Web 2.0 and the Future of Competitive Intelligence

Text Analytics, Portfolio Analysis, and the Real-Time Value of Digitised Content

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Key Messages…

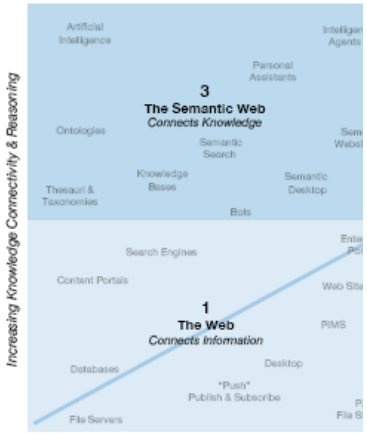
- For the tech buyers - If you can dream it, 'we' can do it
- For the tech sellers – GUI, GUI, GUI
- For the big content players – buy, partner, or perish

A moment on definitions – Web 2.0 and 3.0…

What is the semantic wave?

A tidal wave of four Inter

The semantic wave embraces four stages of in
ternet growth. The first stage, *Web 1.0,* was abou
connecting information and getting on the ne
Web 2.0 is about connecting people — puttin
the "I" in user interface, and the "we" into Web
of social participation. The next stage, *Web 3.0,* i
starting now. It is about representing meanings
connecting knowledge, and putting these to wor
in ways that make our experience of internet mor
relevant, useful, and enjoyable. *Web 4.0* will com
later. It is about connecting intelligences in a ubiq
uitous Web where both people and things reaso
and communicate together.



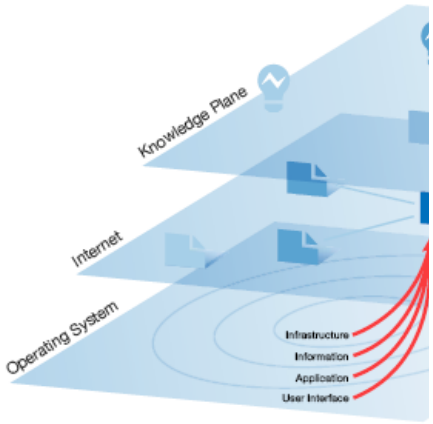
How is Web 3.0 different from previous stages of internet evolution?

Knowledge computing driv
and solves problems of sca

The basic shift occurring in Web 3.0 is from information-centric to knowledge-centric patterns of computing. Web 3.0 will enable people and machines to connect, evolve, share, and use knowledge on an unprecedented scale and in new ways that make our experience of the internet better.

Web growth continues to accelerate. Dimensions of net expansion include communications bandwidth, numbers of people connected, numbers and kinds of devices that are IP-aware, numbers of systems and applications, quantities of information, and types of media. As the internet expands, needs world-wide are outstripping the capacities and capabilities of current information and com-

Below:
Web 3.0 — The Internet Grows a Knowledge Plane



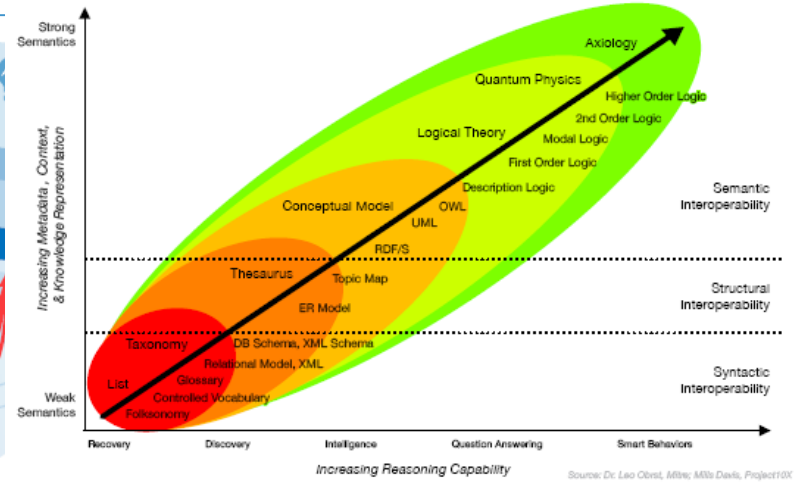
What semantic technologies will power Web 3.0?

