

Maya Cakmak, Matt Kay, Brad Jacobson, King Xia

INFORMING DESIGN

CONTEXTUAL INQUIRY



University of
Washington

human-computer interaction
CSE 440 WINTER 2015

JAN 16 - WEEK 2 - THURSDAY

CSE 440 project checklist

Find a problem

...

CSE 440 project checklist

Find a problem

...

what's next?

“Getting the right design”

Data gathering/design discovery

goal: gathering data to inform design

Data gathering/design discovery

- Thinking is not doing
- Context has most of the information
- **The user is not you!**

Data gathering/design discovery

- Thinking is not doing
- Context has most of the information
- **The user is not you!**
 - different experiences
 - different terminology
 - different ways of looking at the world

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

Interviews
Questionnaires

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

Interviews
Questionnaires

Ethnography
Passive
observation
Think-aloud

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe themselves

Interviews
Questionnaires

Ethnography
Passive
observation
Think-aloud

Experience
sampling
Diaries/logs

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe themselves

Interviews
Questionnaires

Ethnography
Passive
observation
Think-aloud

Experience
sampling
Diaries/logs

Contextual inquiry

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

Interviews
Questionnaires

Interviews



not this



not this



this!

- Unstructured
- Semi-Structured
- Structured

Interviews

- Dos:
 - Plan ahead & pilot
 - Start with easy non-threatening questions
 - Be flexible, but know when to direct
 - Be appropriate for the audience (age, jargon, etc.)
- Don'ts:
 - Long or compound questions
 - Leading questions

Focus groups & group interviews

Focus groups & group interviews



- **Focus groups:** one demographic (e.g., mothers)



- **Group interview:** may be multiple related demographics (e.g., all members of family)

Focus groups & group interviews



- **Focus groups:** one demographic (e.g., mothers)



- **Group interview:** may be multiple related demographics (e.g., all members of family)

- People to **build on each other's ideas**
- **Moderate** to ensure participation from all

Questionnaires/Surveys

- Clearly worded questions
- Don't expect the user to write a lot
- Can be online or on paper
 - SurveyMonkey and Google Forms
- Try to find an existing, validated survey
- Tricky with children

Questionnaires/Surveys

- Specify clear instructions for each question
- Time lengths, often expressed as ranges
- Scales
 - Odd or even items
 - Number of items on the scale
 - Likert: measures opinion (e.g., strongly agree)
 - Semantic differential scale: choose between two extremes (e.g., boring vs. fun)

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

*Caveat:
Thinking is
not doing!*

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe themselves

Ethnography
Passive
observation
Think-aloud

Ethnography

- Immerse in the culture that you study
- Requires the knowledge and cooperation of the observed
- Collections of notes, comments, transcripts, incidents, sketches, videos, images, and artifacts



Passive observation



How do children communicate with distant parents?
Lana Yarosh, Georgia Tech

Passive observation

- Know what you're looking for
- Field or Lab?
- Take notes, sketches, pictures
- Record video if possible
- Consider taking structured notes

Time	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
0:00					
0:15					
0:30					
0:45					
1:00					
1:15					
1:30					
1:45					

Think aloud

- Ask the participant to narrate what they are doing and thinking
- Ask two participants to work together on a task, while narrating what they're doing

