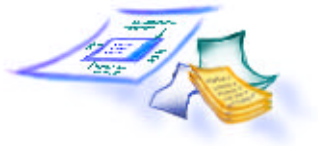
Discovering User Needs:

Field Techniques You Can Use

CHI 2003 Tutorial



Kate Gomoll

kate.Gomoll@med.ge.com

GE Medical Systems Information Technologies

Ellen Story

ellen@gomolldesign.com

Gomoll Research & Design, Inc.

306 N. Milwaukee Street, 4th floor

Milwaukee, Wisconsin 53202

414•319•1057

www.gomolldesign.com

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Agenda

9:00 AM	***class begins***
	overview
	understanding the problem
	identifying the users
	identifying the work
	preparing for the visits
	observing and interviewing
10:30 – 11:00	***break***
	exercise: create study materials
12:00 – 2:00	***lunch & field visits***
	discuss field visits.
	analyzing the data
	next steps
	exercise: produce deliverables
3:30 – 4:00 break	
	exercise: complete deliverables
	gallery time
	discuss deliverables
	fitting the process into your organization
	summary and wrap-up
5:30 PM	***class dismissed***

Instructor Biographies

Kate Gomoll

Kate Gomoll is the User Interface Architect at GE Medical Systems Information Technologies. Prior to joining GE, she was President of Gomoll Research & Design, a consulting firm specializing in user experience design. She is a nationally-recognized pioneer in the field of user interface design and usability. Gomoll Research & Design has conducted customer research for a broad range of clients, including: Charles Schwab, Compaq, DirecTV, Hewlett-Packard, GE Medical Systems, Onyx Software, Netscape, UNext, and WebTV. Her user observation guidelines have appeared in *The Art of Human Computer Interface Design* and *The Macintosh Human Interface Guidelines*. Kate teaches customer research methods at conferences and workshops worldwide. For seven years, she taught field study methods as part of a 3-day workshop for UCLA Extension. She also taught this tutorial at the User Interface '98, '99, '2000, and 2001 conferences, the UPA '96, '98, '99 and 2002 conferences, the Studio 2001 conference and CHI 2002 conference.

Kate has a BA in Psychology from the University of Wisconsin and an interdisciplinary MA in Professional Writing from Carnegie Mellon.

Ellen Story

Ellen Story has worked in the field of software development and design since 1985. While working at Northwestern Mutual Life, she was one of the first to practice usability engineering at the company. She became a user interface design specialist, a new specialty for the company, and in that capacity she educated teams on the user–centered design process and principles of good design. Ellen later joined M&I Data Services in the role of human interface designer where she conducted research at user sites, created human interface models, developed detailed window designs, and participated in usability testing for financial services software.

Since joining Gomoll Research & Design, Ellen has helped numerous clients with research, interface design, prototyping, and usability testing. She has taught tutorials on design and usability at the UPA annual conference and the CHI annual conference.

Objectives of the Course

In this course, by conducting your own real field visit, you'll learn all about field studies, including how to plan them, what to look for, and how to analyze the data. The instructors will teach you how to observe users and collect key information to feed directly into your design.

Specific techniques you'll learn include:

- selecting the right users
- cataloging tasks that will become the basis of your design's functionality
- developing forms and surveys to collect data efficiently and easily
- observing users' work without influencing it
- interviewing users to understand where they are coming from
- avoiding common problems by using simple tricks and techniques

This full-day tutorial is an in-depth exploration of how to plan and conduct a field study, how to do a detailed task analysis, and how to conduct contextual interviews. It includes creative ideas for collecting and using data, as well as tips for planning and conducting the visits. Throughout the course, participants will have the opportunity to ask questions, discuss their own methods, and exchange experiences.

Overview

Field research is part of a larger process called user-centered design. Usually, people who are conducting field studies already have a good understanding of the user-centered design process. We'll start off with a brief discussion of where field research fits in the user-centered design process and why it's so important.

