

Interactive Online Reference

Tom Beyer, iFactory
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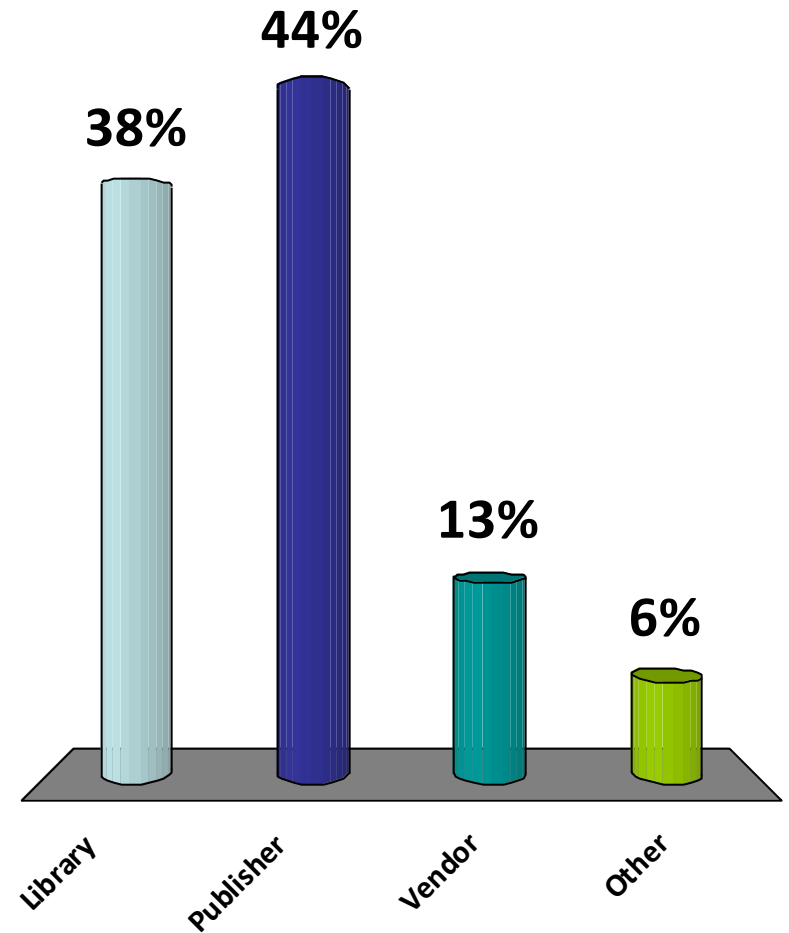
iFACTORY
THE INTERACTIVE FACTORY

Agenda

- ❖ Where are we going
- ❖ Data Centered Features
- ❖ User Centered Features
- ❖ Future
- ❖ Survey Results

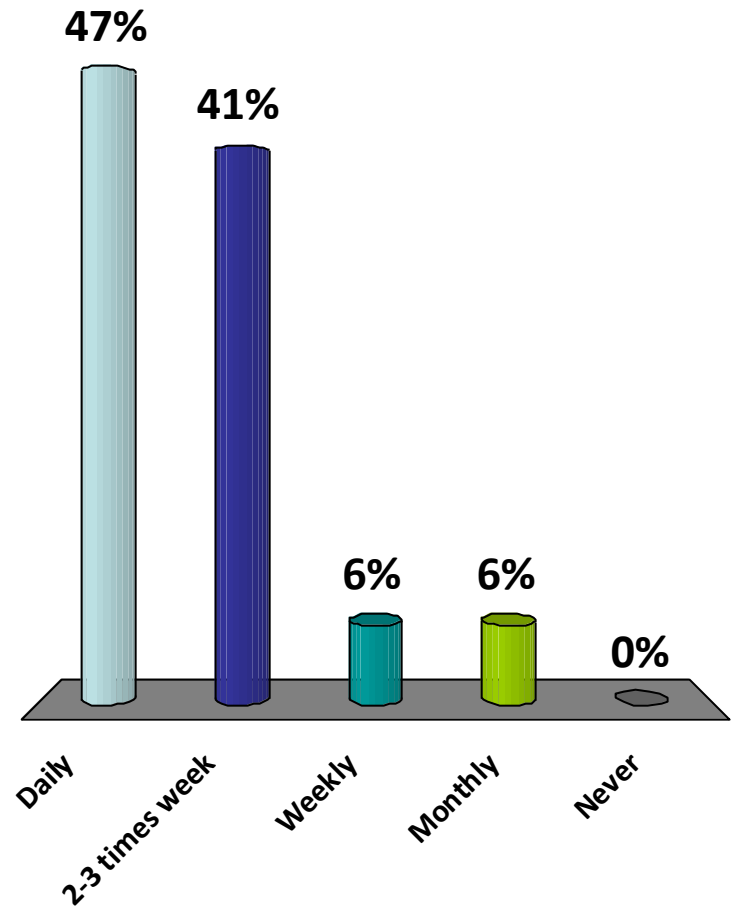
I work for a:

1. Library
2. Publisher
3. Vendor
4. Other



How often do you use online reference products?

1. Daily
2. 2-3 times week
3. Weekly
4. Monthly
5. Never



What do we want from an online reference product?

- Authoritative
- Credible
- Quick
- Thorough

- **Answers**

Interactive Reference

- Context Matters
- Clearly not all content requires all features
- Full tool set
- Develop an interface vocabulary

Enriching Text – the obvious stuff

- Why?
 - Improve comprehension
- Images
 - Are they important enough to warrant their own search
 - Slide shows
- Audio
 - Automatic translation
 - People
 - Download mp3's
- Video / Animation
 - How to search
 - How to Chunk

Enriching Text - Simulation

- Make use of the math in your content
- Find & Create simulations to explain concepts

Area between Curves

VIEW CODE

Suppose $f(x)$ and $g(x)$ are continuous with $f(x)$ above $g(x)$, then the area between the curves $y = f(x)$ and $y = g(x)$ and the lines $x = a$ and $x = b$ is given by

$$\int_a^b (f(x) - g(x)) dx$$

Area between $y = x^2$ and $y = \sqrt{x}$

Enter the next computation to see graphs of $y = x^2$ (green), $y = \sqrt{x}$ (orange), and the region between the curves (blue).


Give the function:
 $f(x) =$

Give the function:
 $g(x) =$

Give the lower limit of x :
 $a =$

Give the upper limit of x :
 $b =$

DO IT

Powered by


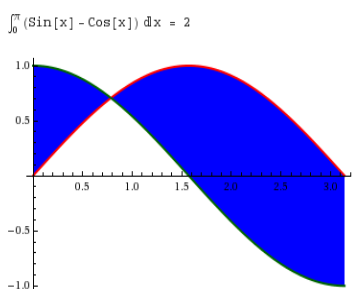
Homework.nb - Mozilla Firefox

[http://library.wolfram.com/webMathematica/CalculusWiz/AreaSolver1.jsp?fun1=Sin\[x\]](http://library.wolfram.com/webMathematica/CalculusWiz/AreaSolver1.jsp?fun1=Sin[x])


