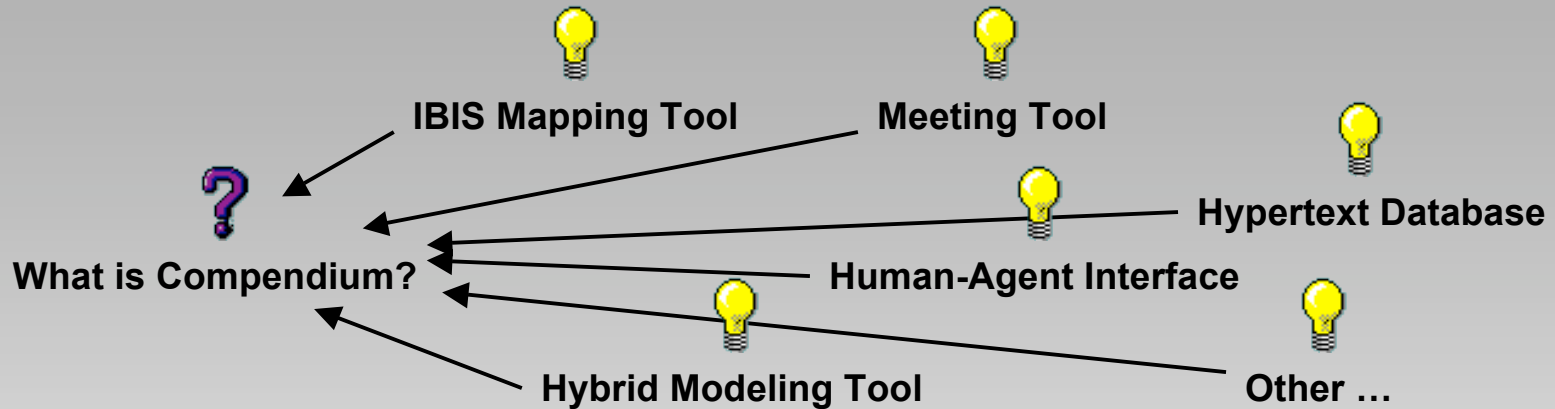


# Compendium



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RIACS/NASA Ames Research Center

Moffett Field, CA

*Computational Semantics Laboratory*

*Stanford University*

*September 28, 2006*



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## Purpose of Compendium

- The purpose of Compendium is to provide a faster, better way for groups and project teams to work.
- Compendium allows teams to analyze, design, communicate, manage, and collaborate using a compendium of tools and artifacts. It is a innovative, tested, and effective technology used in organizations throughout the world since 1993.

# Facilitated Hypertext for Collective Sensemaking 15 Years on from gIBIS

**Jeff Conklin** CogNexus Institute, USA

**Albert Selvin** Verizon eBusiness, USA

**Simon Buckingham Shum** Open University, UK

**Maarten Sierhuis** NASA Ames, USA

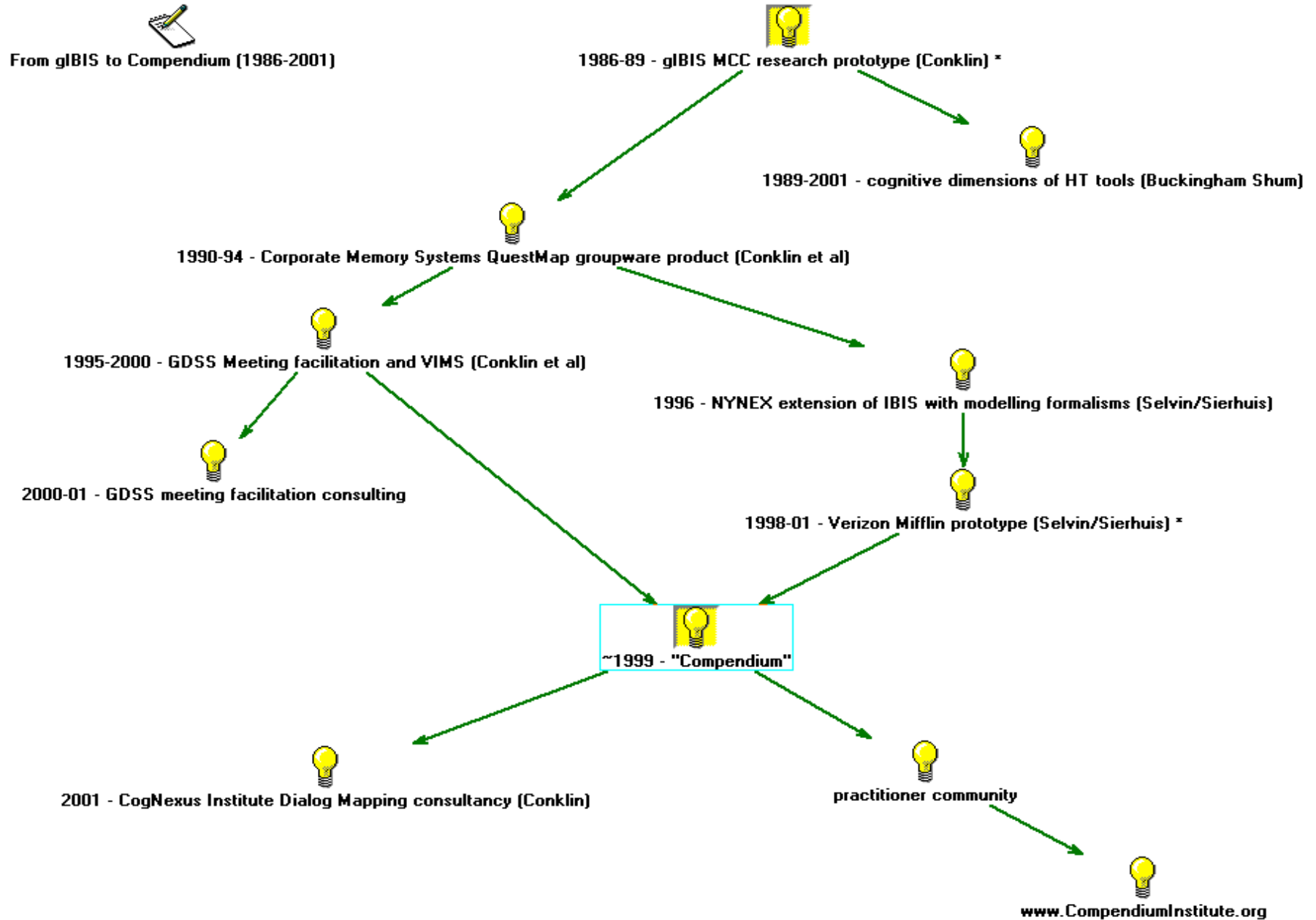
ACM Hypertext  
13<sup>th</sup>–18<sup>th</sup> August, 2001  
Århus, Denmark



