Chapter 12
User Documentation and Online Help

Introduction

- When it comes to learning about computer systems, many people experience anxiety, frustration, and disappointment.
- Even though increasing attention is being paid to improving interface design, complex systems can still benefit from both paper and online help.
- Forms of paper user manuals:
  - Install manual
  - Brief getting-started notes
  - Introductory tutorial
  - Thorough tutorial
  - Detailed reference manual
  - Quick reference card

- Online materials:
  - Online manual
  - Online help
  - Context-sensitive help
  - Online tutorial
  - Animated demonstration
  - Guides
  - FAQs
  - Online communities, newsgroups, listservers, e-mail, chat, and instant messaging

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<th>User's Goal</th>
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<td>I want to buy it</td>
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<td>Animated demonstration</td>
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<tr>
<td>I want to learn it</td>
<td>Tutorial</td>
<td>Manual, tutorial, guide, animated demonstration</td>
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<td>I want to use it</td>
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Introduction

Paper versus online manuals

○ Advantages of online manuals
  - Physical advantages
  - Navigation features
  - Interactive services
  - Economic advantages

○ Disadvantages of online manuals
  - Displays may not be as readable as paper manuals
  - Each display may contain substantially less information than a sheet of paper
  - The user interface of online help systems may be novel and confusing to novices
  - The extra mental effort required for navigating through many screens may interfere with concentration and learning, and annotation can be difficult
  - Splitting the display between work and help or tutorial windows reduces the space for work displays
  - Small devices such as smart phones do not have enough display space to provide online help
Reading from paper versus from displays

Numerous studies have found 15% to 30% slower task times for comprehension or proofreading of text on computer displays, compared to on paper.

Potential Disadvantages in Reading from Displays

- Poor fonts, especially on low resolution displays
- Low contrast between characters and the background
- Fuzzy character boundaries
- Emitted light from displays may be more difficult to read by than reflected light from paper
- Glare may be greater on displays
- Screen flicker can be a problem
- Small displays require more frequent page turning
- Reading distance can be greater than for paper
- Displays are fixed in place
- Display placement may be too high for comfortable reading
- Layout and formatting problems
- Reduced hand and body motions with displays as compared to paper may be fatiguing
- Rigid posture for displays may also be fatiguing
- Unfamiliarity of displays and the anxiety that the image may disappear can increase stress

Reading from paper versus from displays (cont.)

The heat maps from the eye tracking study. Red indicates the area where the user looked most, yellow indicates fewer views, and blue indicates the fewest views. Gray is used for areas that were not viewed. The image on the left is from an article in the “About us” section of a corporate web site, the center image is a product page on an e-commerce web site, and the image on the right is from a search engine results page (Jakob Nielsen).
Shaping the content of manuals

- Traditionally, training and reference material often written by junior members of development team
  - manuals were often poorly written
  - were not suited to the background of the users
  - were delayed or incomplete
  - were not tested adequately

- The benefits of well-designed manuals include shorter learning times, better user performance, increased user satisfaction, and few calls for support

- The “active user paradox”
  - Users' eagerness to conduct meaningful activities often stops them from spending time “just” learning, and therefore their skills remain mediocre.

User manual guidelines based on practice and empirical studies (Carroll et al)

- Choose an active-oriented approach
  - Provide an immediate opportunity to act.
  - Encourage and support exploration and innovation.
  - Respect the integrity of the user’s activity.
  - Offer numerous examples.

- Let users' tasks guide organization
  - Select or design instructional activities that are real tasks.
  - Present task concepts before interface objects and actions.
  - Create compositions of instructions that reflect the task structure.

- Support users' recognition and recovery
  - Prevent initiausing whenever possible.

- Provide error information when actions are error prone or correction is difficult.

- Provide error information that supports detection, diagnosis, and correction.

- Provide on-the-spot error information.

- Support reading to do, study, and locate
  - Be brief; don’t spell out everything.
  - Provide a table of contents, index, and glossary.
  - Keep the writing style clear and simple.
  - Provide closure for chapters.

The user manual for Adobe Reader®
How highlighting, fonts etc. helps the user

Two pages from the Quick Start guide from RefWorks.com, an online research management, writing, and collaboration tool. Different sized fonts and different colors are used to help the user scan the material, and large letters (A, B, C, etc.) are used to guide the user through the material. Helpful hints are also indicated [http://www.refworks.com].

