



HCI: The Sutras of Contextual Inquiry

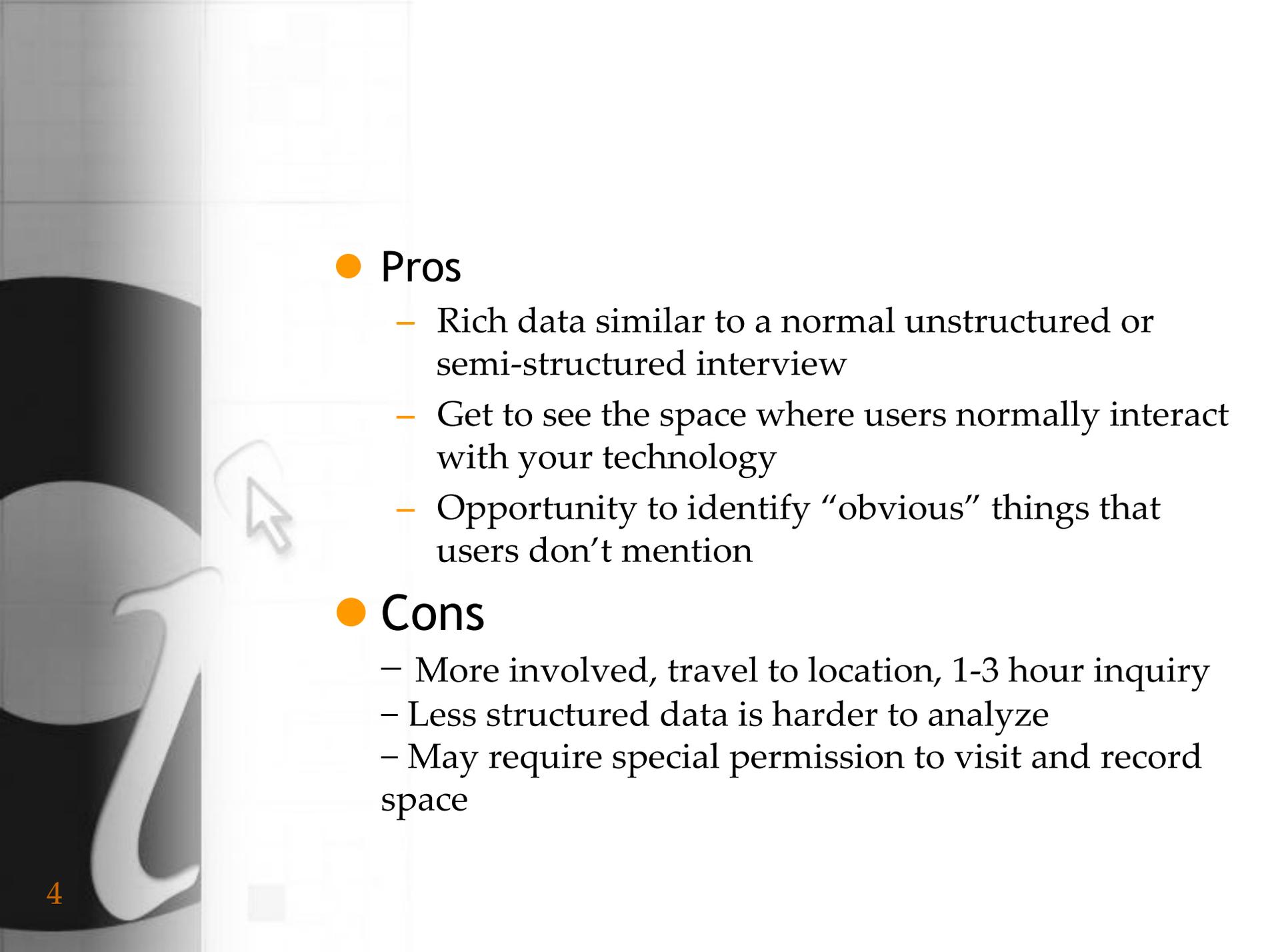
Following the steps of
Anirudha Joshi (IIM)



- You want to design a WiFi infrastructure for the students in CECOS. How you are starting inquiring about the users experiences?

Contextual Inquiry

- Similar to an interview, but done in the “**context**” where the participant is likely to **interact** with the technology.
- Greater partnership with the participant, working together to figure out how a workflow actually happens.



● Pros

- Rich data similar to a normal unstructured or semi-structured interview
- Get to see the space where users normally interact with your technology
- Opportunity to identify “obvious” things that users don’t mention

● Cons

- More involved, travel to location, 1-3 hour inquiry
- Less structured data is harder to analyze
- May require special permission to visit and record space

Basic Principles

- Go where the user works
- Observe the user as he works
- Talk to the user about the work



Sutras of Contextual Inquiry

1. Master apprentice model

Master Apprentice Model

- When you are watching the work happen, pre-planned teaching is not required
 - *Master craftsman teaches on the fly*
- Master need not remember his work explicitly
 - *Seeing the work reveals what matters*
 - *Talking while doing the work reveals details*
 - *Being in the context of work reminds one of many tasks*

Master Apprentice Model...

