

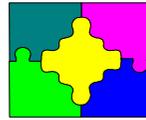
Designing and Evaluating DSS User Interfaces Chapter 5

Why is the user interface the most important component of a DSS?



User Interface: An Overview

- ⌘ A set of menus, icons, commands, graphics
- ⌘ Hardware and software
- ⌘ Provides cues to the user



A User Interface puzzle

User Interface Input Styles

- ⌘ Command-line Interfaces
- ⌘ Menu Interfaces
- ⌘ Graphical User Interfaces
- ⌘ Question and Answer Interfaces
- ⌘ Voice, touch, immersive
- ⌘ Most DSS use a combination of styles



Building Blocks

Command-Line

a method of interacting with a computer via a text terminal. Commands are entered as typed characters from a keyboard and output is also received as text. The > carat is the command prompt.

```
>RUN Analyzer  
>LOAD sales.dat  
>DISPLAY CHART
```

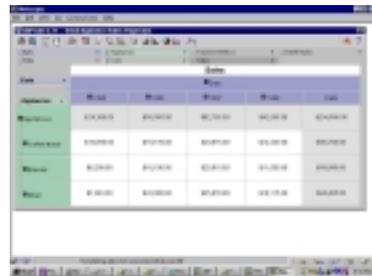
Menu

a list of entries for the user to choose from



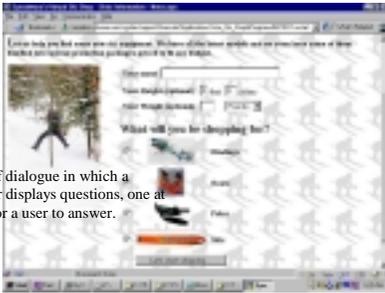
Graphical User Interface

A graphical user interface or GUI (pronounced "goeey")



use a mouse pointer to act on objects

Question and Answer



A type of dialogue in which a computer displays questions, one at a time, for a user to answer.

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Voice, touch, immersive

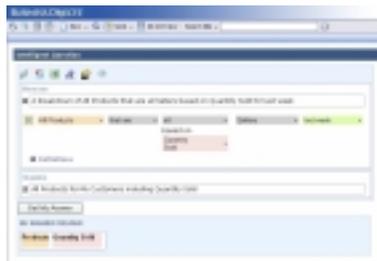
- ⌘ Form filling
- ⌘ Voice Command Language -- HAL
- ⌘ Natural language
- ⌘ Immersive 3D User Interface
- ⌘ A CAVE with four sides (three walls and a floor) is used as a display and interaction space.
- ⌘

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Intelligent Question Interface



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Battlespace Multimodal Command and Control



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Sun Microsystems: Looking Glass Demo



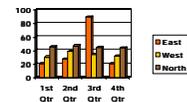
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ROMC Design Approach

- ⌘ Representations
- ⌘ Operations
- ⌘ Memory Aids
- ⌘ Control Aids



ROMC elements comprise the output of requirements elicitation

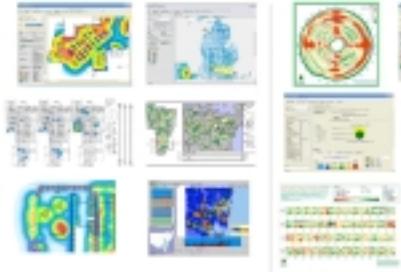


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Innovative Representations



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Building the DSS User Interface

- ⌘ Get started - identify the user, brainstorm capabilities
- ⌘ Design screens and respond quickly to feedback
- ⌘ Pay attention to the interaction -- try it, analyze it, simplify it, change it, try it ...

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Design Elements

- ⌘ Graphics are useful - communicate one main idea
- ⌘ Color enhances the interface
- ⌘ Symmetry -- balanced proportions, beauty of form
- ⌘ Provide guidance to users

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Guidelines

- ⌘ Strive for consistency
- ⌘ Provide informative feedback
- ⌘ Design dialogs to create closure
- ⌘ Permit easy reversal of actions
- ⌘ Reduce information overload

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Factors influencing design success

- ⌘ DSS speed
- ⌘ Versatility of DSS -- multiple tasks
- ⌘ Quality of on-line help
- ⌘ Adaptability of the DSS
- ⌘ Uniformity of interface
- ⌘ Learning time
- ⌘ Ease of recall
- ⌘ Fun

The design of user interface software is not only expensive and time-consuming, but it is also critical for effective system performance.

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Emerging User Interface Issues

- ⌘ Animation for Simulation Outputs and Data Analysis Displays
- ⌘ User Interface Issues in Mobile Computing
- ⌘ Accessibility – compensation for physical impairments
- ⌘ Speech synthesis and Speech recognition

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Questions for Review and Discussion

- ⌘ What are the various interface input styles?
- ⌘ What is meant "From the user's perspective, the user interface is the system?" Do you agree?
- ⌘ What does it mean to standardize the "look and feel" of the DSS?