Digital tools that represent and reason about meanings, theories, and know-how separately from documents, data, and program code.

The key notion of semantic technology is to represent meanings and knowledge (e.g., knowledge of something, knowledge about something, and knowledge how to do something, etc.) separately from content or behavior artifacts, in a digital form that both people and machines can access and interpret. As a platform, Web 3.0 will embrace all semantic technologies and open standards that can be applied on top of the current Web. It is not restricted just to current Semantic Web standards.

Web 3.0 will encompass a broad range of knowledge representation and reasoning capabilities including pattern detection, deep linguistics, ontology and model based inferencing, analogy and reasoning with uncertainties, conflicts, causality, and values. The figure below depicts a spectrum of progressively more capable forms of knowledge representation that spans tag collections (or folksonomies); to dictionaries, taxonomies and thesauri; to schemas and conceptual models; to ontologies and theory-based logics, to axiologies (value-based reasoning), and entirely new uses barely tapped. Reasoning requires knowledge representation. We choose more powerful forms of representation to enable more powerful kinds of reasoning and problem solving. The integration of social Web and semantic technologies in Web 3.0 allows new synergy that lowers the cost of data and knowledge creation, and raises the computational value of gathering it.

Below:
From Searching to Knowing — Spectrum of Knowledge Representation and Reasoning Capabilities



A Little History

Data and Search…(the story of a terabyte)

Good news – we aren't going away…

Outsell estimates the overall information industry to be worth $387 billion in 2007, having grown 6.6% from its 2006 value of $363 billion. Outsell tracks 12 segments within the information industry, as detailed in Table 1 and Figure 1.

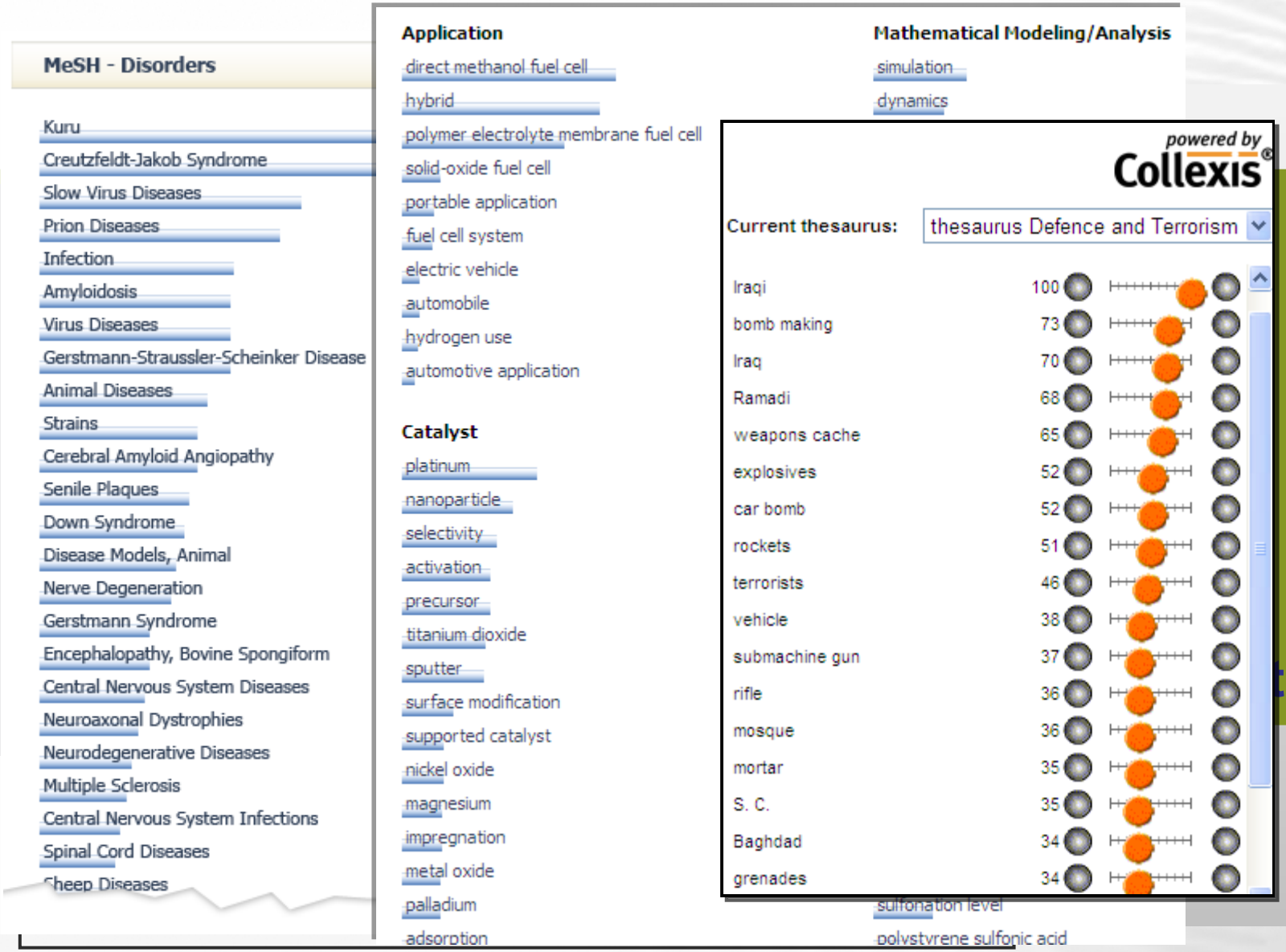
Table 1. Size of Scientific, Technical & Medical Information Segment Compared To Other Information Industry Segments

