



On the Way to the Semantic Web

Presented on Rio Info 2008 by Klaus Birkenbihl,
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based on a slide set mostly created by Ivan Herman,
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Oct. 02nd, 2008

W3C?

- Launched 1993 by Web inventor Tim Berners-Lee (Director of W3C) to
 - Prevent the Web from breaking apart
 - Lead the Web to its full potential
- Membership organisation
 - Members are big too small IT-Companies, user companies, Web organisations, standard bodies, research organisations and universities.
 - ~50 people on staff
 - 17 W3C Offices contribute as local representatives to international coverage of W3C (W3C.br is at NIC.br)
- Develops the Web by providing (>100) **technologies and standards** e.g. (X)HTML, CSS, XML, ... (aka recommendations)



You may consider to meet W3C.br at the NIC.br booth to learn more about W3C





- Some of you may have heard of it
- So you might know already that it is hard stuff, complex and difficult to understand
- A thing that is only used in universities and research
- It uses a complex nearly unreadable XML vocabulary
- **So you'd better not touch!**
- Consequently I'd like to let you know ...



... please forget it!

- Semantic Web is based on very simple principles – most of them are very much like what we know from the web
- Sometimes Semantic Web lives within XML but this is only a Syntax – Semantic Web can exist mostly without XML
- Technologies are available and used in various ways
- Semantic Web is about making life in the Web easier
- **So you should know about it**



What (approximately) I shall do

- Using the web today
 - Travelling
 - Social networks
 - Collecting and combining knowledge
- Make some observations
- Look for improvements
- Reuse Web concepts (URIs, Links, Resources)
- Suggest a solution that we call Semantic Web

Let's organize a trip to Budapest using the Web!

You try to find a proper flight with ...

... a big, reputable airline, or ...

Book flights - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.klm.com/travel/nl_nl/apps/ebt/ebt_home.htm

KLM Royal Dutch Airlines

nwa

Stel hier uw vraag (in me ?)

Book flights

You are not logged in

1 Vlucht zoeken

2 Datum kiezen

3 Tijd kiezen

4 Uw gegevens

5 Bekijken & betalen

Contact KLM Service Center

E-mail een vriend(in) Print deze pagina

Kies uw heen- en terugvlucht.

Vertrek: Amsterdam (Schiphol) naar Boedapest (Ferihegy Airport)

☒ Alleen vluchten gebaseerd op Alleen de beste verbindingen (10 van 13)

☐ Alleen rechtstreekse vluchten tonen (5 van 13)

☐ Laagste tarieven (9 van 13)

☐ Alle vluchten (13)

Kies	Prijs	Vertrek	Aankomst	Vlucht
Rechtstreekse vluchten				
<input checked="" type="radio"/>		10:00 Vr 15 Aug 08 Amsterdam (Schiphol) Totale reistijd: 2 uren 0 minuten Uitgevoerd door MALEV Hungarian Airlines Vliegtuigtype :Boeing 737	12:00 Vr 15 Aug 08 Boedapest (Ferihegy Airport)	KL3201
<input type="radio"/>		12:20 Vr 15 Aug 08 Amsterdam (Schiphol) Totale reistijd: 2 uren 0 minuten Uitgevoerd door MALEV Hungarian Airlines Vliegtuigtype :Boeing 737	14:20 Vr 15 Aug 08 Boedapest (Ferihegy Airport)	KL3203

Kies tarief

Take Off

RETOUR tarieven per persoon incl. belasting en toeslagen (excl. reserveringskosten)

Take Off (25% FB Miles)

300

Geselecteerd

Take Off

341

Selecteer

Take Off (Flexibel)

383
455
537

... the airline of the target country, or ...

Review - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://booking.malev.com/BookingSite/Review/Review.aspx

BOOK YOUR TRIP
FLIGHTS, SCHEDULES
PREPARE FOR FLIGHT
FLYING WITH MALEV
DUNA CLUB
CUSTOMER CARE
CORPORATE INFO






MALEV Hungarian Airlines
ONE MORE REASON TO TRAVEL

English

1 Search 2 Select 3 Review 4 Traveller data 5 Purchase 6 Confirmation

SELECT DELIVERY METHOD


Please select ticket delivery method below!

