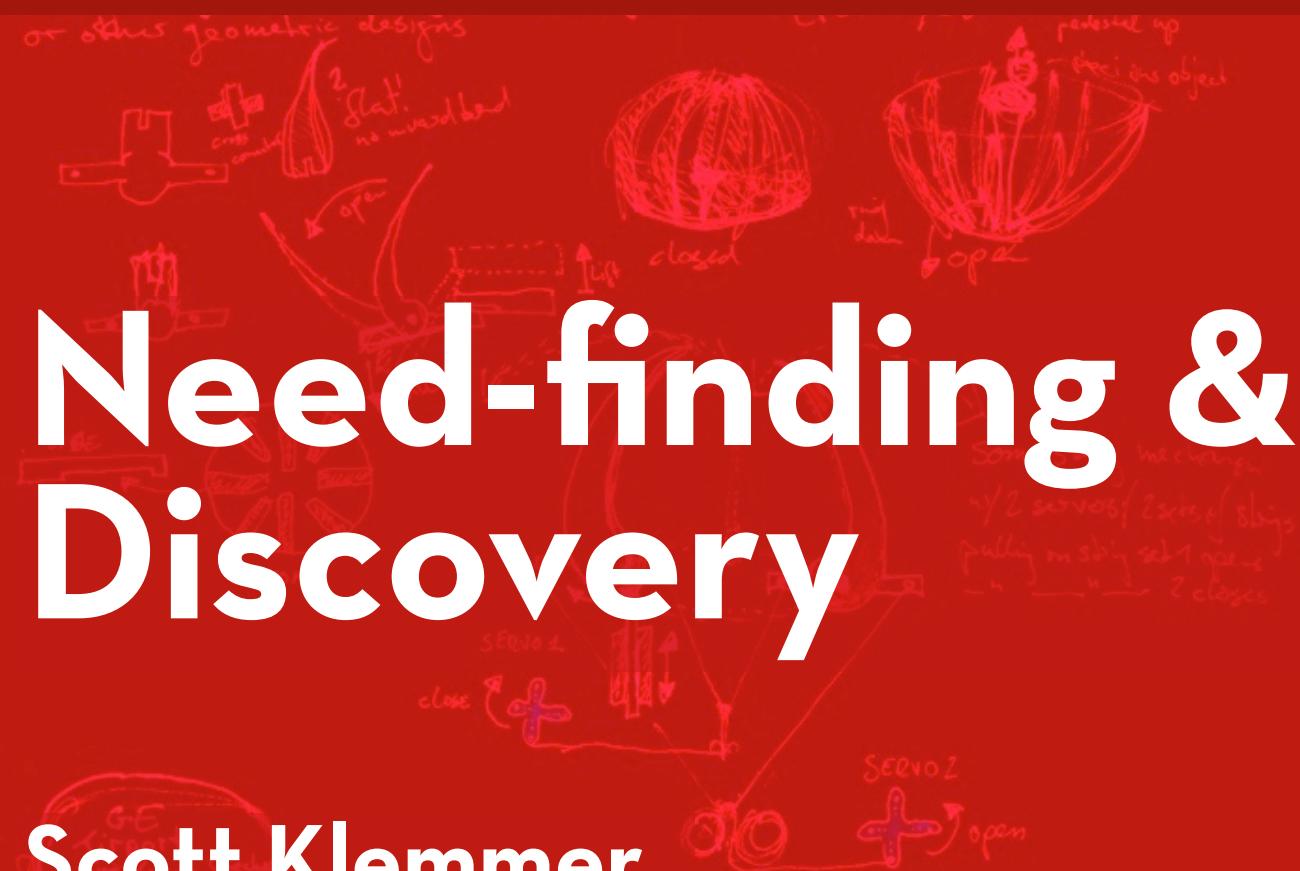


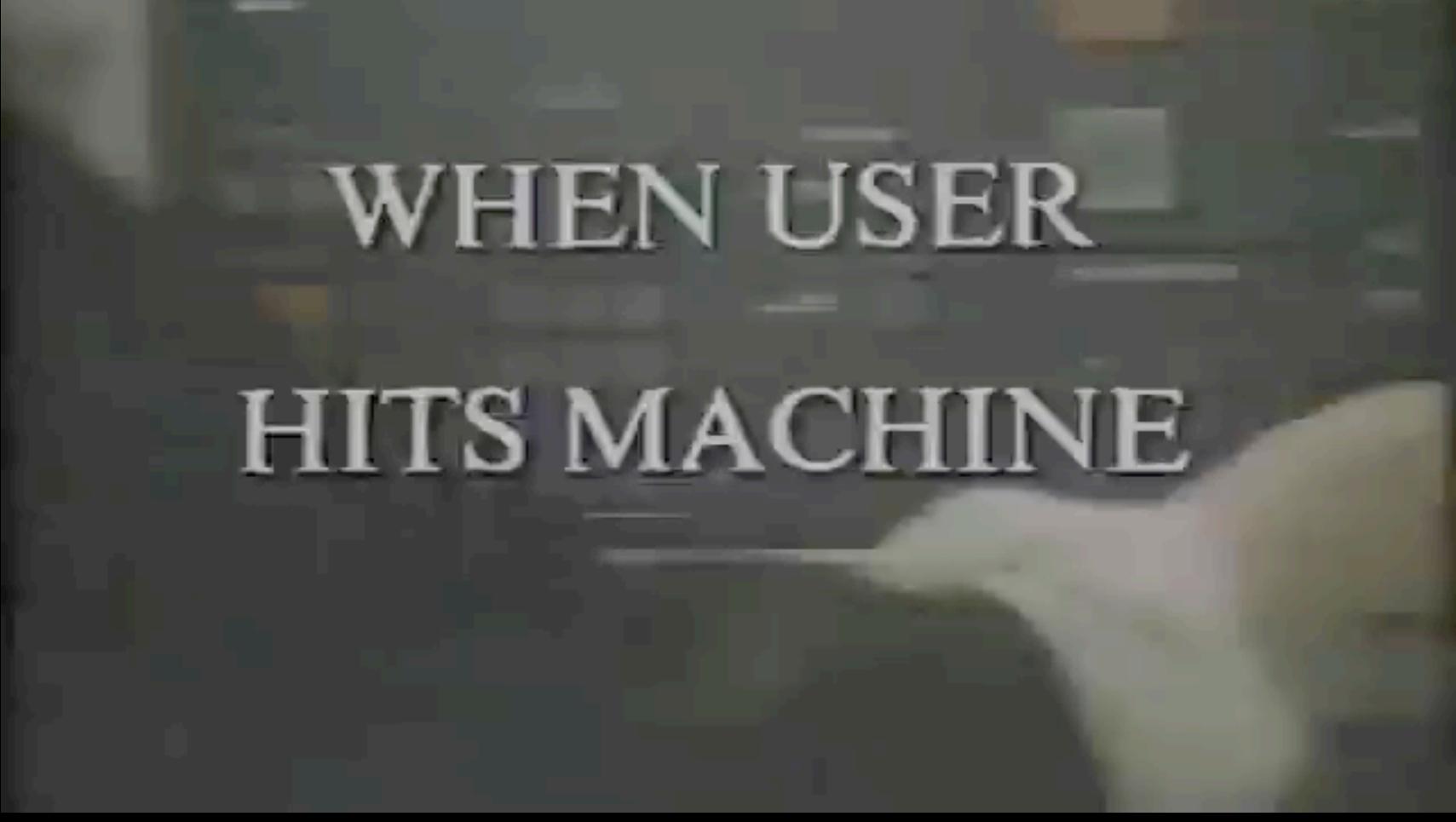
Need-finding & Discovery

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“You Can Learn a Lot
Just by Watching”
—Yogi Berra



WHEN USER
HITS MACHINE

LUCY SUCHMAN

My being star-
struck

Variety of observation techniques

- Contextual inquiry
- Ethnography
- Diary studies
- Prompted (pager) studies
- Cultural probes
- Task analysis

