Knowledge Gardening: Sensemaking through Hypermedia Discourse Federation

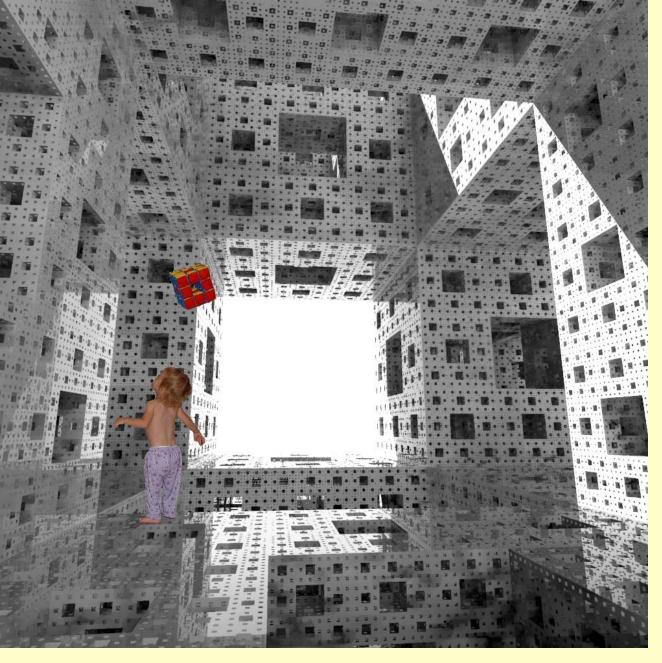
Jack Park SRI International, Menlo Park, CA and Knowledge Media Institute & Computing Research Centre The Open University, Milton Keynes, UK

KNOWLEDGE MEDIA

OKMDS Panel Session April 17, 2008

jack.park@sri.com





Worlds of Wonder Sensemaking in the Wild

Knowledge Gardening as Hypermedia Discourse Federation

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Outline

- What is knowledge gardening?
- Activities
 - Tagging
 - Annotating
 - Conversation
 - Social networking
- Architectures
- Related tools

Knowledge gardening is...



Collaborative problem solving in rugged fitness landscapes



Images: http://www.turbophoto.com/Free-Stock-Images/

Knowledge gardening is... Facilitating large-scale discourse Towards a cultivated ecosystem... Structured but emergent networks of claims and arguments ordered gardens Informally expressed claims and wild borders arguments, awaiting 'proper linkage'

Source: Simon Buckingham Shum

Knowledge Gardening is...

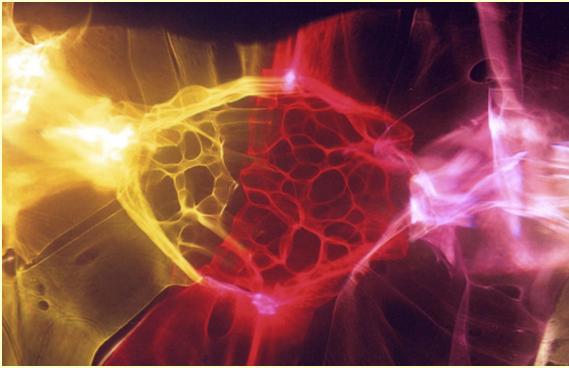
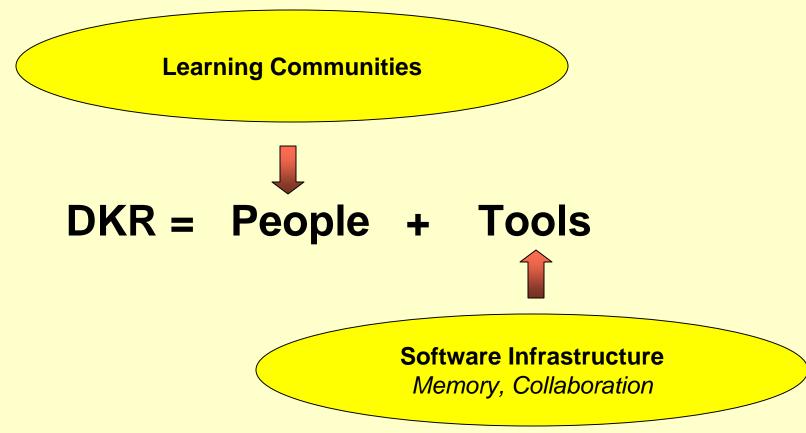


