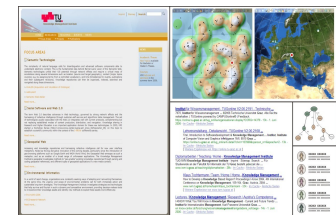
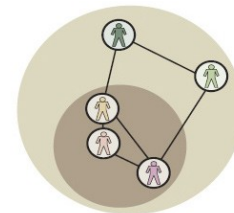
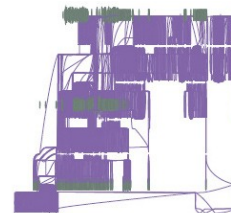
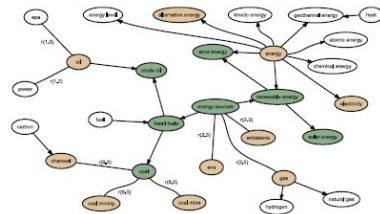
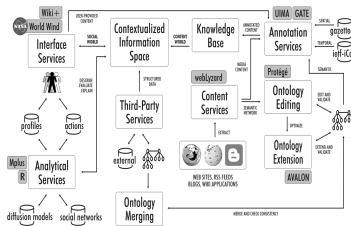


Media Watch on Climate Change

Geospatial Web Technology for Accessing Environmental Online Resources

<http://www.ecoresearch.net/climate>



IDIOM Project

- Scientific Partner:
 - MODUL University Vienna
 - Technical University Graz
 - Vienna University for Economics and Business Administration (Coordinator)
- Commercial Partner:
 - Genticis
 - Prisma
 - Österreichwerbung
- Project
 - Total Cost: 773,113 EUR
 - WU-CM + WU-TLS: 316,200 EUR

Research Questions

- How widespread is **content redundancy**, and what influences content replication within and across social networks?
- Does **media interactivity** influence information diffusion? Can existing models such as hub-and-spoke, syndication and peer-to-peer explain this influence?
- Which **content placement strategies** increase the impact on the target audience and support self-reinforcing content propagation in virtual communities (viral marketing)?
- Impact of macroscopic information flows on **environmental awareness** and **public opinion**? What are appropriate methods to measure and model the extent, dynamics and latency of this process?

US Election 2004 Web Monitor

[home](#)[method](#)[special reports](#)[download](#)[about](#)

us election 2004 web monitor

you are here: [home](#)

navigation

US Election 2004

- Overview
- **News Media**
- Fortune 1000
- Non-profit Sector

Candidates

- Bush, George
- Camejo, Peter
- Cheney, Dick
- Edwards, John
- Kerry, John
- Nader, Ralph

special reports

- Introduction
- Global Warming
- Energy Policy
- Media Map

US Election 2004



Weekly Snapshots of International Web Coverage



Post-Election Update (Jan 5, 2005). Each week, the US Election 2004 Web Monitor compares attention and attitude towards the presidential candidates among online media, the Web sites of environmental organizations, and Fortune 1000 companies. Keywords grouped by political party and geographic region summarize the key issues associated with each candidate.

link :: [Chart](#) | [News Media](#) | [Environmental Sector](#) | [Fortune 1000](#)



Global Warming (Oct 13, 2004). A devastating hurricane season and the Russian government's recent decision to ratify the Kyoto Protocol have put climate change back in the limelight. But how important is the issue of global warming in the run for US presidency?

link :: [Global Warming](#) | [Greenhouse Gas](#) | [Climate Change](#)



First TV Debate (Oct 2, 2004). An analysis of more than one million Web pages complements opinion polls and highlights the impact of the first TV debate between George W. Bush and John Kerry, with both parties profiting. John Kerry's performance accelerated the Democrats' prior gains in media attitude.

link :: [Chart](#)



Energy Policy (Sep 28, 2004). What strategies have presidential candidates suggested to cope with record-level energy prices and increasing domestic demand? Public glossaries of the Energy Information Association, the US Department of Energy, and the California Energy Commission helped compile the lists of terms represented in this analysis.

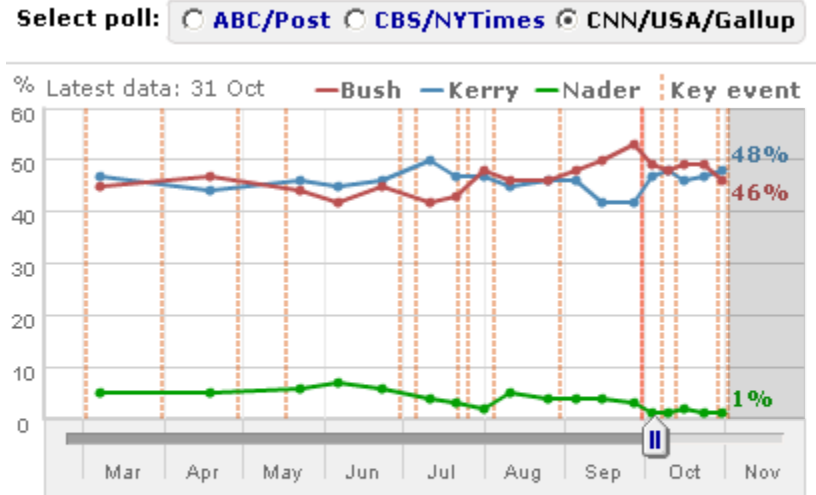
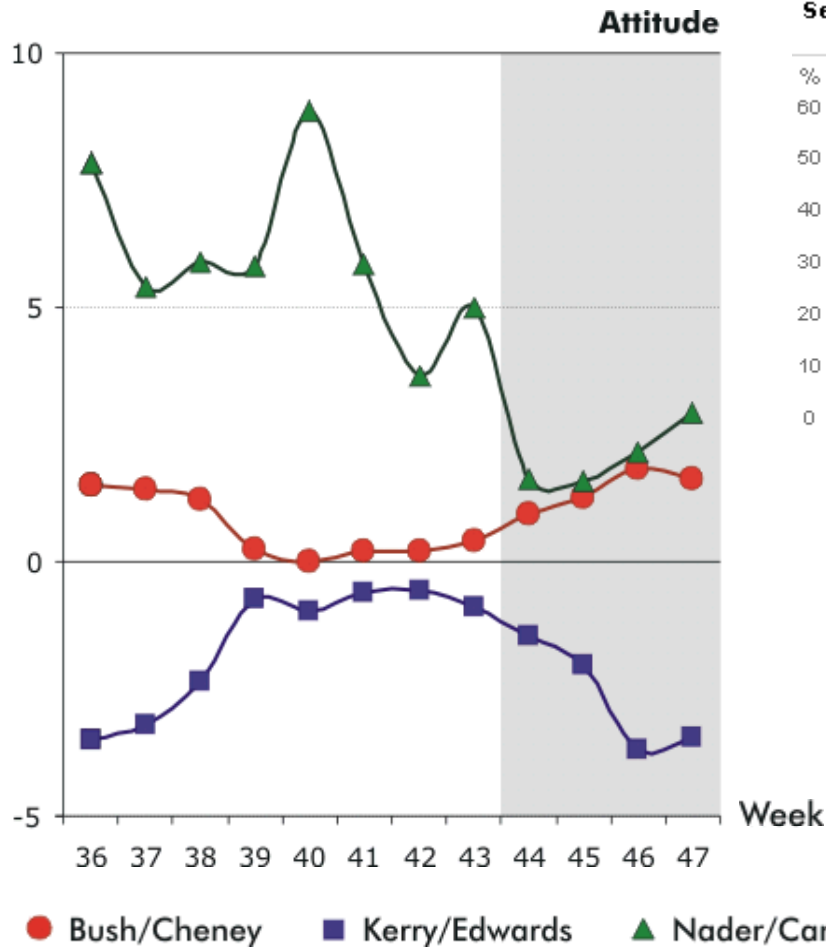
link :: [Renewable Energy](#) | [Fossil Fuels](#) | [Nuclear Energy](#)



