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
  - There are XX students who have not yet registered.
- All students who attended the first lecture last Friday should now be registered in a workshop/lab
  - I sent individual emails to about 7 students about their workshop registration
- 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?

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)

METHODS

METHODOLOGY

slide adapted from Michael Sedlmair’s 2012 Infovis talk:
http://www.cs.ubc.ca/labs/imager/tr/2012/dsm/
image credits:   http://www.air-n-water.com/blog/quick-summer-meal/
http://manwifeanddog.com/2012/05/05/a-homemade-recipe-for-a-happy-wife/

Examples of ingredients?

METHODS

METHODOLOGY

slide adapted from Michael Sedlmair’s 2012 Infovis talk:
http://www.cs.ubc.ca/labs/imager/tr/2012/dsm/
image credits:   http://www.air-n-water.com/blog/quick-summer-meal/
http://manwifeanddog.com/2012/05/05/a-homemade-recipe-for-a-happy-wife/

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

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

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

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

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?

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., $15/hr)

• usually far fewer participants than in a lab study, 6-12 is common

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
  - most common
- more examples in case study papers
- finally, team brainstorm 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?

**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 + the 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...

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NEXT TIME

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