The area between
 $y = f(x) = \text{Sin}[x]$
and
 $y = g(x) = \text{Cos}[x]$
for $0 \leq x \leq \pi$ is

$$\int_0^{\pi} \sqrt{(\text{Sin}[x] - \text{Cos}[x])^2} dx = 2.82843$$

and

$$\int_0^{\pi} (\text{Sin}[x] - \text{Cos}[x]) dx = 2$$


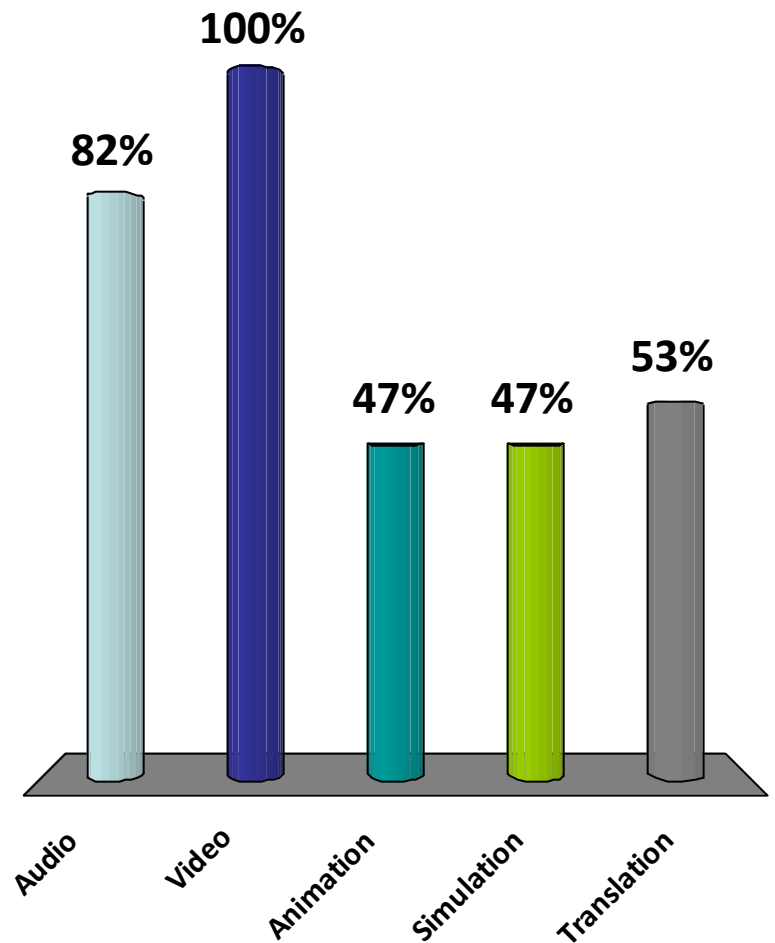
Close Window

Powered by


Done

Would patrons use these features?

1. Audio
2. Video
3. Animation
4. Simulation
5. Translation



Content in the Aggregate

- Can we do a better job showing the relationship between multiple pieces of content
- What interfaces are appropriate?
- What value are we providing?
- What is important in these relationships?

Chapter 1 - Oxford Biblical Studies Online - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.oxfordbiblicalstudies.com/article/sidebyside/bibref, Google

Chapter 1 - Oxford Biblical S...

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OXFORD BIBLICAL STUDIES ONLINE

SEARCH BROWSE BIBLE TEXTS TIMELINES TOOLS & RESOURCES BIBLE VERSE LOOKUP

EMAIL Previous Result Results Look It Up Highlight On / Off Next Result

Ezra: Chapter 1

Previous Jump to: Ezra Ch: 1 Ver: 1 Go Next

Text view alone

Access Bible [NRSV]

¹In the first year of King Cyrus of Persia, in order that the word of the LORD by the mouth of Jeremiah might be accomplished, the LORD stirred up the spirit of King Cyrus of Persia so that he sent a herald throughout all his kingdom, and also in a written edict declared:

²"Thus says King Cyrus of Persia: The LORD, the God of heaven, has given me all the kingdoms of the earth, and he has charged me to build him a house at Jerusalem in Judah. ³Any of those among you who are of his people—may their God be with them!—are now permitted to go up to Jerusalem in Judah, and rebuild the house of the LORD, the God of Israel—he is the God who is in Jerusalem; ⁴and let all survivors, in whatever place they reside, be assisted by the people of their place with silver and gold, with goods and with animals, besides freewill offerings for the house of God in Jerusalem."

⁵The heads of the families of Judah and Benjamin, and the priests and the Levites—everyone whose spirit God had stirred—got ready to go up and rebuild the house of the

Previous Next

Text Commentary view alone

Oxford Study Bible [REB]

¹ IN the first year of King Cyrus of Persia the LORD, to fulfil his word spoken through Jeremiah, inspired the king to issue throughout his kingdom the following proclamation, which he also put in writing:

²The decree of King Cyrus of Persia.

The LORD the God of the heavens has given me all the kingdoms of the earth, and he himself has charged me to build him a house at Jerusalem in Judah. ³Whoever among you belongs to his people, may his God be with him; and let him go up to Jerusalem in Judah, and build the house of the LORD the God of Israel, the God who is in Jerusalem. ⁴ Let every Jew left among us, wherever he is settled throughout the country, be helped by his neighbours with silver and gold, goods and livestock, in addition to the voluntary offerings for the house of God in Jerusalem.

⁵Thereupon the heads of families of Judah and Benjamin came forward, along with the priests and the Levites, all whom

Previous Next

EMAIL Previous Result Results Look It Up Highlight On / Off Next Result

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Find: Next Previous Highlight all Match case

Done

Document Comparison

GazFrontEndFunctionalSpec (diff) - Columbia Online - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://trac.factory.com/columbiaonline/wiki/GazFrontEndFunctionalSpec?action=diff&version=74

GazFrontEndFunctionalSpec (...)

Unmodified Added Removed Modified

GazFrontEndFunctionalSpec Tabular Unified

v73	v74	
268	268	(8) The user can select a subset of Admin1 via a palette. The Admin1 selection controls will function as they did in the Gaz EMS, only appearing if a country with Admin1 is selected.
269	269	* This functionality would mirror that of the EMS.
270		* The additional filter palette for Admin2 would only appear if any existed for the Admin1 (this feature will be disabled until Columbia is ready with enough content).
	270	=== Admin2 ===
	271	=== Admin2 ===
	272	* The Admin2 filter palette only appears if the selected Admin1 has Admin2 children.
	273	* This Admin2 functionality will be included (brought over with other EMS code), but will be disabled due to lack of content. This feature will be activated later, possibly under a maintenance agreement.
271	274	
272	275	{{{
...	...	
313	316	The Entry Display page displays the information for a single entry.
314	317	
315		=== (1) Search Results nav ===
316		Entries that were reached from a search will include links to view the previous and next entries in the result list. When the entry is accessed via the Browse page, the previous and next arrows will still be displayed, but will move the user through the alphabetic list of entries instead. When reached through a cross reference, the next / prev links will no appear.
	318	=== (1) Search Results Navigation ===
	319	Entries that were reached from a search will include links to view the previous and next entries in the result list. When the entry is accessed via the Browse page, the previous and next arrows will still be displayed, but will move the user through the alphabetic list of entries instead. When reached through a cross reference, the next / prev links will not appear.
317	320	
318	321	=== (2) Bread Crumb Trail ===
...	...	

x Find: Match case

Document version analysis

Timelines & Maps

- We live in spacetime
- Date & location information are common metadata for many different kinds of content
- Make use of this to visualize the relationships of your data



Institutional Memory

Search GO

- Home
- Inquiry & Innovation
- Community Narratives
- Photo Gallery
- Timeline
- Feedback

Explore the 100 years of Harvard Business School through the lens of the School's innovations, people, and associated topics.