# Compendium

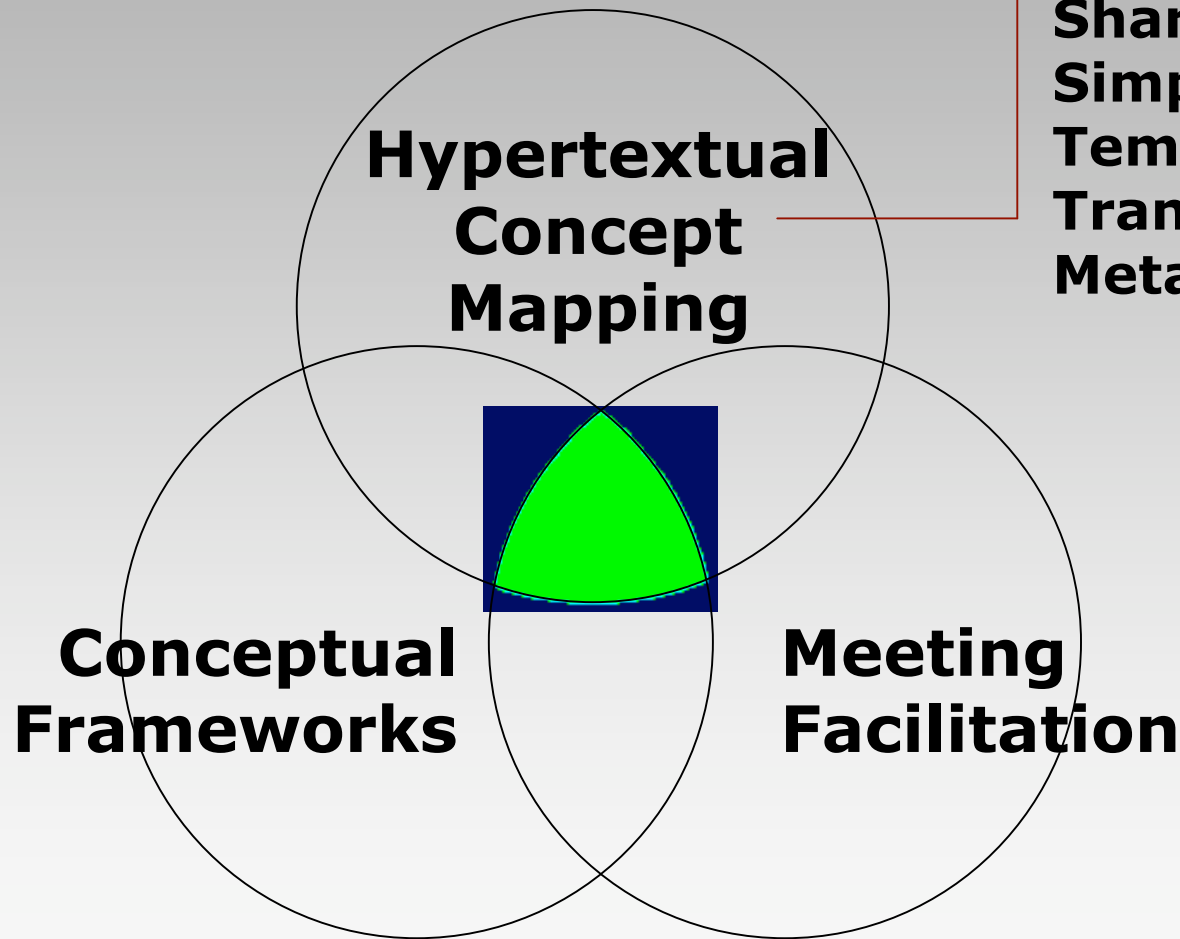
- A hypertext concept mapping tool, supported by a collaborative modeling method based on extended IBIS (Rittel, Webber, Conklin)
- Support for capturing and connecting ideas:
  - *visually in graphs, by catalogs, by metadata, and hypertextually by transclusion*
- Real time visual mapping of issues, ideas, arguments and decisions in meetings
- Free-form and template driven discussions







# Key elements of Compendium





# Compendium: technical infrastructure

- Cross-platform Java application
- SQL database (currently MySQL and/or Derby )
- Exports database to:
  - JPEG images (soon to be image maps)
  - Web: HTML outline or VML graphical replica
  - XML (Compendium DTD)
  - RDF (CoAKTinG Project)
- Core database API written to support direct read/write (Brahms agents)
- Database can be accessed remotely for asynchronous project memory
- Synchronous p2p collaboration through shared clients using the Jabber protocol
  - Interacts with several other collaborative technologies using Jabber (CoAKTinG project)



# What's a node?

- Everything's a node
- An object representing any phrase, concept, document, hyperlink, or container node (i.e. a map node)
- Has a number of attributes (i.e. *content*, *properties*, *views*, *tags*, *indicators*)
- Stored as a record with an <id> in a relational database
- Is located in one or more map nodes (i.e. allows *transclusion*)
- Has certain behaviors, depending on its type



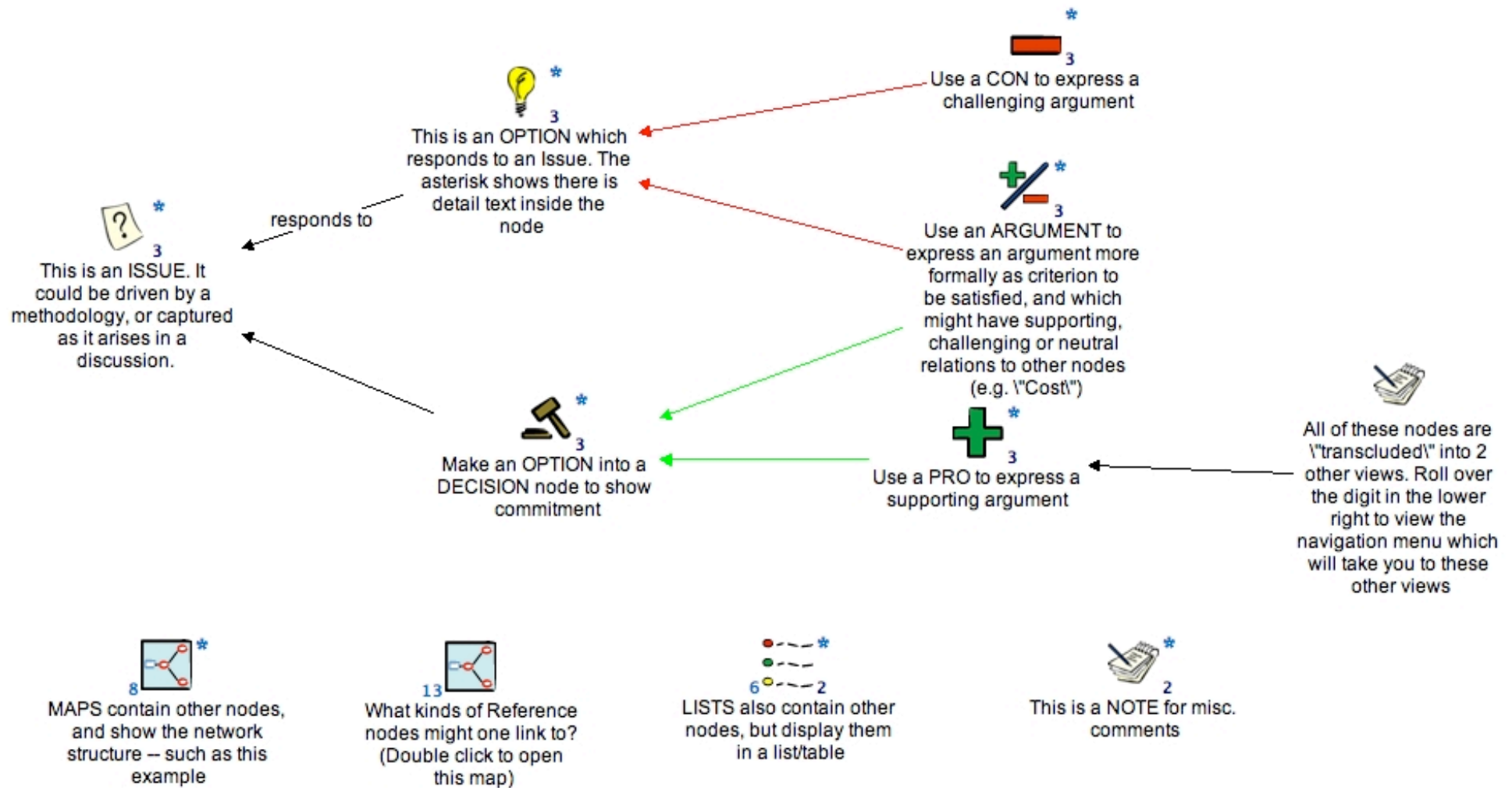


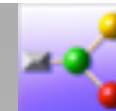
# What's a link?

