

# Sewing the Seams of Sensemaking: A Practical Interface for Tagging and Organizing Search Results

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UC Berkeley

Duane Degler  
Design for Context

3. Search for Information  
*Who & what?*

6. Search for Relations  
*How are they related?*

9. Search for Evidence  
*What does it have to do with the problem at hand?*

12. Search for Support  
*How do we know?*

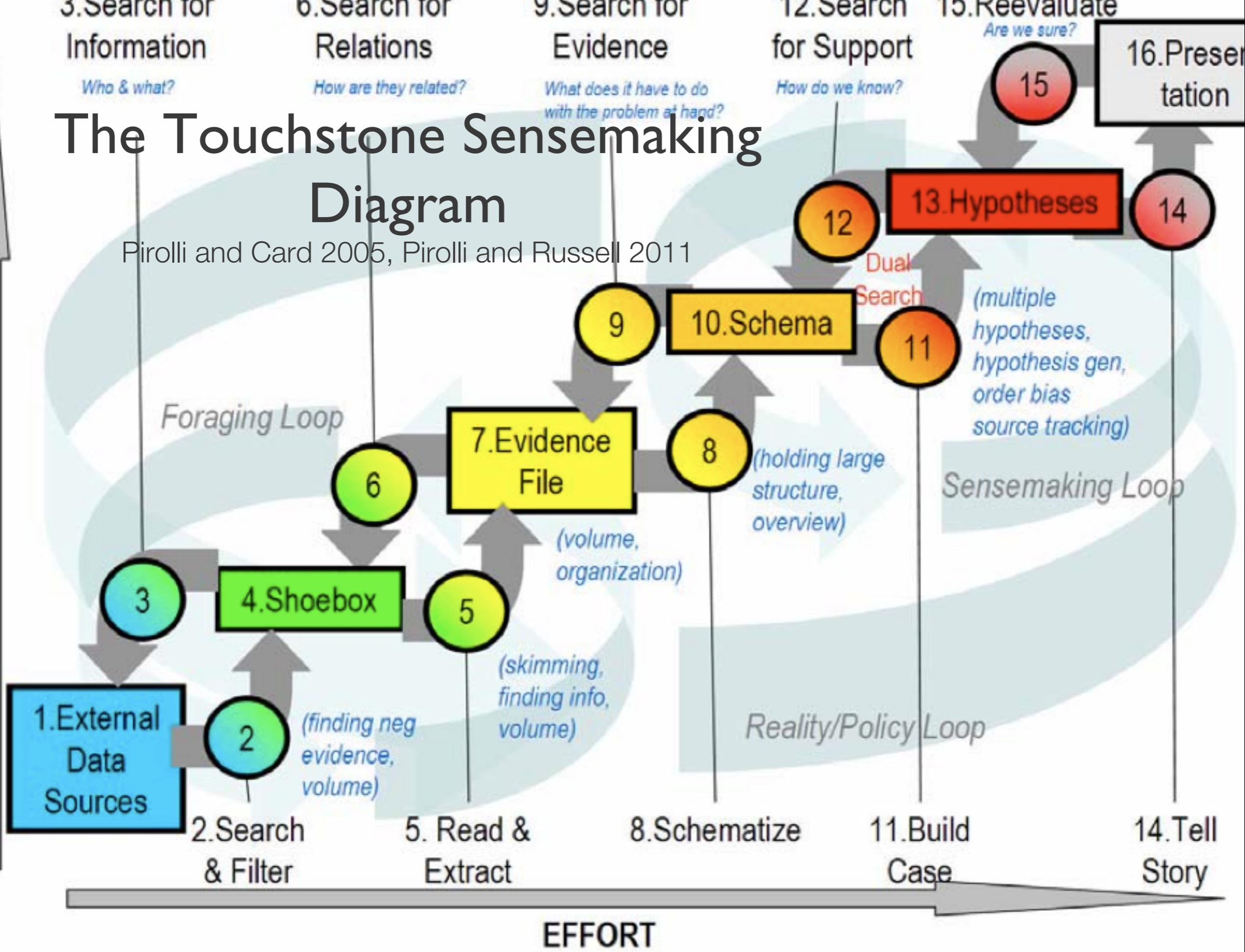
15. Reevaluate  
*Are we sure?*

16. Presentation

# The Touchstone Sensemaking Diagram

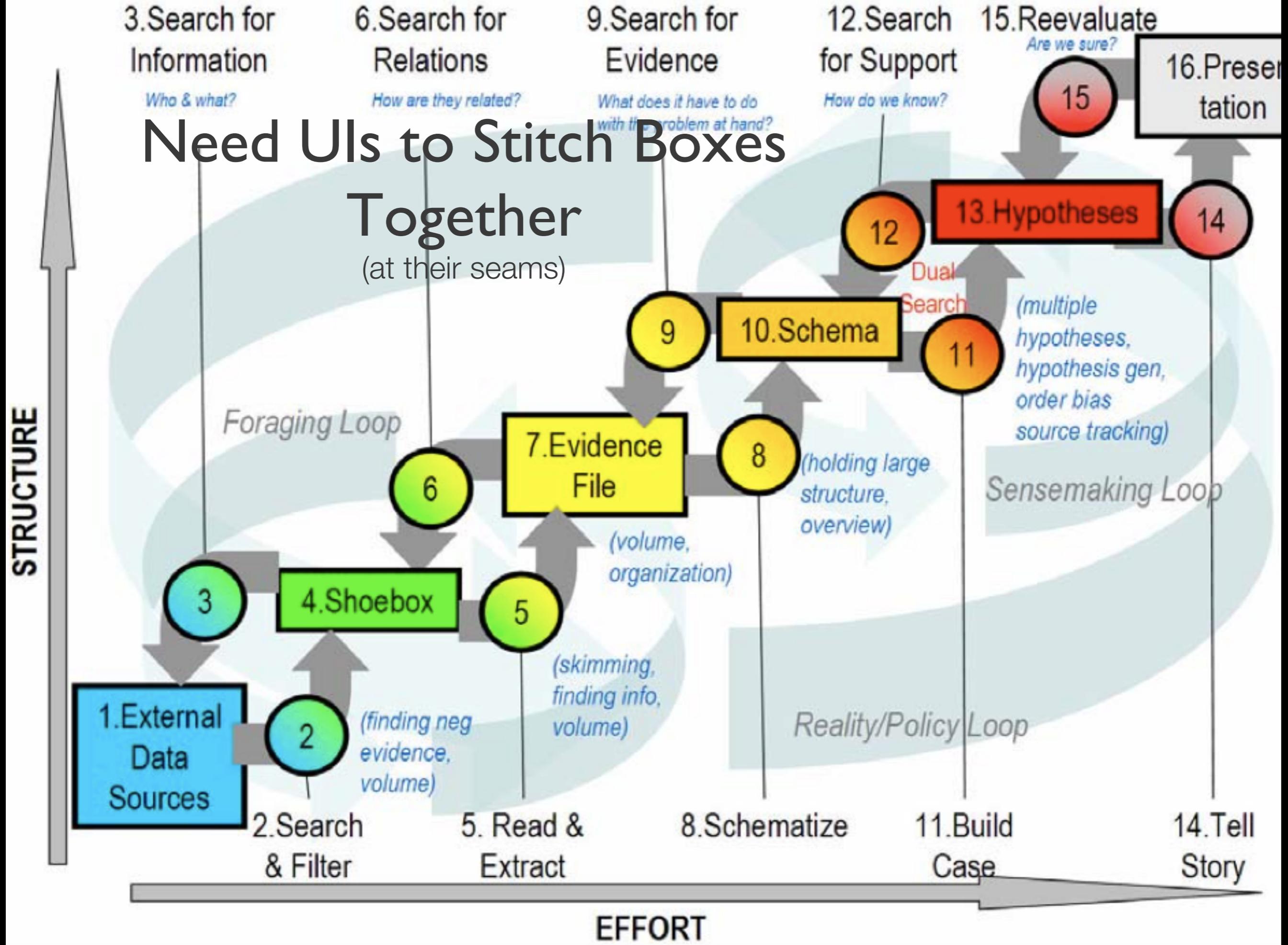
Pirolli and Card 2005, Pirolli and Russell 2011

