

Computer/Human Interaction

Lecture 36

Overview:

- User Documentation
- Designing Documentation
- Active Learning
- Information in the Interface
- Socially Mediated Documentation

User Documentation

- Any stored information about how to use system
- Reference manuals, on-line help, tutorials
- Forum archives, FAQs, wikis
- Usually a diverse set of on-line and paper documents

Documentation Challenge

- How to support all documentation needs
- Novices, first-time users also need to know why as well as how; hardest to design
- Regular users need reminders, new task procedures
- Experts need most efficient procedure

Designing Documentation

- Documentation should be designed in parallel with interface design as part of the interactive process
- Need to know which tasks most people will want to know about most of the time

Documentation and SBD

- Develop scenarios and usability specifications that center on learning concerns
- E.g., elaborate scenarios to consider what happens if a user doesn't know what to do, or makes a mistake
- E.g. write sample users guides and test them in a controlled experiment

Active Learning

- Many novices attempt learning by doing
 - Tend not to follow step-by-step instructions
 - Tend not to plan and analyze actions
 - Try to use prior knowledge even if not applicable
 - Often make errors and trying to correct them makes things worse
- Especially true of problem domain experts with genuine goals

Active User Paradoxes

- Assimilation Paradox
 - People interpret new situations in terms of what they already know, but learning new tasks require going beyond what is known
- Production Paradox
 - People want to get something done, but first must spend time learning how to get something done
- Challenge is to exploit these tendencies into positives

Systematic Documentation

- Comprehensive hierarchical task decomposition
 - Identifies step by step instructions; gives **designer's** mental model of how things should work
 - Each concept is introduced, practiced, and explained
 - Prerequisite knowledge is incorporated into documents
 - Level of detail can be out of context or not match user's task

Minimalist Instruction

- Attempt to make documentation interactive
 - Embed training in realistic tasks
 - Allow users to get started fast without reading much
 - Rely on users to think and improvise based on previous experience
 - Anticipate and manage errors
- Requires much more study of users than just describing how software works
- Users may be confused by the incomplete and open nature of the documentation

Examples of Minimalism

- Task-oriented, but deliberately incomplete manuals
- Blocking exotic or expert functionality from novices
- Guided exploration cards that suggest interesting tasks
- Scaffolding - walk through complex process using one overall example; e.g., SBD and the case study

Intelligent Help & Training

- Adaptive instruction
 - Model and track knowledge held by users
 - Present new problems and activities that expand knowledge
 - Some success with math, programming
- Context-sensitive help
 - Recognize what user is trying to do
 - Software agents not very successful for general applications. E.g. MS "Clippy"
 - Wizards work well on scripted tasks

On-line or Paper?

- On-line documentation is ubiquitous and most software does not come with paper manuals; much cheaper for dissemination
- Large market of third-party books
- Advantages of paper?
- Disadvantages of paper?

Information in the Interface

- Embed instruction and information directly in interface. E.g. walk-up-and-use system like an ATM.
 - System messages: balance specificity and task relevance with length and complexity. E.g. "Error #2" vs. "Out of memory, shutting down program X"
 - Layering information: allow users who want to know to get more information
 - Tooltips can be useful if not repeating what is in interface

Socially Mediated Documentation

- Documentation produced by social groups
 - Users' groups, technical forums
 - FAQs, Wiki's
- Key issues is
 - Who organizes and maintains this documentation
 - How to determine the validity of information