

Etnografia

Ingrid Teixeira Monteiro
QPC0016 – Interação Humano-Computador



UNIVERSIDADE
FEDERAL DO CEARÁ

Challenge: Research in Unfamiliar Places

- How do you design a tool for use in situations that are completely new to you?
- Build an information systems for intensive care units ...
 - But you're not a health-care professional
- ... in a foreign country
 - That you've never been to



Lack of familiarity presents a challenge

- You don't know the work
 - How do people communicate?
 - What information do they need?
 - Who's in charge?
- You don't know the culture
 - Broader societal/social context
- You don't know the language
 - Idioms and subtexts



Shortcomings of other approaches

- Surveys, interviews require some idea of
 - what you're trying to learn
 - which questions to ask
 - How to ask them
- Results may be hard to interpret
 - Another disadvantage of not knowing the culture



In-depth, In context observation

- Go to site
- Work closely with someone who can show you around
- Ask questions for basic understanding
- Observe workers in action, talk with some in detail
 - “Shadow” – follow them around as they work
- Build understanding



In-depth, In context observation

- Build models of work
- Refine in discussion with users
- Build requirements and elements of design
- Refine with users
- Travel to another hospital to determine whether or not findings generalize



Ethnography

- Combination of multiple forms of data collection
 - Observations
 - interviews
- Participation is key
- Deep immersion to develop deep understanding
- Richer and more detailed than other methods, but ..
- Expensive and challenging



Ethnography: Background

- “The art and science of describing a human group – its institutions, interpersonal behaviors, material productions, and beliefs” (Angrosino, 2007)
- Roots in anthropological studies of non-Western cultures
 - Limited interactions and interviews insufficient
 - Step out of role of scientific observer, engage directly with people in daily lives
 - Years living in traditional villages



Conceptual Basis for Ethnography

- True understanding of complex human practices requires in-depth, engaged study
- “to gain an understanding of a world that you know little about, you must encounter it firsthand” (Blomberg and Burrell, 2007, p. 967).
- Participation is key



Ethnography vs. Hypothesis-driven Research

- Ethnography is inductive
 - Data -> Patterns -> Theories
- Not hypothesis driven
- No controls – every study is unique
- Similar to case studies
 - Multiple sources of data, triangulation



Ethnography vs. Case Studies

- Similarities
 - Multiple sources of data
 - Triangulation
 - Time-intensive
 - Personal
 - In-context
- Difference
 - Ethnography is generally not theory-driven
 - (but this is a topic of debate)



Ethnography as Fluid Research

- Deep engagement with subjects
 - More so than with case studies
- Data collection “in the movement”
 - Ordinary conversations and events can become data collection opportunities



How does this relate to HCI?

- HCI researchers rarely, if ever, spend long periods of time living in traditional villages
- But, we do build technologies for communication and collaboration in complex environments with deep cultures
 - Workplaces, hospitals, schools, homes
- Need to develop deep understanding of how participants work and communicate



Ethnography in HCI

- Suchman (1987) did some of the earlier work on ethnography in HCI
 - She observed users attempting to complete a photocopying task with the help of an expert system designed to help them identify problems and complete tasks correctly.
- Situated action—all action is a product of the context from which it is taken
- The human, social and organizational aspects of information systems development are the ones most critical to ensuring the success of a project
- But ethnography doesn't need to just be focused on building systems—ethnography is focused on understanding the context!



Generalization? No.

- Many research methods focus on reducing research to understand portions of it, with the hope of being able to generalize
- Ethnography is the opposite—understanding a context of individuals in groups, their processes and norms, at a specific point in time, without even hoping to generalize



Example: Communication and Multitasking (Su and Mark, 2008)

- “Shadow” 19 workers at a large US corporation
- Note all activities at desk
- Follow them around
- 550 hours of data, 13,000 events
- Analyze and code to understand who workers talk to, how they switch tasks
- Find: coordinating with multiple people is stressful and difficult
- Systems might be designed to reduce overhead



Participatory Design

- Participatory design (PD) is the process of using ethnographic approaches with the end goal of building an information system
- PD- participation of users at all stages of design: requirements, prototyping, and eventual system design, used when:
 - User tasks are not well-understood
 - Users themselves are not well-understood (often people with impairments)
 - High-risk life-critical information systems



Conducting ethnographic research

- Working “in the wild”
 - Homes, workplaces, schools, etc.
- Extended time periods
- Juggle goals
 - Understanding how to navigate unfamiliar world
 - Collecting data
- Is this for you?
- Be sensitive to background and bias



Selecting a site or group?

