ADMINISTRIVIA

- please see me at break if:
  - if you haven’t registered for the course,
  - you are registered, but not yet in a workshop/lab section
    - 4 students were moved off the waitlist last night, please see me
  - All students who attended the first lecture last Friday should now be registered in a workshop/lab
- Often you will need to bring copies of the readings to class
- poll hands: how many would need to borrow a camera to complete project?

**NOTE:** Text in purple is new since posting lecture last night.

TODAY

- introduction to field studies & methods
FIELD STUDIES — LEARNING GOALS

- List of high-level learning goals linked at top of course schedule page
  
  **Today**
  - explain what field work is
  - identify and explain different field study variants
  - identify the principles of field work and how they differ from laboratory work
  - explain the different methods used in field work (cont’d next week)
  - explain different sampling methods
  - be familiar with a field study, be able to describe methodology and findings
  - know how to critique the strengths and weaknesses of a specific field study/experiment reported in the literature

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
  - cost-benefit tradeoff easiest to make
  
  - but can be used at any stage
  
  - interviews & observations are often used throughout the design/evaluation cycle – but there is a difference between using these methods *in* and *out* of context

PRINCIPLES OF FIELD WORK

- **natural settings:**
  
  - **Holistic:**
    
    - **Descriptive:**
      
      - members’ point of view:
NOTE ON TERMINOLOGY
(FOR THIS CLASS)

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

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 centres, schools; and activities like teaching, financial investing)
ANOTHER NOTE ON TERMINOLOGY:

- variation in language:
  - some refer to all field work as ethnography, which isn’t correct
- it is common to equate field study with ethnographically-informed study or a study that takes an ethnographic approach

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 are expected to drive the study (think focus & scope):
  - driven by research objectives or development goals
  - centered on general issues
  - answers not anticipated or assumed
  
  - e.g., what are the triggers that result in a doctor updating (or referencing) a patient record?
  - others?
  - more on focal points next week
PARTICIPANTS

• devise a sampling strategy
  • what types of participants?
  • how many participants?
  • generally non-probability based sampling method

• gaining access to field site and participants
  - time consuming
  - ethics considerations

RECRUITING PARTICIPANTS

• can be more involved than for lab studies:
  – higher threshold, 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

• Why do we use different sampling methods?
• What is the implication of different methods?

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
  – remote techniques
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!)
- degree of involvement: observer-participant to participant-observer
  - can you identify the pros & cons?
- can be person/event/place/or object focused
  - can you think of an example for each?

SPECIFICS ON OBSERVATION

- 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

INTERVIEWS

- continuum:
  unstructured, semi-structured, structured

- early stages of research use unstructured
  - why?
- later stage more structured
  - why?

INTERVIEWING IS AN ART: GUIDELINES

- interview in everyday, familiar settings – take cues from context
- look for specific examples & artifacts
- do not pre-suppose answer
  - How often do you use your mobile phone to call family members? VERSUS What are the ways in which you communicate with your loved ones?
- be open-ended - avoid yes/no questions
- be flexible to adapt line of questioning
- establish and maintain good rapport
- casual conversation is not bad
- assume respondent is expert
- do not interrupt unnecessarily
- plan questions that allow triangulation – ask the same question in different ways
CONTEXTUAL INQUIRY

• **structured methodology** for gathering information in field work
  – goal: to bring it to the design process
  – uses both observation and interview: idea is to intensely interview people while they work

• principles:
  – context
  – partnership: share control, participant is expert
  – focus: keep sight on research objectives, do not try and understand full culture

SELF-REPORT TECHNIQUES

diaries

• participant’s written record of specific events, or can be what is happening at prompted moments
• free form or structured recordings
• e.g., study on exploratory learning “Eureka” moments (Rieman & Lewis, 1996)

visual stories

• pictorial diaries, use a camera in addition to text
• e.g., study using video to document file retrieval (Blomberg, Suchman, and Trigg, 1996)

REMOTE DATA COLLECTION

• remote video and audio via the Internet
• remote interactions collected through logging
  – Google does studies ALL THE TIME

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
**Coding data**

- **Coding**: technique where you label chunks of data to describe what you see happening.
- can code many kinds of data, e.g.
  - text in field notes and transcripts
  - events or sections of video
- goal is often to identify themes, categories, patterns in behaviour, artifacts, events, etc.
- affinity diagramming often used to look for commonalities
- **open coding**: themes, categories, etc. are ‘discovered’ while you are going through data
- **closed coding**: you know what themes and categories you want to look for examples of before going through data

**Representations — Communicating Results**

- storyboards
- scenarios
- profiles/personas
- more examples in case study papers
- finally, team **brainstorms implications for design**

**Case Study**

**How do people organize their desks?**

**In small groups: Discuss**

**Study motivation & methodology**

- what is the goal of this research?
- what is a possible focal point for this research?
- what sampling method was used?
- what data collection method(s) being used
IN SMALL GROUPS: DISCUSS

Results and Discussion
• what individual differences in organization were seen?
• what conclusions could be drawn about people with messy offices? about the value of a neat office?
• how do files and piles relate to finding and reminding?
• how are files and piles consistent/inconsistent with computer file management?
• how can computer file management better support finding? reminding?

IN SMALL GROUPS: DISCUSS

Critique
• how effective are the questions in the Appendix?
• identify two things the author does in presenting the study and findings that you found effective/interesting/ curious etc.
• how convinced/confident are you by this study and its conclusions?
  — what aspects of the study and its write-up boosts your confidence?
  — what aspects diminish your confidence?
• did the author achieve his research goal?

STRUCTURE OF A FIELD STUDY PAPER

common elements
• description of respondents
• description of methods use (including interview questions)
• case study approach (“Two Examples”)
• use of respondent quotes
• analysis
• implications for design
• why is each of these different elements important?
• how might presentation choices around these element effect how convincing a study is?

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
NOW YOU CAN...

- explain what field work is
- identify and explain different field study variants
- identify the principles of field work and how they differ from laboratory work
- explain the different methods used in field work (cont. next week)
- explain different sampling methods
- be familiar with a field study, be able to describe methodology and findings
- know how to critique the strengths and weaknesses of a specific field study/experiment reported in the literature

NEXT TIME

Lecture will cover:
- how to prepare and run sessions in the field