summary

This project of the [ECOresearch Network](#) automatically provides a weekly snapshot of international Web coverage. The results reflect online attention and attitude towards the US presidential candidates. Keywords grouped by political party and geographic region summarize the key issues associated with each candidate. [\[more\]](#)

US Election 2004 Web Monitor



30 Sep

Bush and Kerry go head-to-head in the first of three televised debates.

Source: ABC News/Washington Post, CBS News/
New York Times, CNN/USA Today/Gallup

After Election

US Election 2004 Web Monitor

[home](#)[method](#)[special reports](#)[download](#)[about](#)

us election 2004 web monitor

you are here: [home](#) » [special reports](#) » sentence

navigation

US Election 2004

- Overview
- News Media
- Fortune 1000
- Non-profit Sector

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- Bush, George
- Camejo, Peter
- Cheney, Dick
- Edwards, John
- Kerry, John
- Nader, Ralph

special reports

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- **Energy Policy**
- Media Map

Special Reports

Renewable Energy

Pos Neg Random ?

Week 50 (Dec 15)

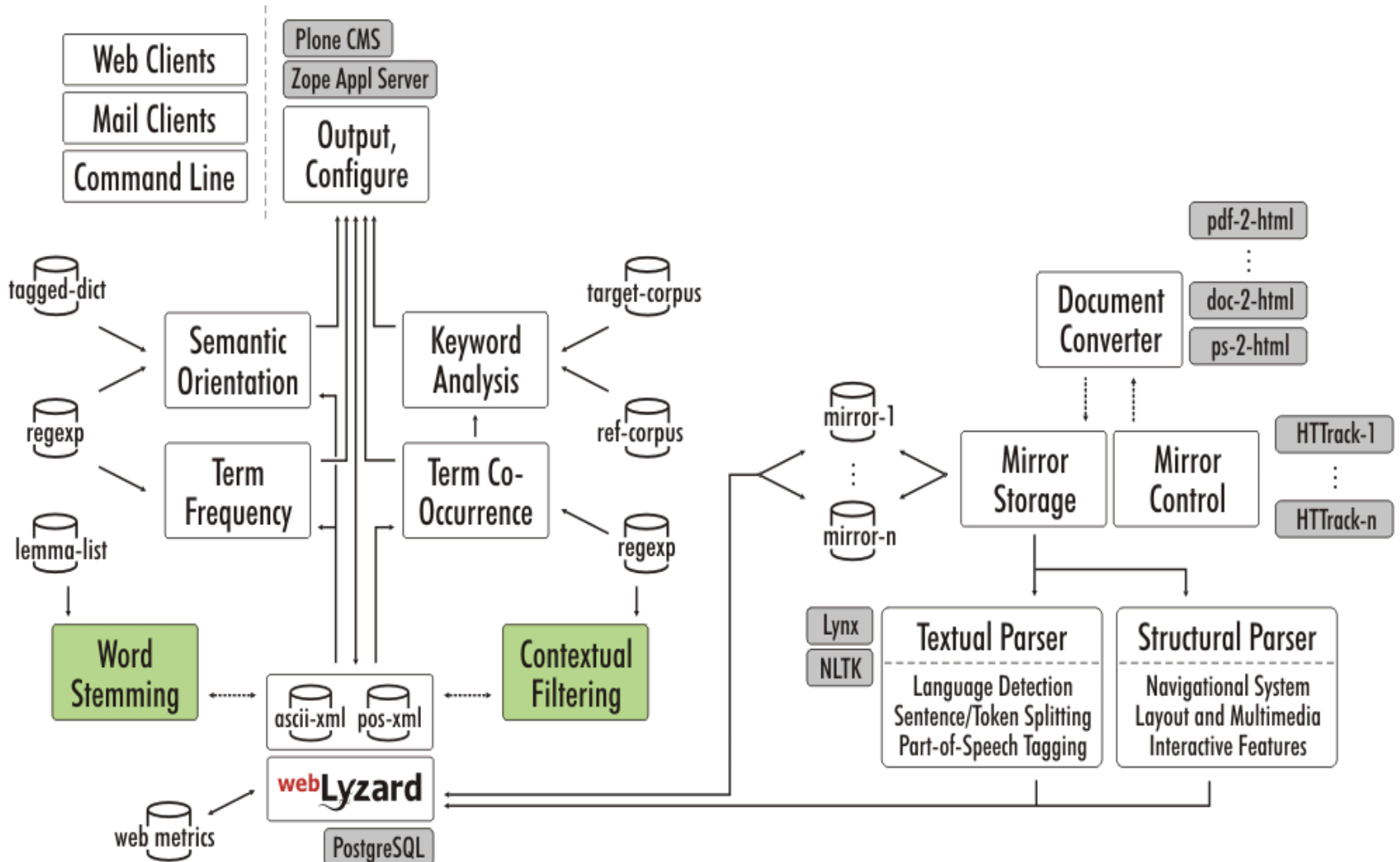


- a bill by the way that calls for a mere 15 percent increase in funding for research into **alternative energy** -- as opposed to **john kerry's** plan to double spending on **alternative energy** research ([League of Conservation Voters](#)). ☺
- the bill, which **president bush** signed into law on october 22, 2004, includes only a one-year ptc extension and expands the eligible electricity resources to include **geothermal** energy, solar energy, open-loop biomass, small irrigation power, as well as municipal solid waste ([Union of Concerned Scientists](#)). ☺
- an ideological chasm separates the environmental policies of the two candidates, with president **george w. bush** favoring more use of domestic **coal** and oil to cut dependence on middle east oil, while kerry seeks a shift to clean energy like solar or **wind power** by 2020 ([Environmental News Network](#)). ☺
- they both talk about **hydrogen** as a fuel source and fuel cells, a technology for moving our cars and buses that **president bush** has talked about and that **john kerry** has made part of his campaign as well ([Public Broadcasting Service](#)). ☺
- "this is the first significant funding at the national level since **president bush's** stated goal of supporting establishment of a **hydrogen** economy ([ConocoPhillips](#)).
- the texas rps, passed in 1999 under governor **george w. bush**, has been so successful that utility companies have surpassed the percentages of **renewable energy** required by them ([Friends of The Earth](#)). ☺

summary

This project of the [ECCOresearch Network](#) automatically provides a weekly snapshot of international Web coverage. The results reflect online attention and attitude towards the US presidential candidates. Keywords grouped by political party and geographic region summarize the key issues associated with each candidate. [\[more\]](#)

Web Mining Architecture



Media Watch on Climate Change

- Public Web Portal

<http://www.ecoresearch.net/climate/>

- Extraction of Environmental Knowledge

150 Anglo-American News Media Sites
200,000 Documents (Mirrored in Weekly Intervals)
10,000 Environmental Articles

- Contextualized Information Space

Spatial Annotate Source and Target Geography

BBC: „Vienna Marking Mozart Milestone“

Source: Europe | United Kingdom | London

Target: Europe | Austria | Vienna

Semantic Classify Documents, Assign Ontology Concepts

Temporal Add Timestamps to Publications, Events, etc.

