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Unit V

User Support

Introduction Requirements of user support – Approaches to; user support – Adaptive help systems designing user support systems.

Issues

- 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

Requirements

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

Robustness
- ◦ correct error handling and npredictable behaviour

Flexibility
- ◦ allows user to interact in a way appropriate to experience and task

Unobtrusiveness

does not prevent the user continuing with work

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

Approaches to user support (ctd)

Context sensitive help
- ◦ help request interpreted according to context in which it occurs. e.g. tooltips

On-line tutorials
- ◦ user works through basics of application in a test environment.
- ◦ can be useful but are often in flexible.

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.

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

  Assistants
- monitor user behaviour and offer contextual advice
- can be irritating e.g. MS paperclip

ADAPTIVE HELP SYSTEM

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?

USER MODELING

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

system-configure model (adaptive)

APPROACHES

◦ 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

DOMAIN AND TASK MODELLING

Covers
- common errors and tasks
- current task

Usually involves analysis of command sequences.

Problems
- representing tasks
- interleaved tasks

KNOWLEDGE REPESENTATION

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.

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

PROBLEMS WITH KNOWLEDGE

❑representation and modelling

❑knowledge acquisition

❑resources

❑interpretation of user behaviour

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

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

IMPLEMENTATION ISSUES

Structure of help data

single file

file hierarchy

Database

Issues

– flexibility and extensibility

– hard copy

ALL THE BEST