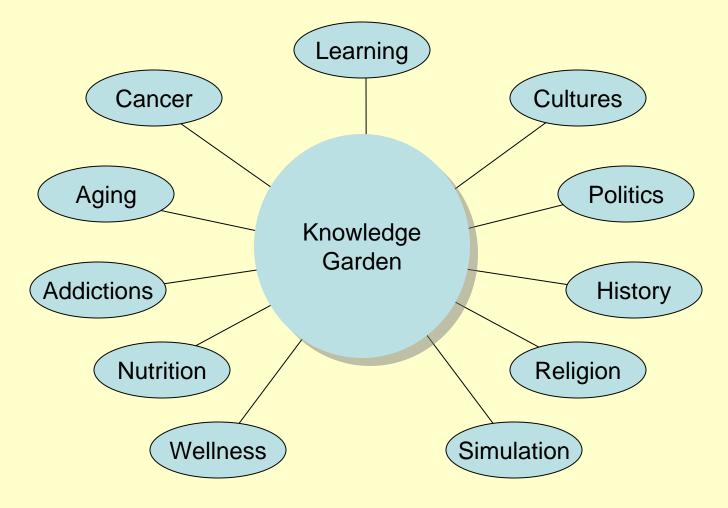
Image copyright Alan Jaras, used with kind permission http://www.flickr.com/photos/alanjaras/

- People
 - Collecting
 - Organizing
 - Discussing
 - Cultivating
- Knowledge
 - Federated Information resources
 - Blogs
 - Emails
 - Stories
 - Dialogs
 - Tags
 - Annotations
 - ...
- Tools
 - Web portals
 - Knowledge maps

Knowledge Gardening: Douglas Engelbart's Dynamic Knowledge Repository (DKR)



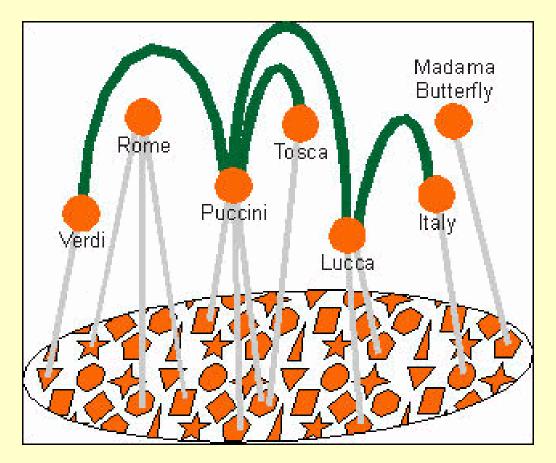
Knowledge Gardening as Federated Human Knowledge



Knowledge Gardening: Subject-centric Federation

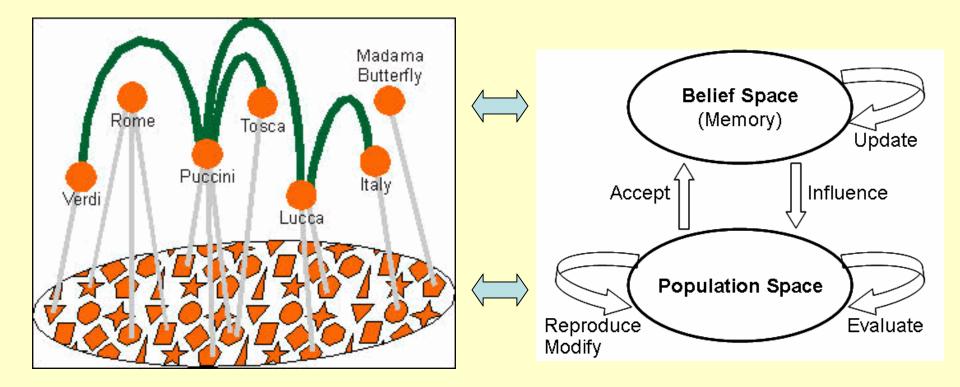
- Federation:
 - bringing heterogeneous information resources together
- Subject-centric organization:
 - Co-locating representations of the same subject together in a knowledge map
 - A map is not the territory it represents
- Provides well-organized collective memory