Climate Change Media Watch

Active Document Home | About | Help

How to 'go green' on a budget - MSN Money

articles.moneycentral.msn.com/Investing/Extra/HowToGoGreenOnABudget.aspx
 Published in: US • Text refers to: Portland • Mirror Date: 2007-07-04

Green logo green. logo more green content expand. Live Earth logo. Spinal Tap. Turn it up to 11. Spinal Tap is reuniting for Live Earth to prevent the earth from "spontaneously combusting." * Live Earth concert information. * Are democrats greener. * The green redneck. * [Global warming](#) survival handbook. * How to green your pet. Shopping for deals Corbis. Extra. How to 'go green' on a budget. Yes, organic food and products often cost more. Here are some ways to rethink your objectives and stretch your dollar. By Abby Schultz. The consumer who grabs the half-gallon of organic milk instead of regular milk knows something about the cost of "going green." It's high. A recent study by the U.S. Department of Agriculture spells it out. Nationally, organic milk cost 98% more than regular milk in 2004: \$4.01 for organic, \$2.02 for regular, a price difference of \$1.99. That's almost enough to buy another half-gallon of regular milk. Prices of organic produce, poultry and eggs are also higher, far more than 200% higher in the case of poultry, according to the USDA. But green-minded consumers -- who care about their health, as well as "green"

Quotes max | min | close

The 15-minute Test: Time For a hybrid car . * Ford Family Says Not Discuss	4 Jul 2007
ota Prius. Need help choosing a hybrid car . See what other car shoppers an	4 Jul 2007
Nanotechnology Tapped to Boost hybrid car Efficiency. A day after Preside	4 Jul 2007
here are now three gas-electric hybrid car models on the market: the Toyot	4 Jul 2007
I warming may consider buying a hybrid car , which can get 50 miles to the	4 Jul 2007

Similar Topics

- a** **Federal Water Scientists Prepare to Weat** to global [climate change](#) and relative sea-
www.ens-newswire.com/ens/may2007/2007
- b** **Environment News Service (ENS)** associates drove a [car](#) over the banner to
www.ens-newswire.com/ens/mar2006/2006
- c** **Environment News Service (ENS)** employees of [natural resources](#) agencies a
www.ens-newswire.com/ens/jul2006/2006-(
- d** **World Water Day 2007: Coping with Wate** rise due to [climate change](#), which makes a
www.ens-newswire.com/ens/mar2007/2007
- e** **AmeriScan: April 28, 2006** and [Natural Resources](#) Division. "The
www.ens-newswire.com/ens/apr2006/2006-

Nearby Locations

- 1** **Science News Online: Table of Contents: 5** expose humanity's [hybrid roots](#) Full Text F
www.sciencenews.org/pages/sn_arc99/5_8_
- 2** **Business | INS News** to smaller, more [fuel-efficient](#) planes that
business.insnews.org/story/siteia.shtml?St
- 3** **Portland Business Journal: Local Business** 139-0.jpg. rev=2] [Car](#) lifts reflect elevatio
portland.bizjournals.com/portland/index.ht
- 4** **Portland Business Journal: Local Business** 139-0.jpg. rev=2] [Car](#) lifts reflect elevatio
portland.bizjournals.com/portland/index.ht
- 5** **Google launches charity program - Worldr** RESPONDING TO [GLOBAL WARMING](#) RESPC
article.wn.com/view/2007/06/27/Google_la

idiom.at geospatialweb.com ecoresearch.net

hybrid car

idiom CLIMATE CHANGE

Semantic Map | Ontology max | min | 3D

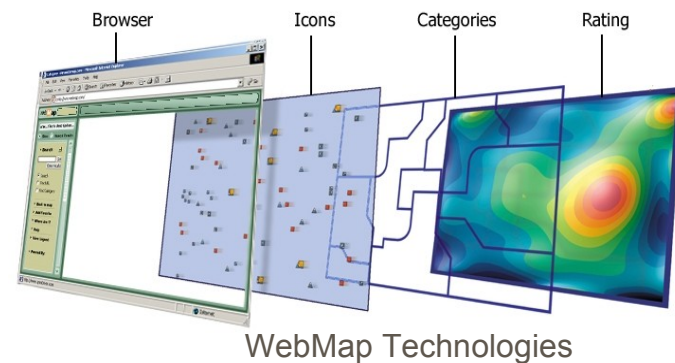
POWERED BY Google www.idiom.at - Terms [Use](#)