- There may be no alternative – if you are building a system for a specific customer
- Do you want to find a “representative” situation? Or an extreme one?
 - But all ethnographies are different
- Convenience is often a consideration
- Preliminary interactions to evaluate suitability of site and build trust
- Consider impact on subjects
 - Benefits should outweigh the costs



Barriers to your involvement

- Are there privacy laws that limit access?
 - Hospitals and patient data
 - Schools and pupil performance data
 - Financial information
 - Military information
- You may need to undergo background and security checks, fingerprinting, or sexual harassment training
- You may need to sign confidentiality or other legal agreements



Choosing a role in ethnography

- What does “participate” mean?
 - Complete participant – hides role as researcher
 - Very challenging
 - Rare in HCI work
- Participant-Observer
- Observer-Participant
- Complete Observer



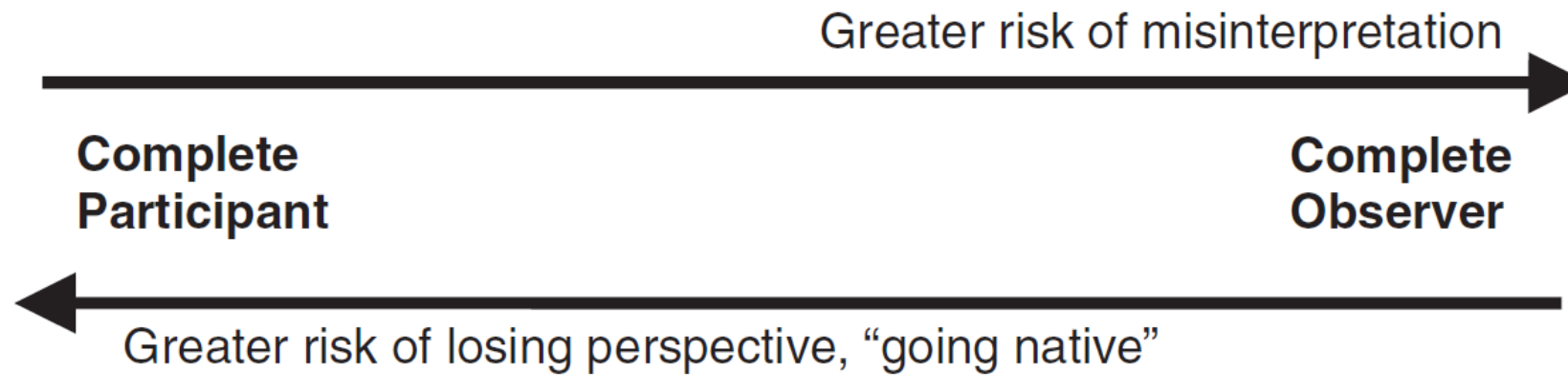
Is observation like usability testing?

- Usability testing (chap. 10) uses primarily observation, not participation, in finding and fixing flaws in a specific interface
- Usability testing is short-term, focuses only on a few individuals, and does NOT focus on groups, context, or human dynamics
- Ethnography=understanding people, context, organizations, and problems
- Usability testing=evaluating diff. solutions



Tradeoffs in Choice of roles

- Fidelity of data vs. risk of losing perspective
 - “going native”



Working with a group you know

- Should you do an ethnography of a group that you are already a member of?
- You would already have access, relationships, trust, and knowledge
- BUT, you may already have pre-informed opinions, biases, and existing relationships that would limit your ability to be neutral and truly understand
- The reality is your membership in a group may lead to interesting research opportunities



Building Relationships

- Successful research will require trust of the group
- Group members may vary in interest and enthusiasm
 - Workplace studies – users may fear for their jobs
- Work to show that you can be trusted
 - Be helpful
 - Explain research
 - Respect needs and goals of group members