- A relationship between two nodes
- Is an object as well, i.e. is a record with an <id> in a relational database
- Can have a label for representing any (user-defined) relation
- Depending on the linked nodes, there are a number of predefined link types
- Has a number of attributes (i.e. *content and properties*)
- The user can specify arrows (i.e. *from-to, to-from, both, no arrows*)



# Compendium Demo





# Practical uses of Compendium

# Meetings



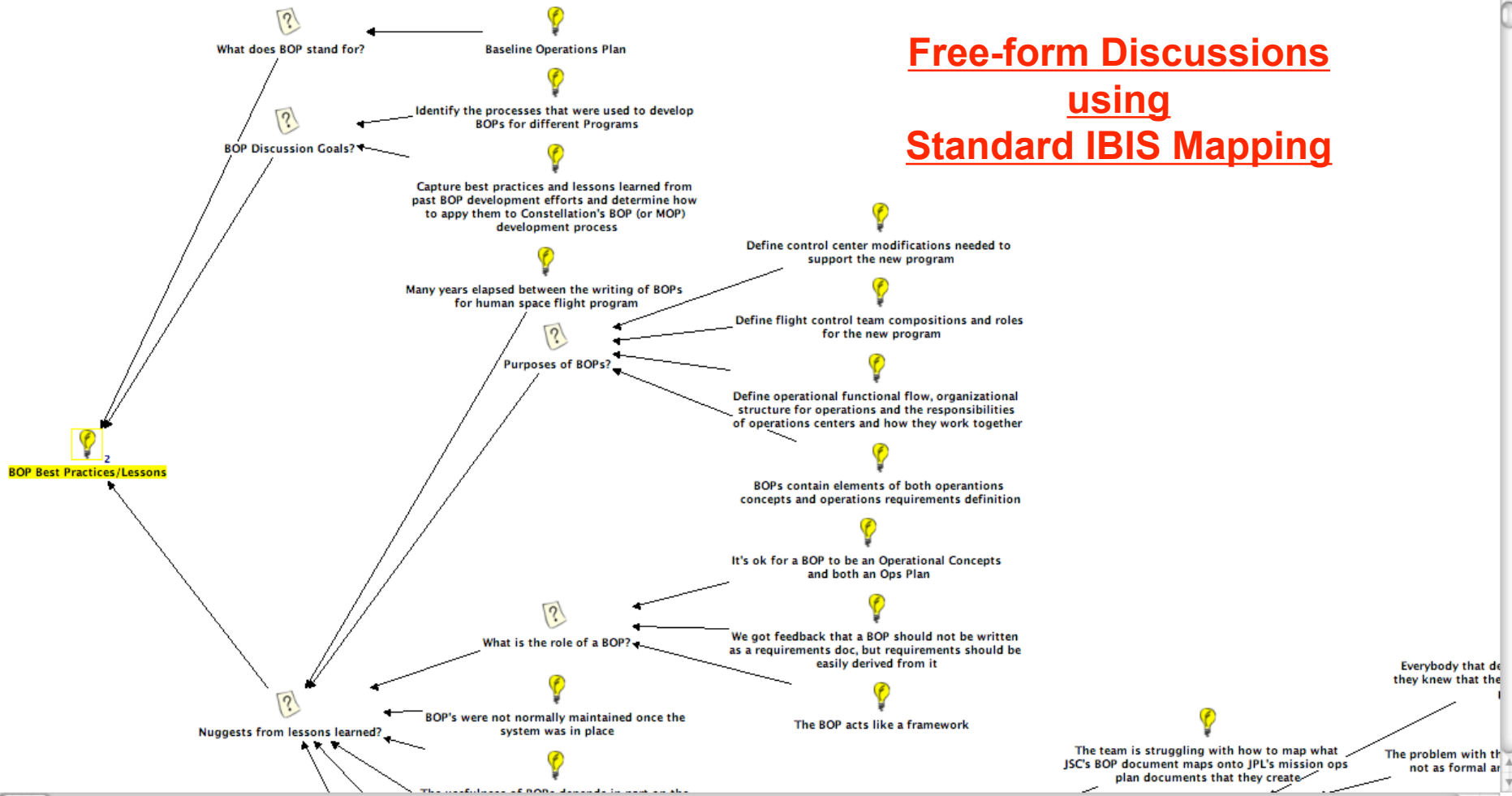
Compendium/: Derby / Localhost / Default / JSC Mission Operations Modeling