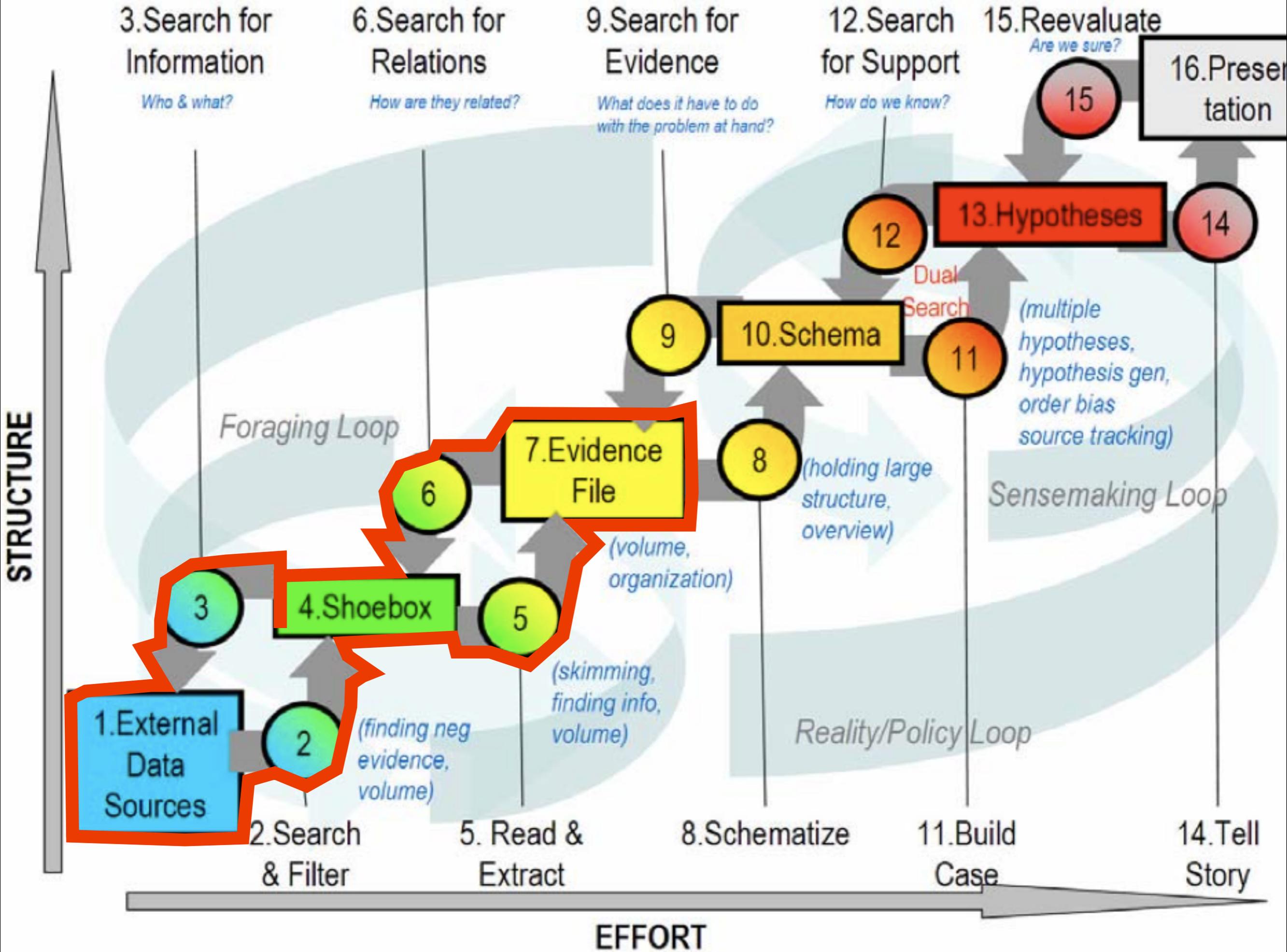
STRUCTURE



EFFORT

# Need UIs to Stitch Boxes Together (at their seams)





# A Neglected Seam: Between Searching and Organizing Search Results

The seam between:

the **saving** of search results during the search **triage** and the subsequent **organizing** of and **thinking** about the saved information,

and the **inter-leaving** of the two.

Saving results itself gets  
little attention



### Search NCBI databases

Search : PubMed



Hint: clicking the "Search" button without any terms listed in the search box will transport you to that database's homepage.

### Saved Searches

You don't have any saved searches yet.

Go and [create some saved searches](#) in PubMed or our other databases.

[Manage Saved Searches »](#)

### My Bibliography

Your bibliography contains **no items**.

Use the "Send to > My Bibliography" menu in PubMed to add citations,  
OR  
[Click here](#) to manually create citations.

[Manage My Bibliography »](#)

### Collections

Collection Name	Items	Settings/Sharing	Type
<a href="#">Favorites</a>	<a href="#">edit</a> 0	<a href="#">Private</a>	Standard
<a href="#">My Bibliography</a>	<a href="#">edit</a> 0	<a href="#">Private</a>	Standard
<a href="#">Other Citations</a>	<a href="#">edit</a> 0	<a href="#">Private</a>	Standard
<a href="#">zebrafish</a>	<a href="#">edit</a> 6	<a href="#">Private</a>	PubMed

[Manage Collections »](#)

### Recent Activity

Time	Database	Type	Term
09-Sep-2012	PubMed	search	<a href="#">zebrafish</a>

[Clear](#) [Turn Off](#)

[See All Recent Activity »](#)

### Filters

Filters for: PubMed

You do not have any active filters for this database.  
[Add filters for the selected database.](#)

[Manage Filters »](#)

# Usability Problems?

- After relevant docs selected, must scroll to the top of the page to save them.
- Too many steps to make a new collection
- After saving, lose context of earlier query; must reconstruct it
- After reconstruction, doesn't highlight previously saved queries in search results
- After new docs added to a collection, doesn't show the older docs
- No support for downstream sensemaking.

**A better version**  
**(for saving, but not organizing)**



Search

[Advanced Search](#) | [Find a Library](#)

## Search results for 'nanotechnology'

### Format

- All Formats (129,978)
- Article (108239)
  - Downloadable article (1233)
  - Chapter (199)
- Book (14071)
  - eBook (5096)
  - Thesis/dissertation (2643)
  - Microform (73)
  - Large print (9)
  - Continually updated resource (4)
  - Braille Book (1)
- Archival material (4375)
  - Downloadable archival material (3993)
- Computer file (2195)
- Journal, magazine (907)
  - eJournal/eMagazine (468)

[Show more ...](#)

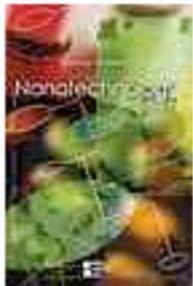
Results 1-10 of about 129,978 (.30 seconds)

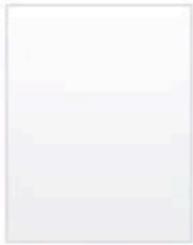
« First < Prev

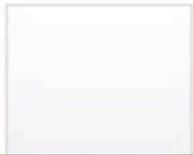
[Select All](#) [Clear All](#)

Save to:  Save

Sort by:

1.  [Nanotechnology](#)  
by Jacqueline Langwith;  
Book  
Language: English  
Publisher: Detroit, MI : Greenhaven Press, 2009.  
[Editions and formats »](#)

2.  [Nanotechnology](#)  
by Institute of Physics (Great Britain);  
eJournal/eMagazine : Document : Periodical  
Language: English  
Publisher: [London?] : IOP Pub., 1990-  
[Editions and formats »](#)

3.  [Nanotechnology](#)  
by Rebecca L Johnson  
Book : Juvenile audience

This design is good for  
saving ...

But could it do much more  
to aid the organizing step in sensemaking

# A Design Challenge

- Time-constrained Analysts
  - Currently working with paper
- Millions of documents
  - Want to search quickly (triage)
  - Save the best document quickly now, with some organizing as they go
  - Look through and organize them in more detail later
- Currently use dual monitors

# Legacy Tool

- Does not show tagged documents while being saved
- Tags are keyboard numbers; cannot assign mnemonics
- Cannot easily arrange or group tagged documents
- Usually print them out and write on them

EAST - [class707subclass706.wsp:1]

File View Edit Tools Window Help

[Pr.Art] BRS: [USPAT] [OR]

Prior Art

- Pending
- Active
  - L1: [USPAT] [AND] (112) Lucene
- Failed
- Saved
  - S1: [USPAT] [OR] (565) 707/706.CCI
  - S2: [USPAT] [AND] (565) 707/706.CCI
  - S3: [USPAT] [OR] (112) Lucene
- Favorites
- Queue

Interference

- Tagged (5)
- UDC
  - UDC
  - UDC (1)

Search List Browse Queue Clear

DBs: USPAT

Default operator: AND

Blurbs

Highlight all hit terms initial

Prior Art Search

Interference Search

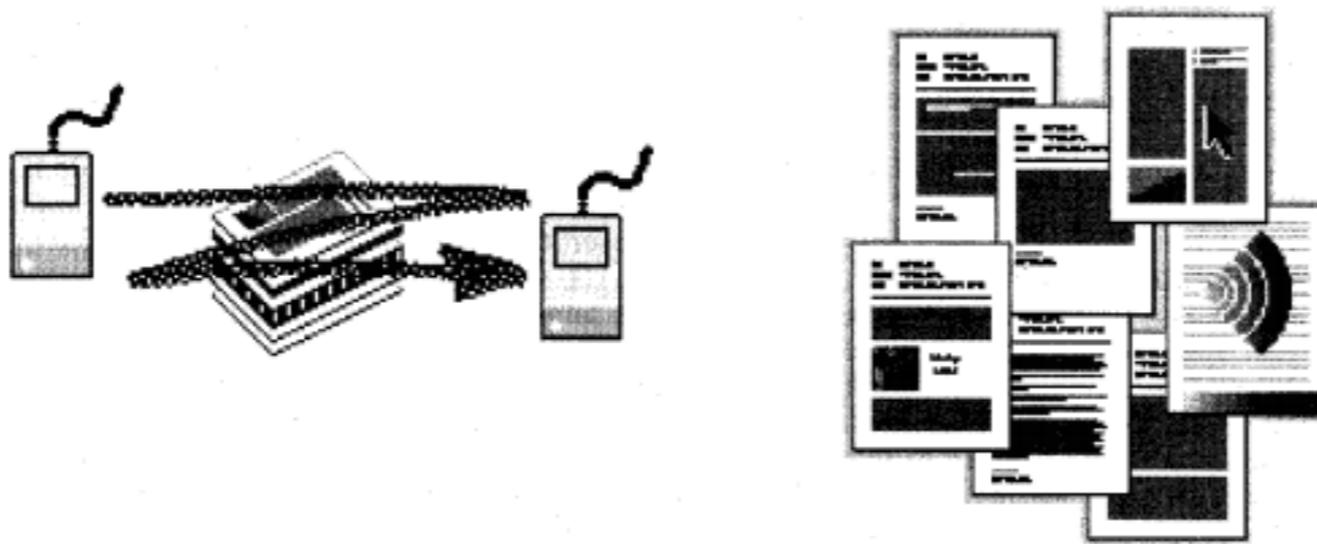
Lucene

BRS form IS&R form Image Text HTML

	+	U	P	1	2	3	4	5	P	6	C	8	9	1	Document	Publication	Page	Title	Current	Current X Retrieval
1		<input type="checkbox"/>	US 8260784 B2	20120904	21	Indexing and searching JSON objects	707/742	707/791; 707/797; 715/200;												
2		<input type="checkbox"/>	US 8255259 B2	20120828	12	Extending constraint satisfaction	705/7.25	705/7.11 ; 705/7.12												
3		<input type="checkbox"/>	US 8229916 B2	20120724	24	Method for massively parallel multi-core text	707/711													
4		<input type="checkbox"/>	US 8224678 B2	20120717	27	Systems and methods for tracking health-related	705/4													
5		<input type="checkbox"/>	US 8213925	20120703	17	Processing messages from a mobile	455/423	455/424; 455/425												