Making Contact

- Start with a small number of well-chosen group members, who can introduce you to others
- Beware of *stranger-handlers* and *deviants*
 - They may mislead you
- Good initial contacts are well liked, respected, observant
- Don't be too closely-tied to any individuals
 - May bias your observations and complicate communications with others
 - It's like you have already "taken sides"



Interacting with Group Members

- Informants are likely to give you the story as they see it—it's “their truth”
 - Or as they want you to see it
- Use discussions to derive questions, build theories, plan further investigations
 - Confirm or refute comments
- Work to maintain relationships
 - Present yourself as non-threatening



Goals of ethnography

- Ethnographic goal: create interpretation of
 - potentially biased
 - incomplete
 - and contradictory

data points gathered through interacting with group members

- Your interpretation should help with understanding how the group functions, and triangulation improves accuracy



Ethnographic Interviews

- Part of longer, ongoing relationships
- Start with establishing trust and understanding broad parameters
- May not feel like interviews at all
 - Ask questions as they show you around
- Goal – get people talking
- Opportunistically ask for more detail about interesting comments or situations
- Follow your curiosity
- More formal interviews are also possible



Observation

- Not just “stand back and watch”
- Goal – see situations with “new” eyes
- Record only what you see, don’t interpret
 - Less biased
- Try to broaden scope of observations
 - “Is there anything I’m missing?”
- Skill that takes time and practice



Note-Taking

- Record details
 - Time, place, participants (anonymized), context, behaviors, interactions
- In the wild, you may not be able to take notes in real time
 - Can't write while observing ongoing events
 - Write notes as soon as possible afterwards
- Recordings might be possible, but
 - Obtrusive
 - Hard to transcribe/analyze



More on Notes

- Start by recording lots of detail
- As you build understanding and develop patterns
 - Record observations in terms of patterns
 - Make special note of unfamiliar events for further consideration



Other Data Sources

- Documents, artifacts, and archives
- Pictures, letters, e-mails, documents, reports, tools
- You can take your time, re-read them, but understand that they only tell a portion of the story!



