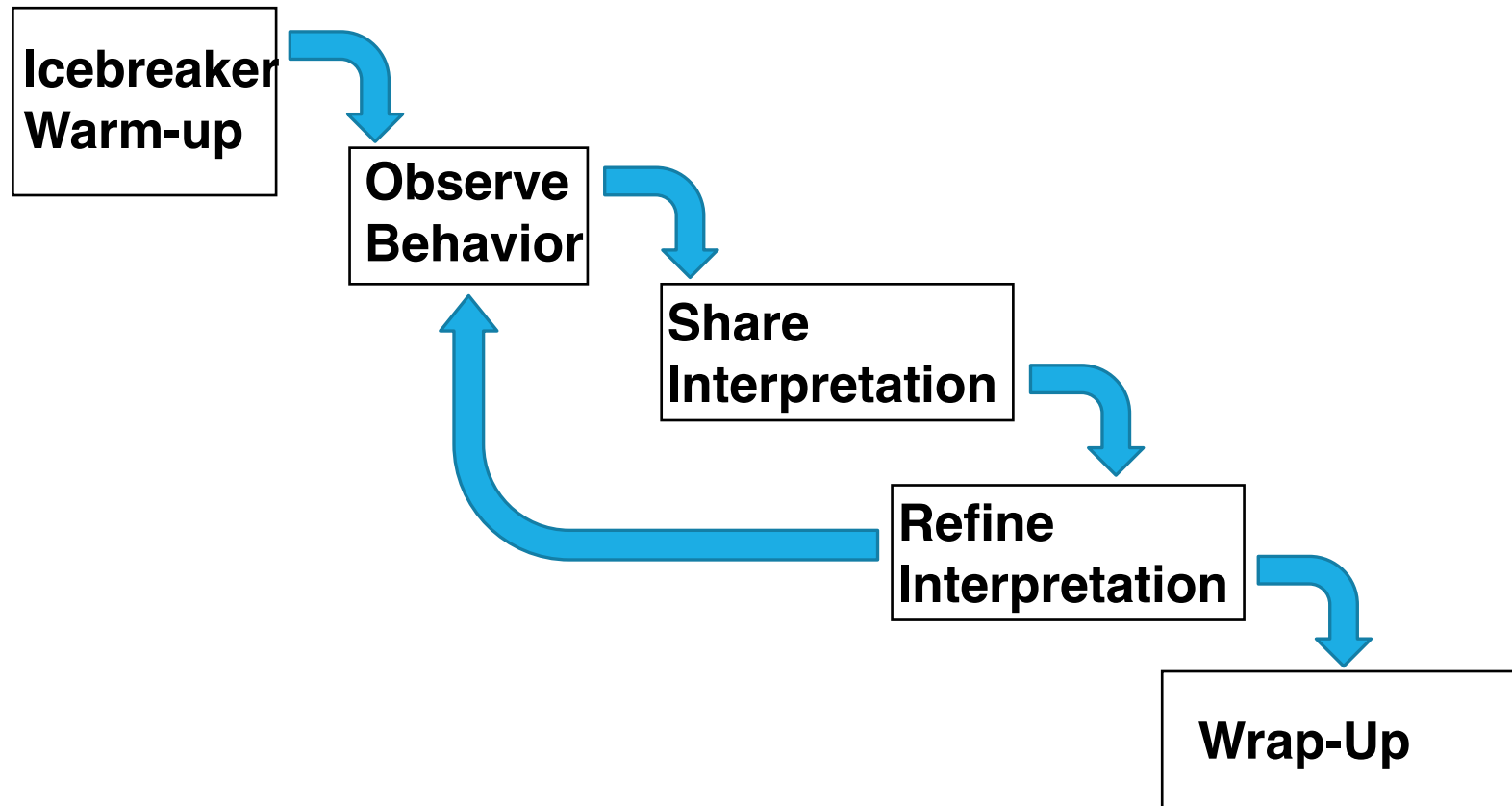
Yes and Nos

- “Huh?” - way off
- “Umm, could be” - usually means no
- “Yes, but...” or “Yes, and”

Commit to hearing what people actually say

- Most have not ever had people actually pay careful attention to what they are doing

Stages of Contextual Inquiry



Data Collection

Collect data as you do the contextual enquiry

- Plan a focus and some questions so you don't lose your way.

Audio record (or video record) if possible/appropriate

Take notes

- Write down observations
- Write down answers to questions
- Write down weird or strange findings

Take pictures

- Photos
- Sketches

Data Analysis

Start analysis ASAP after data gathering
Still fresh in your mind

Contextual inquiry yields a lot of deep, rich qualitative data
Not a quantitative method
Does not reduce to a statistical test

Usually done with a small number of participants (e.g., 3-5)
Time and resource intensive
May need to use other methods to confirm widespread issues

Data Analysis

We will cover qualitative data analysis next lecture.

High-level: Go through the data to distill themes/categories

- Themes that help to understand the workflow
- Highlight gaps in understanding
- Identify tensions, conflicting goals or priorities
- Identify challenges, breakdowns, and workarounds
- Identify opportunities for change / new design to help
- Summarize data into high-level takeaways and design ideas

How To Mess It Up

Be sure you explain “the rules” of how you’ll be interacting

- If this isn’t clear, may devolve into a traditional interview (since this relationship is more familiar to people)
- **If you could have done it in a coffee shop, then you didn’t do a contextual inquiry**

Slipping into abstraction

- Keep it concrete, in the work, in the details

Not being inquisitive or nosy enough

- If you have the impulse to ask, do it right away

Overly disrupting the task

- Don’t ask so many questions that participants stop doing their tasks

Summary: Contextual Enquiry

A design-oriented, ethnographically-inspired technique for finding out what participants currently do and problems they encounter.

A qualitative method. Yields rich, qualitative data.

Designer gains a deep understanding of the participant's work/tasks/problems.

Usually done with a small number of participants.

Can be challenging to do. Time and resource intensive.

Let's practice!

Find a partner you don't know well!!!

Choose who will go first. That person chooses a task that satisfies the following:

- They actually have to do the task
- They would actually do the task on campus on the device they're using

Examples: a homework assignment, a chore, online shopping, etc.

The other person conducts a contextual inquiry on their task:

- **Focus**. Decide what to pay attention to.
- **Partnership**. You act as an interested learner, they act like a knowledgeable expert.
- Perform the inquiry. Ask **probing** questions. Have them teach you. Don't generate questions in advance; think of them as you observe. Focus questions on what you see happening in context.
- Record photos, notes, and any other raw data.

Now swap roles and repeat.