Geographic Map max | min | 3D

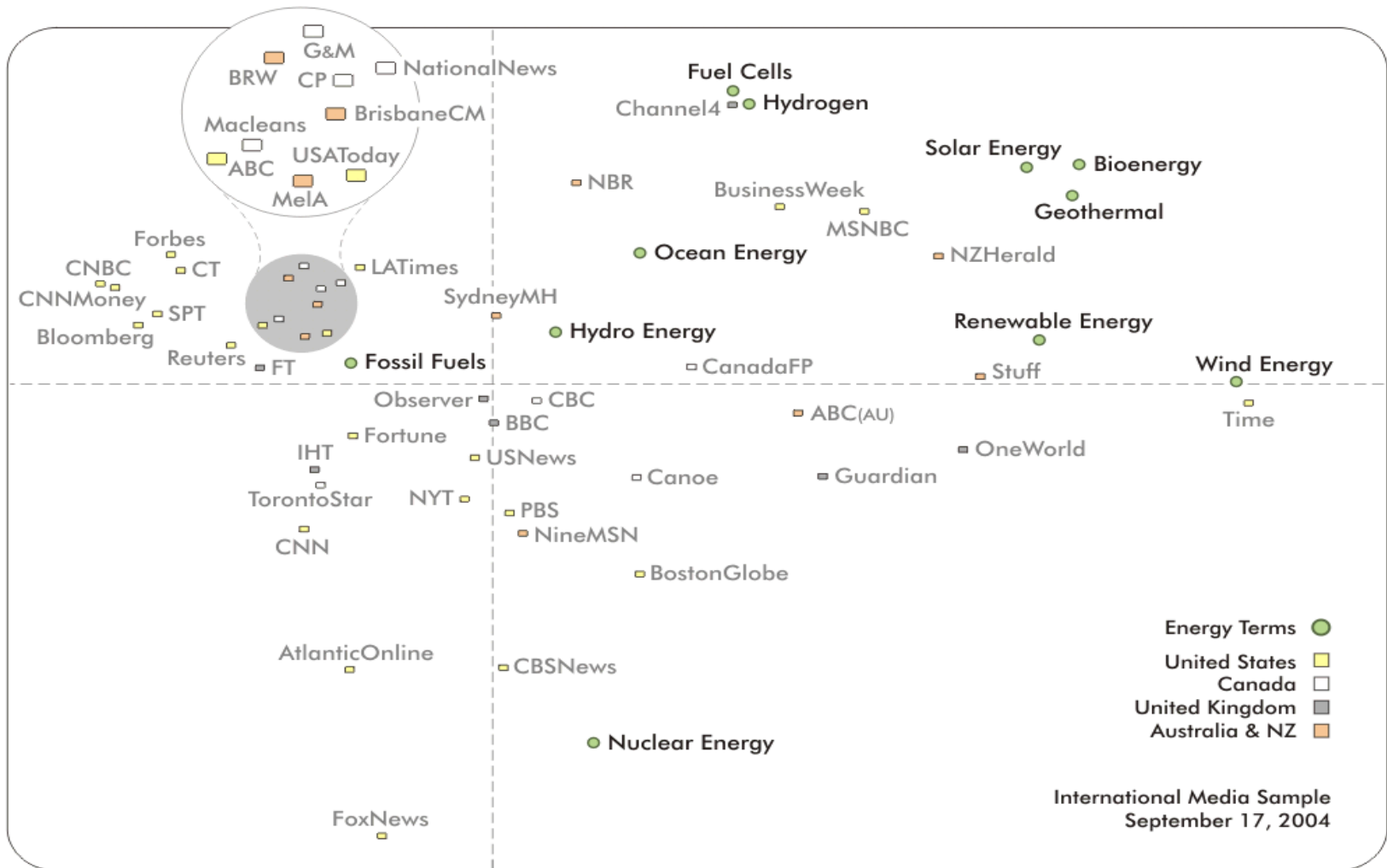
POWERED BY Google Terms of Use

Interface Services

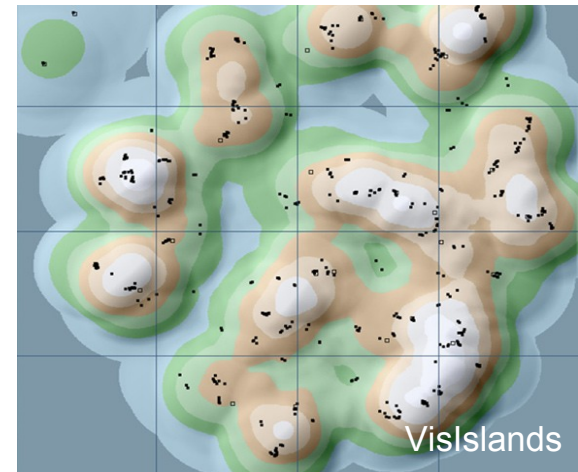
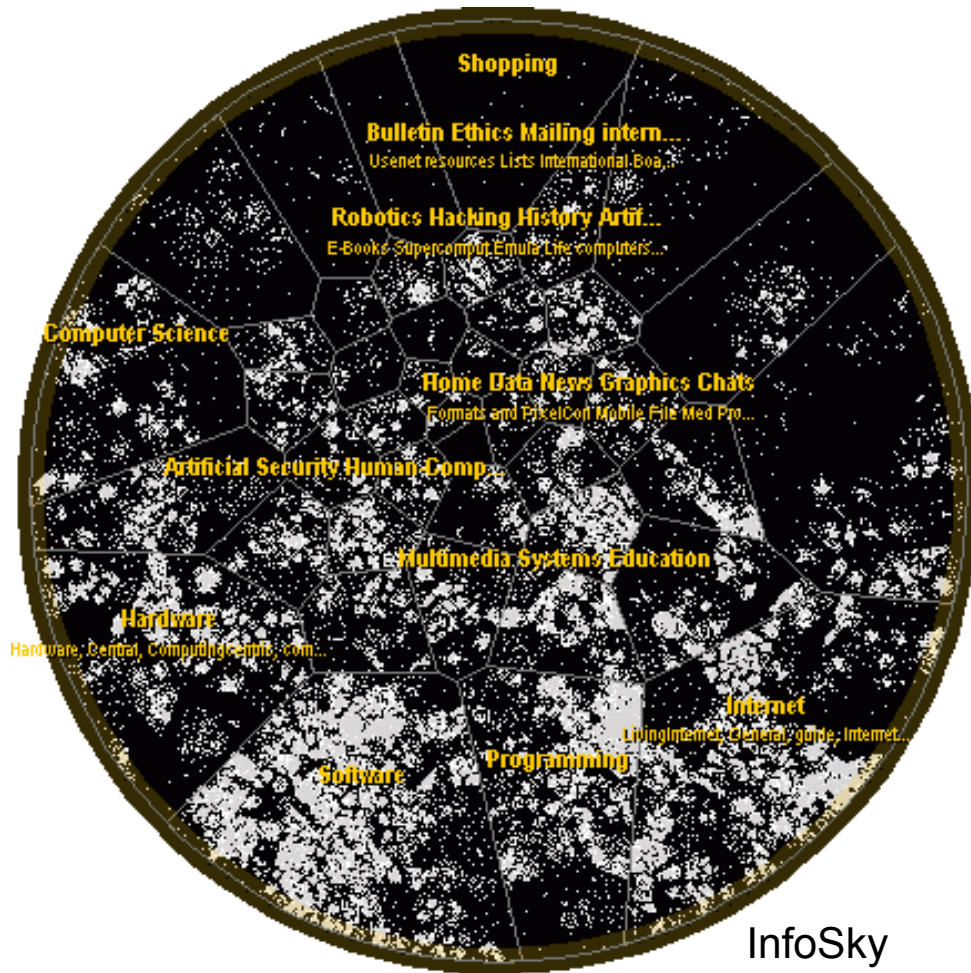
- Semantic Interfaces
 - Perceptual Maps (US Election Monitor 2004)
 - Information Landscapes (Aureka, VisIslands)
 - Ontology-based Visualizations