	Est. 2006 Revenue ($M)	Est. 2007 Revenue ($M)	Est. 2007 Growth (%)
B2B Trade Publishing	19,972	21,484	7.6%
Company Information	3,764	4,068	8.1%
Credit & Financial Information	36,495	40,492	11.0%
Education & Training	40,067	42,482	6.0%
HR Information	3,244	3,753	15.7%
Legal, Tax & Regulatory	12,633	13,905	10.1%
Market Research, Reports & Services	28,006	30,699	9.6%
IT & Telecom Research, Reports & Services	2,550	2,782	9.1%
News Providers & Publishers	134,671	133,300	-1.0%
Scientific, Technical & Medical Information	16,120	18,250	13.2%
Search, Aggregation & Syndication	32,980	41,550	26.0%
Yellow Pages & Directories	32,500	34,353	5.7%
Total Information Industry	363,002	387,118	6.6%

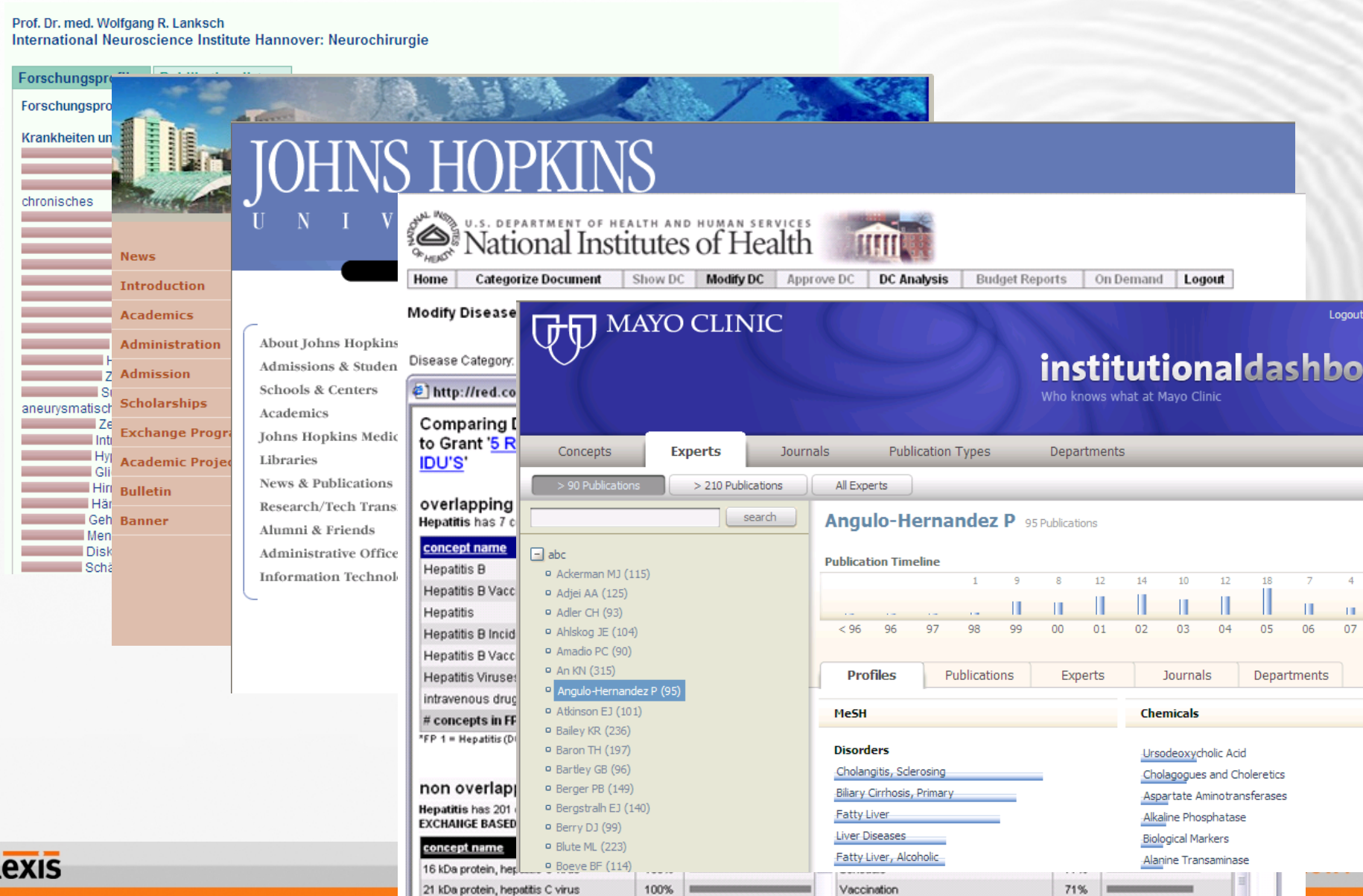
The questions have changed…

The transition from document-centric solutions

- What questions do you want to ask of data?
  - What is my competitor's IP Strategy?
  - Where am I duplicating efforts in my R&D organization?
  - What is the real-time customer perception of my new product?
  - What is the real-time customer perception of my market peers?
  - What are the emerging trends in my market?
  - How does my R&D compare with my competitors?
  - When and how will global events affect my stock price?
  - Where are the gaps in my consulting project portfolio?
  - Who are my top experts to compete for this RFP?