Timeline

1908 2008

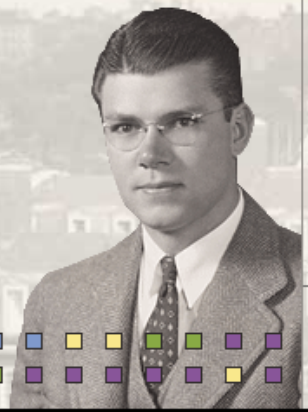
GO TO YEAR: GO

◀ 1966 1967 1968 1969 1970 ▶

■ The Ford Foundation gives \$1.2 million in support of the "International Teachers Program," aimed at training case-method teachers f...▶



■ Former HBS faculty member, Ford executive, and Secretary of Defense Robert McNamara (MBA '39) wins first Alumni Achievement award; ...▶



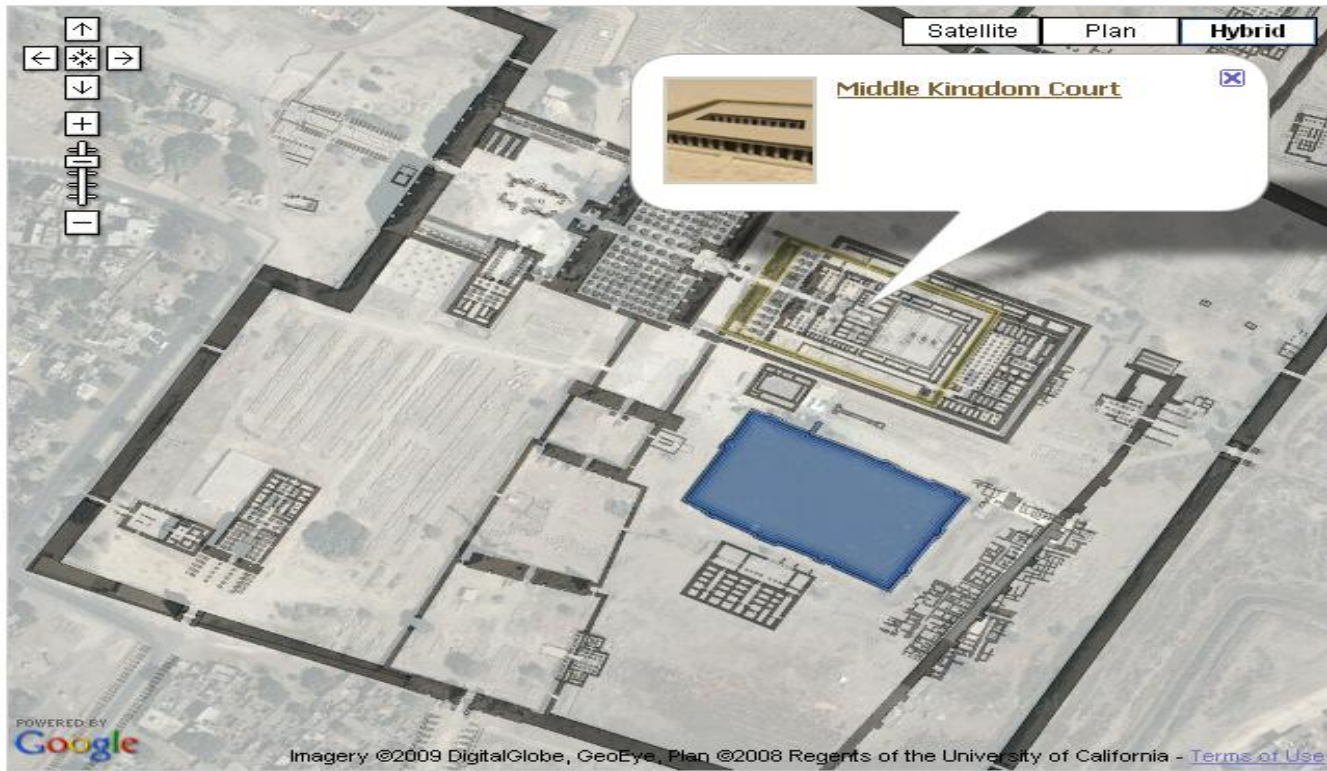
■ HBS and Harvard Law School establish the JD/MBA program: the School's first joint-degree program...▶



■ Economist and HBS Professor Lawrence E. Fouraker is named the School's 6th dean....▶



DIGITAL KARNAK TIMEMAP



Current period:

Hatshepsut

Jump to period... [dropdown arrow]

Features created:

- 8th Pylon
- Obelisks at Contra Temple
- Obelisks of Festival Hall West Pair
- Obelisks of Wadjet Hall
- Palace of Ma'at
- Red Chapel

Features modified:

- Amenhotep I Calcite Chapel
- Pylon and Festival Court of Thutmose II
- Wadjet Hall

Features destroyed:

- ~~Middle Kingdom Court~~

Created, modified, or destroyed Inactive

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Subject Browse & Visual Search

- A-Z becomes less important in a world where there isn't a need to order pages
- 1 or more Subject-based browse orderings are usually possible
- Typically these have been handled using lists or tree-views
- Is there a value to providing a more visual way to browse these collections?



mercury

Search

[Advanced Search](#)[Web](#) > [Wonder wheel](#) [Hide options](#)

Results 1 - 10 of about 78,800,000 for mercury [definition]. (0.26 seconds)

 > All results

- [Videos](#)
- [News](#)
- [Blogs](#)
- [Books](#)
- [Forums](#)

 > Any time

- [Recent results](#)
- [Past hour](#)
- [Past 24 hours](#)
- [Past week](#)
- [Past year](#)
- [Specific date range](#)

 > All results

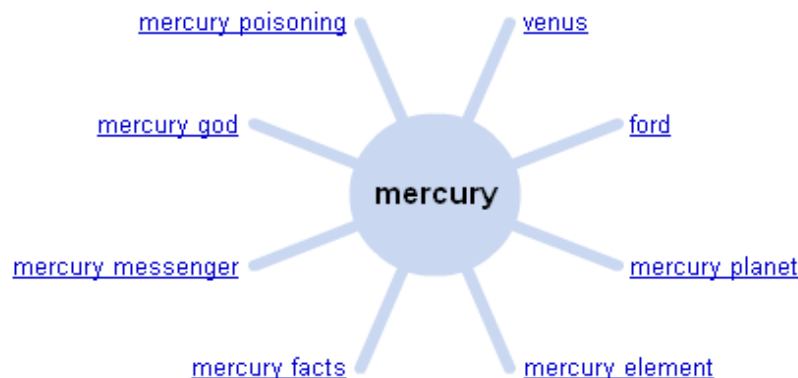
- [Visited pages](#)
- [Not yet visited](#)

- [Standard view](#)
- [Related searches](#)

 > Wonder wheel

- [Timeline](#)

> Standard results


[Mercury Vehicles 2009: View Mercury Cars & SUVs](#)

Mercury Vehicles 2009: Official site of **Mercury** Cars and SUV's. Build and Price your 2009 **Mercury** Vehicle. See Special Offers and Incentives.

[Mariner](#) - [Milan](#) - [Grand Marquis](#) - [Mountaineer](#)

[www.mercuryvehicles.com/](#) -

[Cached](#) - [Similar](#) -

[Mercury Marine](#)

Manufacturers of outboards motors and MerCruiser inboard engines, with over 7000 dealers worldwide.

