Collaboration around Shared Content

Tom Gruber
Colloquy Systems
A Perspective on Collaboration

- Collaboration on the net is more than teleconferencing and document sharing
- For knowledge workers, the net can be a context of work
  - search, access, evaluation, synthesis, communication, application, dissemination, ...
- Example: A Group Memory
What is a Group Memory?

- A common knowledge base
- used by people with common interests
- that helps them collectively and collaboratively learn
- as a by-product of doing their work
What does a Group Memory Do?

- remembers what it is collectively told
- organizes information for *categorical* retrieval
- indexes information for *associative* retrieval
- offers a context for *discussion*
- helps people monitor and track what *other people* know
Knowledge Worker and Knowledge Sources

Foreground Knowledge
- Conversation
- Analysis
- Referral

Background Knowledge
- corp. DBs
- WWW
- News feeds
Managing Foreground Knowledge

Foreground Knowledge
- Group Memory
  - sharing
  - organization
  - brokering
  - discussion
  - notification
  - evaluation
  - presentation
  - preservation

Group Memory Services

Mediation

Info Gathering Services
- Directories
- Crawlers
- DB brokers
- Filtering
- Extraction

Background Knowledge

corp. DBs
WWW (as library]
News feeds

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Group Memory Services

- Collectively managed hierarchical directories of shared objects
- Integration of external information
- Persistent search queries
- Subscription and notification
- Group annotations of shared objects
- Threaded discussion rooted in context
Collectively Managed Directories
Familiar Browsing Interface
Categorical Retrieval

Events

- ACADIA '95 - Tom Gruber
- ARPA STSS Symposium - Tom Gruber
- CHI '96 - Tom Gruber
- DCT's WEB WORLD - Chicago - Tom Gruber
- EMail World, Web World and Internet Expo - Tom Gruber
- Fall Sym95: Context Logic - Tom Gruber
- FallSym95: AI Applications in Knowledge Navigation CFP - Tom Gruber
- Groupware '95 - Tom Gruber
- Groupware index - Tom Gruber
- Information Gathering Symposium - Tom Gruber
- VR '95 Conference Program And Registration Information - Tom Gruber
- Workshop on WWW and Collaborative Work - Tom Gruber
- WWW'94 (Geneva) - Tom Gruber
- WWW'94 (Chicago) - Tom Gruber
- WWW95 - Call for Papers - Index
Associative Retrieval

Search results for "COLLABORATION"

There are 13 matches for the pattern "COLLABORATION"

- Our shared hotspot
  - Collaboration
  - Collaboration, Knowledge Representation and Automatibility
  - A nice directory on collaboration technology
    Conolly has put together a nice directory for the collaboration work. I figure the workshop will expand this. We ought to be able to make these kinds of directories be collaboratively authored
  - is that what the hypernews page on this is
    Liberte has this Hypernews page
    http://union.ncsa.uiuc.edu/HyperNews/get/www/collaboration.html
    that looks like a html document but says it is "running hypernews". Looks like someone manually creates the directory.
Subscription to relevant information

Collaboration

- Answer Garden related - Tom Gruber
- ARPA I3 Project - Tom Gruber
- Chat-like - Tom Gruber
- Directories - Tom Gruber
- FAQ databases - Tom Gruber
- Online Communities - Tom Gruber
- Process Handbook - Tom Gruber
- Project Management - Tom Gruber
- Shared Hotlists, etc. - Tom Gruber
- Structured shared authoring - Tom Gruber
- Apple World Wide Web Home Page - Tom Gruber
- AskERIC Virtual Library - Tom Gruber
- Bibliography of Organizational Computer-Mediated Communication - Tom Gruber
- CMC Magazine July 1995 - Tom Gruber
- Collaboration, Knowledge Representation and Automatability - Tom Gruber
- Collaborative Authoring of Virtual Documents - Tom Gruber
- Collaborative Software Development Lab - Tom Gruber
You are now subscribed to Collaboration. You will be notified of any changes to this document.

Collaboration

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Subscription to queries

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Our shared hotlist

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Persistent queries = implicit categories
Integration of imported information
Encapsulating external WWW pages

Workshop on WWW and Collaborative Work

Location: http://www.w3.org/hypertext/WWW/Collaboration/Workshop/Announce.html
Context: Events

Workshop on WWW and Collaboration

September 11-12, 1995
Cambridge, MA

Organized by Laboratory for Computer Science
A context for discussion
Threaded annotation in context

Workshop on WWW and Collaborative Work

Location: http://www.w3.org/hypertext/WWW/Collaboration/Workshop/Announce.html
Context: Events
Comments:

My talk at this workshop - Tom Gruber - I'll be attending this workshop. The abstract for my talk can be found in http://www-ksl.stanford.edu/people/gruber/www-collaboration-abstract.html

Add: New or Paste

Workshop on WWW and Collaboration

September 11-12, 1995

Cambridge, MA
Encapsulating external information

Collaborating around Shared Content on the WWW

Tom Gruber <gruber@ksl.stanford.edu>

Collaboration on the net is more than teleconferencing. Whenever we communicate or cooperate, we share context and content. On the net, however, some of the shared context and content is represented in the digital medium. As a consequence, the network infrastructure can give us more than a place to create and share information. It can also tell us what others are doing in that space; help us inform each other of relevant changes; track how information is found and used; and offer a context for discussions about shared content and how it is used. We don’t just share information; we share the process of accessing it, searching it, evaluating it, and using it.

I will describe a WWW-based collaboration system called AnswerWeb that aims to take advantage of these possibilities. AnswerWeb provides a group memory—a common, shared knowledge base in a social context with services to help a team of people collectively and collaboratively learn. Many of the services it will provide are found on the web today: collectively managed directories (Yahoo), annotation systems (ComMentor), threaded discussion systems (Hypernews), and joint editing systems (Futplex). The AnswerWeb technology includes an HTTP server with an object base and fine-grained access control, a virtual document user interface, threaded discussion, proxy-based mediation, subscription to virtual information sources, notification of change, and indexed Boolean search.
Notification of new information

Collaborating around Shared Content on the WWW is now on the clipboard. Use the Paste command to put it somewhere else.

The results of the search "COLLABORATION" have changed. Collaborating around Shared Content on the WWW now matches this search.

Collaborating around Shared Content on the WWW

Context: Clipboard

Collaboration on the net is more than teleconferencing. Whenever we communicate or cooperate, we
What else?

- Email for access, notification, upload
- Brokering to information gathering services
- Content-based routing of info requests
- Representing expertise (e.g., for referral)
- Rating and evaluation of content
- Automated workflow (e.g., checklists)
Open challenges

- How to support moderation of shared content without compromising the flexibility
- Practical end-user administration (socially mediated)
The power of small groups

Claim: Group memory techniques work best for small groups

- HCI techniques (e.g., notification, hierarchical display, embedded annotation) don’t scale
- Small groups can make commitments to work together online
- Increased density of relevant information and relevant expertise improves performance of search and information retrieval techniques

Strategy: Combine small group memory with brokered access to wide area services
Pushing the Envelope of WWW

- Simulating User Interfaces in HTML
- Using a proxy server to implement mediation services
- Managing state in a stateless protocol
- Authentication for proxy access
- Persistent content identity