ETHNOGRAPHY

Writing about Culture

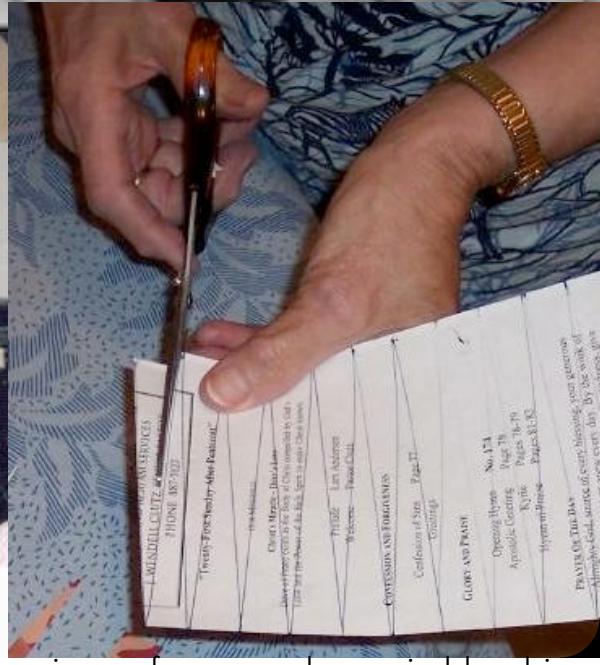
Began with “other” cultures, moved to our own

Bronislae Malinowski, from Wikipedia, “In 1914 he traveled to [Papua](#) (in what would later become [Papua New Guinea](#)), where he conducted fieldwork at Mailu and then, more famously, in the [Trobriand Islands](#). On his most famous trip to the area, he became stranded. The [First World War](#) had broken out, and, as a Pole from Austria-Hungary in a British controlled area, Australian authorities gave him two options, to be exiled to the Trobriand islands or face internment for the duration of the war. Malinowski chose the Trobriand islands. It was during this period that he conducted his fieldwork on [Kula](#) and advanced the practice of [participant observation](#), which remains the hallmark of ethnographic research today.”

Everyday

What sociologists do is not categorically different than what we do in everyday life; the only difference is that sociologists are more reflective about it
(in contrast with focus groups)
Natural, Holistic, Descriptive
Real place, with tools, and ecology

Tacit Knowledge



A collegiate basketball player shooting hoops; an architect at a drafting table; a crafter cutting pieces of paper and a musical band in concert- these are a few examples of the complex, actions people perform.

And in many cases, these physical action can be both faster and more nuanced than symbolic cognition.

One of the most powerful human capabilities is the intimate incorporation of an artifact into their practice to the point where people perceive that artifact as an extension of themselves: they act *through* it rather than *on* it

The crafter cuts the paper through the scissors; without focusing on his actions upon the handles of the scissors. The violin virtuoso expresses himself through the violin, not on the fingerboard and bow. The puppeteer feels the ground underneath his puppet's feet, not the controls in his hands.

Polanyi termed this incorporation tacit knowledge and it lies at the core of skillful action.

One technique: become an apprentice

- Set up a partnership with the people to be observed
- Be taught the steps in the process
- Observe all of the practices
- Validate what you are observing with those observed as you go along

Looking for workarounds & hacks

"I am not a fan of undirected, explorative ethnography. This is an excellent procedure for developing our scientific understanding of human behavior, but it is too diffuse for practical application. I prefer directed observation: search out the workarounds, hacks, and clever improvisations of everyday life. That's where the answers lie: someone else has already encountered the need, someone else has already hinted at a solution."
- from Don Norman's <http://jnd.org/dn.mss/workarounds - leading edge of innovation.html>

1. Set goals
2. Observe
3. Synthesize

Documenting Fieldwork

- Notes
- Camera
- Action

Discovery is the root of design

GOOD CHOICE COUNTS A LOT
ESPECIALLY AT THE BEGINNING OF THE PROJECT
Pick a good environment, and you'll have a good problem

The Discovery process yields ...

1. What users do now
2. What values do the users have
3. How the users activities are embedded in an overall “ecology”

Don't just observe process, observe the practice

Process

- Step one
- Step two
- Step three



Ask Why's?