[www.mercurymarine.com/](#) -

[Cached](#) - [Similar](#) -

[Mercury \(mythology\) - Wikipedia, the free encyclopedia](#)

Mercury has influenced the name of a number of things in a variety of scientific fields, such as the planet **Mercury**, and the element **mercury**,



Search Databases by Subject | Online Full Text Journals | Library Catalog | Ask a Librarian

Search | Find a Book | Advanced Search | Concept Map | Saved Results | Gadgets | Help Logout

Search for mercury in All Subjects Search

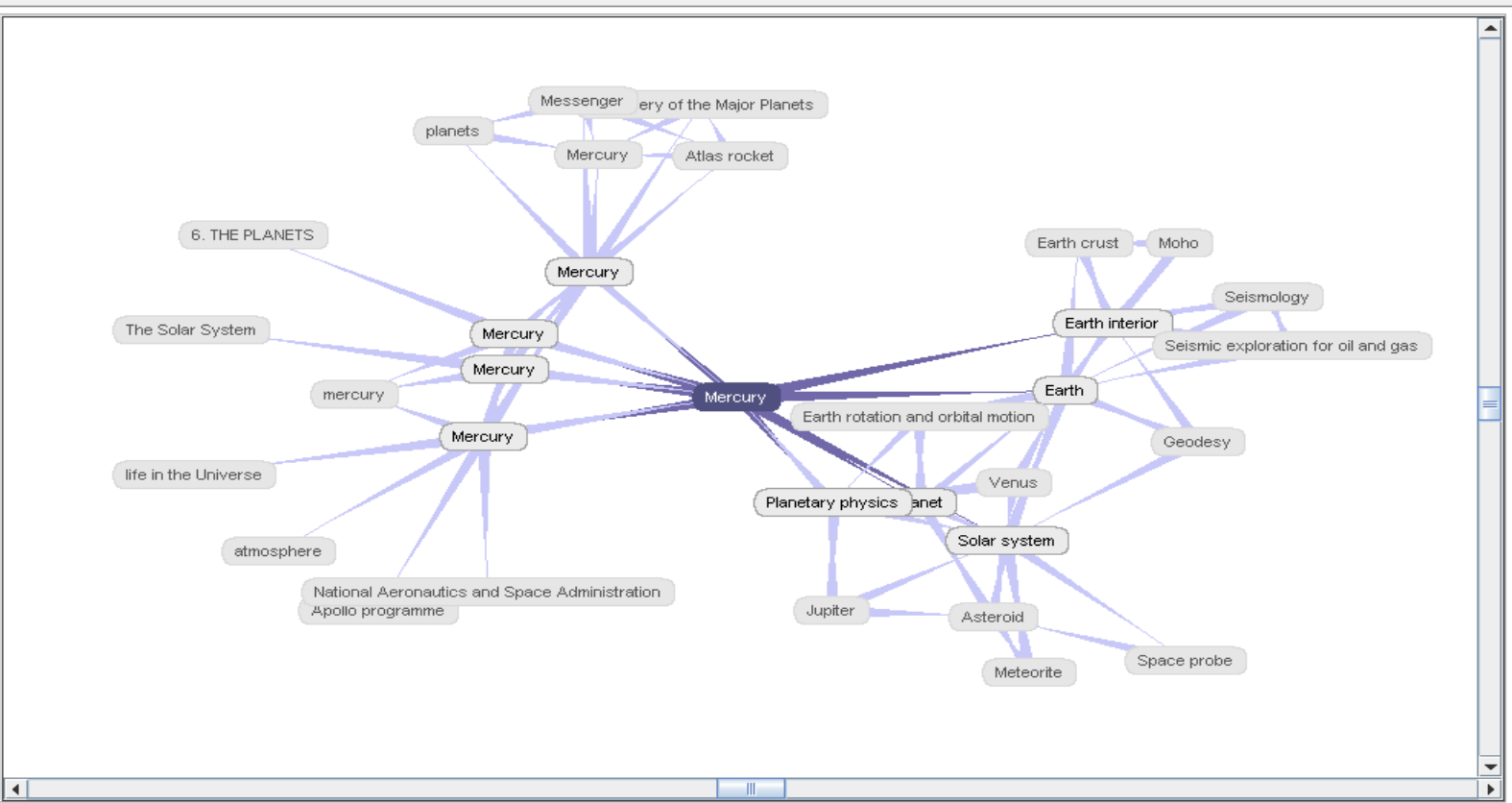
Zoom

Rotate

Link Levels

Nodes Visited

- Mercury



Java is required to show the NetworkViewer. Download from www.java.com

Network of Segall, Benjamin

Copublications: 13 Publications: 15 Connections: 0

Name: Segall B
Firstname: Benjamin
Publications: 52
Connections: 27

[full details >>](#) [open network >>](#)

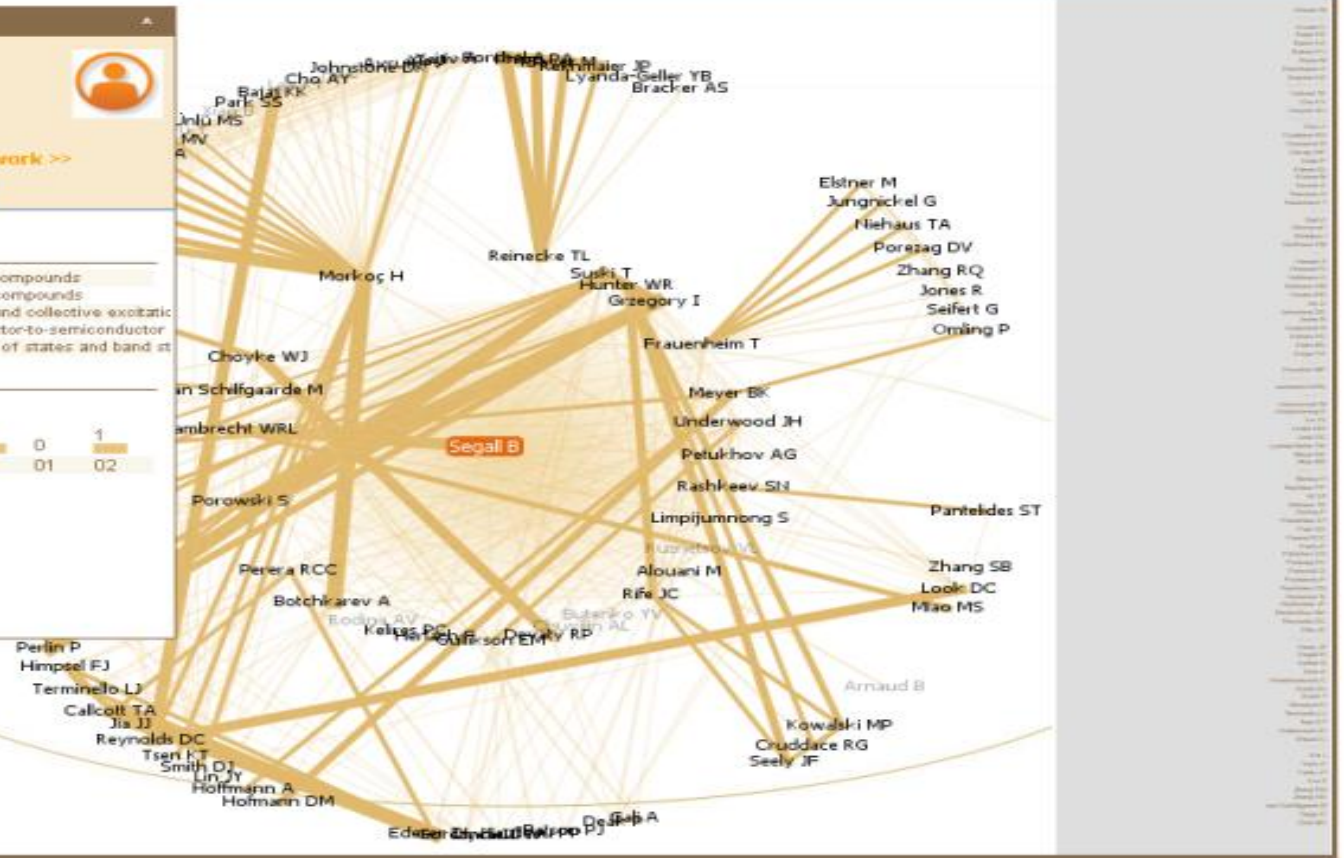
Profile Publications

research profile

- Semiconductor compounds
- Other inorganic compounds
- Electron states and collective excitations
- III-V semiconductor-to-semiconductor
- Electron density of states and band structure