Compendium/: Derby / Localhost / Default / JSC Mission Operations Modeling

File Edit View Format Tools Favorites Workspaces Window Help

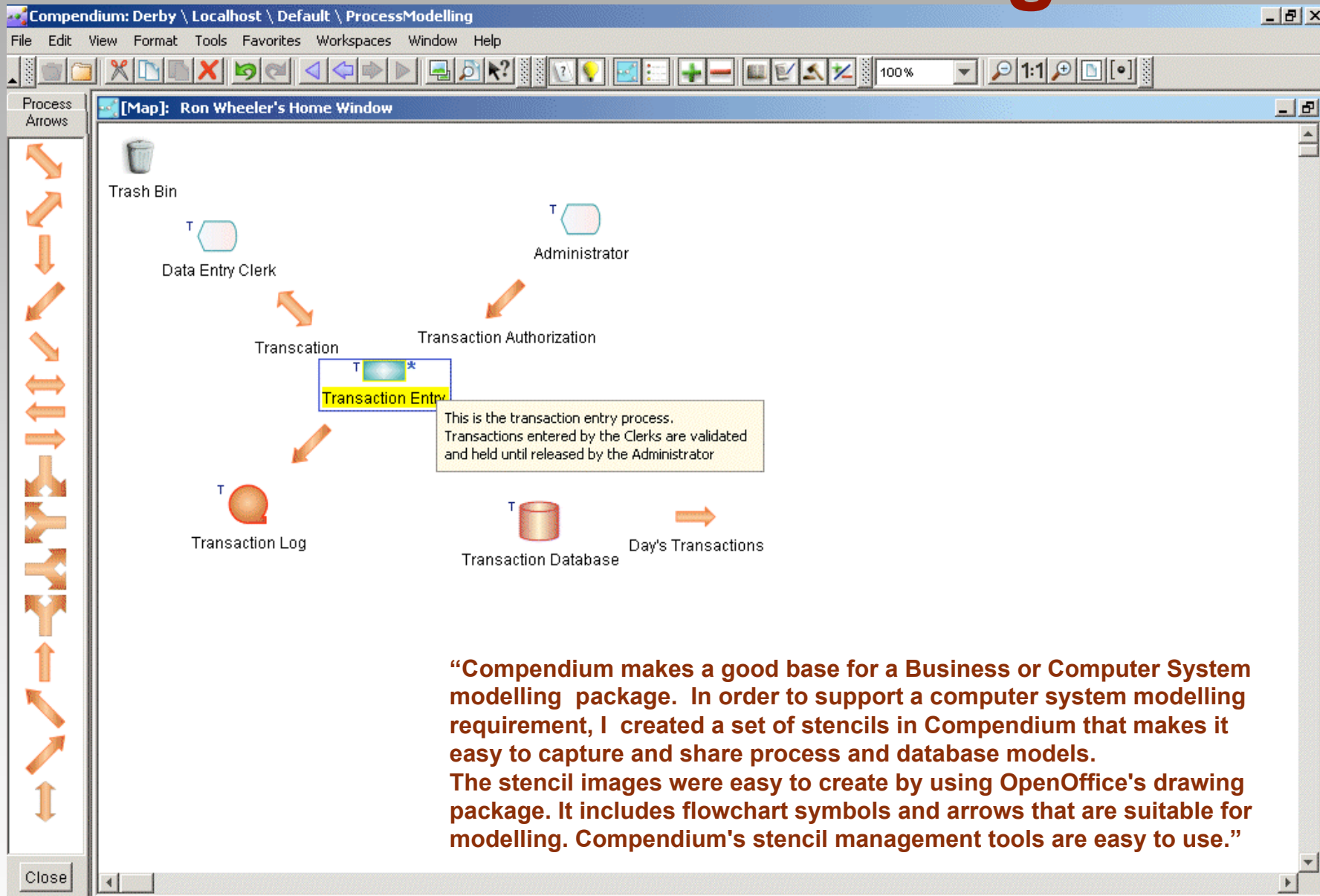
< Select Tag > 75% 1 px

[Map]: BOP Thoughts



**Free-form Discussions  
using  
Standard IBIS Mapping**

# Process Modeling

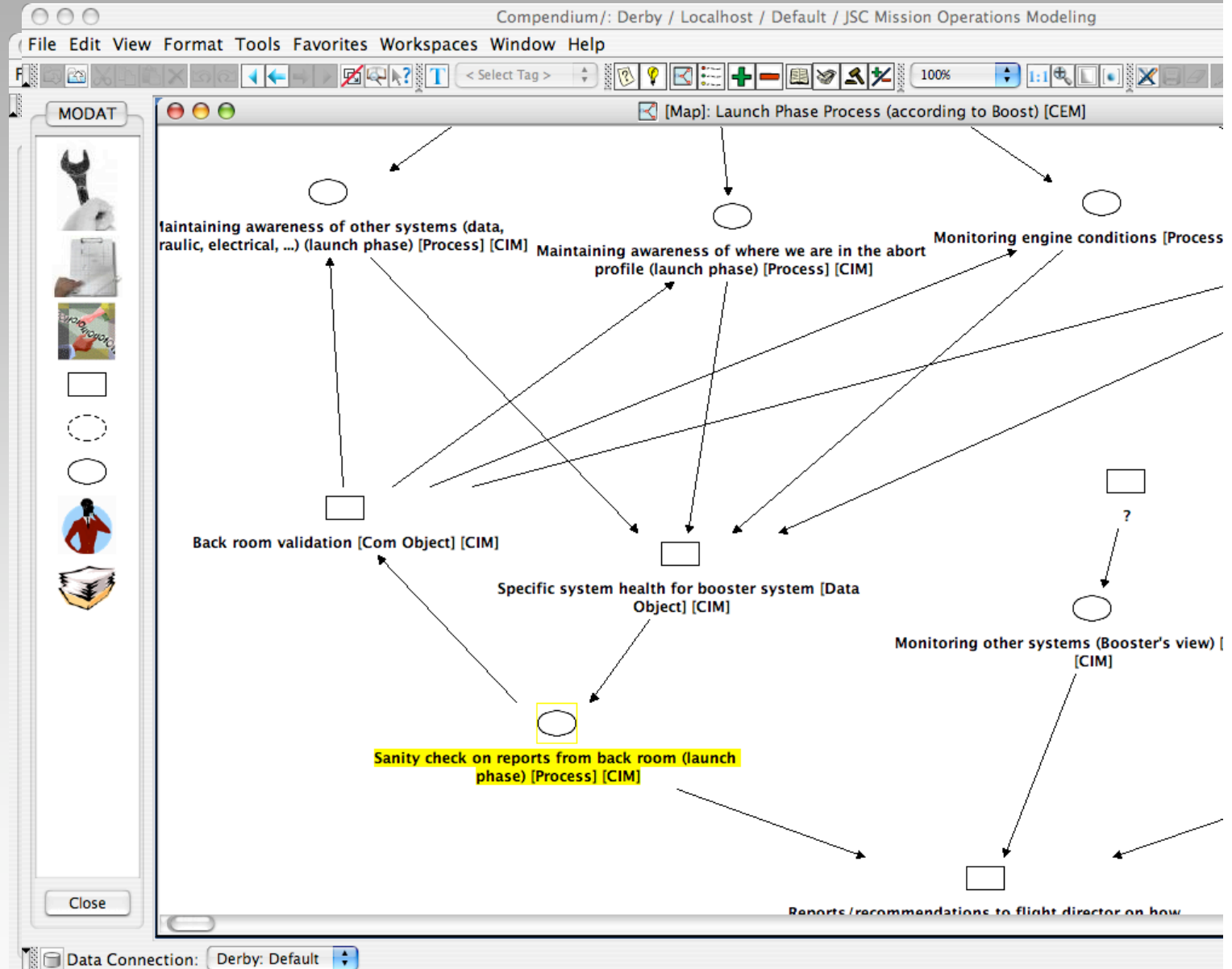


**“Compendium makes a good base for a Business or Computer System modelling package. In order to support a computer system modelling requirement, I created a set of stencils in Compendium that makes it easy to capture and share process and database models. The stencil images were easy to create by using OpenOffice's drawing package. It includes flowchart symbols and arrows that are suitable for modelling. Compendium's stencil management tools are easy to use.”**

# Dataflow Modeling

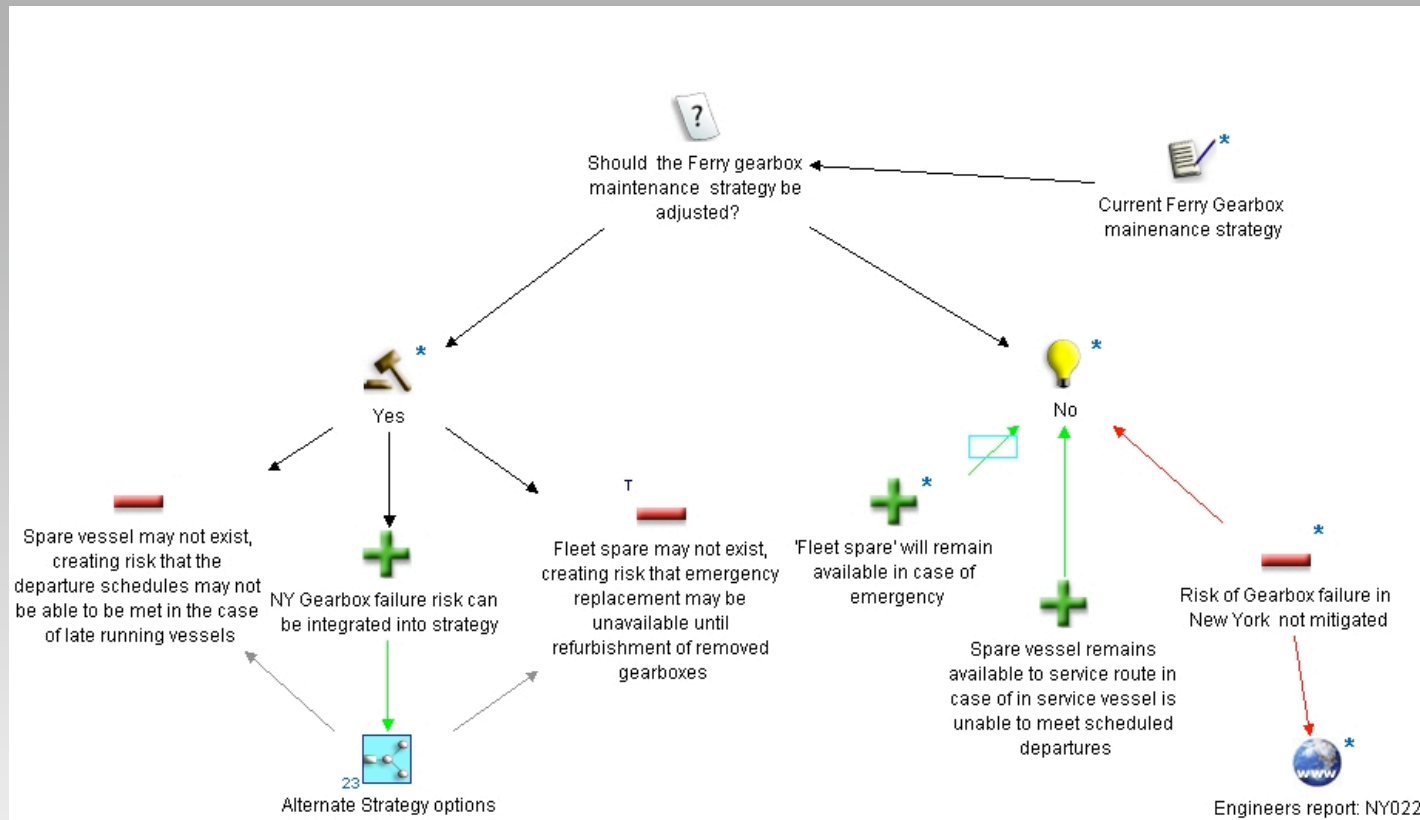


“We held a two-day Work Process Modeling workshop at JSC's Mission Control. The workshop was part of a "knowledge acquisition" exercise of mission operations at JSC. The objective of the workshop was to learn as quickly as possible (in two days), as much as possible (talking to as many subject matter experts as possible) about the work process in the Space Shuttle Flight Control Room at JSC.”