Knowledge Maps: Topic Maps



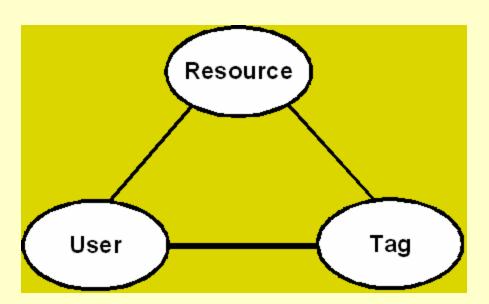
Topic Map: Lies above information and weaves that information into a fabric

Knowledge Maps as Cultural Memory



Annotation by Tagging

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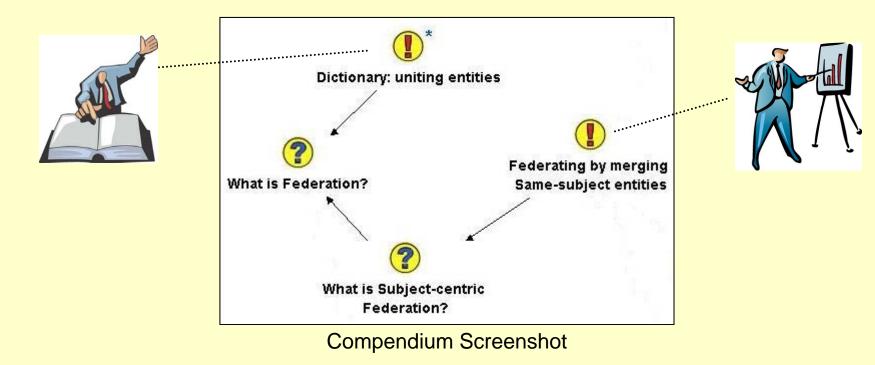
•••• "Semantic Desktop"