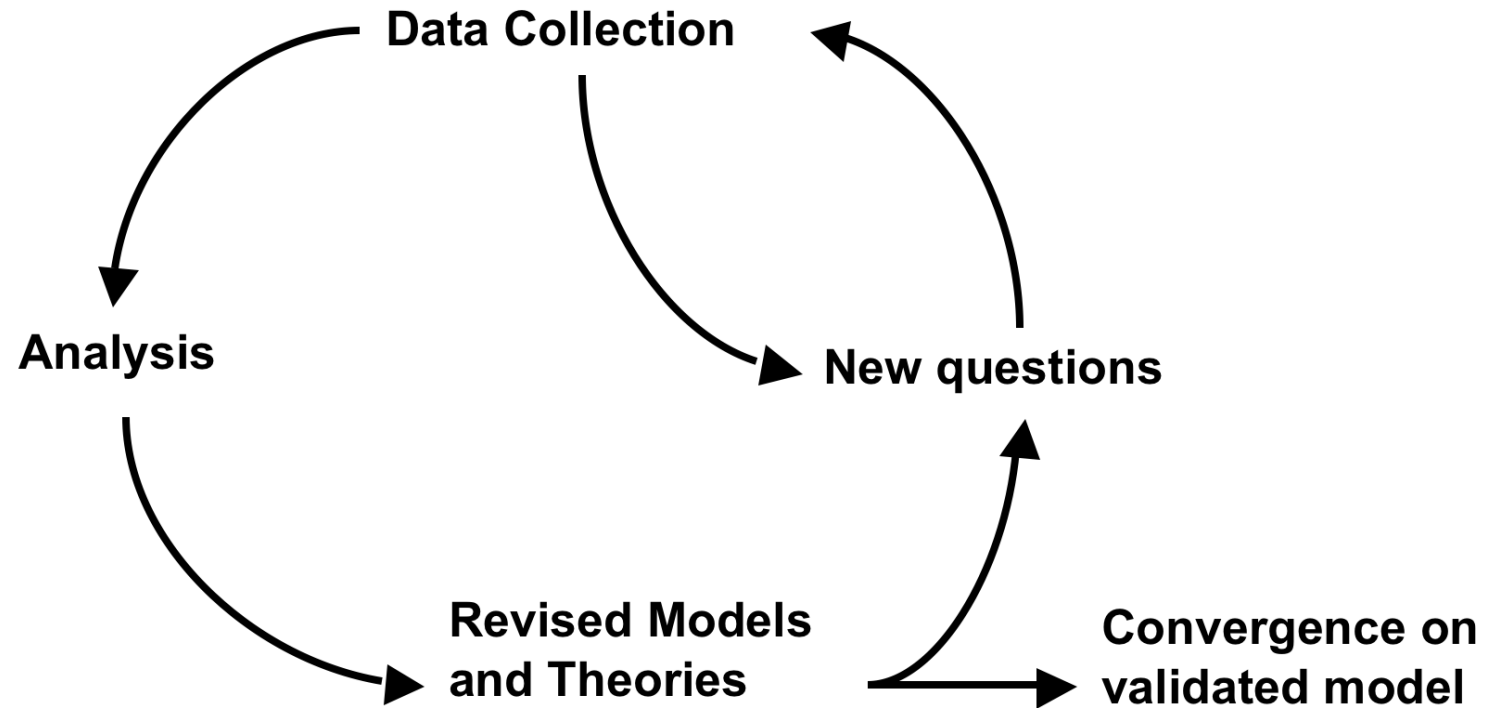
Analysis

- Combine qualitative and quantitative analysis techniques
- Goal: Informs development of models & description
- Group data into categories and frameworks
- Analysis may identify questions to be pursued in subsequent observations or interviews
- No “cherry-picking”- account for all of your data!



Iterative Process

- Continue until you are
 - Not learning anymore or
 - Out of time/money



Increasing validity

- Ethnography is inherently interpretive
- Why is your model better than any other?
- Compare to alternatives
- Include more viewpoints
 - Multiple informants
 - Multiple observers



Reporting Results

- Describe goals and methods
- Justify choice of groups
- Describe analyses
- Matrices, charts and figures to display data
- Consider rival explanations
- Show participants your report – get their feedback



Examples of HCI research

- Ethnographic methods are often used in HCI in 4 types of settings:
 - Homes
 - Workplaces
 - Educational settings
 - Virtual settings
- Ethnography is also increasingly used for studying mobile devices



Home settings

- Country, culture, and religion have a great impact on how technology is used in homes around the world
- Sometimes, researchers discover a relationship between gender issues and technology usage in the home
- Often, ethnography can help identify technologies that are needed in home settings



Workplace settings

- Ethnographic methods for HCI are used most often in workplace settings
 - Examples: Insurance claims handling, department of highways, healthcare settings
- Workplaces which need to be understood can also be outside (e.g. vineyards)
- Important to understand the context of work, the constraints of technology, where technology needs to be introduced, who the potential users are



Educational settings

- School settings can be complex
 - Many activities occurring at once
 - Many constraints from government policy and administrators
- There are major differences in how technology is used for different aged children, different educational approaches, and in different countries
- Often, the school building itself may pose constraints to technology use



Mobile and ubiquitous systems

- On-the-go ethnography may be necessary for technology used outside of a static setting, such as:
 - Automobile drivers using GPS
 - Smartphone users
 - Technology used by firefighters or other emergency responders



Virtual ethnography

- Used when the groups and communities of interest are either primarily or completely online
- Since the group, the community IS online, you are inherently participating as others do, even if you only lurk
- Online identity is easier to change and control than in real-world settings
 - Researchers can define themselves as participants however they want
 - Objectivity can be easier to maintain

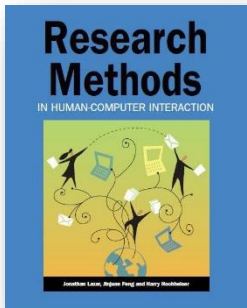


Virtual ethnography

- You can conduct an ethnographic study online without revealing your identity or the fact that you are a researcher
 - But in what situations should you identify yourself as a researcher?
- You might even create multiple identities online, to see how people react to an argument between these identities
- What happens when there is a face-to-face component of the group? How do researchers handle that? Do they let people know their goal?



Referências



- Capítulo 6 - Diaries