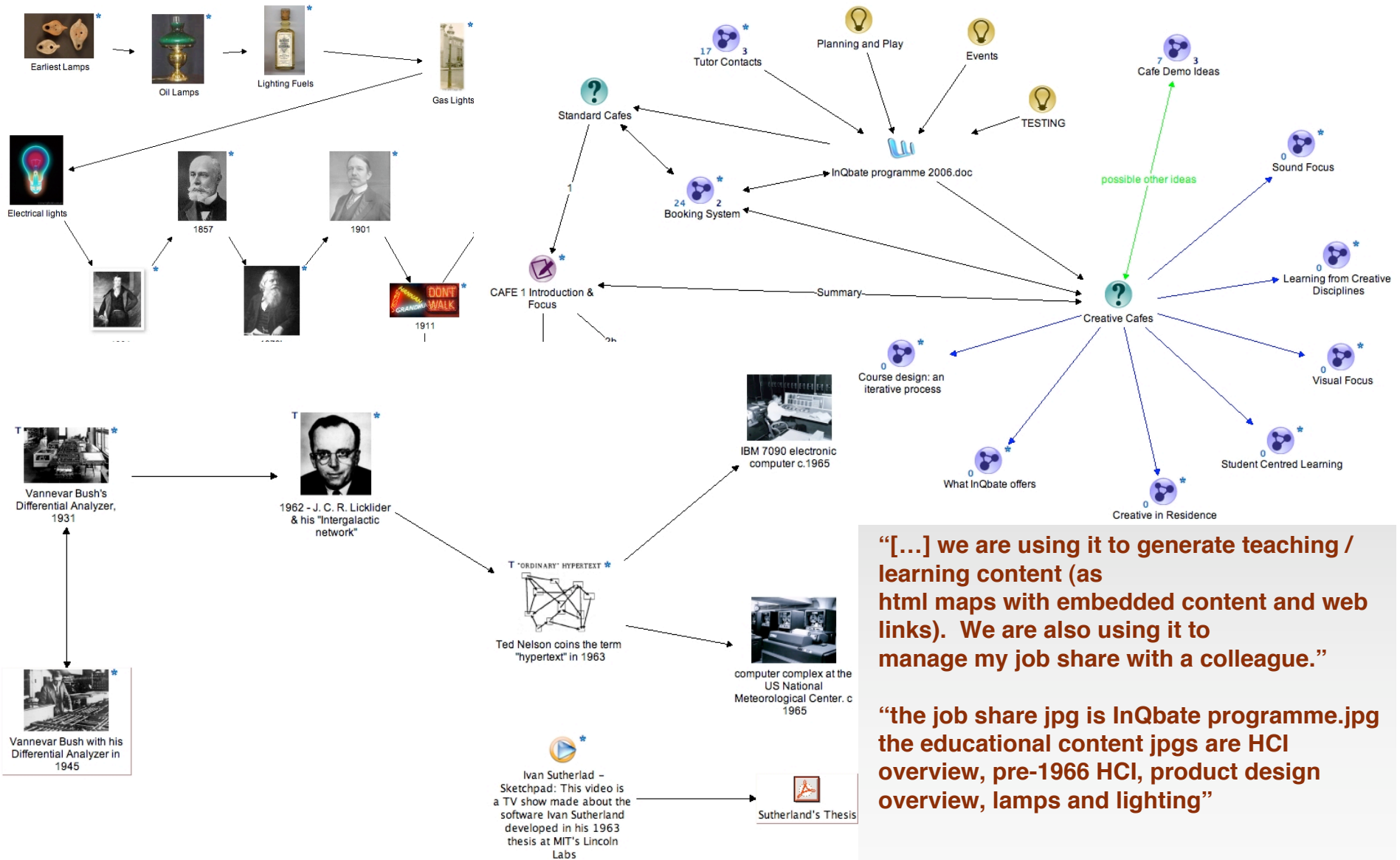
# Decision Rationale



**“I have attached screen shots from Compendium maps titled “Decision Rationale: Changing of gear box”. These are used for demonstration / training purposes to clients.”**

**“Our company is KorteQ Ltd and we are knowledge management consultants, we have worked with a number of clients who use it in everyday working (they are very impressed when they find out that is free to download!), unfortunately we are unable to send those maps due to confidentiality.”**

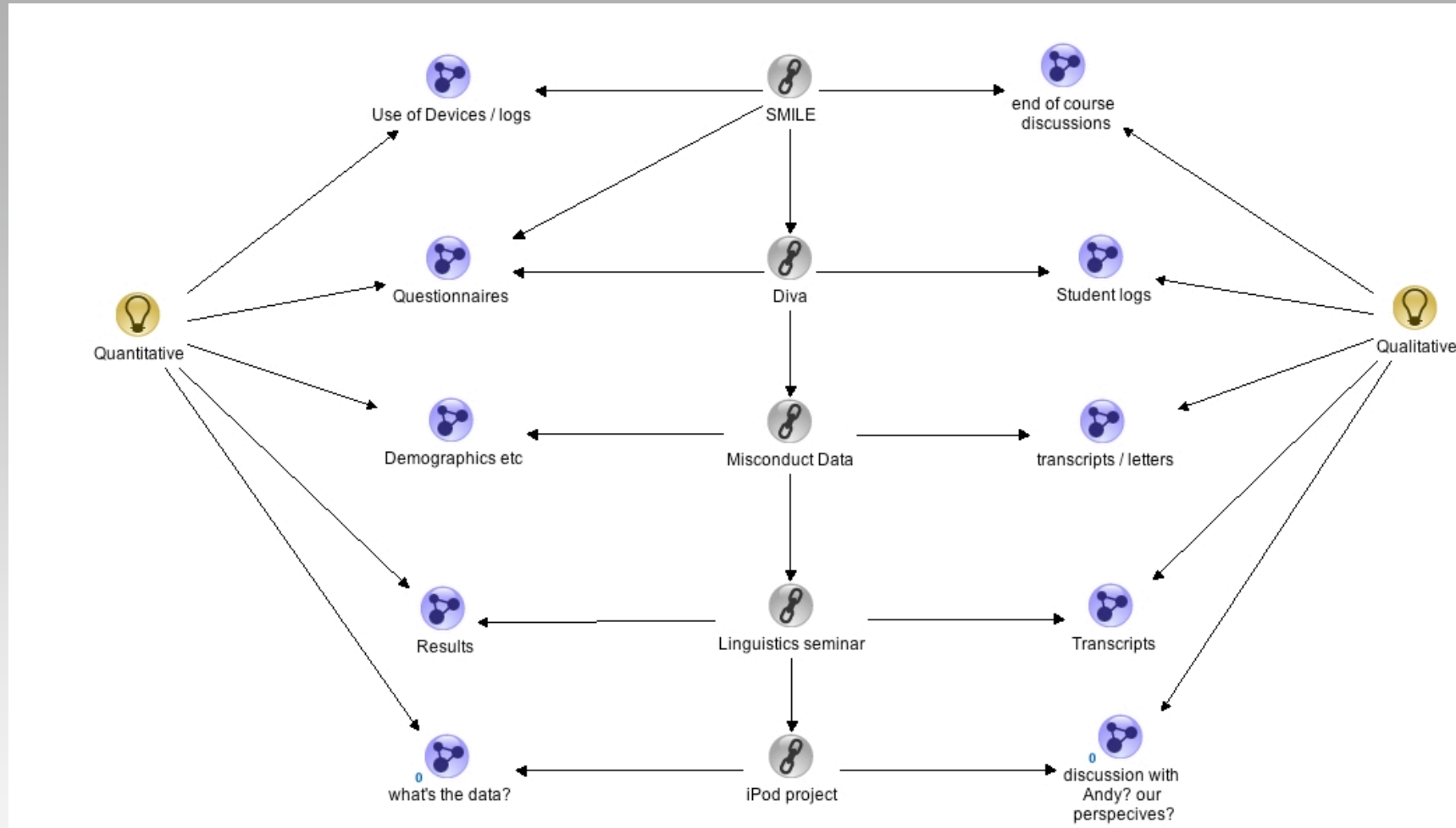
# Teaching/Learning Content



**"[...] we are using it to generate teaching / learning content (as html maps with embedded content and web links). We are also using it to manage my job share with a colleague."**