Where field research fits

1

At a high level, user-centered design has the following steps:

- ***Research***—Conduct up-front field studies to understand users' work environment, goals, and specific tasks.
- ***Design***—Match the user's skills and tasks to an overall conceptual model that can support the work in a user interface. Use rapid prototyping techniques and interdisciplinary design teams to quickly and iteratively develop the model.
- ***Test***—Evaluate the model through usability reviews and testing.
- ***Iterate***—Use the evaluation results to revise the design, repeating the previous steps as necessary.

Why field research is important

A solid research phase is critical to the success of the entire user-centered design process. In fact, *these early activities are the most important part of the user-centered design process, because this is where you learn about users and their work.* In later stages—especially usability testing—the focus will be on the product you have developed to support users and their work. That product focus is appropriate in the later steps because those steps are aimed at improving your design. But first, you have to know, in depth, the work you are trying to support, the environment the work takes place in, and the people who do the work.

So, you've come to the right place. This course will give you tools for effectively gathering information about users, environments, and tasks. Along the way, you'll see practical tips to smooth your initial attempts.

A note about terminology

2

Before we leave this overview section, you should understand how field research relates to two other popular design-related activities: task analysis and business-process re-engineering. In many ways the terms overlap: task analysis is done as a part of field research, and certainly in the course of studying tasks, you are usually looking for ways to improve, or re-engineer, the processes used. Perhaps the differences have most to do with connotations:

- ***Business-process re-engineering*** often carries the weight of redefining work at the job level. That is, re-engineering might advocate eliminating a whole class of job. That level of change does not usually fall out of an interface designer's work, unless of course it is a condition that was set from the start, based on a larger business-level decision.
- ***Task analysis*** usually conjures visions of charts that detail the step-by-step procedures for isolated tasks. Field research incorporates that kind of activity but deliberately places the tasks studied in the larger context of the user's skills, goals, and environment.

✍ *Notes:*

A process and a philosophy

Conducting field studies and analyzing the results requires a process and a philosophy.

The process is what we'll spend most of our time on.

It looks like this:

The process

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1. ***Understanding the problem—***Making sure you understand the business domain, the target audience for the product, and the research team.
2. ***Identifying the users***—Gathering quantitative demographic information on the target audience.
3. ***Identifying the work***—Cataloging the tasks that users perform in their work, and determining which of those tasks you'll focus on when doing your observations.
4. ***Conducting observations and interviews—***Watching users do their work in their environment, and capturing the details of the tasks, the environment, and the experience.
5. ***Analyzing the data***—Making sense of the things you gathered and experienced, aiming for an accurate record of "what is," and brainstorming about "what could be."

✍ *Notes*

And now the philosophy . . .

4

Threaded throughout this process is a philosophy of pragmatism. It sounds something like this:

- ***Be flexible in your methods.*** For example, while you might want to videotape that consultation between a financial planner and her customer, privacy issues might make you settle for role-playing.
- ***A little can go a long way.*** At this stage of the user-centered design process, you don't need to study every task in detail if you are selective in what you do study.
- ***Quantify what's quantifiable.*** If you plan ahead, you can collect quite a bit of quantifiable information on your field visit. You'll want to gather detailed demographic data, as well as satisfaction ratings.
- ***Respect the experiential.*** Remember, not all of your data requires a (pseudo)scientific treatment. There's a lot of value in just experiencing the user's workplace. Be sure to write "stories" about each of your visits, to capture the environment and the experience.

So let's get started, looking at each stage of the field research process.

✍ *Notes:*

Slides

overview

- **where field research fits in the user-centered design process**
  - research
  - design
  - test
  - iterate
- **why field research is important**
  - learning about users
  - experiencing the environment
  - knowing the tasks

terminology

- **business process re-engineering**
  - redefining work at the job level
  - may include eliminating a whole class of job
- **task analysis**
  - step-by-step procedures
  - tasks viewed in context

the process

- understanding the problem
- identifying users
- identifying the work
- conducting observations and interviews
- analyzing the data

the philosophy

- **be flexible in your methods**
- **a little can go a long way**
- **quantify what's quantifiable**
- **respect the experiential**