- Seeing the work reveals structure
 - *Many instances and many interviews reveal the picture*
- Every current activity recalls past instances

A customer describing how she learned a feature told us, “I looked it up in the documentation.” But when we asked her to look it up again, she was able to show us: “I looked the function up in the index and scanned the section. I saw this icon in the margin that I recognized from the screen, so I read just this paragraph next to it. It told me all I needed to know.” The documentation provided the context she needed to recover a detailed story, and the detail revealed aspects that had been overlooked—that the icon was her visual cue to the relevant part of the page.

Sutras of Contextual Inquiry

1. Master apprentice model
 - *Learn from the master on the fly*
2. Context

Context

- Go where the work is to get the best data
- Gather *ongoing experience* rather than summary
- Gather *concrete data* rather than abstract data
- Span time by *retrospective accounts*

Context: *Retrospective Account*

- Span time by replaying past events in detail
 - *Tendency to skip details and give summary*

Context: *Retrospective A*

- Span time by
 - Tendency to s

Customer: *When I got this problem report I gave it to Word Processing to enter online—*

(Why did she decide to give it to Word Processing? Did she do anything first?)

Interviewer: *So you just handed it on automatically as soon as you got it?*

C: *No, it was high priority, so I read it and decided to send a copy to the Claims department.*

(How did she decide it was high priority? Is it her decision?)

I: *How did you know it was high priority?*

C: *It has this green sticker on it.*

(Someone else made the decision before the report ever got here. Who and when?)

I: *Who put on the green sticker?*

C: *That's put on by the reporting agency. They make the decision about whether it's high priority and mark the report.*

(We can better pursue how the reporting agency makes the decision with them; we'll only get secondhand information from this user. Instead of trying to go further backward, look for the next missing step forward: doesn't Claims get a more personal communication than just the report?)

I: *Did you just send it on to Claims, or did you write them a note about why they needed to see it?*

C: *Oh, I always call Claims whenever I send them one of these reports.*

Sutras of Contextual Inquiry

1. Master apprentice model
 - *Learn from the master on the fly*
2. Context
 - *Ongoing work, Concrete, Retrospective account*
3. Partnership

Partnership

- Traditionally, interviewer has too much power
 - *You don't know what will turn out to matter*
- Apprenticeship model tilts power back to the user
- Interviewer should create a partnership, not just an apprenticeship
 - *Alternate between watching and probing, withdrawal and return*

Partnership

- Traditionally, power
 - *You don't know*
- Apprenticeship of the user
- Interviewer should not just an apprentice
 - *Alternate between asking and return*
- (CD 52)

John Kellerman
Attorney at Law

In one interview with a user of page layout software, the user was positioning text on the page, entering the text and moving it around. Then he created a box around a line of text, moved it down until the top of the box butted the bottom of the line of text, and moved another line of text up until it butted the bottom of the box. Then he deleted the box.

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.*

Partnership: *Avoiding Other Relationship Models*

- **Interviewer / Interviewee**

- *You ask a question, customer answers and falls silent, so you ask the next question*
- *You aren't there to get a list of questions answered*
- *Return to ongoing work*

Partnership: *Avoiding Other Relationship Models...*

- Interviewer / Interviewee
- Expert / Novice
 - *You aren't there to answer questions. If you developed the system in use, this is a temptation*
 - *Help only if the user is stuck and you can't observe work*
 - *Get back to CI asap*

Partnership: *Avoiding Other Relationship Models...*

- Interviewer / Interviewee
- Expert / Novice
- Guest / Host
 - *Move closer, ask questions, be nosy*
 - *It's a goal to be nosy*

Partnership

- Let the user shape your understanding of the work
 - *Leads to truly user-centered design*
- Partnership creates a sense of shared quest

Sutras of Contextual Inquiry

1. Master apprentice model

- *Learn from the master on the fly*

2. Context

- *Ongoing work, Concrete, Retrospective account*

3. Partnership

- *Withdrawal and return, Avoid other relationships*

4. Interpretation

Interpretation

- Interpretation is assignment of meaning to observation
- Good facts are only starting points
 - *Designs are built on interpretation of facts*

Interpretation

- Interpretation is assignment of meaning to observation
- Good facts are only starting points
 - *Designs are built on interpretation of facts*
 - *“The watchman won’t let us in...”*



Interpretation...

- Share interpretations with users to validate
 - *Will not bias the data*
 - *Teaches the users to see structure in the work*

Interpretation...

