INFORMING DESIGN
CONTEXTUAL INQUIRY

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

Interviews
Questionnaires

observe them

Ethnography
Passive observation
Think-aloud

make them observe themselves

Experience sampling
Diaries/logs
Data gathering/design discovery

get information from the user

- ask them
  - Interviews
  - Questionnaires

- observe them
  - Ethnography
  - Passive observation
  - Think-aloud

- make them observe themselves
  - Experience sampling
  - Diaries/logs

Contextual inquiry
Data gathering/design discovery

**get information from the user**

- ask them
- observe them
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Data gathering/design discovery

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Interviews
Questionnaires
Interviews

• Unstructured
• Semi-Structured
• Structured

not this  not this  this!
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

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ask them

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make them observe themselves

Caveat:
Thinking is not doing!
Data gathering/design discovery

get information from the user

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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
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
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!