

FIELD STUDIES

OBSERVATION

690A- ADVANCED METHODS IN HCI

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OFFICE HOURS

Office hours: Thursdays 3:20-4:20 pm

(Note that I can not hold office hours on Feb 21st)

TODAY

- Project overview + group formation [15min]
- Field studies [30min]
 - Ethnography
 - Data collection techniques
 - Unstructured data collection
- Discussion of readings [20min]
- Upcoming HCI talks [5min]
- In class Activity [5min]

LEARNING GOALS

- Understand field studies and explain why field work is an appropriate choice of enquiry method
- Explain when and how to use field methods
- Identify focal points for doing a field study
- Understand ethnography
- Explain observation as a fundamental method in ethnography
- Describe how to conduct an observation session, what to observe, and how to collect and document data
- Discuss pros/cons of observation

TEAM FORMATION [10 MIN]

Teams for project formed by students

- Form teams: due by/before Tuesday's class
 - 3-4 member per team
- combination of different skills and knowledge.
- use google spread sheet (link in Piazza)
- complete the team contract: due before next Thursday's class (Monday Feb 4th)
- choose a project topic (design opportunity) listed in the project description.

PROJECT OVERVIEW

- Project description and the first interim milestone:
 - <http://groups.cs.umass.edu/nmahyar/advanced-hci-spring-2019/>
- First interim milestone: due next Tuesday

WHAT IS A FIELD STUDY?

- field study is a general term that denotes a study that takes place in context
- value of context? what people say and what they do can vary significantly

WHEN TO USE FIELD METHODS

- most often for pre-design but can be used at any stage
- interviews & observations are often used throughout the design/evaluation cycle
 - there is a difference between using these methods in and out of context

DOING FIELD WORK

General steps and considerations:

- Determine research objectives
- Develop focal points
- Identify participants and sampling strategy, recruit participants
- Determine data collection methods and design materials
 - E.g., creating interview questions
- Other pragmatics
 - How will data be recorded?
 - What do you need to bring?
 - Ethics
- Piloting
- Post-session debriefing
- Data analysis

RESEARCH OBJECTIVES

formulate research objectives:

- states what one wants to achieve
- use objectives to set initial scope

e.g., to understand how doctors manage patient records and the implications this activity has for the design of electronic health records

IDENTIFY FOCAL POINTS

2-5 questions that focus & scope the research:

- driven by research objectives or development goals
- answers not anticipated or assumed

e.g., what are the triggers that result in a doctor updating (or referencing) a patient record?

RECRUITING PARTICIPANTS

- can be more involved than for lab studies:
 - participants allowing you into their “space”
 - often involves more time than a lab study
 - consider appropriate incentive (lab study norms not necessarily appropriate: e.g., \$10/hr)
- usually far fewer participants than in a lab study, 3-12 is common

SAMPLING METHODS

- finding participants:
 - Quota
 - Purposive
 - Convenience
 - Snowball
- if you have specific groups of interest
 - need some kind of screener that identifies important parameters in your target population

NOTE ON TERMINOLOGY (FOR THIS CLASS)



METHODOLOGY



METHODS

WHAT IS ETHNOGRAPHY?

- roots in anthropology – exploration of the everyday realities of people living in small scale, non-western societies
 - ethnographers “figuring out” what is going on through participation in social life e.g., by observing, participating, and talking with people.
- today, ethnographic approach is much broader:
 - being applied to large industrialized societies (e.g., workplaces, senior centers, schools; and activities like teaching, financial investing)
- Studies the culture (values, beliefs, behaviors, language) of *distinct group* within society. The distinct group of people have usually been together over an extended period of time, having similar beliefs, attitudes, behaviors, language.

IDENTIFY PARTICIPANTS

Subcultures

- Social groups defined by cultural similarities (e.g. Punk Rocker, Harley drivers, ...)
- Share norms: clothes, behaviors, activities, language, place (e.g. Italians, ...)

Practices

Social practices: cooking, skateboarders, DIY makers

- Materials (e.g. things, computers, artifacts, environment...)
- Competences (e.g. skills, knowledge, technology)
- Motivations

WHAT IS ETHNOGRAPHY

1. Descriptive

detailed “thick” description of event; get some insight into their meanings of what going on.

2. Method of discovery

when you are not sure what happening

3. Comparative

4. Naturalistic setting

5. Empathetic

6. No assumption

NOTE ON TERMINOLOGY:

- variation in language:
 - some refer to all field work as ethnography, which isn't correct
 - There are multiple terms uses:
 - design ethnography
 - applied ethnography (Norman)
 - ethnographically-informed
 - ethnographic approach
- e.g. an interview in context is not an ethnography
 - it has to involve some observation

GAINING ACCESS

- Entry: the process of developing presence and relationship in the designated research setting that makes it possible for the researchers to collect data.
- Field: the natural, non laboratory setting or location where the activities which a researcher is interested take place.
- Building rapport: Develop good personal relationship with people to get access and information.