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

*Caveat:
“I am being
watched”*

Data gathering/design discovery

get information from the user

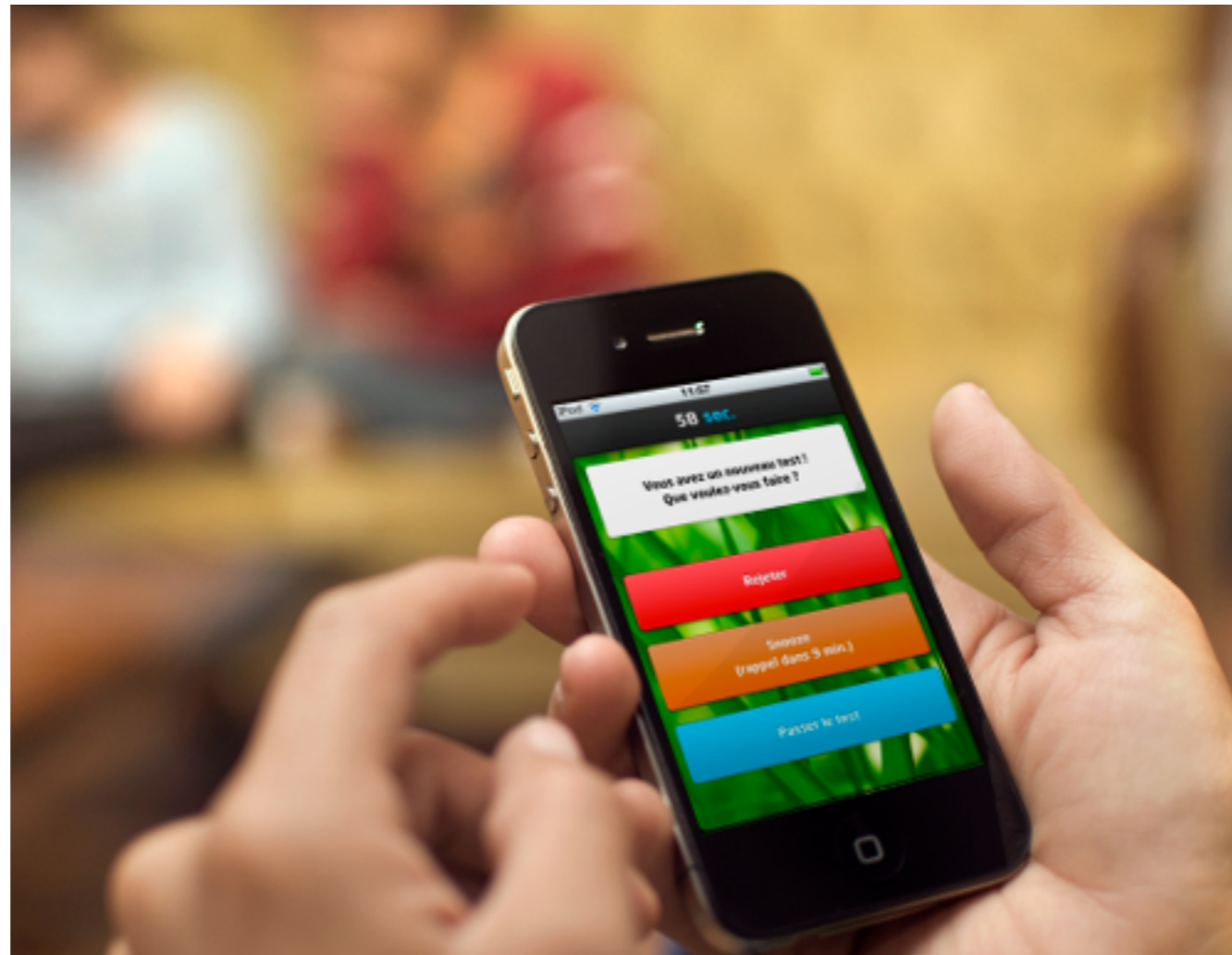
ask them

observe them

make them observe themselves

*Experience
sampling
Diaries/logs*

Experience sampling



Diaries/logs

When we talked:	How we talked:	What we talked about:
Morning Day Evening	Phone Computer Another Way	About School About a Trip or Visit About Art or Music About Sports Saying "Goodnight" Told Jokes or Laughed About a Book About How I Feel About a TV Show or Movie Saying "I Love You" Something Else
How I felt afterwards:		
Okay Happy Sad Angry Something Else		

Need							
Mon	Tue	Wed	Thu	Fri	Sat	Sun	
12am - 3am	3am - 6am	6am - 9am	9am - 12pm	12pm - 3pm	3pm - 6pm	6pm - 9pm	9pm - 12am
You needed: <input checked="" type="checkbox"/> Info. <input checked="" type="checkbox"/> Assist. <input type="checkbox"/> Other What did you need? <u>to know if stroller could be used on Don Valley Trail</u>							
Why did you need it? <u>wanted to take baby for walk in trail but it must be ice-free</u>							
Where were you? <u>at home</u>							
What were you doing? <u>planning outing</u>							
When did you need it? <u>5-10mins</u>							
What I needed was very important.							
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree			