publication timeline

3	4	2	3	1	0	1
96	97	98	99	00	01	02



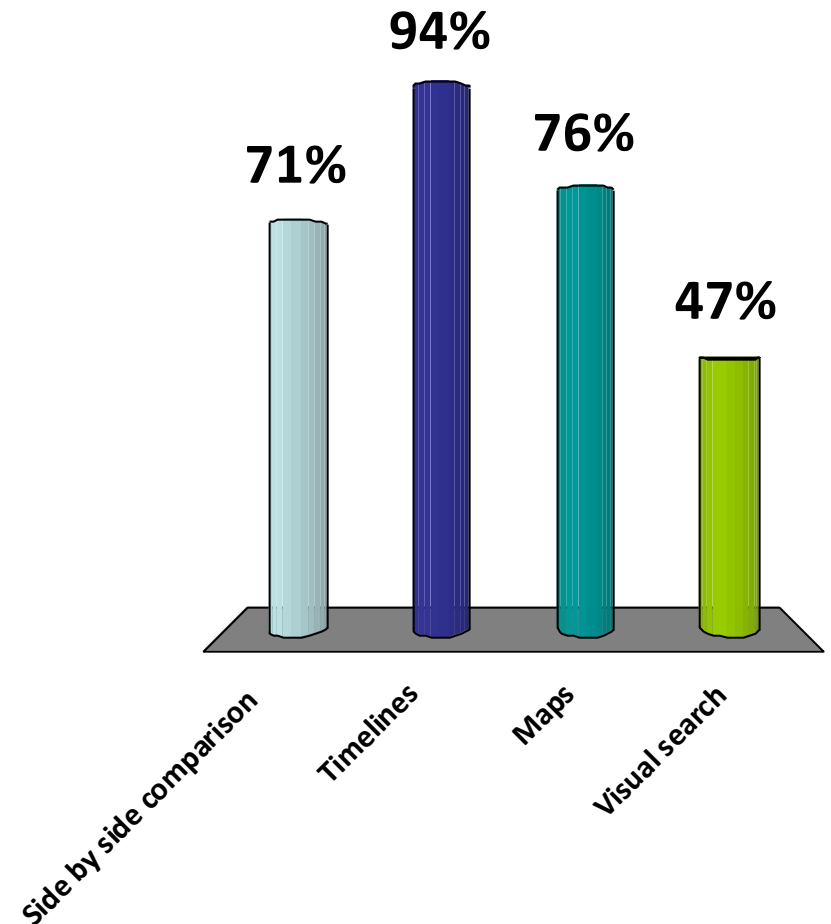
Issues

- Is the metadata of the same quality as the data?
- Is it complete?
- Are there artifacts in the data that show up in the timeline or map?

- Is the visualization usable or is it just a spiderweb?
- Entry heads or an explicit taxonomy?
- If there is a taxonomy
 - Publishers need to become taxonomy experts
 - Need to vet taxonomy to the same level as the content
 - Does the taxonomy and content map back and forth well?

Would patrons use these features?

1. Side by side comparison
2. Timelines
3. Maps
4. Visual search



User Centered Interactivity

- Help the user with their task
- We use personas to understand our users better when developing new products
- One Classic persona is the ‘slovenly student’
- What is the killer feature for them?

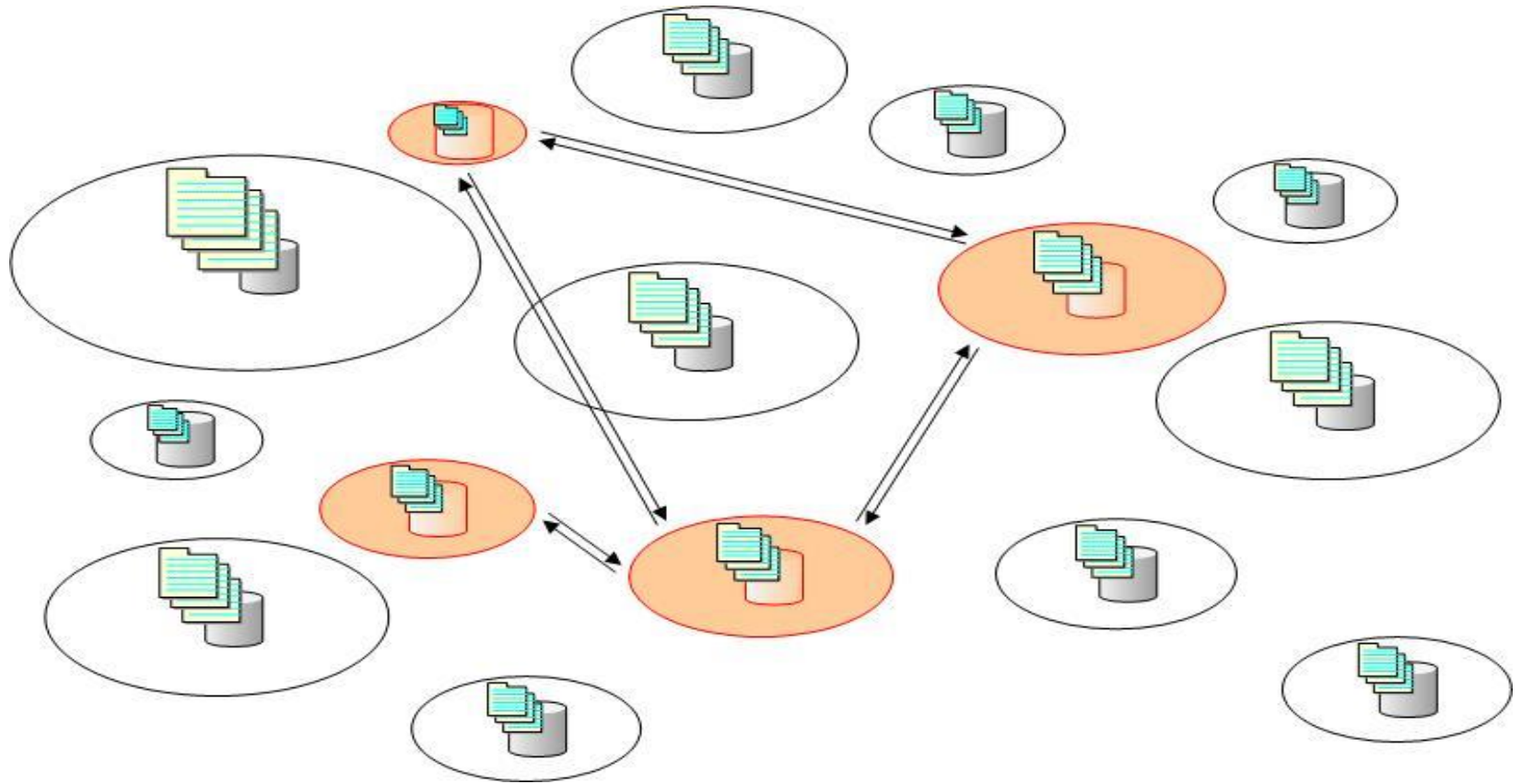
Use Cases

- Student
 - Doing research for a paper
- Faculty
 - Doing research for a class
 - Putting together class materials
- Librarian
 - Configuring product
 - Helping users

