User and Task Analysis for Interface Design

JoAnn T. Hackos and Janice C. Redish

Review by Larry E. Wood and Brigham Young University

As indicated in the preface to the book, the authors' purpose is to introduce techniques of user and tasks analysis so that folks ranging from software designers to technical communicators can use them to inform their design activities. The authors do a masterful job of bringing together a variety of techniques and methods, sprinkled liberally with guidance in their use. That guidance is tempered by their many years of experience of project development with users in a wide variety of contexts. Throughout the book, the authors reflect an attitude that there is no correct way to do things in every situation, and they make every effort to point out the conditions under which various methods and techniques tend to be more or less effective. Thus, their intent is to inform readers, and to provide them with the knowledge and techniques to make appropriate decisions.

Following the introductory chapter, the book is organized in four parts. In part 1 (Understanding the Context of User and Task Analysis), individual chapters are dedicated to the importance of understanding the characteristics of potential users, their tasks, and their environments. Chapter 1 makes an effective case for the importance of learning about users and their tasks so that an application is being design to support. There is also a short section listing the objections that are often voiced about why companies often neglect or avoid making the effort to perform user and task analyses.

In chapter two, the reader is instructed in the generation of user profiles from various categories of information relating to the ways in which the users define themselves and their roles (e.g., jobs, tasks, and tools they use). The authors are careful to point out how important it is to consider individual differences in personal, physical, cultural and motivational characteristics among a set of heterogeneous. The authors make the point that some characteristics can lead to conflicting design demands, which will require compromises in the final design.

Chapter three provides valuable background regarding the analysis of users' work that is to be supported by an application. The authors discuss the notion of task analysis in some depth, beginning with the importance of keeping in mind the users' goals. The authors then review the importance of the broader context of workflow and other aspects of the users' jobs. Because task analyses requires documentation, the authors review several alternatives for representing the results (e.g., task hierarchies, flow diagrams). Finally, the reader is informed of the need to be interpret results in light of the experience of the potential users, ranging from novice to experts.

In chapter four, the authors call attention to a variety of issues regarding the user's environment. They provide some interesting examples of the kinds of grave consequences that await those who neglect to consider not only issues in the physical environment, but the social and cultural aspects as well.

Those usability specialists still struggling to get “respect” in their companies will find chapter five particularly useful because it contains valuable information to assist HCl workers in making a business case to company management for providing the resources necessary to do site visits in order to gather the data that are necessary to provide that understanding.

In part 2 (Getting Ready for Site Visits), the authors provide chapters on the selection of techniques most appropriate to a particular project, consideration of users environments (chapter six), the arrangement of the details of the site visit with the users and others at the site (chapter seven), and the preparation and organization of the team conducting the visit (chapter eight). As implied, these chapters provide helpful details regarding the importance of planning and organizing visits to provide the most benefits. Drawing on the old adage, “The best laid plans of mice and men oft times go astray”, Hackos and Redish do a thorough job of discussing the many details involved in choosing the most appropriate techniques and the most appropriate participants for collecting the most appropriate data during the visit.

In the final chapter of the section, the authors get down to the nitty-gritty of making certain that the visit will yield all that it can. They discuss details ranging from the appropriate dress to forms that will insure that all relevant information is captured in one way or another. It is easy to get caught up in concerns about what information could be gathered at the expense (oddly enough) of what really ought to be gathered.

Part three (Conducting the Site Visit) contains valuable information on techniques and skills for interacting with potential users through observation and interviewing. Chapter 9 is devoted to a discussion of observation techniques, with an emphasis on goal-ori-
ented user task analysis and the documentation of observations to make the results useful for later stages of development. Throughout this section, readers are cautioned about the natural tendency for observers to let their biases color their interpretations of observations.

Interviewing skills are discussed in chapter 10, where the authors emphasize the importance of listening to the interviewees with an open mind, with the attitude that the usability specialist is there to learn from them, rather than to confirm the specialist's expectations. The authors review extensively the various types of questions (e.g., open vs. closed) and the need to ask neutral rather than loaded or leading questions.

Part four (Making the Transition from Analysis to Design) discusses how the information gathered in the site visits is used to produce an interface design. Chapter 11 deals with methods for analyzing the data from site visits by first creating representations such as workflows, task hierarchies, and task scenarios, and then reorganizing those results using such techniques as affinity diagrams and insight sheets to clarify relationships.

Using the results of the analysis to begin designing an interface design is discussed in chapter twelve. Here the authors suggest that the design begin with a consideration of usability goals and measurable objectives, and from there they move to the development of a metaphor and use scenarios and work flows. The next step is to begin forming the design, using storyboarding, sketching, and video presentations. That discussion leads naturally into a description of prototyping methods and techniques for their evaluation in chapter thirteen.

The final chapter of the book provides an extensive discussion of documentation and training, beginning with the role of task and user analysis as it applies to those activities. The presentation includes the development of hard copy help and training materials as well as on-line help and computer-based training, including a brief consideration of the “Web”.

In summary, Hackos and Redish provide a comprehensive discussion of User-Centered Design that is very readable and understandable. The book is well organized from both global and local (each chapter) perspectives. In addition, the book is sprinkled liberally with examples from the authors' own work (as well as others') on real world projects. At the end of each chapter there is a list of other sources relevant information. It is definitively an excellent source for anyone interested in an introduction to the field of User-Centered Design. I found it to be an excellent text for my user-centered design course. The only negative comment I received from students was that some of the graphics seem a bit gratuitous (a picture of a group of people carrying suit cases is used to illustrate the point that users “carry a lot of baggage” that affects the way they learn).

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