# Small Focus Groups

- Designing a New Tagging Tool
- Showed Potential Designs
- Participants were:
  - Intrigued by Spatial View, Organizing with Piles
  - Emphasized Requirement for Low Effort, Minimal “Fussing”

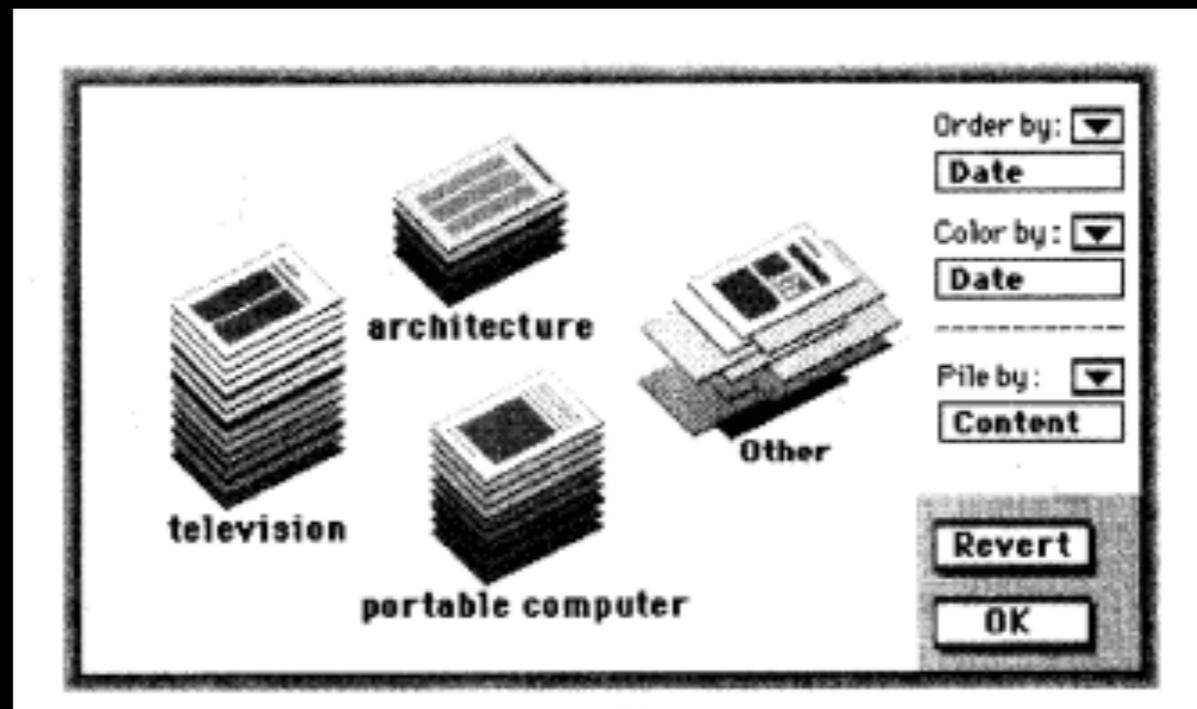


(a)

(b)

Figure 4. Browsing by spreading out a pile. Gesturing sideways with the mouse pointer, or with a finger in the case of a touch screen, causes the pile contents to spread out. Individual items can now be directly manipulated.

# Mander et al., 1992 Pile Metaphor



# Optimal Flow

icecream  
tuna  
pumpkin  
smoked bacon  
pumpkin seeds  
oats  
pumpkin soup

drop to create a new category  
oats

Drag and drop cards from the list on the left

icecream  
tuna  
pumpkin  
smoked bacon  
pumpkin seeds  
pumpkin soup  
fresh salmon

Click to name this category  
oats  
cornflakes  
muesli

Click to name this category  
prawns  
fresh salmon

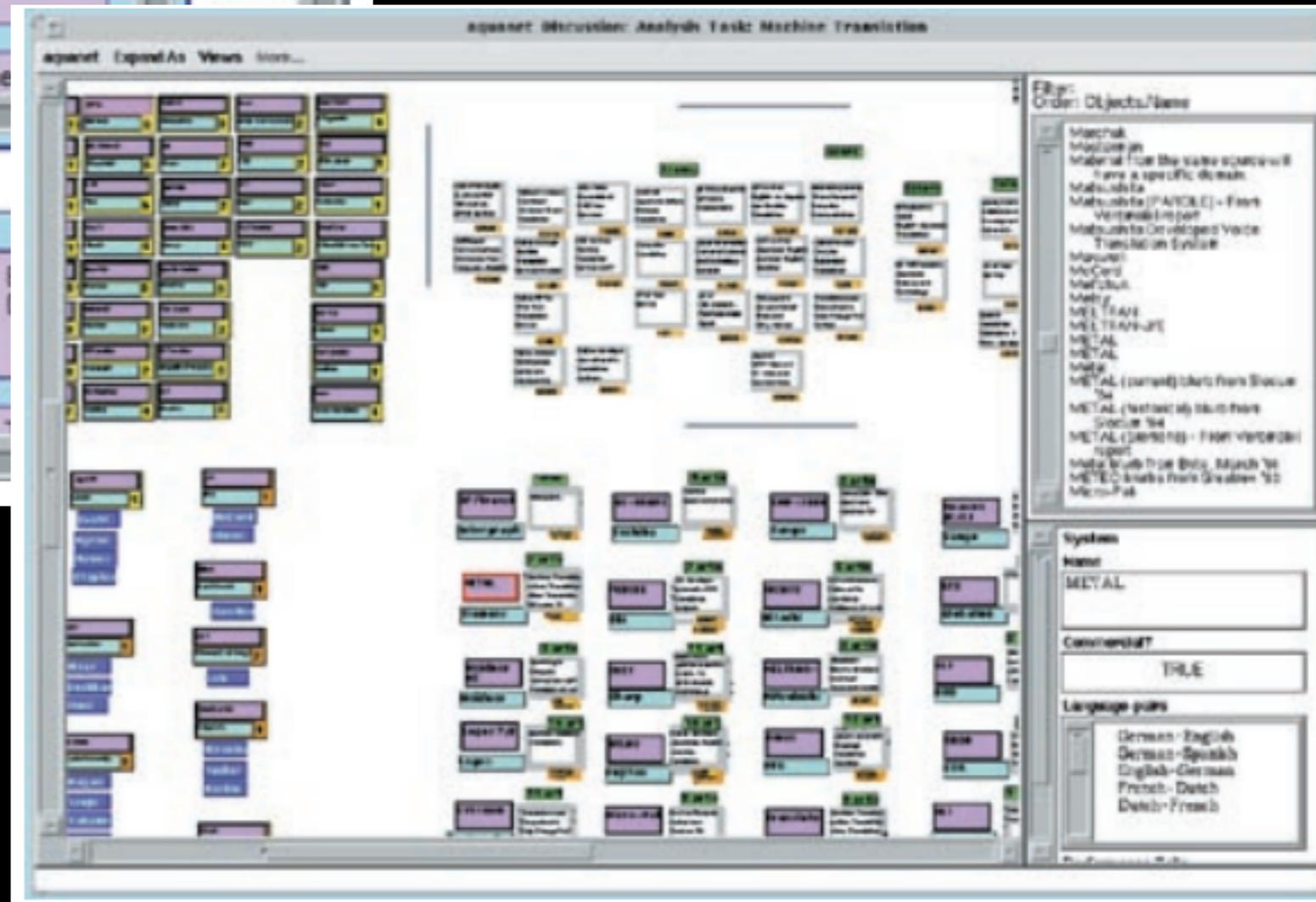
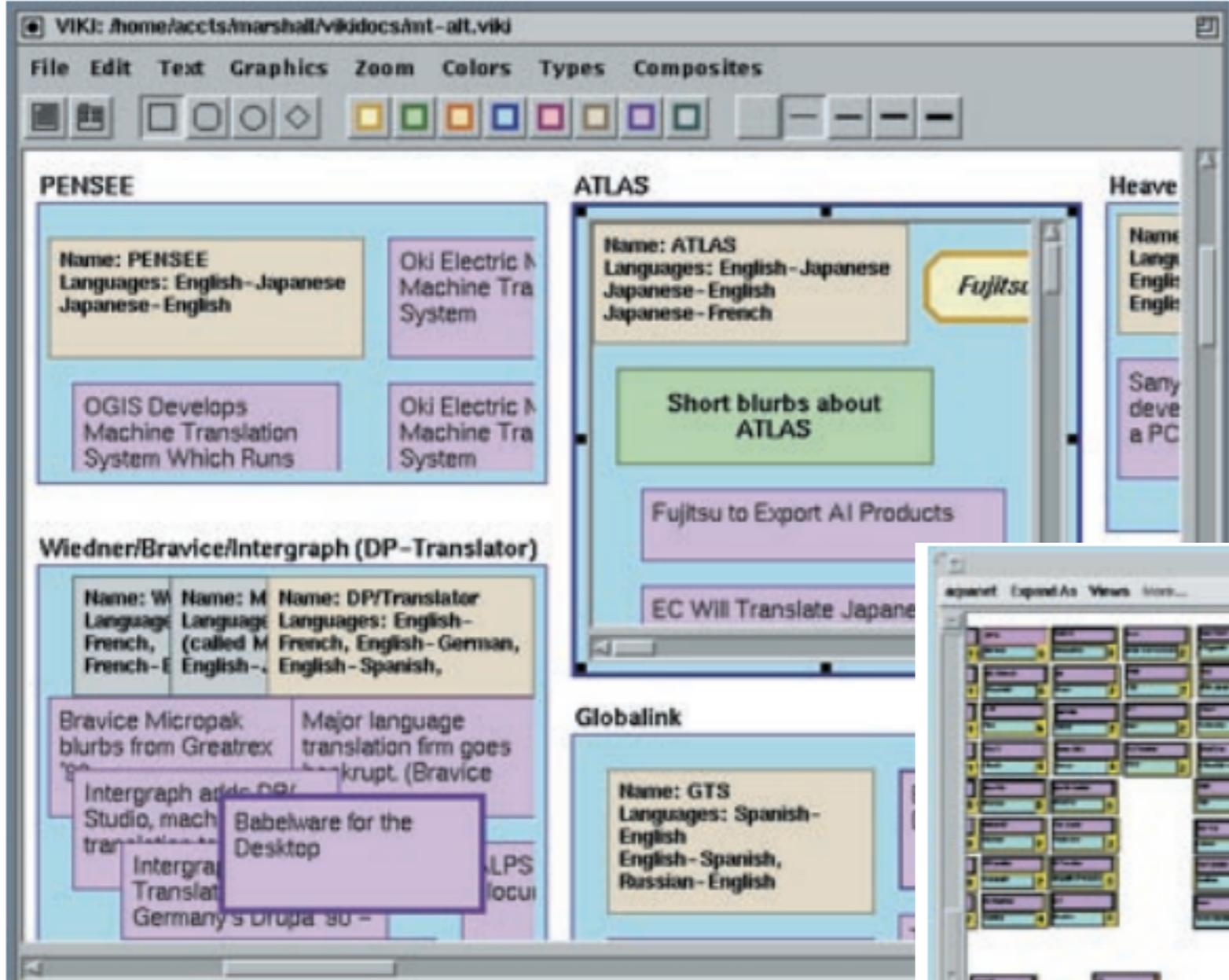
Place cards together in groups that make sense