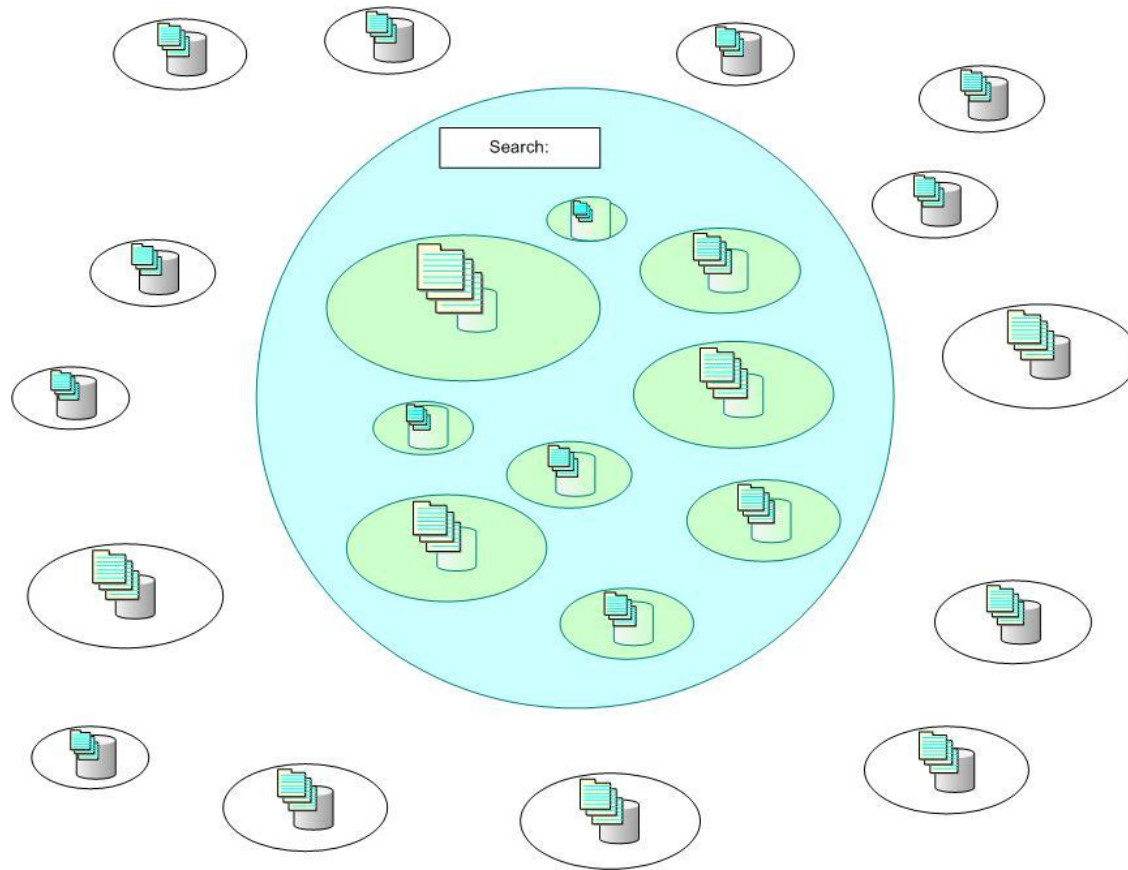
Mental Models

- How do the different people involved view what is going on with online reference in the library?
- What is their mental model when they are using the software?

Technical Model



Librarian's Model



User's Model



Everyone: It all starts with Search

- Advanced Search
- Quick Search – make it better – mostly invisible
- Search Results – facets
 - Facets
 - Refinement
 - Links to other products
- Did you mean?
- Same visualizations as browse
 - Timelines
 - Maps
 - Topic maps

Saving information

- Lots of content – each user is only interested in a small subset
- Saving searches and content during the session
- Saving across sessions requires users to create an account
 - Tension with user model
 - Do users want to save in the product?
- Alerts
- Organize saved content to groups
 - Allow content to be reordered within group
 - Annotations added to groups

Saved Groups

- Potentially there's real value in the group
- What can you do with your organized content?
 - Make public – Granger's
 - Email - Credo
 - eBook - PubFactory

THE COLUMBIA GRANGER'S WORLD OF POETRY

Poet: Poem: **GO** [Advanced Search](#) | [Search Tips](#)

[Subjects](#) | [Biographies](#) | [Commentaries](#) | [History & Criticism](#) | [Poetry Sources](#) | [Glossary](#) | [Listening Room](#) | [Browse](#)

My Granger's

Your saved lists:

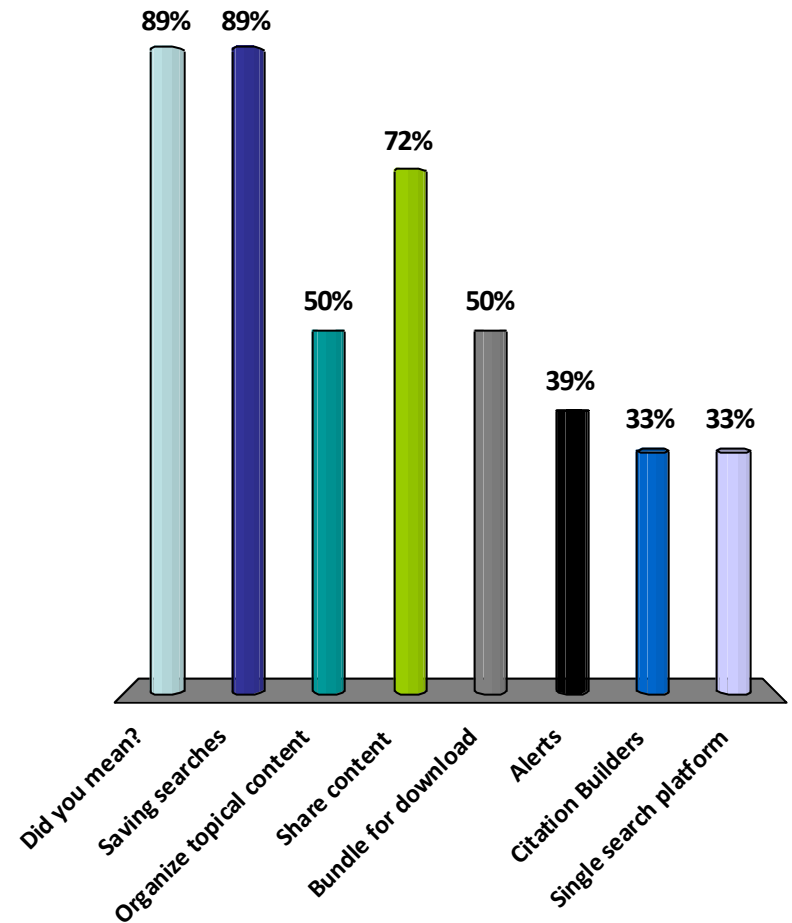
- 1. **Sonnets** [Make Public](#) [Edit](#) [Delete](#)
- 2. **My Grandfather** [Make Private](#) [Edit](#) [Delete](#)
- 3. **Poems I Like** [Make Private](#) [Edit](#) [Delete](#)

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Would patrons use these features?