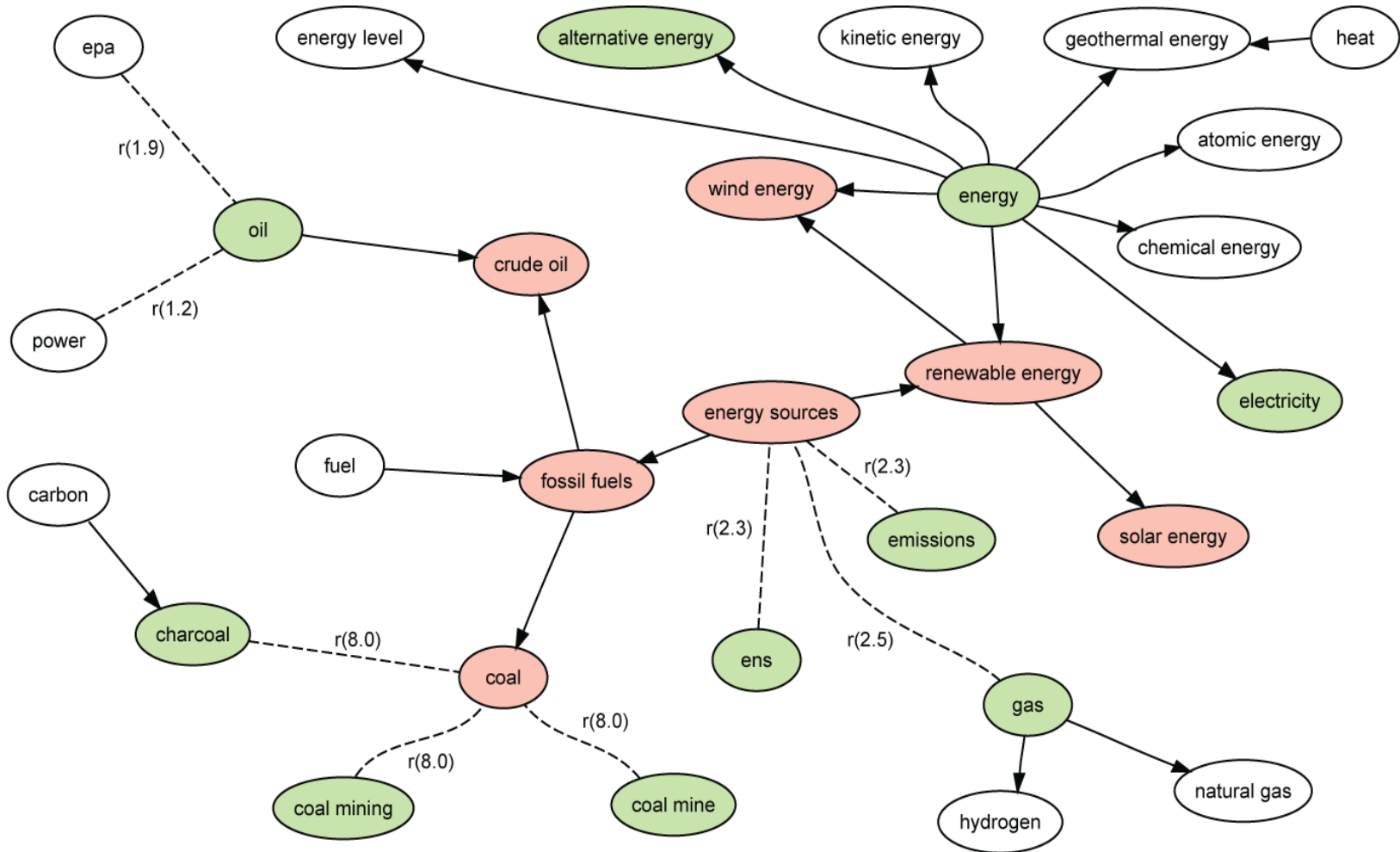
Perceptual Maps



Thematic Maps



Ontology Services



Interface Services

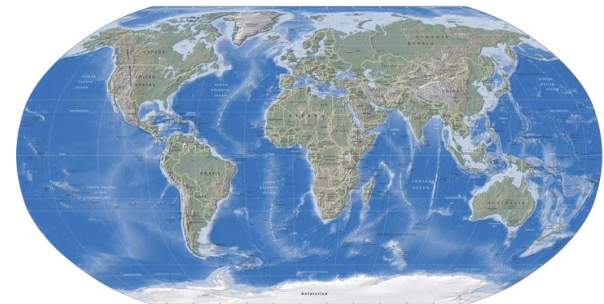
- Semantic Interfaces

- Perceptual Maps (US Election Monitor 2004)
- Information Landscapes (Aureka, VisIslands)
- Ontology-based Visualizations

- Geospatial Interfaces

The Geospatial Web “may ultimately be the big disruptive innovation of the coming decade” (Erle et al. 2005, xxv).

- 2D Platforms
 - MapQuest
 - Google Maps
 - Yahoo! Maps
- 3D Platforms
 - NASA World Wind
 - Google Earth
 - MS Virtual Earth



CIA World Factbook

www.austria.info

Most frequently searched keywords

Region/websites: All

Languages: All

Period: 1/1/2006-30/4/2006

The most frequent 20 words	n	in %	Results	in %
1 wien	1.562	1,3	315.544	8,4
2 salzburg	1.422	1,2	175.327	4,6
3 vienna	1.340	1,1	262.324	7,0
4 innsbruck	1.282	1,1	102.051	2,7
5 graz	1.113	0,9	60.270	1,6
6 linz	794	0,7	22.637	0,6
7 hotel	775	0,6	53.101	1,4
8 mozart	756	0,6	62.654	1,7
9 ischgl	742	0,6	10.945	0,3
10 kufstein	692	0,6	9.351	0,2
11 zell am see	653	0,5	40.649	1,1
12 hotels	592	0,5	28.575	0,8
13 zürs	575	0,5	15.437	0,4
14 saalbach	493	0,4	7.591	0,2
15 tirol	492	0,4	74.665	2,0
16 seefeld	463	0,4	9.622	0,3
17 heiligenblut	457	0,4	3.437	0,1
18 camping	437	0,4	4.216	0,1
19 kaprun	429	0,4	5.148	0,1
20 wellness	420	0,4	20.321	0,5
Total	119.588	100,0	3.772.664	100,0