icecream  
tuna  
pumpkin  
smoked bacon  
pumpkin seeds  
pumpkin soup  
merlot wine

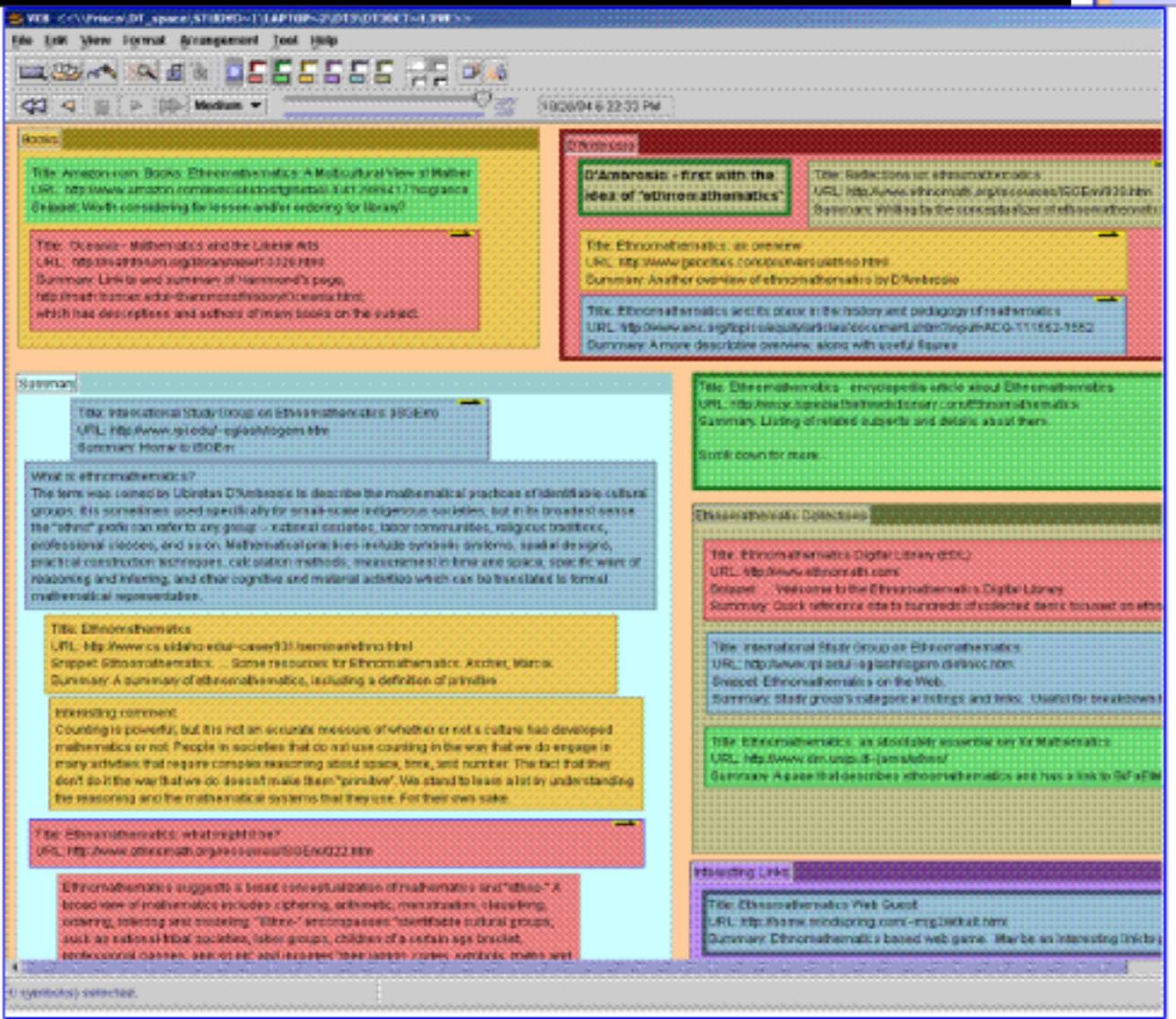
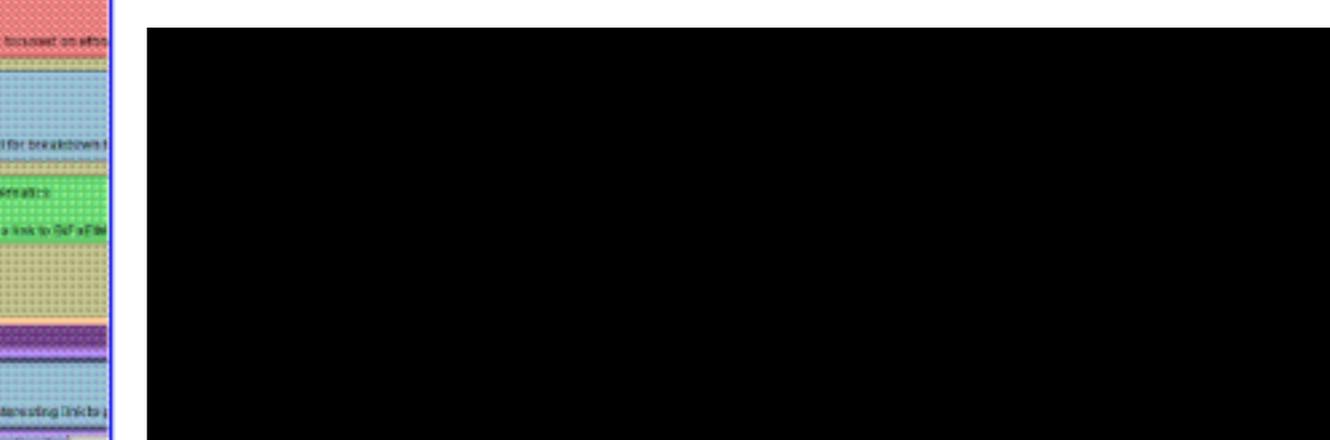
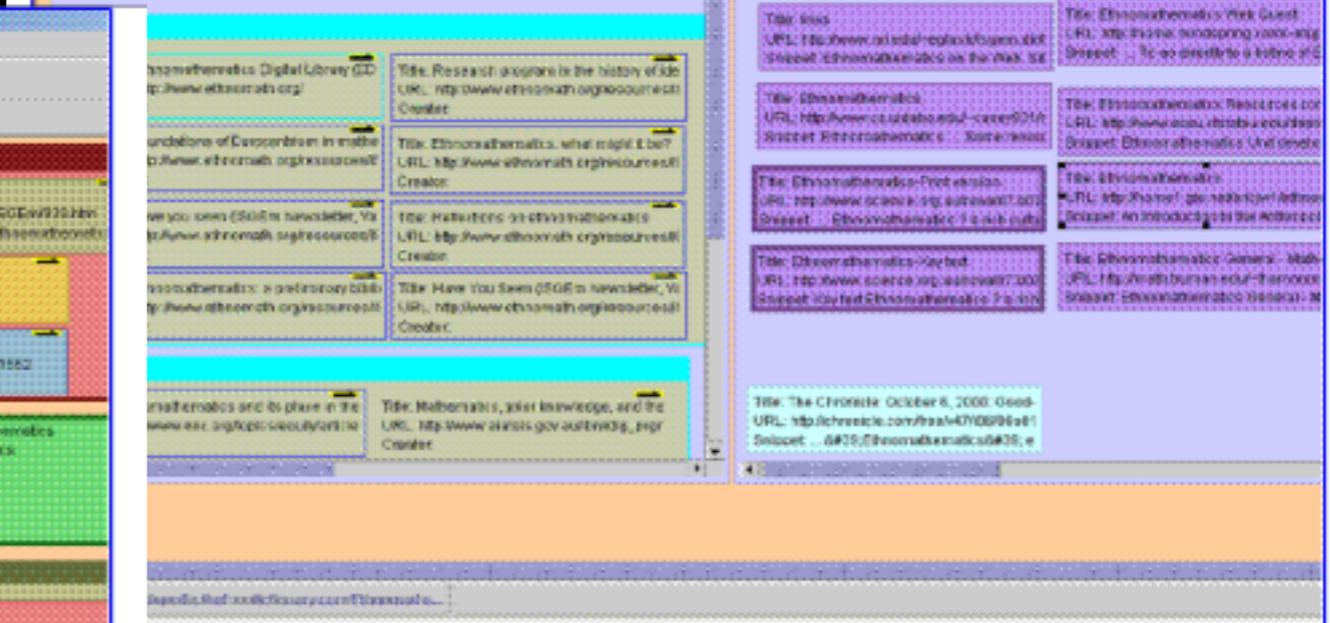
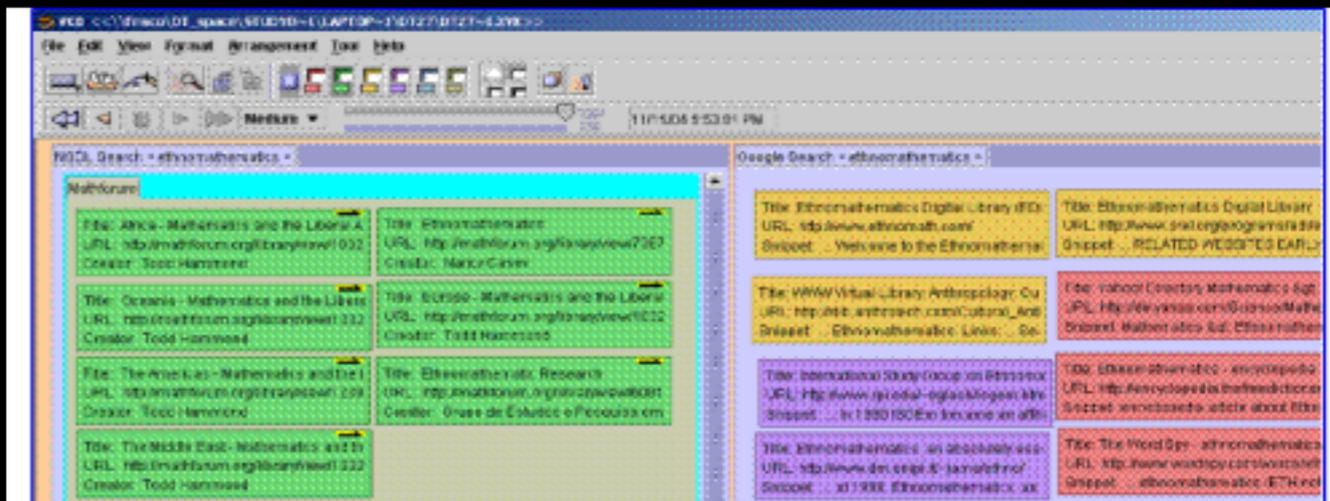
Breakfast  
oats  
cornflakes  
muesli

