Human Computer Interaction (INSY4112)

CHAPTER VIII

User Support

USER SUPPORT

- **User Support**
  - **Introduction**
  - **Requirements of user support**
  - **Approaches to user support**
  - **Adaptive help systems**
  - **Designing user support systems**

Objectives

- To describe the requirements of user support
- To identify Approaches to user support
- To define adoptive help system
- To Design user support systems

User Support

➢ introduction to User supprt

- Users have different requirements for support at different times.
- User support should be:
  - Available but unremarkable
  - Accurate and robust(Healthy)
  - consistent and flexible.

User Support

➢ Introduction to User support

- User support comes in a number of styles:
  - Command-based methods
  - Context-sensitive help
  - Tutorial help
  - Online documentation
  - Wizards and assistants
  - Adaptive help.
- Design of user support must take account of:
  - Presentation issues
  - Implementation issues.

User Support

- **Issues in User Support**
  - Different types of support at different times
  - Implementation and presentation both important
  - All need careful design
- **Types of user support**
  - Quick reference, task specific help, full explanation, tutorial
- **Provided by help and documentation**
  - Help - problem-oriented and specific
  - Documentation - system-oriented and general
  - Same design principles apply to both

User Support

➢ Requirements of User Support

- **Availability**
  - continuous access concurrent to main application
- **Accuracy and completeness**
  - help matches and covers actual system behaviour
- **Consistency**
  - between different parts of the help system and paper documentation

User Support

➢ Requirements of User Support

- Robustness
  - correct error handling and predictable behaviour
- Flexibility
  - allows user to interact in a way appropriate to experience and task
- Unobtrusiveness obtrusive
  - The help system should not prevent the user from continuing with normal work, nor should it interfere with the user's application.

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➢ Approaches to user support

❖ Command assistance

- User requests help on particular command

  e.g., UNIX man, DOS help

- Good for quick reference
- Assumes user know what to look for

❖ Command prompts

- Provide information about correct usage when an error occurs
- Good for simple syntactic errors
- Also assumes knowledge of the command

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➢ Approaches to user support

❖ Context sensitive help

- Help request interpreted according to context in which it occurs.

  e.g. tool tips

❖ On-line tutorials

- User works through basics of application in a test environment.
- Can be useful but are often in flexible.

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➢ Approaches to user support

❖ On-line documentation

- Paper documentation is made available on computer.
- Continually available in common medium
- Can be difficult to browse
- Hypertext used to support browsing.

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➢wizards and assistants

❖ wizards

- task specific tool leads the user through task, step by step, using user's answers to specific questions example: resume
- useful for safe completion of complex or infrequent tasks
- constrained task execution so limited flexibility
- must allow user to go back

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➢wizards and assistants

- **Assistants**
  - monitor user behaviour and offer contextual advice
  - can be irritating e.g. MS paperclip
  - must be under user control e.g. XP smart tags

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➢Adaptive Help Systems

- Use knowledge of the context, individual user, task, domain and instruction to provide help adapted to user's needs.
- Problems
  - knowledge requirements considerable
  - who has control of the interaction?
  - what should be adapted?
  - what is the scope of the adaptation?

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➢Knowledge representation (User modelling)

- ❖ All help systems have a model of the user
  - single, generic user (non-intelligent)
  - user-configured model (adaptable)
  - system-configure model (adaptive)

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➢ Approaches to user modelling

- ❖ Quantification
  - user moves between levels of expertise
  - based on quantitative measure of what he knows.
- ❖ Stereotypes
  - user is classified into a particular category.
- ❖ Overlay
  - idealized model of expert use is constructed
  - actual use compared to ideal
  - model may contain the commonality or difference
  - Special case: user behaviour compared to known error catalogue

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➢Knowledge representation

Domain and task modelling

- Covers
  - common errors and tasks
  - current task
- Usually involves analysis of command sequences.
- Problems
  - representing tasks
  - interleaved tasks
  - user intention

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➢Knowledge representation

Advisory strategy

- involves choosing the correct style of advice for a given situation.

  e.g. reminder, tutorial, etc.

- few intelligent help systems model advisory strategy, but choice of strategy is still important.

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➢Techniques for knowledge representation

- rule based (e.g. logic, production rules)
  - knowledge presented as rules and facts
  - interpreted using inference mechanism
  - can be used in relatively large domains.
- frame based (e.g. semantic network)
  - knowledge stored in structures with slots to be filled
  - useful for a small domain.
- network based
  - knowledge represented as relationships between facts
  - can be used to link frames.
- example based
  - knowledge represented implicitly within decision structure
  - trained to classify rather than programmed with rules
  - requires little knowledge acquisition

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➢**Problems with knowledge representation and modelling**

- ❖ Knowledge acquisition
- ❖ Resources
- ❖ Interpretation of user behaviour

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➢Issues in adaptive help

- Initiative
  - does the user retain control or can the system direct the interaction?
  - can the system interrupt the user to offer help?
- Effect
  - what is going to be adapted and what information is needed to do this?
  - only model what is needed.
- Scope
  - is modelling at application or system level?
  - latter more complex

e.g. expertise varies between applications.

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➢Designing user support

- User support is not an `add on'
  - should be designed integrally with the system.
- Concentrate on content and context of help rather than technological issues.

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➢Presentation issues

- How is help requested?
  - command, button, function (on/off), separate application
- How is help displayed?
  - new window, whole screen, split screen,
  - pop-up boxes, hint icons
- Effective presentation requires
  - clear, familiar, consistent language
  - instructional rather than descriptive language
  - avoidance of blocks of text
  - clear indication of summary and example information

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➢Implementation issues

- ❖Is help
  - operating system command
  - meta command
  - application
- ❖Structure of help data
  - single file
  - file hierarchy
  - database
- ❖What resources are available?
  - screen space
  - memory capacity
  - speed
- ❖Issues
  - flexibility and extensibility
  - hard copy
  - browsing

Introduction to HCI cont...

The End of Unit Eight

User Support