- None of these answers comes from a single document


MeSH - Disorders
Kuru
Creutzfeldt-Jakob Syndrome
Slow Virus Diseases
Prion Diseases
Infection
Amyloidosis
Virus Diseases
Gerstmann-Straussler-Scheinker Disease
Animal Diseases
Strains
Cerebral Amyloid Angiopathy
Senile Plaques
Down Syndrome
Disease Models, Animal
Nerve Degeneration
Gerstmann Syndrome
Encephalopathy, Bovine Spongiform
Central Nervous System Diseases
Neuroaxonal Dystrophies
Neurodegenerative Diseases
Multiple Sclerosis
Central Nervous System Infections
Spinal Cord Diseases
Sheep Diseases
Application
direct methanol fuel cell
hybrid
polymer electrolyte membrane fuel cell
solid-oxide fuel cell
portable application
fuel cell system
electric vehicle
automobile
hydrogen use
automotive application
Catalyst
platinum
nanoparticle
selectivity
activation
precursor
titanium dioxide
sputter
surface modification
supported catalyst
nickel oxide
magnesium
impregnation
metal oxide
palladium
adsorption
Mathematical Modeling/Analysis
simulation
dynamics
sulfonation level
polystyrene sulfonic acid
powered by
Collexis
Current thesaurus:
thesaurus Defence and Terrorism
Iraqi 100
bomb making 73
Iraq 70
Ramadi 68
weapons cache 65
explosives 52
car bomb 52
rockets 51
terrorists 46
vehicle 38
submachine gun 37
rifle 36
mosque 36
mortar 35
S. C. 35
Baghdad 34
grenades 34