Shaping the content of manuals

- Minimal manuals encourage active involvement with hands-on experiences
- Carroll’s guided exploration
  - choose an action-oriented approach
  - anchor the tool in the task domain
  - support error recognition and recovery
  - support reading to do, study, and locate
- Show numerous well-chosen screen prints that demonstrate typical uses (predictive model)
- Table of contents and index required
- Glossaries for clarifying technical terms
- Appendices for error messages

Organization and writing style

- Precise statement of educational objectives
- Present concepts in a logical sequence with increasing order of difficulty
- Ensure that each concept is used in subsequent sections
- Avoid forward references
- Construct sections with approximately equal amounts of new material
- Need sufficient examples and complete sample sessions
- Choice of words and phrases important
- Style guides for organizations attempt to ensure consistency and high quality
- Writing style should match users’ reading ability
Online manuals and help

Kearsley’s guidelines for online help systems:
- Make the help system easy to access and easy to return from.
- Make help as specific as possible.
- Collect data to determine what help is needed.
- Give users as much control as possible over the help system.
- Make help messages accurate and complete.
- Do not use help to compensate for poor interface design.

Online manuals and help

Online Manuals
- Reproduction of printed manuals online
  - paper page layouts may not convert well
  - dealing with figures problematic
  - attractive if users have large enough display (full page)
  - close match between printed and online versions useful

Online manuals and help

Online Manuals
- Enhanced by special online features
  - string search
  - multiple indices
  - multiple tables of contents
  - tables of figures
  - electronic bookmarks
  - electronic annotations
  - hypertext traversal
  - automatic history keeping
Online manuals

- Most effective if manuals redesigned to fit electronic medium to take advantage of:
  - multiple windows
  - text highlighting
  - color
  - sound
  - animation
  - string search with relevance feedback
- Properly designed table of contents that can remain visible to side of text page vital
- Novices need tutorials
- Intermittent knowledgeable users can handle concise descriptions of interface syntax and semantics
- Keyword lists improved by clustering into meaningful categories

Online help

- Traditionally, little information about how to assemble actions to perform tasks
- Users expect to be able to search the full text of online documents
- Expanding and contracting table of contents can be combined with search
- The online help and support center for Microsoft Windows contains articles/topics and search options
- An answer wizard can respond to natural language requests

Online manuals and help
Online manuals and help

- **Context-sensitive help**
  - User-controlled, interactive object help
    - Small pop-up box
    - Dedicated portion of the display
  - Intelligent help: users interaction history, a model of user population, and a representation of their tasks to make assumptions about what users want
    - Development of intelligent help systems face serious usability challenges
    - Clippit
- **Hybrid approaches**
  - Initiative is shared between the user and system
  - Unobtrusive advice from system, but requires space
Online manuals and help

This figure is from the Palm Beach County, FL web site (http://www.pbcgov.com). Note the "breadcrumbs" near the top to explain how the user got to this page (Website Information), and the list of common icons provided on the right to familiarize novice users with the symbols used on the web site.

Online manuals and help

The National Institute for Health’s site for seniors (http://www.nihseniorhealth.gov) has controls to adjust the text size, adjust the contrast, and turn speech on or off. The font used is a sans-serif font, and the font size is larger than the typical size used on the Web. Several ways are provided to navigate through the information (alphabetical, grouping by category, etc.).

Online tutorials

- Does not have to keep shifting attention between the terminal and the instructional material
- Practices the skills needed to use the system
- Can work alone at an individual pace and without the embarrassment of mistakes made before a human instructor or fellow students
- Start-up tips
Online demonstrations, and animations

- **Demonstration systems**
  - Distributed on CD-ROM/DVD or over the Internet
  - Designed to attract potential users
  - Typically shows off system features using animation, color graphics, sound, etc.
  - User-interface requirements are to
    - capture and maintain user interest
    - convey information
    - build positive product image

- **Typical controls**
  - automatic or manual pacing
  - length of demonstration (short versus in-depth)
  - stop, replay, skip

- A screen capture animation is easy to produce with standard tools
  - Games often have a 30 second demonstration

Online demonstrations, and animations (cont.)

This is a screen capture from part of the priceline demo available from Autodemo (http://www.autodemo.com).
The user can choose whether to listen to the demo or view the demo with explanatory text. This is Section 2 of 9 provided as part of the demo. On the right, there is a pop-up box with help and further explanation.

Online demonstrations, and animations (cont.)

Dynamap is a multi-layered interface with three levels. Level 1, shown here, consists only of a map. Sticky notes introduce the main functions and example tasks. The “show me” buttons initiate animated demonstrations that activate the interface itself. Users can advance through the demonstration step by step or execute the commands themselves, following the directions. A sticky note also points to the buttons allowing users to move to Levels 2 and 3.
Online communities for user assistance

- Help networks using email
  - sent to designated help desk or staff person
  - sent to general list within organization
  - users must publicly expose their lack of knowledge
  - risk of getting incorrect advice
- Communal approach means low cost for software maintenance
- Microsoft actively encourages it
- Frequently asked questions (FAQ) lists for newcomers

Online communities for user assistance (cont.)

Development process guidelines

- Seek professional writers and copywriters.
- Prepare user documentation early (before implementation).
- Set up guidelines documents and coordinate and integrate across all involved departments.
- Review drafts thoroughly.
- Field-test early editions.
- Provide feedback mechanisms for readers.
- Revise to reflect changes regularly.