A User asserts a Tag on a Resource

Annotating By Connecting

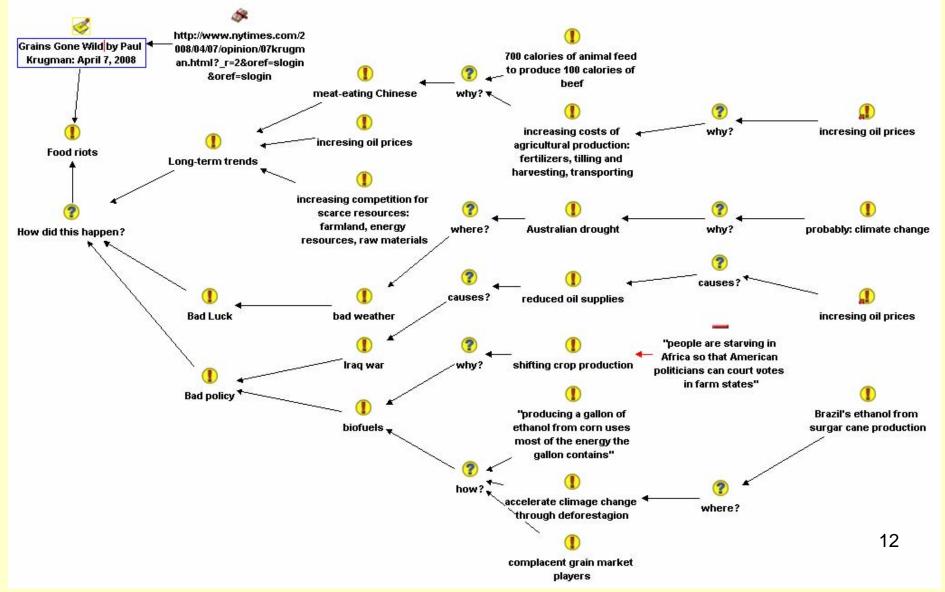
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| | From Wikipedus, the tree encyclopedia In computer science, the Semantic Dealtery is a collective term for ideas related to changing a computers user interface and data handling capabilities so that data is more easily shared | ← −−− ' | Is at here. Some | Ding in |
| WIKIPEDIA Da For Laguage | between different applications or tasks and so that data that once could not be automatically pocensed by a computer could be. It also encompasses some ideas about being able to automatically share information between different people. This concept is very much reliated to the Semantic Web but is distinct insofile its main concern is the personal use of | concept | IRIS Semantic Desktop | Tees |
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| Donate to Wikigedia | General description [##] | by" | Contact Contact Feb. 11, 2006: IRIS has been released as open source! It is available under an LGPL loanse. | Warkshop 2005-11-06 |
| Ge Seath | The vision of the semantic decisition can be considered as a response to the percented problems of existing user interfaces. Firstly computent cannot get a great deal of information about the content of diffes. For exemple suppose one deminiative advocument by a particular interfaction a particular integration and the document will have document by a particular integration on a particular integration and the document will have document by a particular integration on a particular integration and the document will have document by a particular integration and the document and the | | | DeenSHIL org Open For Dusiness 2005-11-43 |
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| On the whole | Related to this a user will aften access a lot of data for the lotaned which is segregated from the data stored locally on the computer, being accessed through a browser or other programs. As well as accessed data a user has to share data, often through a mail or separate file transfer programs. | | Entry International Contraction of Contraction | Workshop Humps |
| Deutsch | The semantic desktop is an attempt to solve some or all of these problem by extending the operating system's capabilities to be able to handle all data using Semantic Web technologies. Based on this data integration, improved user interfaces (or plugins to existing applications) can give the user an integrated view on stored knowledge. | | Read more about DIST, theck out the screenshots, or my it out. | Bits entryment at 2005 Semantic Desktop Workshop |
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Conversation