prawns  
fresh salmon

Give each group a name that feels right to you



VIKI  
Marshall, Shipman, CACM 1995



Bae et al 2006



Figure 1: Data Mountain with 100 web pages.

Data Mountain  
(Robertson et al.)

# What are the most Important Threats/Vulnerabilities associated with the

The screenshot shows a web application with several informational panels:

- Human Health Risks:** Includes a world map and text about commercial vaccine production for H5N1.
- World:** A world map with a red dot in Africa.
- Africa:** A panel for Nigeria with a headline: "2006 H5N1 January - 45 000 poultry died on a Farm in Kaduna".
- Europe:** A panel titled "How is Europe Coping" with a map of Europe.
- Will The Avian Flu become a pandemic disease?:** A text-heavy panel.
- Povert:** A partially visible panel.

TRIST and Sandbox  
(Wright, Proulx, 2005,6)

The screenshot shows a web browser window with search results for 'nanotechnology' and 'nanotube'. The interface includes a search bar, a legend, and several result categories:

- Results Categorized By: QUERIES:** Lists 'nanotechnology' and 'nanotube' with corresponding bar charts.
- Results Categorized By: SITE LISTING:** Lists 'Arts' and 'Business'.
- Results Categorized By: DOMAIN:** Lists 'Common Domains' like 'com' and 'edu'.
- Properties Panel:** Shows 'No properties available' and lists entities like 'People', 'Places', and 'Organizations'.
- Search Results:** Shows 'Responsible Nanotechnology' and 'K. Eric Dresler' with a thumbnail image of nanotubes.

**FanCentral Explorer**

File Edit View Help

**Focused Site**

**All Folders**

- My Computer
  - 3 1/2 Floppy (A:)
  - (C:)
  - (D:)
    - emacs-20.
    - Final
      - babylo
      - buffy-tl
      - Fix
      - rush
      - simpsc
      - smash
      - tori-am
    - Ide
    - MSDev98
    - Msdn98
    - samples
    - Tools
    - Vc98

**Work Area**

**Lite Audio**

JFF.to do :  
airy Tales

and in the doorway they

**Best**

Tori Online Research

A Dent In The  
Tori Amos Net

Chasing Tomatoes

TITAlISQ: The  
Interactive Tori  
Abuse :  
National

Blueprints of  
Genius - Tori

Tori Amos on

Tori Amos -  
Bootleg

**Pics**

Here. In My  
Head: My

yesanas.htm

og Named  
Jethro

Little  
Amsterdam

Tori Amos -  
Little

**Audio**

**Site Profiles**

Title	In Links	Out Links	Pages	File
Little Amsterdam (This page is b...	9	13	43	Audio
A Frog Named Jethro	8	4	76	Audio
Tori Amos - Little Earthquakes Fr...	4	0	115	Audio
yesanas.htm	1	11	25	Audio
Rape, Abuse & Incest National ...	24	0	158	Pics
Tori Amos - Bootleg Discography...	12	26	191	Pics
Tori Amos on Your Plate-Menu	8	7	134	Pics
Blueprints of Genius - Tori Amos ...	6	0	126	Pics
Here. In My Head: My Tribute to...	3	8	337	Pics
TITAlISQ: The Interactive Tori ...	0	1	445	Pics
STUFF.to do : Fairy Tales	6	10	342	Lite Audio
and in the doorway they stay...	1	2	46	Lite Audio
A Dent In The Tori Amos Net Un...	36	47	1037	Best
Tori Online Research Institute	18	21	451	Best
Chasing Tomatoes - Front Page	3	8	103	Best
to venus and back / tori.com	26	10	29	
Really Deep Thoughts - The Offi...	14	1	32	
The Force of Tori Amos	14	6	53	
A Simple tori Obsession	13	0	13	
the tori amos ring	13	1	2	
MAIN	10	4	13	
Untitled Document	10	0	3	
The Tori Amos Homepage	9	0	80	
Tori Amos - A Velvet Hologram	9	9	44	
Ashre	8	7	33	
little fascist panties	8	6	45	

Ready

TopicShop  
Amento et al., UIST 2000

# Initial Pilot

“Organic” layout, allows for overlapping layout,  
nesting, resizing  
(7 participants)

Search Results

Process for producing a fibrous structure having increased surface area  
Cebal, et al.

Method and apparatus for maskless photolithography  
Priva, et al.

Systems and methods for displaying simulated images  
Lawrence, et al.

Process for preparing a flexographic printing plate  
Mengel, et al.

Illumination compensator for curved surface lithography  
Kuchibidla, et al.

Nanopastes for use as patterning compositions  
Ray, et al.

Methods for coating surfaces with metal and products made thereby  
Morris, et al.

Position determination system for determining the position of one relatively moveable part relative to another relatively moveable part  
Homer, et al.

Fabrication of sub-wavelength structures  
Schmidt, et al.

Microwave tunable inductor and associated methods  
Karsche, et al.

102

Systems and methods for displaying simulated images



Position determination system for determining the position of one relatively moveable part relative to another relatively moveable part



Microwave tunable inductor and associated methods



103

Process for producing a fibrous structure having increased surface area



Method and apparatus for maskless photolithography



Fabrication of sub-wavelength structures



Relevant Art

Process for preparing a flexographic printing plate



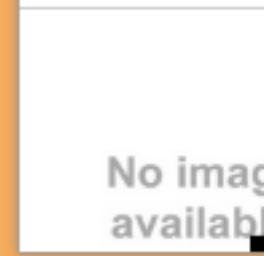
Nanopastes for use as patterning compositions



Save for Later

CONCEPT

Illumination compensator for curved surface lithography



Nanopastes for use as patterning compositions



new text node

Fabrication of sub-wavelength structures

### Search Results

Process for producing a fibrous structure having increased surface area  
Cabel, et al.

Method and apparatus for maskless photolithography  
Fries, et al.

Systems and methods for displaying simulated images  
Lawrence, et al.

Process for preparing a flexographic printing plate  
Mengel, et al.

Illumination compensator for curved surface lithography  
Kuchibotla, et al.

Nanopastes for use as patterning compositions  
Ray, et al.

Methods for coating surfaces with metal and products made thereby  
Morris, et al.

Position determination system for determining the position of one relatively moveable part relative to another relatively moveable part  
Homer, et al.

Fabrication of sub-wavelength structures  
Schmidt, et al.

Microwave tunable inductor and associated methods  
Parsche, et al.

### 102 Reference

CASE NUMBER A

#### Process for producing a fibrous structure having increased surface area

Claims 1, 7 and 14

This reference reads on 3 indep. claims-missing

#### Illumination compensator for curved surface lithography

No image available

### 103

CASE NUMBERS A

#### Systems and methods for displaying simulated images

### Future References

These referenc

#### Method and apparatus for maskless photolithography

### 102 References

CASE NUMBER B

### 103

CASE NUMBER B

# Reactions: too much fussing

Back to the prototyping board

# The Solution

- Keyboard Letters Create Groups
- Groups **Immediately Visible** and Usable
- Spatial Organizing Available, but with Automated Arranging, **Minimal Fuss**
- Groups **Tightly Coupled** to Search

# Revision, Study I

Really linked to search engine, with keyboard tagging  
4 views; non-overlapping layouts  
(20 participants in the lab)

Canvas Tool

Thumbnails Groups (Columns) Groups (Grid) List View

Group A Process for treating spinulna Sakakibara, et al.