Data gathering/design discovery

get information from the user

ask them

observe them

make them observe
themselves

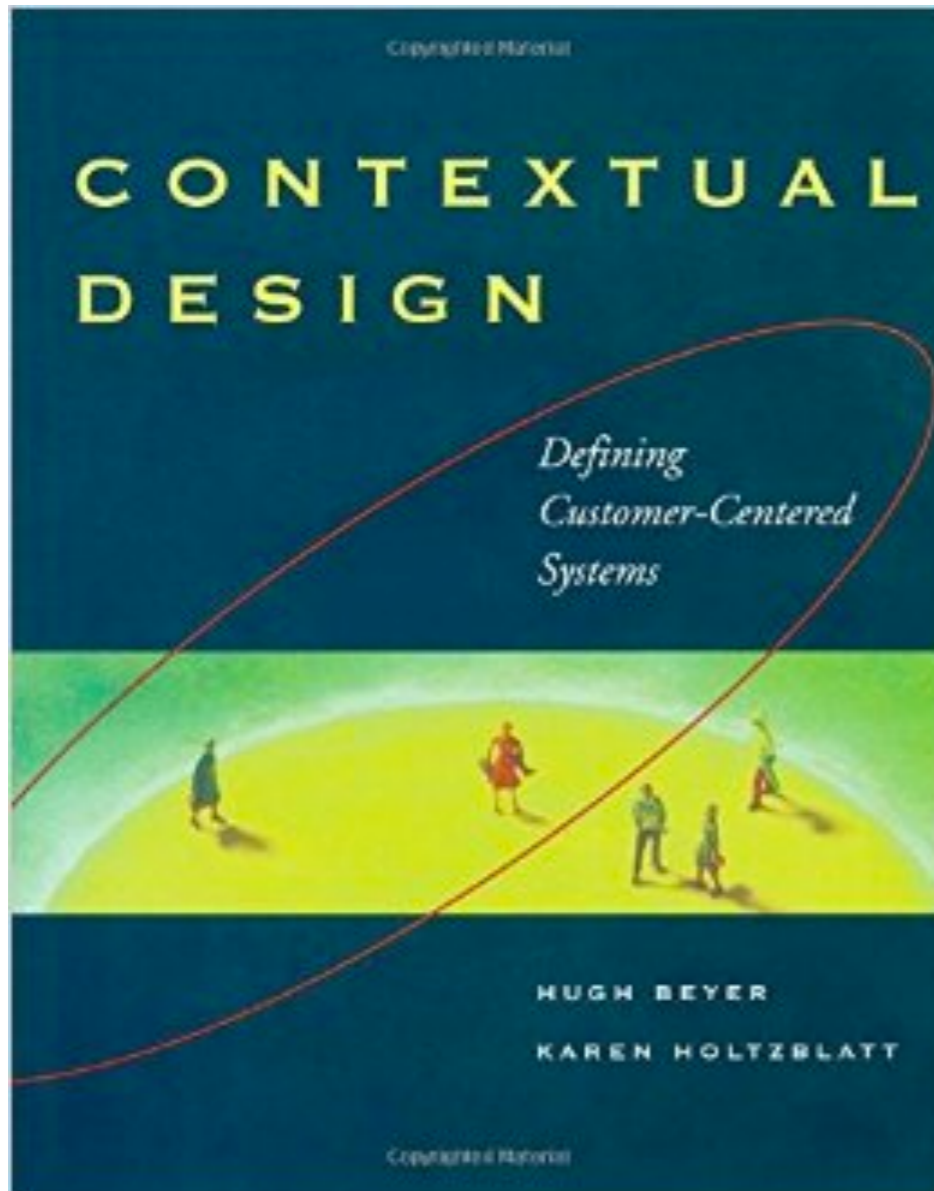
Contextual inquiry

go where the user performs the task

observe the user perform the task

talk to the user **in context**

Contextual inquiry



“Do that and you can’t help but gain a better understanding of your customer.”

Contextual inquiry

- Context
- Partnership
- Interpretation
- Focus

Context

- Go to the workplace & see the work as it unfolds
 - people summarize, we want details
 - people abstract, we want concrete

watch out: “generally”, “usually”, “in our company”, “In our group we do ..” (present tense)

Partnership

- 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
- Avoid these relationships
 - Interviewee/interviewer
 - Expert/novice(design)
 - Guest/host

Interpretation

- Facts are only the starting point, design based on interpretation
- Share interpretations to check your reasoning
 - Yes will be a clear yes
 - No might be subtle (“Huh?”, “Umm...”, “Yes, but...”)

Focus

- “steer” conversation to stay on useful topics
 - respect triggers (flags to change focus)
- surprises
 - don’t ignore them
- nods
 - instead, take the attitude that everything is new
- ignorance
 - admit it

commit to **challenging** your assumptions,
not validating them



commit to **challenging** your assumptions,
not validating them

*be like aliens
observing earth*



CI Process

- Conventional interview, small talk, break the ice
 - Let them know your goals
 - Get to know them
- The transition
 - Tell them the new rules
- Contextual interview proper
 - Observe-interpret-probe in a loop
- Feed back comprehensive interpretation

How to screw it up

- 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
 - Questions are great, but do not ask so many so fast that the participant stops doing their task
- Turning it into a regular interview
 - Did you really leverage the context? Coffee shop vs. context, any difference?

Design ideas

- Should you tell the user during contextual inquiry?

YES: What better place to get feedback?

NO: Do not bias their thinking

Advise from Matt/King/Brad

- Concreteness:
 - Can you please show me?
 - Can you walk me through the last time you did it?
- Pen-paper versus laptop
 - Laptop: they can't tell what you're doing, less personal
- Recording: useful
- How many people should do the CI: **2**

Assignment 2

- Getting the design right
- From the CI:
 - Common themes, problems, and practices
 - Tasks, personas, scenarios, initial designs

Assignment 2b

- Who are your users?
- Who are your participants, how will you recruit them?
- Where will you observe their current practices?

Assignment 2c

- Who was your first participant?
- Where did you conduct the CI?
- What did you learn?
- What tasks, problems, or opportunities did you uncover?
- Difficulties?
- What to do differently with the other participants?

get started now!