Delivery method	Service fee	Address
<input checked="" type="radio"/>  E-ticket View service fee breakdown	EUR 10	with e-invoice
<input type="radio"/>  Airport	EUR 30	KLM ticket office, departure hall 2.
<input type="radio"/>  Office	EUR 30	KLM ticket office, departure hall 2.
<input type="radio"/>  Courier		Courier or mail delivery is available only within the country of departure! You will be asked to provide a delivery address on the next page. Please note that in case of courier delivery we will be unable to deliver your ticket(s) to a PO box.
<input type="radio"/>  Mail	EUR 30	

FLIGHT SUMMARY

Outbound flight		Return flight	
From:	Amsterdam, Schiphol (AMS), Netherlands	From:	Budapest, Ferihegy 2A (BUD), Hungary
	Budapest, Ferihegy 2A (BUD).	To:	Amsterdam, Schiphol (AMS),

BOOKING GUIDE
Book Cheap!
Card payment
About ticket pickup
If you are not among the travellers
Online Client Service


Check III

... or a low cost one

Online booking | Select Flights - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://wizzair.com/skylights/cgi-bin/skylights.cgi?step=1

W!ZZ wizzair.com

new destination from London Luton:
Timisoara (from 17 December)

online booking useful information destinations travel services partners

important changes regarding checked-in baggages - Please click here for more details...

flights agency login my account search bookings log in

Book a Flight

Round Trip One Way

From: Eindhoven

To: Budapest-Terminal 1

Depart: 14 Aug

Return: 03 Sep

Passengers: 1 Adult Over 14 years 0 Child 2 to 14 years

search select contact passengers purchase confirmation

The flights available for the date(s) that you have selected are shown below. Review and select that you wish to purchase by ticking the dot next to the fare price or use the form to the left ha search for new flights. All times are local.

Fares shown below are for one way flights and per adult, child and infant. The total price includes the taxes and the charges. Payments made with debit and credit cards are subject to a payment Click here to find out the exact amount. The fee depends on the type of card that you wish to u payment.

going out ✈

Eindhoven » Budapest-Terminal 1

date	fareclass	flight	departs	arrives		price excluding tax	taxes and charges
Fri 15 Aug 08	Web	W6 228	13:25	15:20	<input type="radio"/>	Adult 94.99 EUR	26.00 EUR
Sun 17 Aug 08	Web	W6 228	13:25	15:20	<input type="radio"/>	Adult 73.99 EUR	26.00 EUR

Next Week >

You have to find a hotel, so you look for...

... a really cheap accommodation, or ...

The screenshot shows the HostelTraveler.com website interface. The browser window title is "Hostels - online booking at Youth Hostels and Backpackers Hostels - instant online reservations and reviews with HostelTraveler.co...". The address bar shows "http://www.hosteltraveler.com/index.php". The website has a yellow and green color scheme. The main navigation bar includes links for "Hostels", "Reviews", "Best deals", and "Top Cities". A search bar is present with a "Search Hotels/Cities" button. Below the search bar are buttons for "Check Reservations" and "Free Membership". The main heading is "Find Hostels and Lodging at your destinations." with a subtext "Look for **IWB** for instant online booking." On the right, there is a "Sign in" button and a "Lodging Sign in" button. A sidebar on the right lists "How it Works", "Step 1-Find Lodging", and "Step 2-Make Reservations". The main content area shows "3 accommodations have been found matching your criteria." and a "Make Reservations" button. Below this, there is a "Sort by:" section with radio buttons for "Price (Lo-Hi)", "Price (Hi-Lo)", "Traveler Rating", "Hostel Class", and "Hostel Name". A "View Advanced Display Options" link is also present. The search results are for "Balaton, Hungary" and show a table with one entry: "Unity Hostel Balaton". The entry includes a checkbox, the hostel name, address "Rakoczi Ut 268", "Hostel 8 Units", a "Write a Review" link, a logo for "unity hostel", an "Instant Booking" button, and a price "From €12". A description of the hostel is provided: "2hours from Budapest,we are located right behind a free beach access to the lake, right opposite a large shopping and dinning court, only few minutes from the best clubs.lots of freebies!!!".