Table: TW-X3

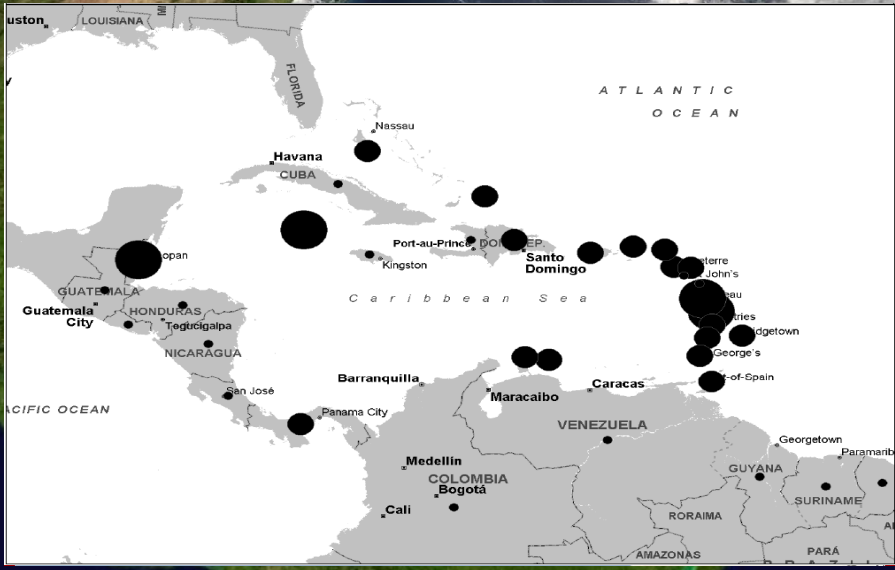
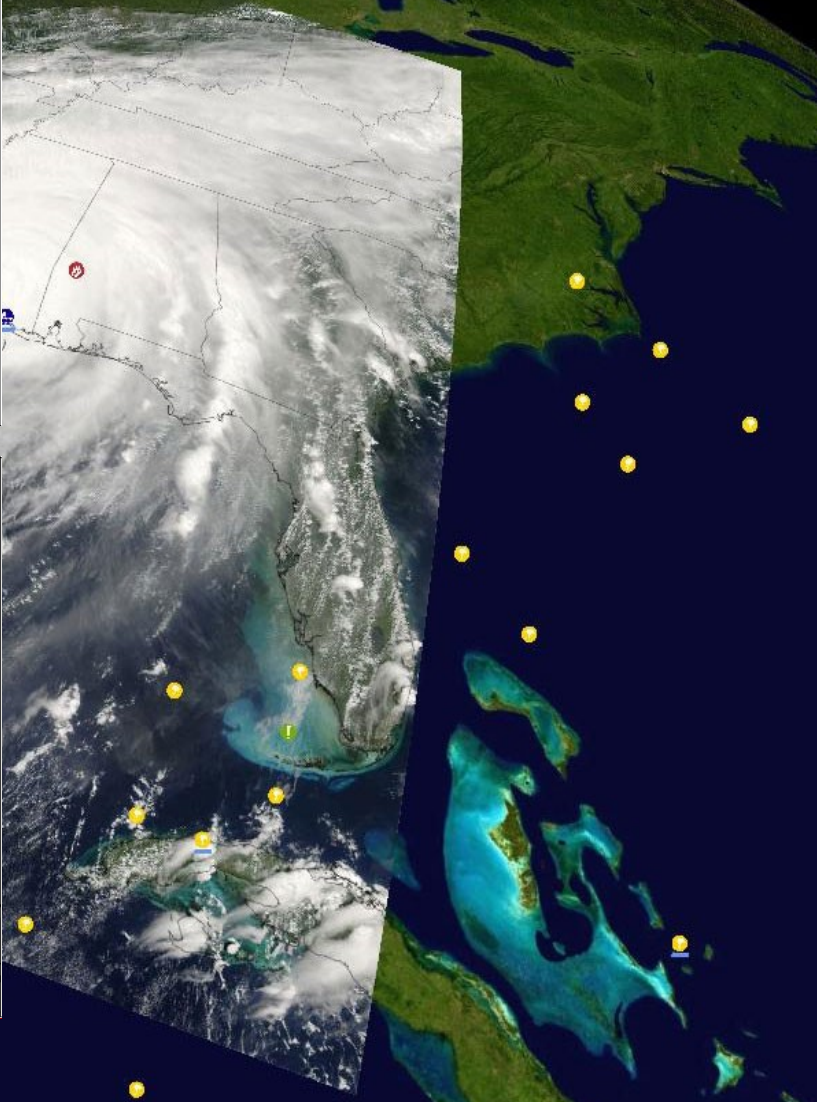
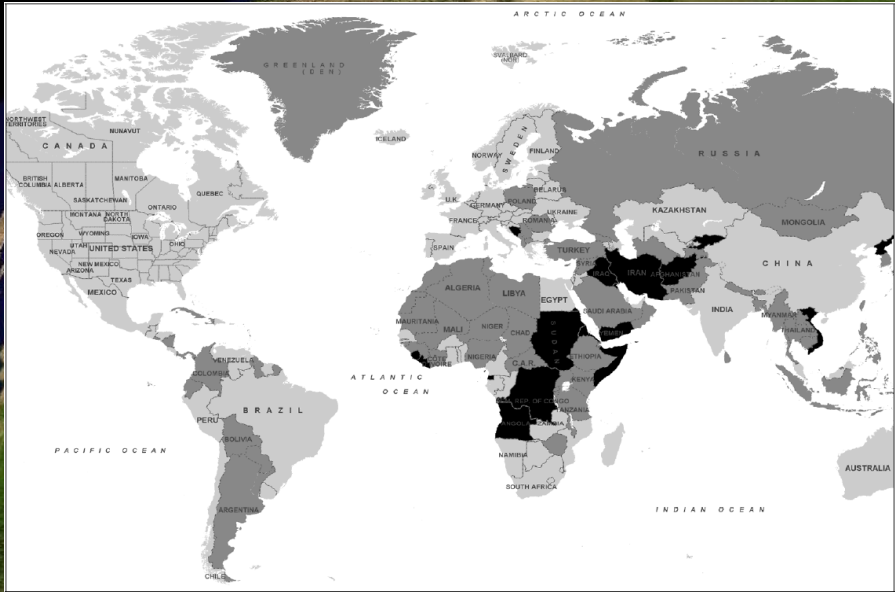
The screenshot shows the website interface for www.austria.info. At the top, there is a navigation menu with links: Home, Über Österreich, Reiseführer, Urlaubsthemen, Unterkünfte, Reiseplanung, Service, and Typisch Österreich. Below the menu is a banner image featuring two penguins in a field with a sign that says 'Endlich Österreich. www.austria.info'. The main content area is divided into several sections:

- Suche:** A search bar with the text 'wien' and a dropdown menu set to 'Österreich Werbung'. Below it is a 'Suchen' button.
- Reiseführer:** A section with a map of Austria and a 'Livecam' button.
- Wetter Informationen:** A section showing 'Graz vollig, 23°C'.
- Suche Results:** A section titled 'Suche' showing 'Ihre Suche nach "wien" ergab 399 Einträge.' It includes a page navigation 'Seite 1 2 3 4 5 6 > 1 (40 Seiten)' and two search results:
 - Wien hat mehr [html]:** A result with a 5-star rating. The text says: 'Startseite ? Speziell für Sie Wien hat mehr Der Facettenreichtum einer Stadt Ob junge Szene oder sportliche Action, ob wahrliche Freizeitöasen oder lauschige Strände, ob Sie in Wi ... http://www.wien.info/article.asp?IDArticle=10021'.
 - Radeln nach Plan [html]:** A result with a 5-star rating. The text says: 'zusammengestellt von der Buchhandlung GODAI 9., Porzellangasse 36, und 15., Mariahilfer Straße 169 +43-1-317 81 05 Literatur und Karten Tipps zum Radfahren in Wien und zu Ausflügen ... http://www.wien.info/article.asp?IDArticle=2319'.
- Reisekoffer:** A section with a briefcase icon and the text: 'Legen Sie Informationen die mit ☐ gekennzeichnet sind, per Mausclick in den Reisekoffer.' Below it is a 'Zum Reisekoffer' button.
- Urlaubsspezialisten:** A section with a small image and the text: 'Die Magie des Gehens... walter'. Below it is a 'Zum Reisekoffer' button.

At the bottom of the page, there is a footer with contact information: 'Startseite ? Reise, Buchen & Info Impressum Medieninhaber und Herausgeber: Wien-Tourismus 1025 Wien Tel +43-1-211 14-0 Fax +43-1-216 84 92 Der Wiener Tourismusverband (öffentlicher ... http://www.wien.info/article.asp?IDArticle=10096'.