Practice



- A thousand word picture

“That’s Obvious!”

The Importance of Being Curious

CS270
As opposed to “being vacant”

- “Does your employer or his representative resort to trickery in order to defraud you of your earnings?”

- “Is the daily update an important feature to you?”

How about “What are your thoughts about the daily update”
If this sounds a bit like psychoanalysis, well, ...

GOOD QUESTIONS

- Are open-ended
- Avoid Binary Questions
- Let Silence Happen

Erring in the Other Direction...

- “Tell me a story about yourself”

This rarely works, as most of us don't have an index
If it does yield a response, You'll just get something that's rehearsed

Plans are useless,
planning is invaluable

PAY ATTENTION TO ARTIFACTS

Say you were designing...

- A lecture support system
- Who would you interview?

Finding People...

Is Hard
& scary
Joel's going to Adobe MAX

What people can't tell you...

- Functional fixedness: People understand their world within a structure that imposes limitations. It's hard to see outside that structure.
- What they *would* do / like / want in hypothetical scenarios
- How often they do things
- The last time they did something
- How much they like things on an absolute scale

So, you cannot simply ask people what features they would like in a tool.

What people can tell you...

- What they “generally” do
- How they do it
- Their opinions about their current activities
- Their complaints about their current activities
- How much they like one thing compared with another

Creating an interview protocol

- Figure out who to interview
- Structuring the interview
 - Start with demographics, overall goals, high-level tasks, company policies, etc.
 - Move on to more open-ended questions (have them walk you through a task/day, what works well, what doesn't?)
 - Cycle back to more detailed questions

Interviewing tips

- Introduce yourself, explain your purpose
- The interview is about them, not you!
- Ask open, unbiased questions
- Ask the question and let them answer
- Follow up
 - Adjust your questions to their previous answers
 - Ask questions in language they (use) understand
 - Pick up on and ask for examples
- Be flexible

Who's doing all the talking

- Strive for about 20% (or less!)

Recording the interview

- Interview in pairs
 - One person interviews, the other takes notes & listens
- Audiotaping
 - Accurate record of the interview
 - Great for mining lots of information per interview -- your notes will never be as complete
 - Helpful if impressions change as you interview others
 - Tedious to review later (but well worth it)
 - Helpful for presentations - makes the people real
 - Get permission in advance - be aware of security issues

Recording the interview

- Videotaping
 - Same advantages and disadvantages as audiotape
 - Even better for communicating findings to others
 - May be harder to get permission
 - More issues of confidentiality
 - May make people less willing to divulge sensitive information
 - If you can't videotape, take snapshots

Where should you interview?

- In their setting (i.e. their office, home, car, etc.)
 - Gives you much better insight into their activities
 - Gives you a chance to see their environment
 - Allows them to show you rather than tell you
- If not possible to interview in their setting, ask for a tour before or after

Before you go...

- Take a trial run with colleagues or friends
 - Gives you practice interviewing
 - Irons out problems with the questionnaire, redundancies, inconsistencies

After the Interviews

- Keep photos and other concrete details around
- Concrete people help tie all design to use, rather than debating things on an abstract plane

Eye to future: txt 4 l8r

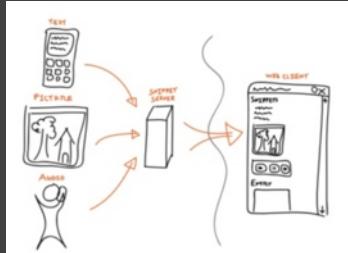


figure 1. The system diagram for our implementation of the snippet technique.



figure 2. Example of a typical paper-based *in situ* entry recorded in the notebook provided to participants.



Mom appt?

IM tivo

Pdra 4 wrk

figure 6. Examples of text and picture snippets recorded by study participants.

Source: Joel Brandt, Noah Weiss, and Scott R. Klemmer. txt 4 l8r: Lowering the Burden for Diary Studies Under Mobile Conditions. Work-in-progress, ACM Conference on Human Factors in Computing Systems (CHI), San Jose, California, 2007

Questions