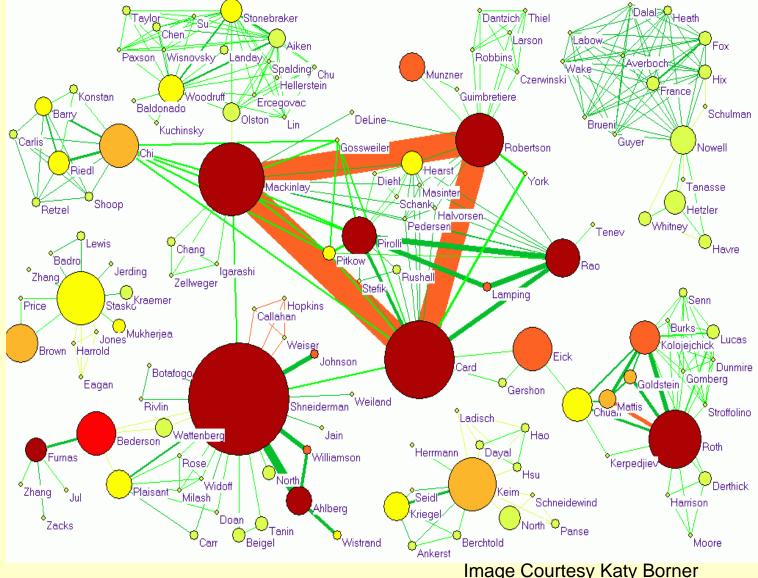


Users Ask and Answer Questions, and Discuss the Answers

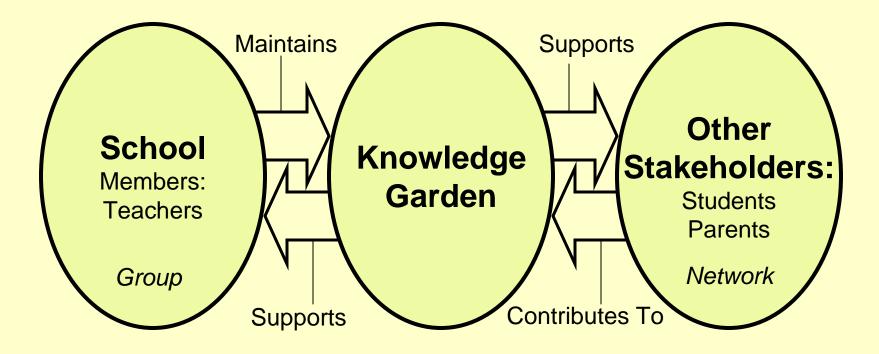
Issue Map of an OpEd



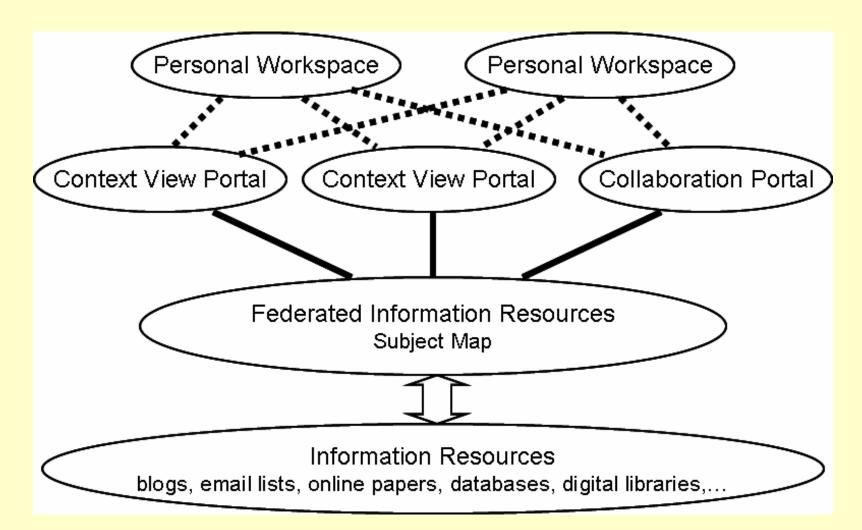
Social Aspects of Collaboration



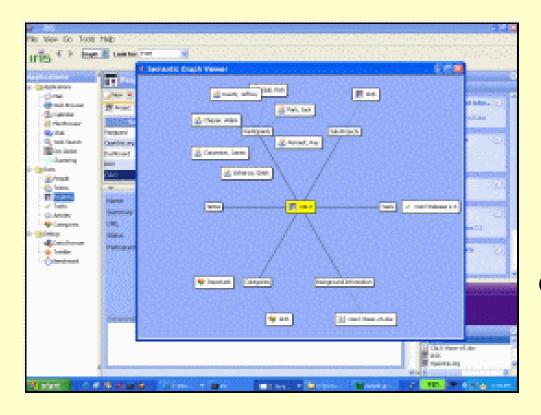
Example: Schools as Knowledge Gardens



Architecture



Related Tools: SRI International's CALO Semantic Desktop Application



http://caloproject.sri.com

Open Source IRIS Platform: http://www.openiris.org

Related Tools: Virtual Learning Centers

Ohio University Second Life Campus



http://www.youtube.com/watch?v=aFuNFRie8wA

http://www.secondlife.com/

TopicSpaces: A **Prototype**



Navigation

Home AboutUs Privacy Usage Feedback Help Login Français Español Italiano

Knowledge Garden Navigation

- Recent Changes
- Search
- Upload File
- Debug
- Admin

TopicSpaces Applications

- Tagomizer
- Relatomizer
- Open Questions
- Person
- Group
- Project
- Blogs
- Stories
- Bibliography

- ▶ Property Type
- AIR Type
- ☑ Class Type
- MergeRule Type
- Legend Type Ontology Type
- Assertion Type
- Relation Type
- Role Type
- User Type
- Scope Type
- SubjectProxy Type
- Resource Type