Latitude: 27.78135°
Longitude: -90.77940°
Heading: 338,23°
Tilt: 34.66041°
Altitude: 2713,93km
Distance: 3090,90km
FOV: 45.00000°



Katrina (29.08.2005 @ 19:15)
Hurricane Katrina (12L) over the Gulf Coast [United States Mexico Florida Louisiana Mississippi Alabama]

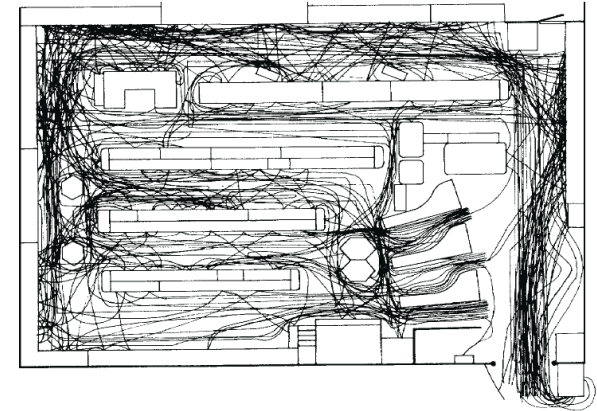
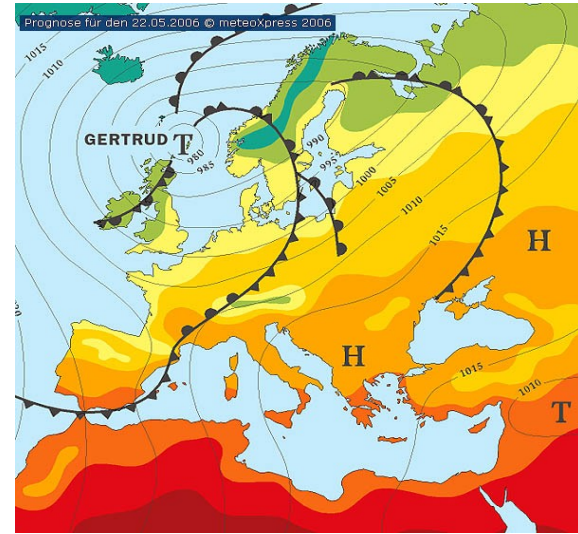
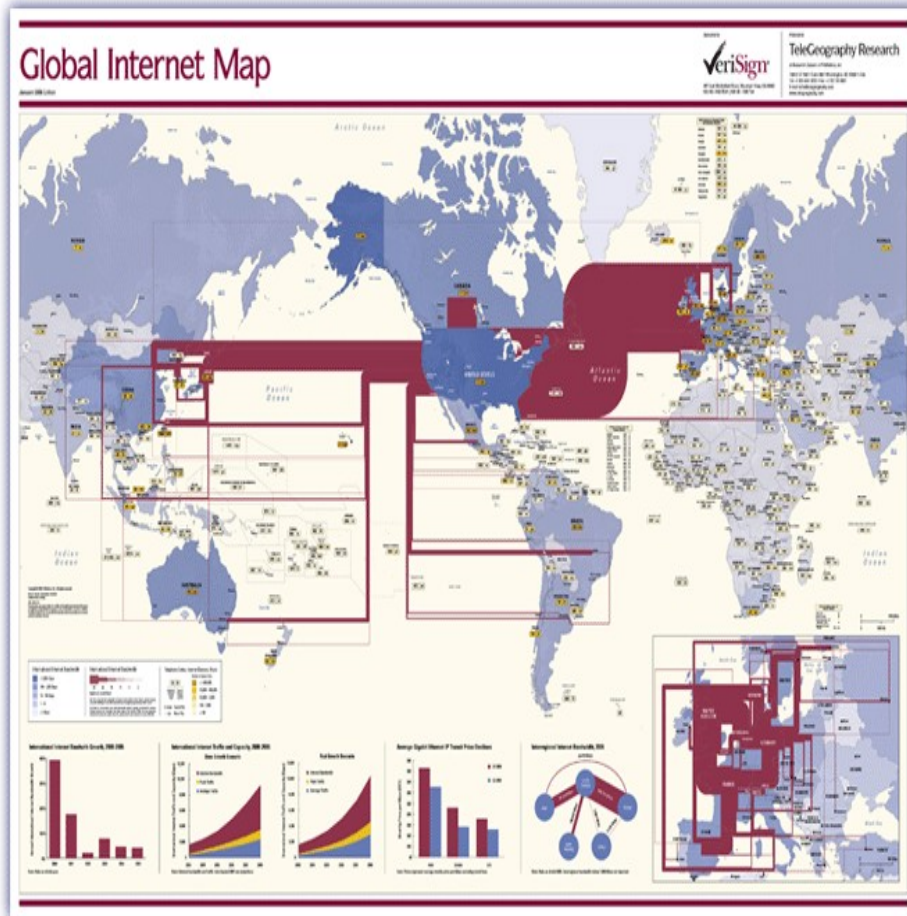
The Geospatial Web

- Integrates
 - Cartographic Data
 - Environmental Indicators
 - Geotagged Hypermedia
- Knowledge Planets
 - Topology of Information Landscape
 - Peak = Cluster of Documents on a Specific Topic
 - Valley = Sparsely Populated Part of the Information Space
 - Projecting Information Landscapes onto Virtual Globes
 - Initial Arrangement and Stability of Topics
 - Navigation Across Layers and the 0° Meridian Line
 - Download | www.geospatialweb.com/chapter-1

