The Design and Maintenance of the Andrew Help System: Providing a Large Set of Information to a Large Community of Users

Design Issues

In developing the Andrew Help System, we considered the following design goals:

- The Help System must access a very large set of information quickly and easily
- The Help System must be flexible and accommodate all levels of users. The system must be easy to use for beginners. The system must be robust enough for experts.
- The Help System must display multiple document formats on different terminal types
- The Help System must be a hypermedia-based, with links, cross-references, and multiple windows, displaying both text and graphics.

The Andrew Help System

Consistent and Compatible Interface

Andrew Help is consistent and compatible with other application programs on the Andrew system:

- Users can copy and paste from Andrew Help windows to any other Andrew application, e.g., copy from Help menu to the Talk window
- Like all other Andrew applications, Andrew Help provides a Send Comment facility for users, who can send messages with questions and comments directly to the Help program.
Flexibility of the Andrew Help System

Maneuverability

Navigating from document to document via menu options:
- Show Help on *Keyword*
- Show Help on Selected Word
- Show More Documentation
- Show Tutorial

Via panel item selection:
- Mouse click on topics of interest in the panel lists
- Panels organized into "Overview" and "Program" tabs
- "History" panel list (optional)

Tailorability

Users of the Andrew Help System can easily tailor the program to suit their needs at any particular time:
- Hide or show all or any subset of combination of panels
- Set panel preferences during run-time or for start-up with a "preferences" file
- Add additional or user-configured help file directories
- Select either "tutorial" or "reference" versions of a Help file

Searching and browsing

The following are the different ways in which information can be searched or browsed in the Andrew Help System:
- Browsing within a tree (node or key commands)
- Searching within a file (index or key commands)
- Searching/browsing among documents via Overview or Program panels
- Using "Related Tasks" links to access other documents or related content
- Narrowing field of search (filter Program List)
- Tracking a search (History)
- Going back to previous document or selection of a document (Bookmark in the history panel)

Multiple types

Multiple document types:
- Andrew Tutorial and Andrew Help files (most useful for novices)
- Unix man page files (for the more advanced users)

Multiple machine types:
- Computer machines (IBM, DEC, and non-workstations, IBM PC/AT)
- Terminal via network link
- Users are prompted machine-specific Help files automatically

Multiple window types:
- No window system
- X window system
- X window system with overlapping windows
Maintenance and Authoring

A number of features were incorporated into the Andrew Help System to aid authoring and maintenance of the system:

- Standardized Help templates ensure consistency of Help files
- Consistent Help file indexing is achieved by instant annotation
- Overviews appear before Help files which appear before main pages, etc.
- Automatically
- Allowing authors to annotate "future matching" and title pages exist for any given keyword
- Automatic revisions of user manuals to allow maintainers to keep track of what users are looking for; maintainers can modify
- Allowing accordingly
- Send Comments feature allows users to quickly and easily communicate comments and questions to maintainers
- Flexibility of system allows maintainers to control where the system locates files and what appears in various panels in the program
- Indexing and a
ing can also be used to control where and how the program accesses files

Hypertext and Hypermedia

The Andrew Help System design incorporates a number of hypertext and hypermedia features. For example:

- Users can navigate from one document to another via pre-programmed links on various panels, or links within the documents.
  - Some links allow users to see more documentation about a particular subject (Show More Documentation)
  - Some links allow users to see documents of related systems (Related Tools/Show Help on Selected Word)
  - Some links are set to show a tutorial version of a document (Show Tutorial)

Andrew Help System also allows documents with objects other than text such as:

- Diagrams, Graphics, and Figures
- Recent Pages
- Animations and Sound Objects

Future Improvements

The following are some ideas for future improvements to the Andrew Help System:

- More support for user navigation of links: Help should provide information on what is on the other end of the link; users can make better decisions on how to move from node to node
- Some documents accessed by the system are very large; need more
- "churching" of documents or a "Document Examiner" - like browsing systems
- More pre-programmed links need to be added
- Need more support for authoring: automatic indexing and cross-
  referencing, author's name/author's name, etc.
- More advanced data techniques can be incorporated
  - image matching, natural language search, etc.
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