Group A analyzing bacteria Kawashima, et al.

Group B system for preserving fresh meat products Bowling, et al.

Group B bacteria counting method Kawashima, et al.

Group A Process for producing fermented fish food Doumoto, et al.

Group C enriching bacteria by flow cytometer Sakai, et al.

Group A Chemical fertilizer and method for producing same Blais, et al.

Group C Chemical fertilizer and method for producing same Blais, et al.

Group D Lactic acid bacteria derived from fermentant fruit cereales

Group A Protective cultures and use thereof for resuscitation fruitshells

finding drugs for target

finding targets for drugs

finding informative biomarkers

finding interaction partners

finding drugs for target: Computer based method for identifying peptides useful as drug targets (Brahmachari, et al.)

finding drugs for target: HIV fusion inhibitor peptides with improved biological properties (Dwyer, et al.)

finding targets for drugs: Peptide tags for the expression and purification of bioactive peptides (Decarolis, et al.)

finding targets for drugs: Peptide tags for the expression and purification of bioactive peptides (Decarolis, et al.)

finding drugs for target: Statistical methods for analyzing biological sequences (Ranganathan, et al.)

finding targets for drugs: Compositions and methods for inducing apoptosis in tumor cells (Chen, et al.)

finding targets for drugs: Statistical methods for analyzing biological sequences (Ranganathan, et al.)

finding informative biomarkers: Labor biomarkers, methods comprising same, and methods targeting same (Strauss, et al.)

finding interaction partners: Antibodies against and methods for producing vaccines for respiratory syncytial virus (Tous, et al.)

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finding interaction partners: Flaviivirus fusion inhibitors (Garry, et al.)

Canvas Tool

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finding interaction partners: Flaviivirus fusion inhibitors (Garry, et al.)

Canvas Tool

Thumbnails Groups (Columns) Groups (Grid) List View

Application #	Date Published	Inventor	Title	Tags	Labels
07657378	2010-02-02	Brahmachari, et al.	Computer based method for identifying peptides useful as drug targets	finding drugs for target	a
07427656	2008-09-23	Decarolis, et al.	Peptide tags for the expression and purification of bioactive peptides	finding targets for drugs	b
07795382	2010-09-14	Decarolis, et al.	Peptide tags for the expression and purification of bioactive peptides	finding targets for drugs	b
07662570	2010-02-16	Strauss, et al.	Labor biomarkers, methods comprising same, and methods targeting same	finding informative biomarkers	c
07700353	2010-04-20	Chen, et al.	Compositions and methods for inducing apoptosis in tumor cells	finding targets for drugs	b
07700720	2010-04-20	Tous, et al.	Antibodies against and methods for producing vaccines for respiratory syncytial virus	finding interaction partners	d
07854937	2010-12-21	Garry, et al.	Flaviivirus fusion inhibitors	finding interaction partners	d
07176035	2007-02-13	Georges, et al.	Protein-protein interactions and methods for identifying interacting proteins and the amino acid sequence at the site of interaction	finding interaction partners	d
07456251	2008-11-25	Dwyer, et al.	HIV fusion inhibitor peptides with improved biological properties	finding drugs for target	a
07016786	2006-03-21	Ranganathan, et al.	Statistical methods for analyzing biological sequences	finding drugs for target	a
07016786	2006-03-21	Ranganathan, et al.	Statistical methods for analyzing biological sequences	finding targets for drugs	b

6 USPC CPC Pub Invent Assignee Search History

**Search**

bacteria AND acid

Search

**Search Results** | Document Details | Syntax Sheet

30155 results. Displaying 50 items. # Snippets: 2 Per page: 50

Page 1 of 604

Highlights: acid bacteria

TITLE	NUMBER	DATE PUBLISHED	CLASS	INVENTOR
Protective cultures and use thereof for preserving foodstuffs	06916647	2005-07-12	435/252.1	Elsser, et al.

**Abstract:** lactic acid-producing bacteria for preserving foodstuffs or animal feed, which can only be conserved for a limited period of time, even under refrigeration. The protective cultures can inhibit the growth of bacteria which are dangerous to the consumer, if the cold chain is interrupted, or if the prescribed

**Description:** lactic acid bacteria quantity of 104 to 108 lactic acid bacteria per g or ml or cm2 surface of the food- or feedstuff, preferably with a lactic acid bacteria quantity of 105 to 106 lactic acid bacteria per g or ml or cm2 surface. Preferably, during the treatment, a source of carbon, preferably carbohydrates... lactic acid bacteria of the protective cultures according to the invention takes place and above which the lactic acid bacteria can inhibit the growth of toxinogenic and/or toxic-infectious bacteria is 7° C. The lactic acid bacteria of the protective cultures according to the invention can be obtained

**Claims:** lactic acid bacteria belonging to the strain Lactococcus lactis subsp. lactis 1526 (DSM 12415).

TITLE	NUMBER	DATE PUBLISHED	CLASS	INVENTOR
Methods for manufacturing hydrogen using anaerobic digestion	07540961	2009-06-02	210/603	Hansen, et al.

**Abstract:** using bacteria or spores includes providing a biomass comprising a hydrogen-producing bacteria and a competing bacteria and treating the biomass with a sufficient amount of a chemical agent for a period of time such that the treatment (i) kills, inhibits or injures substantially all of the competing... competing bacteria and (ii) does not kill or inhibit the hydrogen-producing bacteria or causes the hydrogen-producing bacteria to form spores that are not destroyed during the chemical treatment. The method also includes digesting an enriched biomass with a non-sterile organic substrate. The enriched biomass

**Canvas Tool**

Thumbnails Groups (Columns) Groups (Grid) List View

**Group A** Process for treating spirulina Sakakibara, et al.

**Group A** Analyzing bacteria Kawashima, et al.

**Group B** System for preserving fresh meat products Bowling, et al.

**Group B** Bacteria counting method Kawashima, et al.

**Group A** Process for producing fermented fish food Doumoto, et al.

**Group C** Concentrating bacteria by flow cytometer Sakai, et al.

**Group A** Enriched fertilizer and method for producing same Blais, et al.

**Group C** Enriched fertilizer and method for producing same Blais, et al.

**Group D** Lactic acid bacteria derived from fermented food samples Ibrahim, et al.

**Group A** Protective cultures and use thereof for preserving foodstuffs Elsser, et al.

finding drugs for target a

**finding drugs for target**  
Computer based method for identifying peptides useful as drug targets

Brahmachari, et al.

United States Patent  
Brahmachari et al.  
Patent No. US 7,627,378 B2  
Date of Patent: Feb. 2, 2009

Abstract: A computer-based method for identifying peptides useful as drug targets. The method involves identifying a target protein, identifying a set of peptides, and identifying a subset of peptides that are predicted to bind to the target protein. The method also involves identifying a subset of peptides that are predicted to be useful as drug targets.

finding targets for drugs b

**finding targets for drugs**  
Peptide tags for the expression and purification of bioactive peptides

Decarolis, et al.

United States Patent  
Decarolis et al.  
Patent No. US 7,627,378 B2  
Date of Patent: Feb. 2, 2009

Abstract: Peptide tags for the expression and purification of bioactive peptides. The invention provides a method for identifying peptide tags that are useful for the expression and purification of bioactive peptides. The method involves identifying a set of peptide tags, identifying a subset of peptide tags that are predicted to be useful for the expression and purification of bioactive peptides, and identifying a subset of peptide tags that are predicted to be useful for the expression and purification of bioactive peptides.

finding informative biomarkers c

**finding informative biomarkers**  
Labor biomarkers, methods comprising same, and methods targeting same

Strauss, et al.

United States Patent  
Strauss et al.  
Patent No. US 7,662,578 B2  
Date of Patent: Feb. 26, 2009

Abstract: Labor biomarkers, methods comprising same, and methods targeting same. The invention provides a method for identifying labor biomarkers that are useful for the diagnosis and prognosis of labor. The method involves identifying a set of labor biomarkers, identifying a subset of labor biomarkers that are predicted to be useful for the diagnosis and prognosis of labor, and identifying a subset of labor biomarkers that are predicted to be useful for the diagnosis and prognosis of labor.

finding interaction partners d

**finding interaction partners**  
Antibodies against and methods for producing vaccines for respiratory syncytial virus

Tous, et al.

United States Patent  
Tous et al.  
Patent No. US 7,796,724 B2  
Date of Patent: Apr. 28, 2009

Abstract: Antibodies against and methods for producing vaccines for respiratory syncytial virus. The invention provides a method for identifying antibodies that are useful for the diagnosis and prognosis of respiratory syncytial virus. The method involves identifying a set of antibodies, identifying a subset of antibodies that are predicted to be useful for the diagnosis and prognosis of respiratory syncytial virus, and identifying a subset of antibodies that are predicted to be useful for the diagnosis and prognosis of respiratory syncytial virus.

**finding drugs for target**  
HIV fusion inhibitor peptides with improved biological properties

Dwyer, et al.

United States Patent  
Dwyer et al.  
Patent No. US 7,749,233 B2  
Date of Patent: Nov. 25, 2009

Abstract: HIV fusion inhibitor peptides with improved biological properties. The invention provides a method for identifying HIV fusion inhibitor peptides that are useful for the treatment of HIV. The method involves identifying a set of HIV fusion inhibitor peptides, identifying a subset of HIV fusion inhibitor peptides that are predicted to be useful for the treatment of HIV, and identifying a subset of HIV fusion inhibitor peptides that are predicted to be useful for the treatment of HIV.