**"the job share jpg is InQbate programme.jpg the educational content jpgs are HCI overview, pre-1966 HCI, product design overview, lamps and lighting"**

# Research

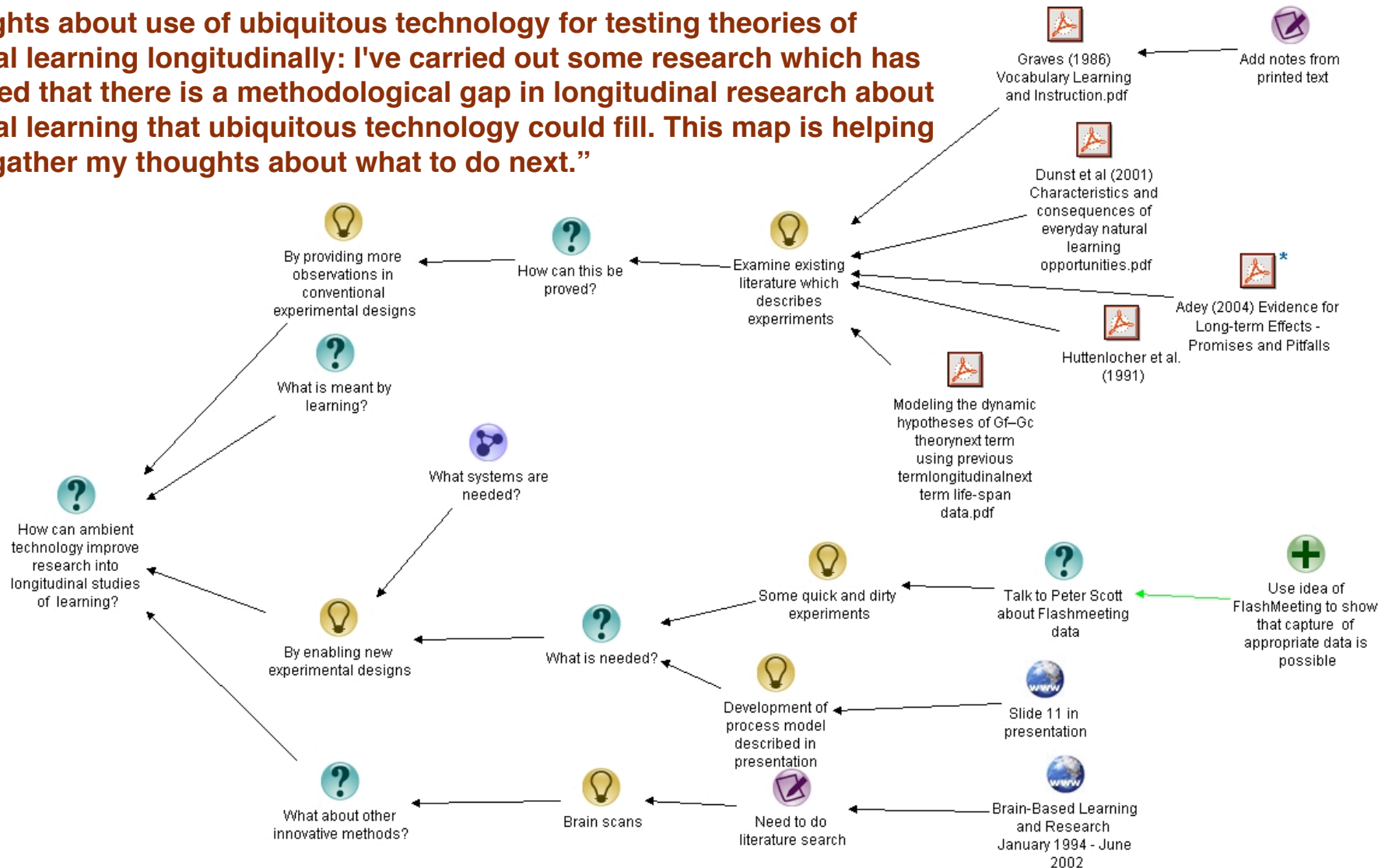


**“For my own personal PhD work I am using compendium to manage resources (using a lot of linked files dropped into maps), data, and to map the problem domain in a "Systems" fashion. It doesn't quite do all I want to do in Systems terms, but it's a better tool than any other I've come across.”**

# Research



“Thoughts about use of ubiquitous technology for testing theories of informal learning longitudinally: I've carried out some research which has indicated that there is a methodological gap in longitudinal research about informal learning that ubiquitous technology could fill. This map is helping me to gather my thoughts about what to do next.”



# Course Work



SIMS\_Course\_Week2

http://www2.sims.berkeley.edu/academics/courses/is290-3/s05/lectures/week2/SIMS\_Course\_Week2.html

Apple .Mac E-mail Home Page Gmail - Inbox (2) .Mac Home Page Ames Email Login WK2006-Day1 NASA Watch Bank of America ING USRA Time Shee

SIMS\_Course\_Week2

### Week 2: What is modeling?

- [Week 2 \(Jan. 26\): What is modeling?](#)
- [What is modeling?](#)
- [Homework on Week2](#)
- ["What is a model?" - formal definition of modeling](#)
- [CommonKADS Methodology](#)
- [Contextual Inquiry](#)
- [why a chapter about "Mathematical modeling"?](#)
- [What is a model?](#)
- [What is a Theory?](#)
- [What is the difference between a Model and a Th](#)
- [What is Modeling?](#)
- [World Modeling Framework](#)
- [What is a model?](#)
- [Model Homomorphism?](#)
- [Model Isomorphism?](#)
- [When is a model useful?](#)
- [What is the difference between a Model and a Th](#)
- [What needs to be distinguished?](#)
- [Formal Modeling Relationship?](#)
- [Why Modeling?](#)
- [Why Modeling Organizations and Work Practice?](#)
- [Introduction to CommonKADS](#)
- [The Task and Organizational Context](#)
- [The communication model](#)
- [Contextual Inquiry Introduction](#)
- [Work Models](#)
- [What is Contextual Inquiry?](#)
- [Principles of Contextual Inquiry](#)
- [The Master/Apprentices Model?](#)
- [The four principles of Contextual Inquiry?](#)
- [Context](#)

“I used Compendium to create my graduate course material. I then decided to use it as my presentation and teaching tool.”

“After each lecture, we put the Compendium HTML and XML export on the web for the students.

# Note-taking & Study Tool



The screenshot shows the Compendium software interface. The main window displays a mind map with nodes like 'Objecten Essay 1' through 'Objecten essay 5', 'Leh 2 - Stijl, periode, perceptie en constructie', 'Kunst - Essay 10' through 'Kunst - Essay 12', and 'Kunst - Tentoonstelling 3'. A central node is labeled 'Leh 3 - De status van de kunst en het beeld van de kunstenaar'. To the right, there are two lists: '[List]: Termen A' and '[List]: Persone...'. The 'Termen A' list includes items like 'Aemulatio', 'Allegorie', and 'Allegorische interpretatie'. The 'Persone...' list includes names like 'Aristoteles (Stagira 384 -', 'Boccaccio Giovanni (1313', 'Burckhardt Jacob', 'Burckhardt, Carl Jacob', 'Burke Peter', 'Caesar Gaius Julius', 'Dante', 'di Rienzi Cola (1313-135', 'Gellner Ernest André (De', and 'Guicciardini Lodovico'. The interface also shows a toolbar with various icons and a status bar at the bottom.