1. Did you mean?
2. Saving searches
3. Organize topical content
4. Share content
5. Bundle for download
6. Alerts
7. Citation Builders
8. Single search platform



Faculty: Social Networking / Collaboration

- Teaching Tools
 - Sharing of lesson plans?
 - Community of teachers?
- Social Networking
 - Will network happen within product or should product be linked to existing networks?
- Vertical Integration
 - For resources aimed at the professional level
 - Does the society model work in the technical world?

Librarians: Fitting a Product into the Library

- Search Widgets
- Cross Product Linking
 - Within the product – similar results
 - Understand the position of the product within the larger landscape
 - Or allow the librarian to position it within the larger landscape
 - Links to other products
- Customization for specific user groups
 - Within product: Gale Virtual Reference Library Subject Clusters
 - Across products: Springshare


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[Search](#) | [Find a Book](#) | [Advanced Search](#) | [Concept Map](#) | [Saved Results](#) | [Gadgets](#) | [Help](#)
[Logout](#)

Search for

in

 All Subjects
 Atlas of the Universe
[Expand all](#) | [Collapse all](#) **Related entries**

Mercury [71 entries]

The Solar System [3 entries]

 Related resources[BPL Catalog \(MBLN\)](#)[Biography Resource Center](#)[Encyclopaedia Britannica](#)[JSTOR](#)[MasterFile Premier](#) **More...** **My saved results** **Adjacent entries**[The Moon: Fourth Quadrant \(Southeast\)](#)[Movements of the Planets](#)**Mercury**[Features of Mercury](#)[Map of Mercury](#) **Browse Book**[Contents](#)[Headings](#)[Images](#)[Science](#) > [Atlas of the Universe](#) > [Contents](#) > [The Solar System](#) **Mercury**

Mercury, the innermost planet, is never easy to study from Earth. It is small, with a diameter of only 4878 kilometers (3030 miles); it always stays in the same region of the sky as the Sun, and it never comes much within 80 million kilometers (50 million miles) of us. Moreover, when it is at its nearest it is new, and cannot be seen at all except during the rare transits.

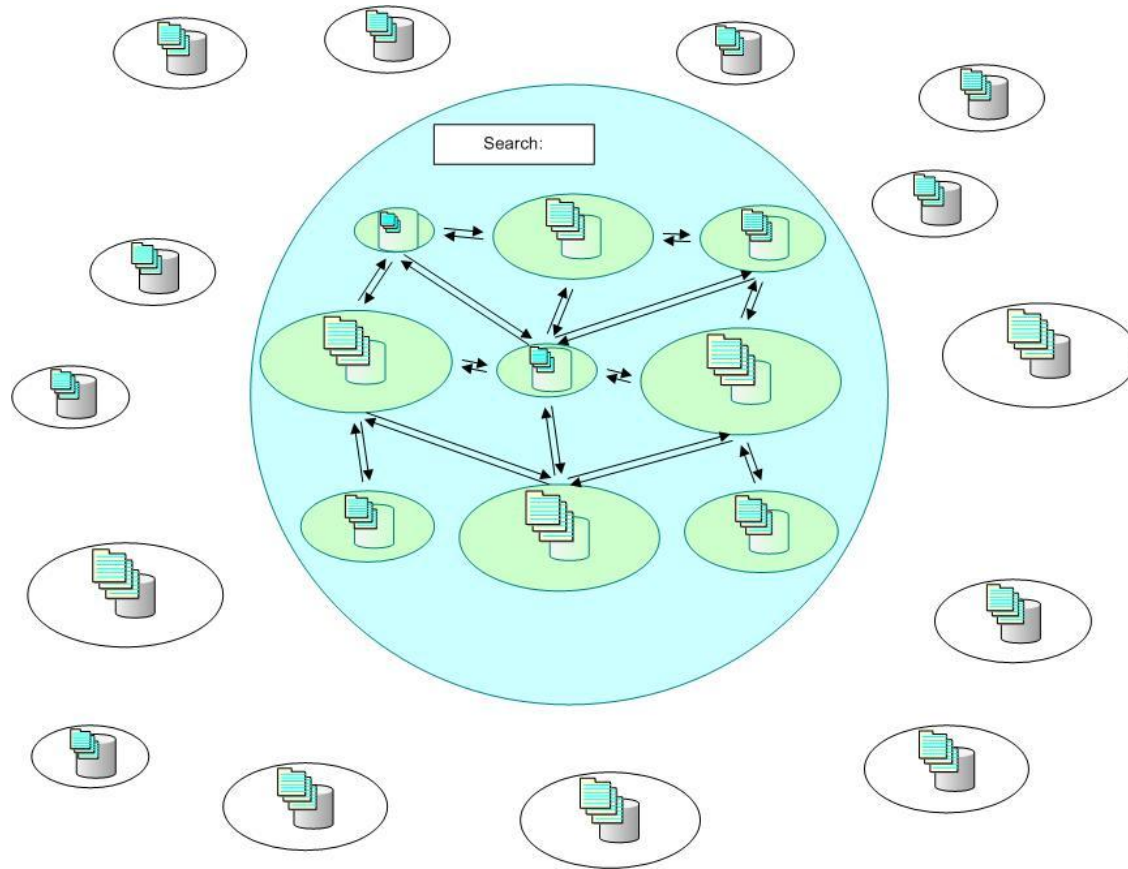
Mercury has a low escape velocity, and it has always been clear that it can have little in the way of atmosphere. The orbital period is 88 days. It was once assumed that this was also the length of the axial rotation period, in which case Mercury would always keep the same face turned toward the Sun, just as the Moon does with respect to the Earth; there would be an area of permanent day, a region of everlasting night, and a narrow 'twilight zone' in between, over which the Sun would bob up and down over the horizon – because the orbit of Mercury is decidedly eccentric, and there would be marked libration effects. However, this has been shown to be wrong. The real rotation period is 58.6 days, or two-thirds of a Mercurian year, and this leads to a very curious calendar indeed. To an observer on the planet's surface, the interval between sunrise and sunset would be 88 Earth-days.

The orbital eccentricity makes matters even stranger, because the heat received at perihelion is 2½ times greater than at aphelion. At a 'hot pole,' where the Sun is overhead at perihelion, the temperature rises to +127 degrees C, but at night a thermometer would register –183 degrees C. Mercury has an extremely uncomfortable climate.

To an observer situated at a hot pole, the Sun will rise when Mercury is at aphelion, and the solar disk will be at its smallest. As the Sun nears the zenith, it will grow in size, but for a while the orbital angular velocity will be greater than the constant spin angular velocity; our observer will see the Sun pass the zenith, stop, and move backward in the sky for eight Earth-days before resuming its original direction of motion. There are two hot poles, one or the other of which will always receive the full blast of solar radiation when Mercury is at perihelion. An observer 90 degrees away will have a different experience; the Sun will rise at perihelion, so that after first coming into view it will sink again before starting its climb to the zenith. At sunset it will disappear, and then rise again briefly before finally departing, not to rise again for another 88 Earth-days.