Hostels - online booking at Youth Hostels and Backpackers Hostels - instant online reservations and reviews with HostelTraveler.co...

File Edit View History Bookmarks Tools Help

http://www.hosteltraveler.com/index.php

HostelTraveler.com

Hostel Traveler ... instant online booking for youth hostels, budget hotels and hostelling the globe

Welcome member travelers! Sign in

hostels & Lodging Sign in

Hostels Reviews Best deals Top Cities

everything for travelers:

Search Hotels/Cities

Check Reservations

Free Membership

Find Hostels and Lodging at your destinations.

Look for **IWB** for instant online booking.

How it Works

Step 1-Find Lodging

Step 2-Make Reservations

Secure online hostel booking at worldwide youth hostels, backpackers, and budget hotels.

Home

Start Over

Members

Lodging Operators

About this Site

Selection Status

3 accommodations have been found matching your criteria.

Select your accommodations and click **Make Reservations** for rates, availability, and reservations.

Click on names to see photos, reviews, and more information.

Tip: Click **Instant** for rates and instant secure confirmations.

Sort by: ☒ Price (Lo-Hi) ☐ Price (Hi-Lo) ☐ Traveler Rating ☐ Hostel Class ☐ Hostel Name

View Advanced Display Options

Balaton, Hungary **Make Reservations**

<input type="checkbox"/>	Unity Hostel Balaton Rakoczi Ut 268 Hostel 8 Units Write a Review		Instant Booking	From €12 2hours from Budapest,we are located right behind a free beach access to the lake, right opposite a large shopping and dinning court, only few minutes from the best clubs.lots of freebies!!!
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... or a really luxurious one, or ...

Search Results - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.hilton.com/en/hi/hotels/search/newresults.jhtml?searchType=city&sta


Hilton
Travel should take you places®

Sign in Username or HHonors #: Password or PIN: Register Forgot password? ☐ Remember Me

View Text Only
Customer Support
1-800-HILTONS

Specials & Packages Reservations Meetings Social Gatherings Hilton HHonors Things to Do eBrochures My Favorites

Search Results



Change Your Search

Location
City: Budapest
Search Within: 40 mi km
State/Province: State / Province
Country: Hungary


Brand
☒ Hilton Hotels
☐ All Hilton Family Hotels


Search Results Print Help

The following locations matched your request.
Rates displayed may be non-refundable.
Please review rate rules and restrictions prior to booking your stay.

Sort by: Brand Show: All Hotels Go View Hotels on a Map >

Hilton Hotels

 **Hilton Budapest WestEnd** ☐ Compare Hotel

 Vaci ut 1-3
Budapest, Hungary, 1062
36-1-288-5500 ☒ Available

... and intermediate one ...

Szállás Utazás Magyarországon - Wellness-Szállás, Nyaralás, Utazás, Programok - Magyarországon - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.travelsinhungary.hu/view_kat.php?katid=1&megye=budapest

TRAVELS IN HUNGARY
www.travelsinhungary.hu

MAGYAR ENGLISH DEUTSCH

Keresés Az összes kategóriában OK

TÖRZSVENDÉG KEDVEZMÉNYEK

REGISZTRÁCIÓ

ELÉRHETŐSÉG

VENDÉGKÖNYV

Szállás (Wellness, Aktív pihenés, Gyógyturizmus)

Étterem

Programok, Látnivalók

Szórakozás (Élményparkok, Kalandparkok)

Rendezvényszervezés (konferenciák-tréningek)

AJÁNLATOK

Szálláshely \ Budapest

Válasszon megyét:
Válasszon!


Válasszon várost:
Válasszon!

Ajánlatok száma a kategóriában: 1.

Airport Hotel Budapest****

★★★★☆

SZÁLLÁSHELY
Budapest(Vecses)
Ferihegyi repülőtéri szálloda és konferencia központ
részletesen...