Expert Profiles



Grants – examples of new questions

U.S.Department of Health & Human Services www.hhs.gov

National Institutes of Health
The Nation's Medical Research Agency

Employee Info | Staff Directory | En Español

search

>> Advanced Search

HOME HEALTH GR

National Center for Research Resources
National Institutes of Health
Department of Health and Human Services

SEARCH NCRR: GO

CHANGE TEXT SIZE: S M L

HOME ABOUT US PUBLICATIONS RESEARCH FUNDING SCIENTIFIC RESOURCES NEWS & EVENTS CONTACT US

Quick Links

- A–Z Subject Index
- Advisory Council
- Funding Opportunities
- Job Opportunities
- Meeting Reports
- NCRR Programs
- Program Contacts
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- Upcoming Events
- Visitor Information
- What's New

NCRR Home > Clinical Research Resources > Clinical Scientific Resources Science Awards > CTSA Funding Guidelines

CTSA Funding Guidelines

SEE ALSO: Clinical and Translational Science Awards • CTSA Funding Guidelines: Questions and Answers

On September 18, NCRR issued a news release announcing the 12 new **Clinical and Translational Science Awards** (CTSAs) made in FY 2007. The total cost of these 12 new awards, which are almost 5 years in duration, will be $574 million.

In 2006 the NCRR funded the first cohort of 12 CTSA institutions. To meet the goal of funding a total of 60 CTSAs in 2012 with a budget of $500 million per year, and based on experience gained over the past two cycles, NCRR has developed new funding guidelines that have already been shared with the new awardees. In general, the guidelines are as follows:

- New funds included in the CTSA award will provide an increase of 35 – 45 percent over pre-existing NIH clinical research resources (i.e., NCRR K12, K30, M01, and Roadmap T32 and K12), up to a ceiling of $6 million total in new funding.
- Certain successful applications may have low levels of the pre-existing NIH clinical research resources. To ensure that these CTSAs are successful, NCRR will support a minimum total award of $4 million, or $1.5 million in new funding, whichever is the higher amount.

The NCRR has notified the 2006 CTSA awardee institutions that they must follow these guidelines when competing for renewal of their CTSA in FY 2011. The 2006 CTSA institutions that are currently receiving increases over their pre-CTSA program levels in excess of the new

CR QUICK LINKS

- Staff Contacts
- Program Areas
- Resource Directory
- Funding Opportunities
- Program Guidelines
- News & Events