**finding targets for drugs**  
Peptide tags for the expression and purification of bioactive peptides

Decarolis, et al.

United States Patent  
Decarolis et al.  
Patent No. US 7,755,382 B2  
Date of Patent: Nov. 18, 2009

Abstract: Peptide tags for the expression and purification of bioactive peptides. The invention provides a method for identifying peptide tags that are useful for the expression and purification of bioactive peptides. The method involves identifying a set of peptide tags, identifying a subset of peptide tags that are predicted to be useful for the expression and purification of bioactive peptides, and identifying a subset of peptide tags that are predicted to be useful for the expression and purification of bioactive peptides.

**finding interaction partners**  
Flavivirus fusion inhibitors

Garry, et al.

United States Patent  
Garry et al.  
Patent No. US 7,816,837 B2  
Date of Patent: Dec. 15, 2009

Abstract: Flavivirus fusion inhibitors. The invention provides a method for identifying flavivirus fusion inhibitors that are useful for the treatment of flavivirus. The method involves identifying a set of flavivirus fusion inhibitors, identifying a subset of flavivirus fusion inhibitors that are predicted to be useful for the treatment of flavivirus, and identifying a subset of flavivirus fusion inhibitors that are predicted to be useful for the treatment of flavivirus.

**finding drugs for target**  
Statistical methods for analyzing biological sequences

Ranganathan, et al.

**finding targets for drugs**  
Compositions and methods for inducing apoptosis in tumor cells

Chen, et al.

**finding interaction partners**  
Protein-protein interactions and methods for identifying interacting proteins and the amino acid sequence at the site of interaction

Geimes, et al.

finding drugs for target

a

finding drugs for target  
Computer based method for identifying peptides useful as drug targets

Brahmachari, et al.

United States Patent 6,547,738 B1  
Date of Patent: Feb. 2, 2004  
Inventors: Brahmachari, et al.  
Abstract: A computer-based method for identifying peptides useful as drug targets. The method involves identifying a target protein, identifying a set of peptides, and identifying a subset of peptides that are predicted to bind to the target protein. The method also includes identifying a subset of peptides that are predicted to be useful as drug targets.

finding drugs for target  
HIV fusion inhibitor peptides with improved biological properties

Dwyer, et al.

United States Patent 6,426,282 B2  
Date of Patent: Sep. 23, 2004  
Inventors: Dwyer, et al.  
Abstract: HIV fusion inhibitor peptides with improved biological properties. The invention provides a method for identifying HIV fusion inhibitor peptides with improved biological properties. The method involves identifying a set of peptides, and identifying a subset of peptides that are predicted to have improved biological properties.

finding targets for drugs

b

finding targets for drugs  
Peptide tags for the expression and purification of bioactive peptides

Decarolis, et al.

United States Patent 6,524,749 B2  
Date of Patent: Sep. 23, 2004  
Inventors: Decarolis, et al.  
Abstract: Peptide tags for the expression and purification of bioactive peptides. The invention provides a method for identifying peptide tags for the expression and purification of bioactive peptides. The method involves identifying a set of peptide tags, and identifying a subset of peptide tags that are predicted to be useful for the expression and purification of bioactive peptides.

finding targets for drugs  
Peptide tags for the expression and purification of bioactive peptides

Decarolis, et al.

United States Patent 6,524,749 B2  
Date of Patent: Sep. 23, 2004  
Inventors: Decarolis, et al.  
Abstract: Peptide tags for the expression and purification of bioactive peptides. The invention provides a method for identifying peptide tags for the expression and purification of bioactive peptides. The method involves identifying a set of peptide tags, and identifying a subset of peptide tags that are predicted to be useful for the expression and purification of bioactive peptides.

finding drugs for target  
Statistical methods for analyzing biological sequences

Ranganathan, et al.

United States Patent 6,546,736 B1  
Date of Patent: Mar. 23, 2004  
Inventors: Ranganathan, et al.  
Abstract: Statistical methods for analyzing biological sequences. The invention provides a method for analyzing biological sequences using statistical methods. The method involves identifying a set of biological sequences, and identifying a subset of biological sequences that are predicted to be useful for analyzing biological sequences.

finding targets for drugs  
Compositions and methods for inducing apoptosis in tumor cells

Chen, et al.

United States Patent 6,576,303 B2  
Date of Patent: Apr. 20, 2004  
Inventors: Chen, et al.  
Abstract: Compositions and methods for inducing apoptosis in tumor cells. The invention provides a method for inducing apoptosis in tumor cells using compositions and methods. The method involves identifying a set of compositions and methods, and identifying a subset of compositions and methods that are predicted to be useful for inducing apoptosis in tumor cells.

finding targets for drugs  
Statistical methods for analyzing biological sequences

Ranganathan, et al.

United States Patent 6,546,736 B1  
Date of Patent: Mar. 23, 2004  
Inventors: Ranganathan, et al.  
Abstract: Statistical methods for analyzing biological sequences. The invention provides a method for analyzing biological sequences using statistical methods. The method involves identifying a set of biological sequences, and identifying a subset of biological sequences that are predicted to be useful for analyzing biological sequences.

finding informative biomarkers

c

finding informative biomarkers  
Labor biomarkers, methods comprising

finding interaction partners

d

finding interaction partners  
Antibodies against and methods for

finding interaction partners  
Flavivirus fusion inhibitors

**Search**

bacteria AND acid

Search

Operators & Symbols

**Search Results** Document Details Syntax Sheet

30155 results. Displaying 50 items. # Snippets: 2 Per page: 50

Page 1 of 604

Highlights: acid bacteria

TITLE	NUMBER	DATE PUBLISHED	CLASS	INVENTOR
Protective cultures and use thereof for preserving foodstuffs	06916647	2005-07-12	435/252.1	Elsser, et al.

Abstract: lactic acid-producing bacteria for preserving foodstuffs or animal feed, which can only be conserved for a limited period of time, even under refrigeration. The protective cultures can inhibit the growth of bacteria which are dangerous to the consumer, if the cold chain is interrupted, or if the prescribed



Description: lactic acid bacteria quantity of 104 to 108 lactic acid bacteria per g or ml or cm2 surface of the food- or feedstuff, preferably with a lactic acid bacteria quantity of 105 to 106 lactic acid bacteria per g or ml or cm2 surface. Preferably, during the treatment, a source of carbon, preferably carbohydrates... lactic acid bacteria of the protective cultures according to the invention takes place and above which the lactic acid bacteria can inhibit the growth of toxinogenic and/or toxigenic bacteria is 7° C. The lactic acid bacteria of the protective cultures according to the invention can be obtained

Claims: lactic acid bacteria belonging to the strain Lactococcus lactis subsp. lactis 1526 (DSM 12415).

TITLE	NUMBER	DATE PUBLISHED	CLASS	INVENTOR
Methods for manufacturing hydrogen using anaerobic digestion	07540961	2009-06-02	210/603	Hansen, et al.

Abstract: using bacteria or spores includes providing a biomass comprising a hydrogen-producing bacteria and a competing bacteria and treating the biomass with a sufficient amount of a chemical agent for a period of time such that the treatment (i) kills, inhibits or injures substantially all of the competing... competing bacteria and (ii) does not kill or inhibit the hydrogen-producing bacteria or causes the hydrogen-producing bacteria to form spores that are not destroyed during the chemical treatment. The method also includes digesting an



**Canvas Tool**

Thumbnails Groups (Columns) Groups (Grid) List View

Application #	Date Published	Inventor	Title
07326558	2008-02-05	Sakakibara, et al.	Process for treating spirulina
07582473	2009-09-01	Kawashima, et al.	analyzing bacteria
07169415	2007-01-30	Bowling, et al.	System for preserving fresh meat products
07422870	2008-09-09	Kawashima, et al.	Bacteria counting method
06884455	2005-04-26	Doumoto, et al.	Process for producing fermented fish food
07645594	2010-01-12	Sakai, et al.	discriminating bacteria by flow cytometer
07811353	2010-10-12	Blais, et al.	Enhanced fertilizer and method for producing same
07811353	2010-10-12	Blais, et al.	Enhanced fertilizer and method for producing same
07112323	2006-09-26	Ibrahim, et al.	lactic acid bacteria derived from fermented food samples
06916647	2005-07-12	Elsser, et al.	Protective cultures and use thereof for preserving foodstuffs

# Results (Study I)

- How often would you change tags?

	Legacy tool	Prototype
Never	4	0
Rarely	5	4
Sometimes	8	5
Frequently/Often	2	10

# Results (Study I)

- How many tags would you apply ?

# Tags	Saving results	Organizing results
None	0	0
1	0	0
2-3	7	8
4-5	8	8
6 or more	5	3

# Results (Study I)

- How does this compare to the legacy tool?
- 17 / 20 participants indicated 6 (better) or 7 (much better) (out of 7)

# Final Design, Study II

Better Search, Column Layout, Improved details  
(10 participants for 1 hour on their own schedules)

Search touch screen

Clear Search

Search Results Document Details Syntax and Commands

# Snippets: 2 Sort by: relevance Per page: 50 Options

Highlights: touch screen

11994 results found. Currently displaying results 1 - 50. Page 1 of 240

periphery of the touch

Touch screen image setting frame

NUMBER	DATE PUBLISHED	CLASS	INVENTOR	TYPE
07576733	2009-08-17	345/178	Tremaine, L. et al.	Patent

Description: with a touch screen. The monitor 102 may be any of the above-mentioned type of monitors. According to this exemplary embodiment, a monitor 102 lacking touch screen capabilities may have been fitted with a touch screen overlay 104. The touch screen overlay 104 may have dimensions... that the touch screen may come in a variety of different shapes and configurations. The monitor 102, touch screen overlay 104, monitor active area 106, and touch screen active area 108 of FIG. 1 are shown here. Touch screen image setting frame 305 is constructed



Claims: of the touch screen image setting frame; wherein the dimensions of the inner perimeter of the touch screen image setting frame are equal to the dimensions of a touch screen active area of the touch screen overlay; and after the adjusting, removing the frame from in front of the... dimensions of a touch screen active area of the touch screen overlay; and after the adjusting...