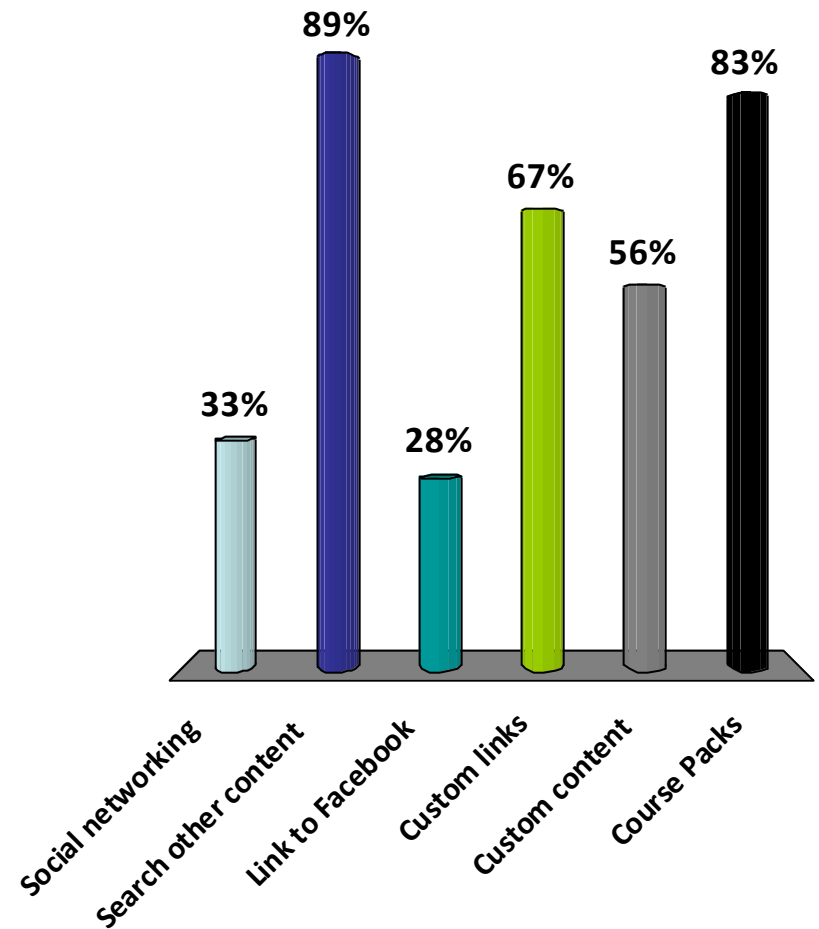
Mercury has a globe which is denser than that of any other planet apart from the Earth. There seems to be an iron-rich core about 3600 kilometers (2250 miles) in diameter (larger than the whole of the Moon), containing about 80 per cent of the total mass; by weight Mercury is 70 per cent iron and only 30 per cent rocky material. The core is presumably molten, and above it comes a 600-kilometer (370-mile) mantle and

Products inter-connected by level and subject



Would your patrons use these features?

1. Social networking
2. Search other content
3. Link to Facebook
4. Custom links
5. Custom content
6. Course Packs



Pay attention to your users

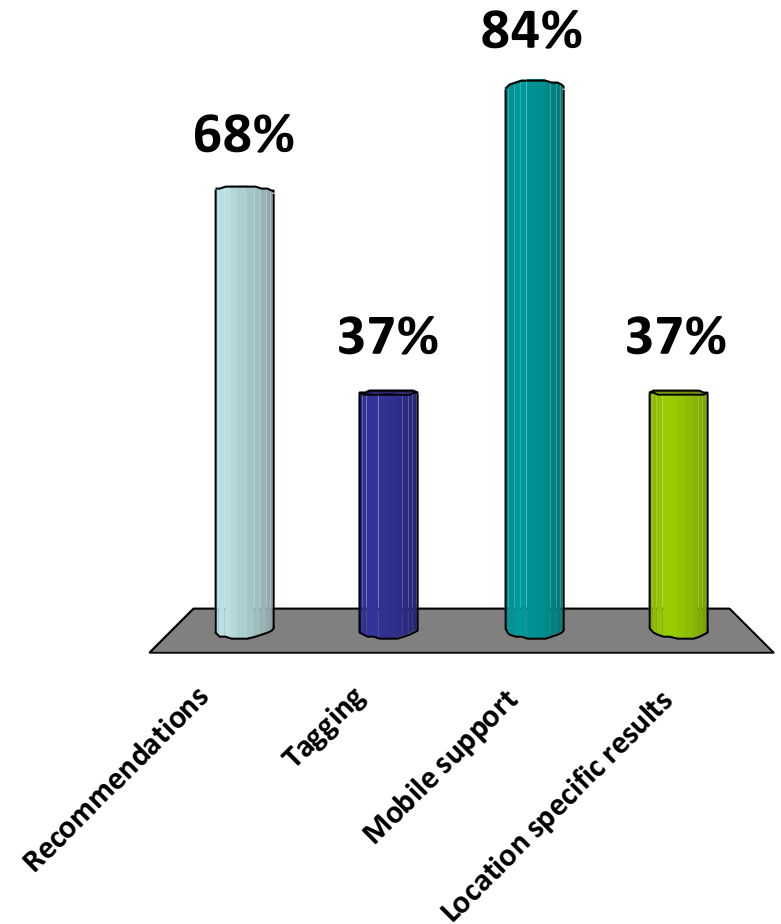
- Recommendations
 - Let users know what has worked for previous users
 - Remember we are in an environment where there is a great deal of cyclical behavior – make use of it
- Passive vs. Active Knowledge
 - Can you create a situation to ask them? Ratings. Profiles.
 - Build up your knowledge of them over time
- Tagging
 - Will they tag?
 - What's in it for them?
 - Can this augment existing taxonomies
 - Example: Slideshows

Mobile Support

- What do you need to do?
 - Web browser support is getting better
 - Beware of Flash
- Does creating an app make sense?
- What new capabilities do the devices bring?
 - Location sensitive
 - They can hear
 - They can be able to see

Would your patrons use these features?

1. Recommendations
2. Tagging
3. Mobile support
4. Location specific results



Survey Results



iFACTORY
THE INTERACTIVE FACTORY

Survey Demographics

- 30 questions
- 119 people started the survey
- 93 finished (78%)
- 85 to 93 votes received per question
- 14 vendors, but only 7 finished
- 104 librarians or library employees (3)

Survey Response Options

No Category:

- Ridiculous, no one will use
- Cool, but nobody will use

Yes Category:

- Librarians will use
- Patrons will use
- Librarians and patrons will use

Most Favorable Options

- Did You Mean? Spelling Suggestions
- Citation Builder
- Single platform (search all content)
- Mobile Devices
- Discipline grouped content
- Video
- Interconnectivity – send search to journals

Least Favorable Options

- Social Networking within database
- Linking to social networks
- Visual Searching
- Share teaching aids
- Share resources (link, email to friends)
- Sound
- Reference Interview (computer asks questions)

Survey Response Options

No Category:

- Ridiculous, no one will use
- Cool, but nobody will use

Yes Category:

- Librarians will use
- Patrons will use
- Librarians and patrons will use

Who will use these features?

Librarians will use:

- Did you mean? Spelling suggestions
- Single platform –search all content
- Group content by topic
- Save Searches
- Search other content
- Course Packs
- **Maps**
- Share (email to friends, make public)

Patrons will use:

- Did you mean? – spelling suggestions
- Single platform – search all content
- Citation builder
- Mobile device
- Video
- **Maps**
- Translation

7 vendor responses

Most Favorable Options

- Animation
- **Map**
- Timeline + Map
- **Did U Mean?**
- Tags
- **Mobile**
- Share
- **Single platform**
- **Citation Builder**
- Group Resources by Discipline

Least Favorable Options

- **Share Teaching aids**
- **Visual**
- Recommend
- Bundle for device
- **Social network in database**
- **Ref interview**
- **Share resources**

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