DATA COLLECTION METHODS

select methods that will address focal points and that will be appropriate for chosen site, e.g.,

- observation
- interviews
- self-report techniques
 - Diaries and visual stories
- remote data collection techniques
- artifact analysis

OBSERVATION

- goal to capture tacit knowledge and ward against participants trying to please observer
- duration can vary dramatically (small # of days to a year or more!)
- can be person/event/place/or object focused (identified in your focal points)
 - can you think of an example for each?

EXAMPLE

Characterizing interactions with BIM tools and artifacts in building design coordination meetings

<https://www.sciencedirect.com/science/article/pii/S0926580516304307>

SPECIFICS ON OBSERVATION

look for what people do, not what they say

- direct observations
 - researcher on site, in context
 - participate as little as possible
 - take notes, audio tape conversational components, collect artifacts, take pictures of artifacts that cannot be taken, sometimes videotape as a backup
- video observations
 - researcher not present, video camera capturing instead
 - can be less intrusive for participant

WHAT TO OBSERVE

ROUTINES + PATTERNS

Language

- what they and how they say things (do, think, believe)

Actions and activities

- what they do
- how they behave

Things and environments

- what artifacts? spaces?
- how are these artifacts and spaces: shaped and used

DATA COLLECTION TECHNIQUES

- Notes (e.g. bullet point, what people say)
- Still camera
- Audio
- Video
- Tracking users (e.g. diaries)

FIELD NOTES

- No point in observation if you don't record.
- Develop powers of observation, practice mental notes.
- Describe behaviorally: **try to avoid interpreting meaning of action.**
- Description of individual (in detail).
- Describe physical state of environment (in detail).
- **Keep your interpretation separate from notes.**

DATA ANALYSIS

- **circulate notes and transcriptions among team**
- hold video analysis sessions
- identify patterns: in behaviour, events, artifacts, within and across individuals
- common techniques:
 - coding data
 - affinity diagrams
- triangulate data where possible

DISCUSSION ON ETHNOGRAPHY READINGS [20 MIN]

Get into group of 3-4 answering the following questions:

- What surprised you? or
- What you disagreed with?
- other questions that arose from the readings

Informatics search - awesome exciting upcoming interviews

5 junior HCI candidates, starting next week



Stevie Chancellor, GTech
SocComp, health
Feb 4-5 (M-Tu)
Host: Brendan



Sarah Chasins, Berkeley
HCI, PL (Rising Stars in fall)
Feb 6-7 (W-Th)
Host: Arjun



Aditya Vashistha, UW
Dev econ., disabilities
Feb 11-12 (M-Tu)
Host: Narges



Amy Zhang, MIT
SocComp (CSSI in fall)
Feb 13-14 (W-Th)
Host: Phillipa



Minsuk Kahng, GTech
DataVis + ML
Feb 20-21 (W-Th)
Host: Jie

2 senior candidates in 4-5 weeks **(CONFIDENTIAL)**



Bill Howe, UW iSchool
Data Mgmt, DS+NatSci
Feb 27-28 (W-Th)
Host: Alexandra



Jimeng Sun, GTech
CompBio, ML, EHRs
Mar 6-7 (W-Th)
Host: Ramesh

OBSERVATION ACTIVITY

- Imagine you are creating a multiuser interactive table top puzzle and you are trying to understand how people work on puzzles together in a real world...
- Here an example focal point:
 - How do people arrange the activity in the physical space?
- Come up with 1 or 2 focal points on your own.
- In group of 6-8, and:
 - 3-4 members play and solve a puzzle.
 - 3-4 members observe the first team while playing with puzzles and take notes on interaction, actions, behaviour, and conversation among them.

EXTRA SLIDES

COMMON FIELD STUDY “METHODOLOGIES”

- ethnography
- observational study
- (in-depth) interview study
- contextual inquiry
- diary study
- field experiment (likely discuss later)
 - these are not mutually exclusive
 - for a given field study, methodologies will differ
 - e.g., on the methods used or the “depth” of the field work conducted

PROS & CONS OF FIELDWORK

pros:

- comprehensive understanding of current practice
- greater ability to predict the impact of a new or re-designed
- Technology
- give developers a richer understanding of who + context they are
- developing for
- greater ability to prioritize design ideas & features

cons:

- time intensive
- could perpetuate negative aspects of current design
- vast amounts of data that can be difficult to analyze
- output is description of practices, not prediction for design
- scale – small number of users