Tagged Documents

View: Group View Table View

Version: Previous Next Add a Group Settings

a | focus 1

graphical user interface (GUI) element  
Udler, A. et al.

focus 1  
Annotating GUI test automation playback and debugging  
Hayutin, W. et al.

focus 1  
graphical user interface (GUI)  
Balkman, W. et al.

focus 1, configuration  
Binding a GUI element to live measurement data  
Wells, E. et al.

b | configuration

configuration  
multi-level GUI  
M. N., K. et al.

focus 1, configuration  
Binding a GUI element to live measurement data  
Wells, E. et al.

d | touch screen

touch screen  
improved touch screen assembly  
Rasmussen, J. et al.

touch screen  
Touch screen image setting frame  
Tremaine, L. et al.

c | for next week

for next week  
visibility of GUI components  
Krebs, A. et al.

for next week  
GUI architecture for namespace management  
Hing, J. et al.

for next week  
testing GUI applications  
Dubovsky, D. et al.

Search

Clear Search

Operators & Sym

Search Results | Document Details | Syntax and Commands

# Snippets: 2 | Sort by: relevance | Per page: 50 | Options

Abstract  Description  Claims  Image

Highlights: user interface GUI

10922 results found. Currently displaying results 1 - 50. Page 1 of 219

Pat. No.... application's **user interface**. A Web application exhibits a back-end state (e.g., stored data, runtime data, and logic). The HTML definitions that are used primarily for the application's **user interface** must be dynamic to reflect the changing back-end state. The back-end state must be able to be bound to the

#### Graphical cursor navigation methods

NUMBER	DATE PUBLISHED	CLASS	INVENTOR	TYPE
07484184	2009-01-26	715/856	Wroblewski, F. etal.	Patent

Description: using a **GUI** (on a computer for example) include the use of an input device such as a mouse or a track ball. A movement of the mouse or the track ball results in a corresponding graphical cursor (sometimes called a cursor or a pointer) moving on the graphical **user interface**. The graphical cursor (or pointer)... graphical **user interface (GUI)** includes navigating a graphical cursor corresponding to an input device onto the button, activating a fence around a border of the button if the navigation occurs via a pre-defined portion of the border and navigating the graphical cursor away from the button via a pre-defined

#### Multiple-mode window presentation system and process

NUMBER	DATE PUBLISHED	CLASS	INVENTOR	TYPE
07199802	2007-04-02	345/589	Gusmorino, P. etal.	Patent

Tagged Documents

View: Group View Table View

Version: Previous Next Add a Group Settings

Empty content area for Tagged Documents.

# Results (Study II)

- Behavior:
  - Two completed 2 cases
  - One completed 3 cases
  - Seven completed 1 case
  - Number of groups varied from
    - 1 group with 3 documents to
    - 15 groups with 23 documents in 2 rows

# Results (Study II)

- 6/7: works well for my needs
- 6/7: tagging functionality compared to legacy tool
- 6/7: organizing functionality compared to legacy tool

# Results (Study II)

- How often would you use this tool?

	Tagging tool	Organizing tool
For every case	7	5
For most cases	3	3
For a few cases	0	1
Never	0	1

# Not Yet Addressed

- Integration of Annotations
- Supporting Long-Term Categories
- Supporting Collaborative Categories

# Applicability Elsewhere?

- Citation Search Tools: YES!

- Pubmed

- WorldCat

- Lexis/Nexis (Proquest)

- Google Scholar

- MS Academic Search

- Web Search Engines?

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Sort by relevance

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[The cost structure of sensemaking](#)

DM Russell, MJ Stefik, P Pirolli, SK Card

Abstract Making sense of a body of data is... Sensemaking is the process of searching representation to answer task-specific que

Cited by 336 Related articles UC-eLinks All 10 versions

[\[PDF\] The sensemaking process and leverage points for analyst technology as identified through cognitive task analysis](#)

P Pirolli, S Card - Proceedings of International Conference on ..., 2005 - vadl.cc.gatech.edu

... Russell et al. (1993) have explicated the inner re- representational sensemaking process for a case in which large amounts of information had to be digested to create a curriculum for printer repairmen. ... Figure 1. Learning Loop Complex theory of sense-making (Russell, et al. ...

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[Making sense of sensemaking](#)

GW Furnas, DM Russell - CHI'05 extended abstracts on Human factors in ..., 2005 - dl.acm.org

Making sense of the world is a common activity. It happens whenever you confront a new, complex problem. At work, your boss says, "Can you give a presentation next week on how wireless will affect our business?" Or perhaps, you join a new committee, and wonder " ...

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[\[PDF\] Sensemaking for the rest of us](#)

DM Russell, R Jeffries, L Irani - Sensemaking Workshop at CHI, 2008 - comp.dit.ie

ABSTRACT Sensemaking is simple—it's the way people go about their process of collecting, organizing and creating representations of complex information sets, all centered around

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Title	Creator	Year	
From the mind's eye of the user: The sense-...	Dervin	1992	
Multilevel theorizing about creativity in organ...	Drazin et al.	1999	
Identity, image, and issue interpretation: Sen...	Gioia and Thomas	1996	
Strategic sensemaking and organizational pe...	Thomas et al.	1993	
The collapse of sensemaking in organization...	Weick	1993	
Organizing and the process of sensemaking	Weick et al.	2005	
Sensemaking and sensegiving in strategic ch...	Gioia and Chittipe...	1991	1
Sensemaking and sensegiving in strategic ch...	Gioia and Chittipe...	1991	1

Info Notes Tags Related

Item Type: Journal Article

Title: From the mind's eye of the user: The sense-making qualitative-quantitative methodology

Author: Dervin, B.

Abstract:

Publication: Qualitative research in



sensemaking

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[BOOK] [Sensemaking in organizations](#) alfrehn.com [PDF]  
 KE Weick - 1995 - books.google.com

The teaching of organization theory and the conduct of organizational research have been dominated by a focus on decision-making and the concept of strategic rationality. However, the rational model ignores the inherent complexity and ambiguity of real-world ...  
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[CITATION] From the mind's eye of the user: The **sense-making** qualitative-quantitative methodology  
 B Dervin - Qualitative research in information management, 1992 - Libraries Unlimited  
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Title	Creator	Year
Patterns o...	Bae et al.	2006
The digita...	Cousins ...	1997
The digita...	Cousins ...	1997
From the ...	Dervin	1992
Multilevel...	Drazin et...	1999
MessyDes...	Fass et al.	2002
Distribute...	Fisher et ...	2012
Users, us...	Fox et al.	1993
Identity, i...	Gioia an...	1996
Evaluatin...	Granitzer...	2004
Finding th...	Hearst et...	2002
TileBars: ...	Hearst	1995
A compar	Heber	2006

Layout: defaultViewMode - Current Case Number: sample case

Search: touch screen

Search Results: Document Details Syntax and Commands

# Snippets: 2 Sort by: relevance Per page: 50 Options

Tagged Documents View: Group View Table View Version: Previous Next Add a Group Settings

**a | focus 1**

- focus 1 graphical user interface (GUI) element Usher, A. et al.
- focus 1 Annotating GUI test automation playback and debugging Hayutin, W. et al.
- focus 1 graphical user interface (GUI) Balkman, W. et al.
- focus 1, configuration Binding a GUI element to live measurement data Wells, E. et al.

**b | configuration**

- configuration multi-level GUI M. N., K. et al.
- focus 1, configuration Binding a GUI element to live measurement data Wells, E. et al.

**c | for next week**

- for next week visibility of GUI components Krebs, A. et al.
- for next week GUI architecture for namespace a management Hing, J. et al.
- for next week testing GUI applications Dubovsky, D. et al.

**d | touch screen**

- touch screen improved touch screen assembly Rasmussen, J. et al.
- touch screen Touch screen image setting frame Tremaine, L. et al.

**[BOOK] Sensemaking in organizations**  
 KE Weick - 1995 - books.google.com  
 The teaching of organization theory and the conduct of organizational research dominated by a focus on decision making and the conception of strategic rational model, however, ignores the inherent complexity and ambiguity of real-  
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**The collapse of sensemaking in organizations: The Mann Gulch**  
 KE Weick - Administrative science quarterly, 1993 - JSTOR  
 The death of 13 men in the Mann Gulch fire disaster, made famous in Norman Young Men and Fire, is analyzed as the interactive disintegration of role struct  
**sensemaking** in a minimal organization. Four potential sources of resilience th  
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**Sensemaking and sensegiving in strategic change initiation**  
 DA Gioia, K Chittipeddi - Strategic management journal, 1991 - Wiley Online Li  
 Abstract This paper reports an ethnographic study of the initiation of a strategi  
 in a large, public university. It develops a new framework for understanding the  
 character of the beginning stages of strategic change by tracking the first year  
 Cited by 1609 Related articles All 3 versions Cite

**Enacted Sensemaking in Crisis Situations [1]**  
 KE Weick - Journal of management studies, 1988 - Wiley Online Library  
 ABSTRACT **Sensemaking** in crisis conditions is made more difficult because  
 instrumental to understanding the crisis often intensifies the crisis. This dilem  
 interpreted from the perspective that people enact the environments which con  
 Cited by 849 Related articles All 4 versions Cite

**Identity, image, and issue interpretation: Sensemaking during st**

# Applicability Elsewhere?

- Information Gathering Tools?
  - Evernote, Onenote
- Web Search Engines?

# Conclusions

- The details matter for search UIs!
  - In this case, the seam between saving and organizing search is tricky
- The User-Centered Design Process works
  - Four rounds of design in this case
- Minimizing manual movements is a powerful search design constraint
  - Seems to be a selling point for spoken input too