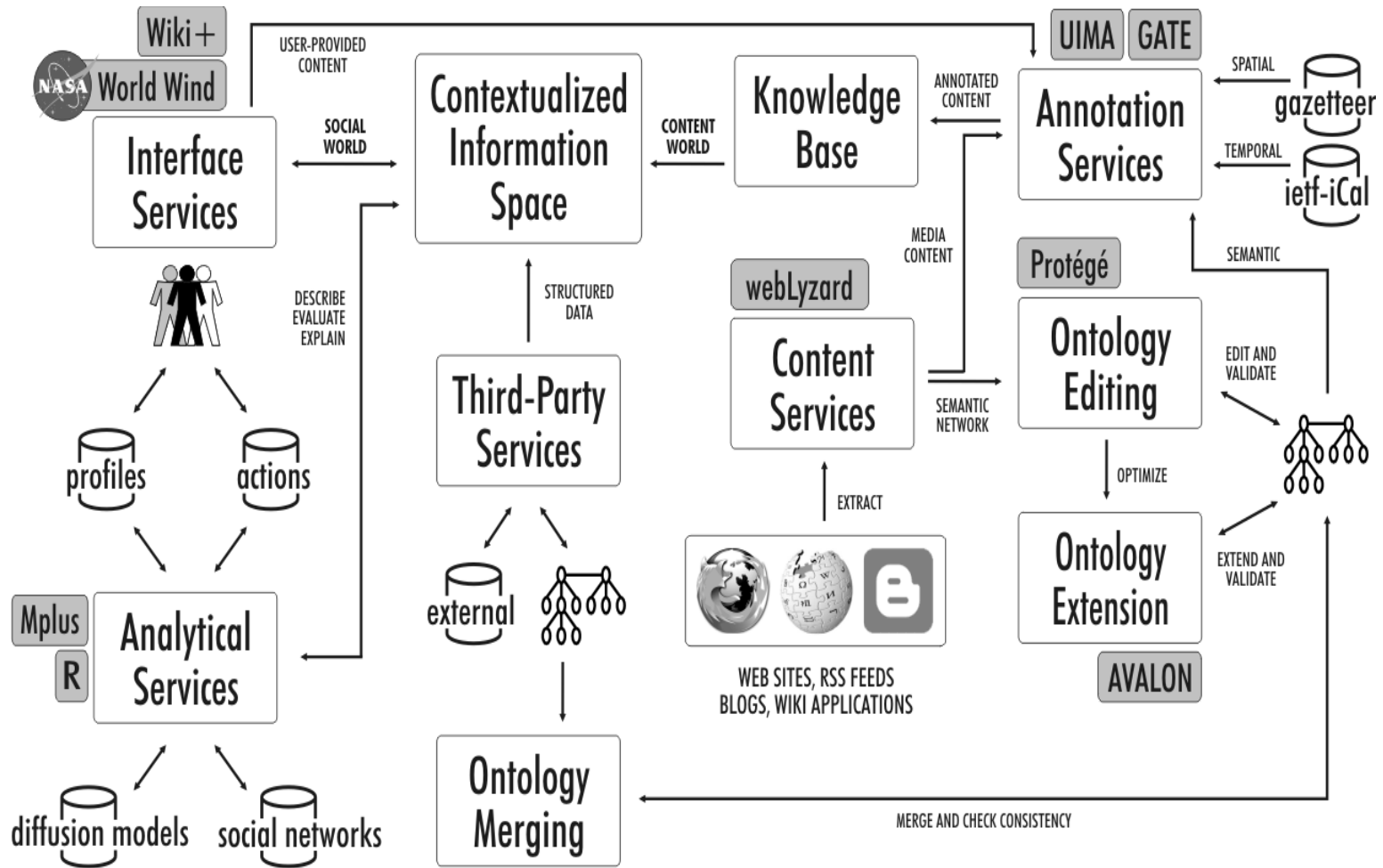


Scharl, A. (2007). "Media Platforms for Managing Geotagged Knowledge Repositories", The Geospatial Web – How Geobrowsers, Social Software and the Web 2.0 are Shaping the Network Society. Eds. A. Scharl and K. Tochtermann. London: Springer. 3-14.

Analytical Services



IDIOM System Architecture

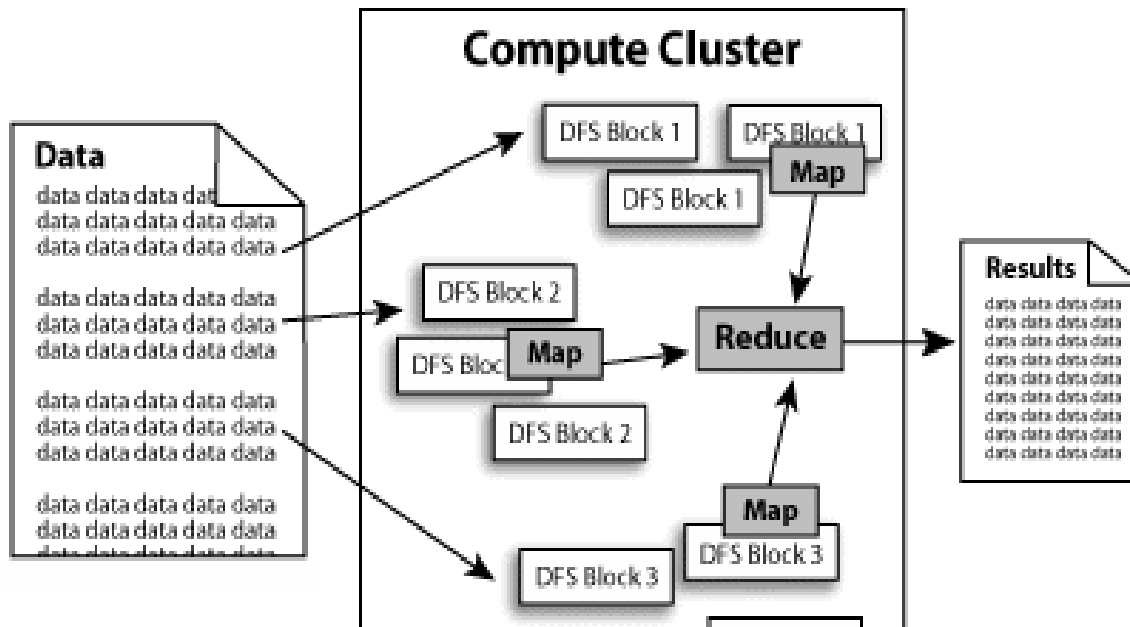


Processing Techniques

- Infrastructure
 - Virtualization (XEN)
 - Host Systems
Siemens RX200/300 Server mit je 8 CPU's und 32 GB RAM
 - Eases administrative tasks
 - PC7 cluster
- Tasks
 - Mirroring
 - Tagging (Spatial, Temporal, Named Entities)
 - Semantic Maps
 - Ontology Extension

Distributed Computing – hadoop

- Developed by the Apache project (Lucene subproject)
- Implements MapReduce + a distributed Filesystem



Distributed Computing – hadoop

xmbalrog Hadoop Map/Reduce Administration

State: RUNNING
Started: Wed Nov 07 12:57:52 CET 2007
Version: 0.15.0, r589881
Compiled: Mon Oct 29 15:01:10 PDT 2007 by cutting
Identifier: 200711071257

Cluster Summary

Maps	Reduces	Tasks/Node	Total Submissions	Nodes
0	0	2	2	24

Running Jobs

Running Jobs
<i>none</i>

Completed Jobs

Jobid	User	Name	Map % Complete	Map Total	Maps Completed	Reduce % Complete	Reduce Total	Reduces Completed
job_200711071257_0001	aweichse	streamjob23908.jar	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100.00%	26	26	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100.00%	1	1

Failed Jobs

Failed Jobs

Find: Match case

Keep things simple

- Overhead ↓ -> Processing Time ↓
- Avoid costly operations
 - Database writes, Networking, IO
- DFS Input Data -> DFS Output Data
- NFS about twice as fast
 - file names
 - Handle output of redeployed tasks

Use your Database and Data Structures wisely

- INSERT vs. COPY
 - Example: 4 million DB writes (prepared statements, stored procedures, ...)
 - 2.5 days without results vs.
 - 30 seconds(!) + 2 min (COPY)
 - Constraints and Indices
- Cache data (!)
 - Example: Computation of the Semantic Map
 - 3 hours -> 18 min (10x)
- Use prepared statements (DB Planer)
 - Approx. 10x
- Data Structures:
e.g. ArrayLists vs. HashSet; List vs. Set