“[...] een voorbeeld van hoe ik Compendium gebruik bij de studie. Eerst en vooral voeg ik mijn samenvattingen in als tekstnodes en daarna voeg ik beeldmateriaal en tags toe. Naderhand werk ik dan mijn lijsten met ‘Personen’ en ‘Termen’ bij en indien nodig ook nog een ‘Tijdslijn’-lijst. Met deze laatste kan ik dan de gerelateerde items oproepen.” (Dutch)

Translation (by M. Sierhuis):

“[...] An example of how I use Compendium in my studies. First and foremost I add my summaries as text nodes, after which I add images and tags. Afterwards, I modify my lists of ‘People’ and ‘Terms’, and when necessary I also change my ‘Timeline’ list. With these lists I can call upon related items.”



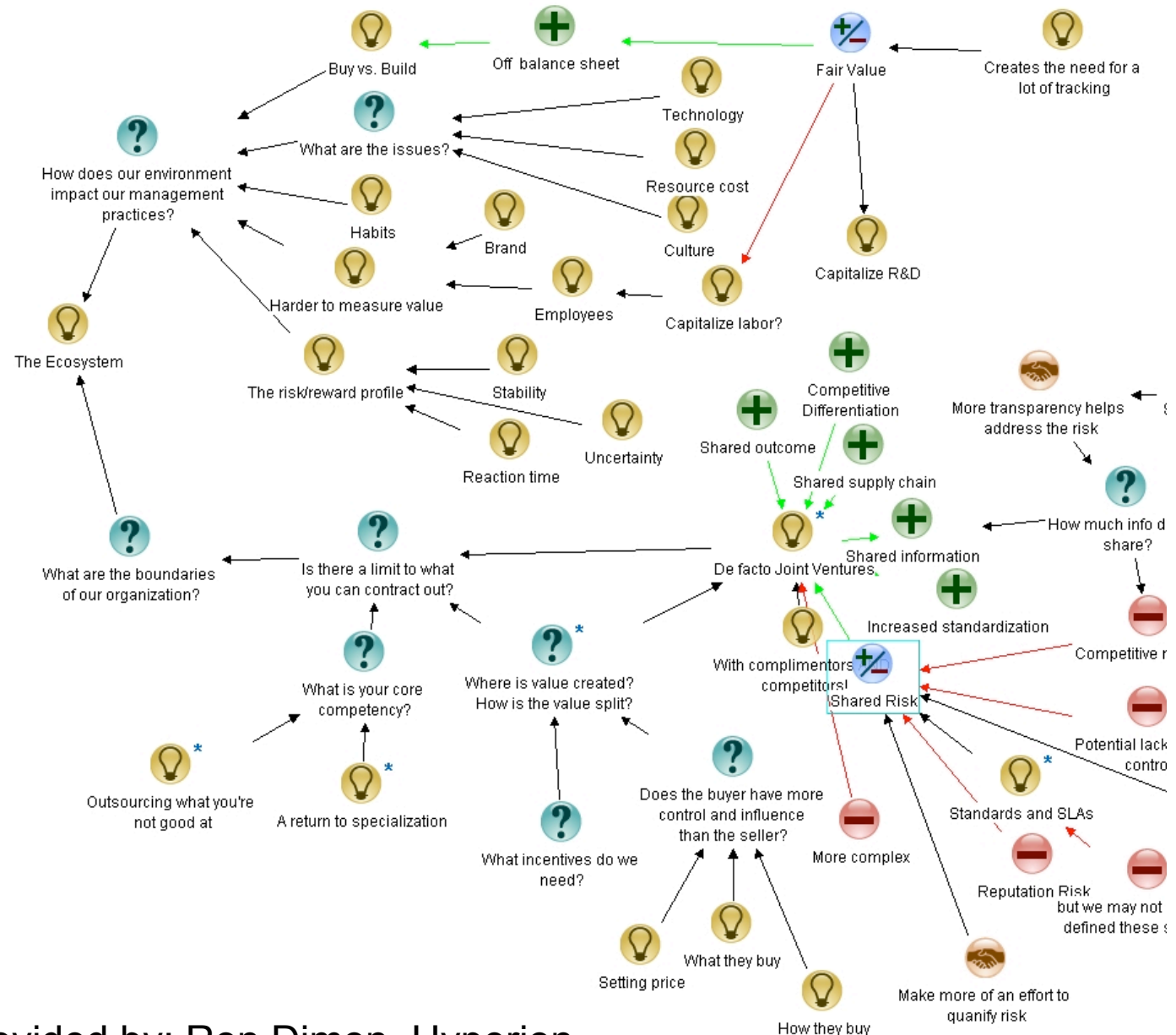
# Executive Roundtable



“The event was called ‘The Hyperion Alliance for Performance Leadership,’ and brought together C-level executives (CIO & CFO) from a variety of Global 5000 companies.”

“The event was an Executive Roundtable ...The topics centered on the theme of adapting to the shifting boundaries of business while sustaining long-term financial performance.”

“By the way, I discovered compendium about 2 weeks before the event, bought & read Jeff Conklin’s book, and practiced mapping 2 conference calls. It was very easy to get up-to-speed on the tool, and I am still learning about the IBIS-enabled facilitation process.”





# Memetic: Meeting Memory Technologies Enhancing Collaboration

Software and papers: [www.memetic-vre.net](http://www.memetic-vre.net)

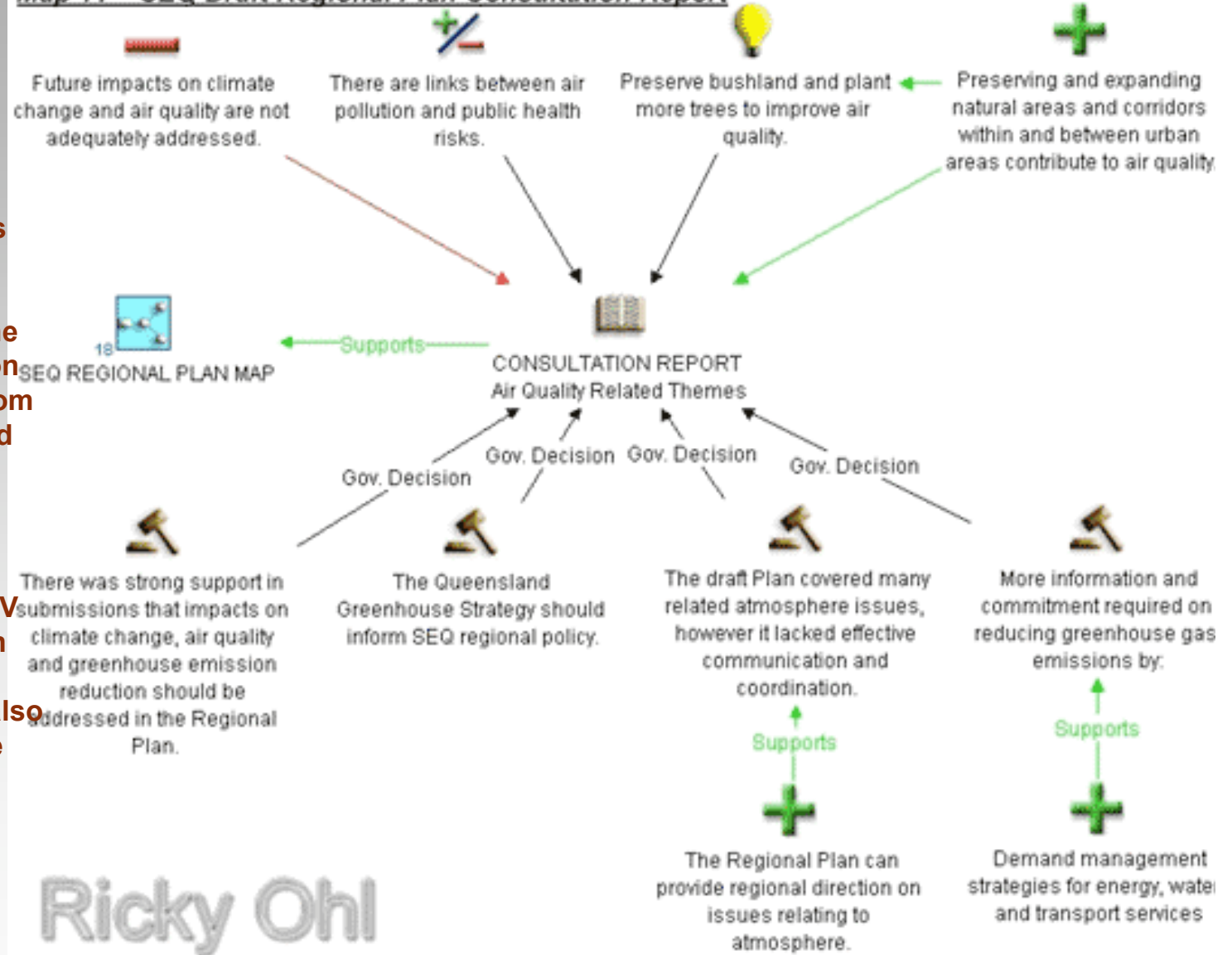
Integration of Compendium with the Access Grid videoconferencing system. Creation of nodes in real time or post hoc creates visual, semantic indices into meeting replays