- Instead of asking open ended questions...
 - *“Do you have a strategy to start the day?”*
 - *“Not particularly.”*
- ... give users a starting point
 - *“Do you check urgent messages first, no matter where they are from?”*
 - *“Actually, things from my boss are important, because they are for me to do. Messages or faxes may be for anybody.”*
- Users fine-tune interpretations
 - *Probe contradictions until assumptions fit*

Interpretation...

- Non-verbal clues confirm or negate interpretations
- Yes and Nos
 - “Huh?” – *way off*
 - “Umm, could be” – *usually means no*
 - “Yes, but...” or “Yes, and” – *depends*
- Commit to hearing what the user is actually saying
- People have not had others pay attention to what they are doing

Sutras of Contextual Inquiry

1. Master apprentice model
 - *Learn from the master on the fly*
2. Context
 - *Ongoing work, Concrete, Retrospective account*
3. Partnership
 - *Withdrawal and return, Avoid other relationships*
4. Interpretation
 - *Validate your chain of reasoning*
5. Focus

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
 - *Focus reveals detail*
- Focus conceals the unexpected
 - *Focus on one, and lose the other*
- Trick - start with a focus and then expand

Sutras of Contextual Inquiry

1. Master apprentice model
 - *Learn from the master on the fly*
2. Context
 - *Ongoing work, Concrete, Retrospective account*
3. Partnership
 - *Withdrawal and return, Avoid other relationships*
4. Interpretation
 - *Validate your chain of reasoning*
5. Focus
 - *Statement of user work, challenge entering assumptions*

The Contextual Interview Structure

- The Conventional Interview

- *Introduce the project and focus*
- *Promise confidentiality*
- *Get permission to tape*
- *Explain that the work is primary and you are here to learn*
- *Break ice – 3-4 factual questions*
 - Name, age, education, family, demographics*
- *Ask 1-2 open ended questions*
 - Opinions of tools, overview of the job*
- *Get summary data, not contextual data*

The Contextual Interview Structure...

● The Conventional Interview

- *Introduce the project and focus*
- *Promise confidentiality*
- *Get permission to tape*
- *Explain that the work is primary and you are here to learn*
- *Break ice – 3-4 factual questions*
 - Name, age, education, family, demographics*
- *Ask 1-2 open ended questions*
 - Opinions of tools, overview of the job*
- *Get summary data, not contextual data*
- *Give 5-15 minutes*

The Contextual Interview Structure...

- The Conventional Interview
- The Transition
 - *Explain the new rules of a contextual interview*
 - *User will do the work*
 - *You watch and ask questions*

The Contextual Interview Structure...

- The Conventional Interview
- The Transition
 - *Explain the new rules of a contextual interview*
 - *User will do the work*
 - *You watch and ask questions*

The Contextual Interview Structure...

- The Conventional Interview
- The Transition
- The Contextual Interview Proper
 - *Observe and probe ongoing work*
 - *Suggest and validate interpretations*
 - *Analyze artifacts*
 - *Elicit retrospective accounts*
 - *Keep the user concrete*
 - *Take copious notes*
 - *Be nosy, allow interruptions*
 - *Context, partnership, interpretation and focus*

The Contextual Interview Structure...

- The Conventional Interview
- The Transition
- The Contextual Interview Proper
 - *Observe and probe ongoing work*
 - *Suggest and validate interpretations*
 - *Analyze artifacts*
 - *Elicit retrospective accounts*
 - *Keep the user concrete*
 - *Take copious notes*
 - *Be nosy, allow interruptions*
 - *Context, partnership, interpretation and focus*
 - *Could take 10-90 minutes*

The Contextual Interview Structure...

- The Conventional Interview
- The Transition
- The Contextual Interview Proper
- The Wrap Up
 - *Summarize what you learnt from your notes*
 - *Feedback and comprehensive interpretation*

The Contextual Interview Structure...

- The Conventional Interview
- The Transition
- The Contextual Interview Proper
- The Wrap Up
 - *Summarize what you learnt from your notes*
 - *Feedback and comprehensive interpretation*
 - *5-15 min*

The Contextual Interview Structure...

- The conventional interview
 - (5-15 min)
- The transition
 - (30 s)
- The contextual interview proper
 - (10-90 min)
- The wrap up
 - (5-15 min)

Contextual Inquiry Summary

- *Running a successful interview is less about following specific rules than it is about being a certain kind of a person for the duration of the interview*
- *Let the four principles of Context, Partnership, Interpretation and Focus guide you to adapt the master / apprentice model*

Homework

- In the next few days

Thank You

1. Master apprentice model
 - *Learn from the master on the fly*
2. Context
 - *Ongoing work, Concrete, Retrospective account*
3. Partnership
 - *Withdrawal and return, Avoid other relationships*
4. Interpretation
 - *Validate your chain of reasoning*
5. Focus
 - *Statement of user work, challenge entering assumptions*
- Contextual inquiry structure
 - *Conventional interview, transition, CI, wrap up*