GERM as a Tool For Space Station Documentation

by

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Introduction
Problem Statement

- The volume and complexity of Space Station documentation
  - Multiple levels of management
  - Division of labor into work package structure
  - Predominance of paper documentation
- Limitations of current technology

Hypermedia as a Tool for Documentation
"Why we considered hypermedia."

- Variety of types of documents
- Critical information contained in relationships between documents
- Sequential representation inadequate

Technical Approach

- Defining the problem scope
  - OMA Documents
  - RID data base
  - Relationships between documents
- Choice of tools
  - GERM - Hypermedia
  - Frame Maker - Desktop Publishing
  - Oracle - Relational DBMS

GERM

- What is GERM?
  - Developed at MCC STP
  - MCC/RICIS/JSC Cooperative Agreement
  - Prototype using proprietary software
  - Runs on Sun
- Unique Characteristics of GERM
  - Graphical interface
  - User definable schema structure
  - Links to other applications

Applications Development

- Schema file
- Icons
- Folios
- Frame Maker
- Oracle database
- Plug-in-Modules

Results

- Presentation of GERM interface structure
- User inter-action

Benefits

- Access to documents in a variety of forms
- Visual presentation of important relationships
- Management of complexity
  - Non-sequential links
  - View different levels of detail
  - Use of visual cues (color, icons)

Lessons Learned

- Need a tool that is flexible
  - Tailor graphics to applications
  - Represent different types of relationships
- Limitations
  - Does not do initial capture of information
  - Represents, but does not discover relationships

Lessons Learned
(cont'd)

- "Hooks" need to be in documents to establish relationships
- GERM is flexible enough to be used with a variety of applications beyond Space Station documentation

Conclusions

The hypermedia capabilities of GERM offer significant potential for increasing the usability of Space Station documentation.

The technology also provides capability important for design knowledge capture.

Session 5

Interfaces for Hypermedia Systems

Chair: Dona Erb

Hypertext as a Model for the Representation of Computer Languages

Randal Davis

Automating Hypertext in a Decision Support System

Michael Bieber

TEJAS: Hypermedia for the NASA Masses

Michael L. Drews