TAKE NOTE

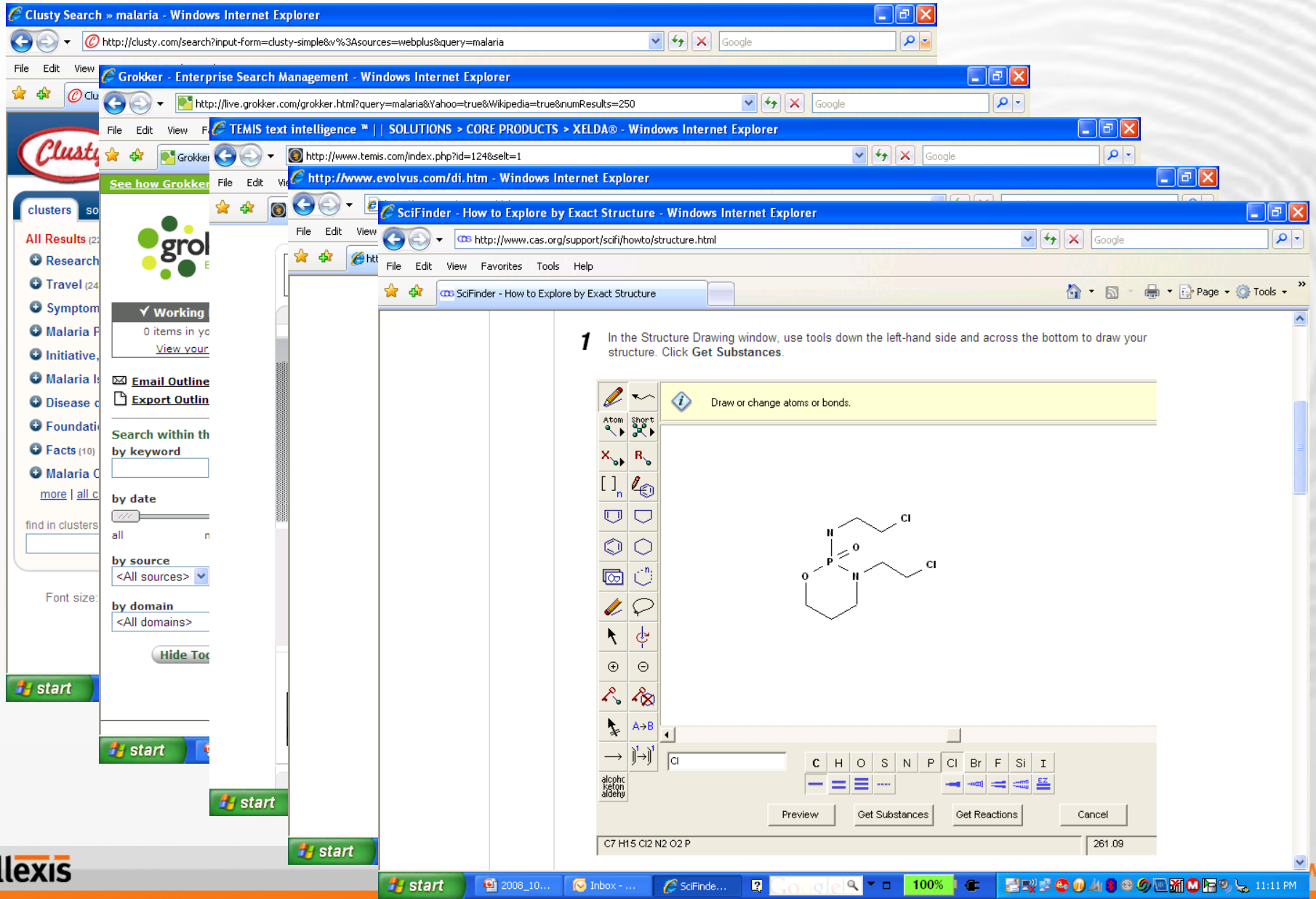
- CTSA Pre-submission Videocast - March 7, 2008, Available for Viewing
- FY 2008 Funding Strategies
- CTSA Applications - Peer Review Approach
- CTSA Funding Guidelines
- NCRR Review of Carryover Requests
  - CTSA Carryover Requests

7, 8, 9

What is possible?

- Search has become a commoditized
- Knowledge management has finally become a reality…
- Ideas can be actively mined and linked from documents, websites, blogs, etc.
- Documents can be compiled for aggregation, clustering, profiling, categorization, visualization
- Trends can be mapped from unstructured and semi-structured document sets
  - What effect does political news (unstructured) and weather data (structured) have on corn futures?
  - What are the three chemicals which have not yet been linked in the literature to a Alzheimer's, but which are likely targets for disease interaction/prevention?
- Information, inference, discovery can become highly personalized

