Course Title: Qualitative Field Research for User-Centered Design of Technology  
Instructors: Susan M. Dray, Ph.D., CHFP, and David Siegel, Ph.D.

Qualitative field research is an indispensable for user-centered design of technology, but it presents serious difficulties of scientific rigor. Not all qualitative research is fieldwork and not all fieldwork is qualitative, but in this class we will focus on field research where both the raw data and analysis are qualitative, as an exemplar of these challenges to scientific rigor. The issue of rigor will be a theme throughout the class, as we discuss planning research, collection of data, analysis and interpretation. In addition, where appropriate, we will discuss differences in mindset and practice of field research between the academic and commercial worlds.

The challenges of fieldwork do not lend themselves to pat answers and canned techniques. Rather than teaching a set of how-to’s this class will expose issues and a range of approaches for dealing with them. The goal is to help increase student’s sophistication about explicitly identifying the challenges they face in their own projects and making considered, creative, and defensible choices about how to address them.

Class Project
Students will carry out a mini field research project, which will provide an opportunity to experience representative tasks. Students will report on their activities in class. Because students will be at very different points in their own individual degree research (and may not all be doing field research), we will assign the topic for this project: “Family Communication, Management, and Coordination.” Having the class work on the same general topic will have the benefit of allowing us to more usefully share experiences in class and pool data. For students who want to discuss their individual degree research, a modest amount of coaching will be available.

Class Outline

Session 1 (Sept 24)  
These readings would be helpful in preparation for the first class:

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<th>Author(s)</th>
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Introducing the Challenges of Qualitative Field Research and Placing It in Its Intellectual Context

- Story of a fieldwork project, illustrating puzzles, dilemmas, key decisions, and insights
- Role of qualitative field research in product planning and design
- Positioning qualitative field research in terms of dimensions for describing approaches to understanding (without implying that qualitative field research necessarily represents one pole of each of these distinctions)
  - Etic versus Emic
  - Nomothetic versus Ideographic
  - Positivist versus Interpretivist (Constructionist)
  - Deductive versus Inductive
  - Theoretical versus Strategic
- The spectrum of qualitative research
- Challenges to scientific rigor in qualitative field research elucidated by contrasting it with experimental research
- The challenge of bridging from research to design decisions

Part B: Planning the Research Strategy

- Issues in and approaches to defining and elaborating the research focus
- Issues in and approaches to developing the sampling strategy: people and contexts
- Planning the data elicitation

Assignment:
Begin recruiting 2 households for class project research
Develop focus structure for assigned research project

Session 2 (Oct 1)
Readings:

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>Sally Jo Cunningham, Chrish Knowles, Nina Reeves</td>
<td>An Ethnographic Study of Technical Support Workers: Why we didn’t build a tech support digital library. JCDL ’01, June, 2001, Roanoake, Virginia (ACM 1-58113-345-6/01/0006).</td>
</tr>
<tr>
<td>Beth Kolko, Emma</td>
<td>Communication as Information-Seeking: The case for</td>
</tr>
</tbody>
</table>
**Data Gathering: What Makes for Credible and Interpretable Field Data?**

- Basic ingredients of scientific approach: what are their analogues in qualitative field research?
- Brief overview (and critique) of Grounded Theory as one approach to introducing “rigor” into qualitative field research
  - Induction
  - Strategic sampling
  - Constant comparison
  - Coding
  - Theoretical saturation
- The issue of researcher bias
- Importance of multiple data sources, and the concept of triangulation
- Role of and issues with various data types:
  - Self-report data
  - Direct versus indirect evidence
  - Behaviorally-grounded data
    - Observational
    - Behavioral Artifacts
  - Contextual data, e.g.:
    - Historical
    - Economic
    - Physical
    - Organizational
    - Demographic
- Data capture and data quality
  - Distinguishing behavioral description from interpretation
  - Field notes and the concept of the “incident”
  - The role of video and audio
  - Debriefing
- Summary of practices for maintaining rigor and scientific accountability

**Assignment:**
- Finalize recruiting and schedule sessions
- Identify potential data types and develop draft protocol for data collection (that is, how you plan to elicit the data)
**Session 3 (Oct 15)**

Readings:


**Observation, Interviewing, Contextual Inquiry**

- Basic interviewing skills, e.g.:
  - Open-ended questions
  - Verbal and non-verbal following behaviors
  - Reflections
  - Neutrality
  - Probing and progressive probing
- Mitigating the limitations of self report
- Contextual Inquiry (CI)
  - Core concepts: Context, apprenticeship
  - Use of the focus in guiding the inquiry
  - Key interviewing and probing skills for CI
  - Assembling a holistic picture
  - Differences between CI in the workplace and consumer contexts
- Artifact Walkthroughs
  - The challenge of rare or difficult-to-enact incidents
  - Artifacts: Grounding self-report data in evidence of behavior
  - “Lead User” and the adaptation of technology

**Assignment:**
Between now and November 7th, conduct data collection sessions, write visit reports.

**Session 4 (Nov 5)**

Readings

| Susan Dray, David Siegel, Evan Feldman, Maria Potenza | Why do Version 1.0 and Not release it? Conducting field trials of the Tablet PC, interactions, 9(2), march/april 2002 |

**TBD:**

<p>| David A. Siegel, Bill Reid, Susan M. Dray | IT security: Protecting organizations in spite of themselves. Interactions, 13(3), May-June 2006 |
| Bonnie Nardi, Diane J. Schiano, | Blogging as Social Activity, or Would You Let 900 Million People Read Your Diary. CSCW 2004, Chicago, |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Publication Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michelle Gumbrecht</td>
<td>IL, USA. (ACM 1-58113-810-5/04/0011)</td>
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**Field Usability Evaluation**

- Relationship between Usability and Utility
  - The spectrum of “naturalism:” Case examples of naturalistic evaluation
  - Longitudinal evaluation
  - Hybrid methodologies

**Session 5 (Nov 12)**

**Readings:**

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<tr>
<th>Author</th>
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<th>Publication Details</th>
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<tbody>
<tr>
<td>Michael Quinn Patton</td>
<td>Qualitative Research and Evaluation Methods, Sage Publications, Thousand Oaks, CA 2002, Chapter 8</td>
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**Debriefing of students’ field data collection**

**Analysis: Coding**

- Coding as an indexing process
- Coding as a process of extracting or discovering meaning
- Code types
- Memos and annotation
o Coding tools
o Coding reliability

Assignment: (Due November 21) Code and annotate visit reports, write short (one page) reflection on the process

Session 6 (Nov 26)

Readings:

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Analysis: Affinities, Clustering, Dimensions

- The challenge of data reduction: moving from particular case to general
- Affinity diagramming to explore themes
- Clustering
  - The importance of typology
  - Segmentation and its role in product planning and design
  - Demographic, attitudinal, and behavioral segmentation
  - Clustering to find “meaningful” typologies
  - Validating clusters
- Operationalizing dimensions
- Matrices

Bridging to product planning and design

- Requirements
- Personas
Scenario

Assignment: Details will be determined, but will involve writing, e.g., a persona, a scenario, or an operational definition of a dimension or of criteria to define a user type.

Session 7 (Dec 10)

|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Wrap-up Topics

- Survey of Issues And Strategies For Other Common Qualitative Methods
  - Surveys, open-ended questionnaires
  - Diary studies
  - Focus groups
  - Analysis of existing qualitative data archives, such as service call logs

- Common interpretive Issues
  - The small sample problem
  - “Outliers”
  - “Post hoc-ism”
  - What does validation mean in relation to qualitative field research for design?
  - Relating qualitative and quantitative
  - Relating inductive and deductive