The screenshot displays a video conference interface. On the left, a grid of six video windows shows participants: 'RS Sla...', 'Univer...', 'Manch...', 'Simon ...', and 'Univer...'. The central window, titled 'ScreenStreamer: Compendium', shows a document titled '2.0 Memetic interface mockup (Clara's email of 14 Dec)'. The document contains a diagram with various nodes and arrows, including text like 'Can we parse blank lines to identify agenda items?', 'More usable initially', 'Ben: We will make entry of agenda items free text...', 'Clara: The video controls on Record page should be just Record and Stop...', and 'What should happen with Compendium when you press play?'. The bottom control panel includes a navigation bar with a 'back' button and a title 'Memetic Meeting 2005-12-15 (Imported)'. It also shows the date '15 Dec 2005, 09:37', a list of participants, speaker information (Ben Juby), agenda items, and a video control section with a play button and status indicators for GroupSync, Mode, and Receiving. A 'memetic' logo and 'About Help' link are also present.

# Policy Decision-Making



Map 11 – SEQ Draft Regional Plan Consultation Report

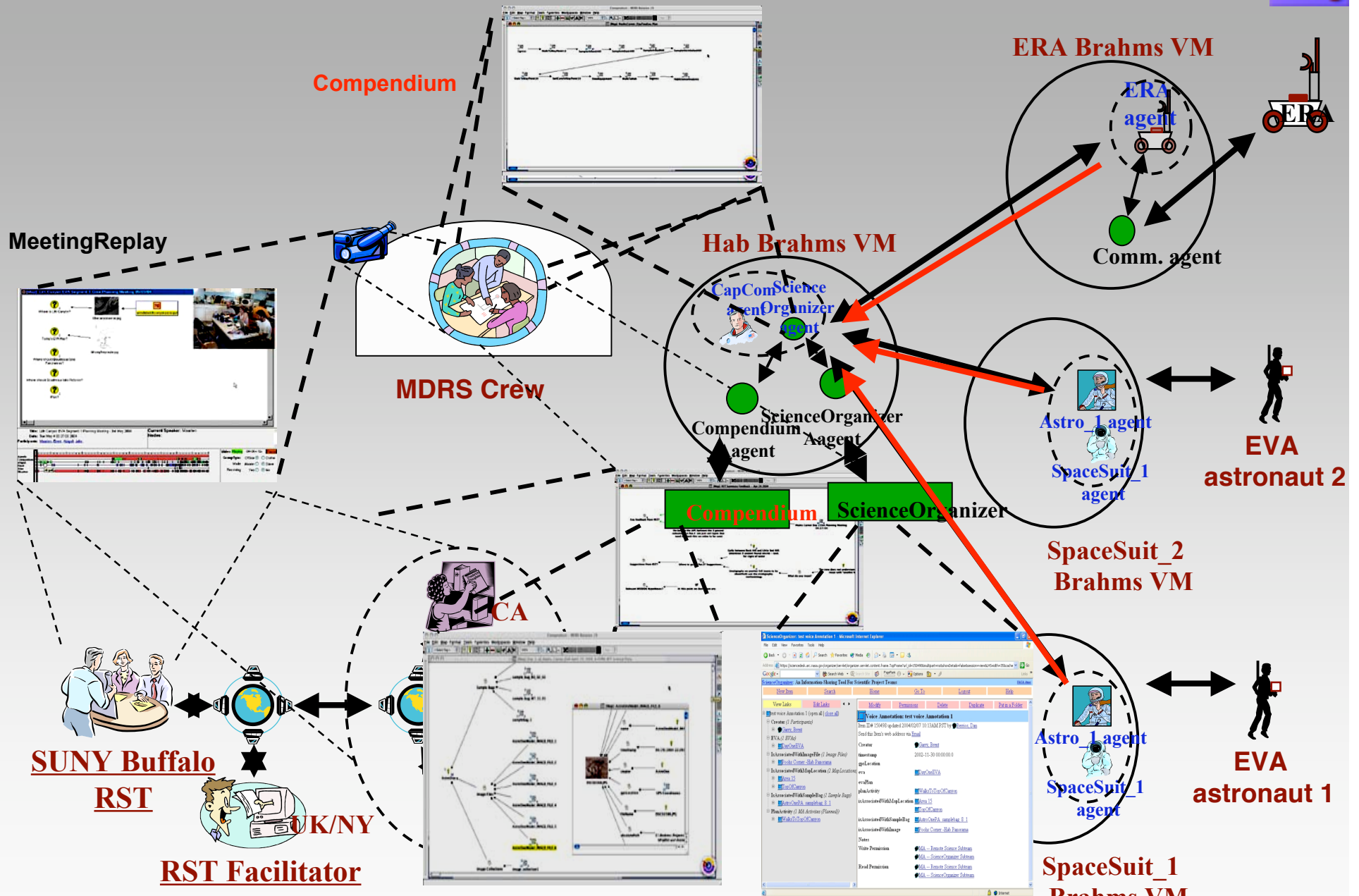


“The research investigates the utility of computer supported argument visualisation (CSAV) for the analysis and representation of submissions content from the South East Queensland (SEQ) Regional Plan consultation.”

“My primary focus, in this case, is on the use of CSAV for government analysts in analysing consultation submissions but there is also an obvious spillover to the general public..”

Ricky Ohl

# Distributed Collaboration





# Communicating Analyses



[Map]: Brent's Analysis

(In Brent's map) Please verify that the Rock and Back Hill location names are correct, as SciOrg says they are Red and Rock

LOCATION: Rock Hill

LOCATION: Gap between Rock Hill and Back Hill

LOCATION: Back Hill

Mosaic of Rock Hill w/ Abby and Boudreaux for scale

voice\_note\_2004-3-29\_22-40-25.wav

Summary of Field Work at Rock Hill

(In Abby's map) Which of these 4 samples came from the rock perspective photo in Brent's map?

OBSERVATION: Rock Hill looks to have two layers not three as observed in Panoramas

dsc02591.jpg dsc02590.jpg dsc02589.jpg

dsc02596.jpg dsc02595.jpg 94.jpg

dsc02592.jpg

dsc02593.jpg

dsc02587.jpg

Context photo of Sample RK/11/01 (SEE TAG for more detail)

This photo is v good - links Outcrop to the Rock perspective, and we are excited to incorporate it into the methodology :-)

Context photo # 2, similar to above

Not a good photo - sampling area is cut off

Close up photo of sample RK/11/01

dsc02599.jpg

dsc02597.jpg

dsc02598.jpg



# Further Information

- Compendium
  - <http://www.compendiuminstitute.org>
- Al Selvin
  - <http://kmi.open.ac.uk/people/selvin>
- Simon Buckingham Shum
  - <http://kmi.open.ac.uk/people/sbs>
- Jeff Conklin
  - <http://cognexus.org>
- Maarten Sierhuis
  - <http://homepage.mac.com/msierhuis>