Examples…



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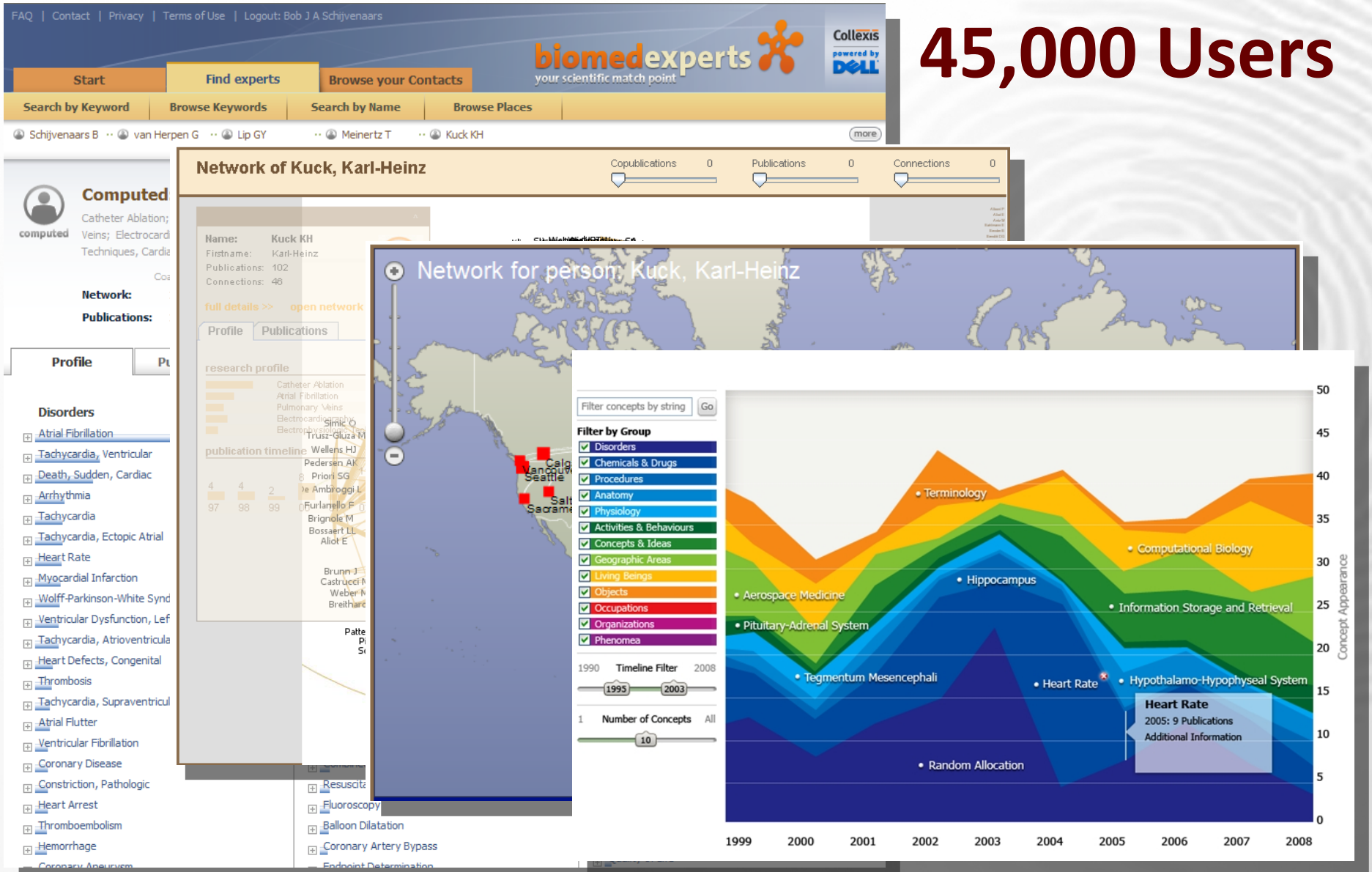
Biomedexperts.com – our first Network

45,000 Users



What is the portfolio?

- **Stop thinking about it as a set of documents and sites, start thinking about portfolios of information…**
- **Which projects are most profitable (or likely to succeed)**
  - How can I predict that in advance of the project
- **Which microsites are promoting my new drug?**
- **Are there adverse event trends on the web for my drug candidate?**
- **What other questions can I ask from my information portfolio?**
  - Which ones are worthy of the investment to answer them?
  - …in real time
  - …at any future point that I want to ask...

The new limitations – USERS *(and interfaces…)*

- The capabilities of knowledge management have far eclipsed the understanding of even data-intense users
- The capabilities of text mining have not even been born into the minds of most corporate executives
- How do we take this limitless capability and "iPhone" it into 'user-guide free' applications
- How do we get leadership buy-in without glazing them over with the "implications of OWL in a Web 2.0 world."

Key Messages…

- **For the tech buyers - If you can dream it, 'we' can do it**
  - **Let ‘us’ do it / build it**
  - **Think about competitive intelligence investments over time**
  - **The 2 rate limiting factors – your imagination and your budget**

- **For the tech sellers – GUI, GUI, GUI**
  - **Think about design and UI as a competitive advantage**
  - **But not one that is likely to last…**
    - Become a first mover
    - INVEST in training/education of your users
    - Make mistakes and apologize quickly…

- **For the big players – buy, partner, or perish**

Questions

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