**oops, that is no good, the page is in
Hungarian that almost nobody
understands, but...**

... this one could work

(17)

Bestwestern.com, the World's Largest Hotel Chain - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://book.bestwestern.com/bestwestern/selectHotel.do?ata=00158210

Best Western

Welcome to bestwestern.com®

Customer Service Rewards Program Gift Card Groups & Meetings

My Profile

Email or Member#:

Password:

SIGN-IN

Forgot Password
Create Password
Enroll Now

HOME FIND A HOTEL CHECK RESERVATIONS TRIP PLANNER PROMOTIONS & PROGRAMS PACKAGES

RESERVATIONS HOTEL LOCATIONS BEST WESTERN PREMIER HOTELS NEW HOTELS QUESTIONS & ANSWERS

Hotel Search Results Select Occupancy Select Room Review & Reserve Confirmation

Find a Hotel - Select Hotel Page: 1

Modify Your Search:

City:

Select State or Province:

Select Country:

Check-In:

Check-Out:

Features & Amenities:

☐ High Speed Internet

☐ Complimentary Breakfast

5 Hotels Found within 50 Mi / 80 Km of the Budapest Area

Show: By:

Display Currency In:

Show Hotels on a Map

Best Western Hotel Hungaria

Stay at this 4-star Budapest hotel offering guests deluxe accommodations near some of Budapest's popular attractions and business locations. Visitors... More >

Photo Gallery

Pet Policy

Rákóczi Ut 90,
Budapest, H-1074, Hungary
Distance from City Center: 0.86m / 1.38km

Hotel not available on selected dates.

Check Alternate Dates

Of course, you could decide to trust a specialized site...

... like this one, or...

Create your package from Amsterdam to Budapest (and vicinity) - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.expedia.com/pub/agent.dll?qscr=cmsh&subm=1&CMBTX_0_rgnm=Bud

Welcome - Already a member
My Itineraries | My Account | Customer Service

Search Expedia

Home Flights Hotels Cars **Vacation Packages** Cruises Activities DEALS & OFFERS Maps Business Travel Rewards

Start search over

Change your search

Departing: 8/18/2008

Returning: 9/3/2008

Star Rating: Show all

Lodging Type: Show All

Name contains:

Go

Change Travelers

2 Adults
1 Room
Change travelers

Create your package from Amsterdam to Budapest (and vicinity)

Maps: Area map view Hotel map view


Hotel amenities: Narrow your search

Show hotels in this area:
Budapest (and vicinity) (all areas) Go

Not what you're looking for? Choose a different destination

View packages: 1 - 25 26 - 50 51 - 75 76 - 97 Previous | Next

Sort by: ☒ Expedia Picks ☐ Price ☐ Hotel Name ☐ City ☐ Star Rating ☐ Traveler Opinion

Avg/person: \$2889	
 <p>Corinthia Grand Hotel Royal Impressive landmark building with imposing Neo-classical façade and soaring glass atrium, set on Pest's busy Erzsébet Avenue, and housing shops, a spa, ... More lodging info Hotel promotion - Stay 3 Nights and Save 20% on Your Stay! ★★★★★ Budapest, PEST Executive Double-Executive lounge usage Check in: 8/18/08 Includes: Free Wireless Internet, Spa Check out: 9/03/08 Credit, Breakfast Buffet</p>	<p>Total: Price details \$5778 Get ThankYou® Points</p> <p>Traveler Opinion 4.7 out of 5 15+ reviews</p>
<p>Amsterdam (AMS) to Budapest (BUD) Depart: 8/18/08 6:00 PM - 8:00 PM Malev Hungarian Airlines</p>	

1-800-55
Call now
for the same
great deals
plus expert
advice

... or this one

Budapest Hotels: Read Budapest Hotel Reviews and Compare Prices - TripAdvisor - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.tripadvisor.com/Hotels-g274887-Budapest-Hotels.html

My TripAdvisor
Register Now!

22,582,888 Travelers from 190 Countries Planned Trips Here This Week!

Home | Destinations | Fun & Games | Just For Members

Home → Europe → Hungary → Budapest

Budapest Hotels

ADD TO MY MAP | WRITE A REVIEW | EMAIL

Hotels (272) | B&Bs / Inns (24) | Specialty Lodging (83)

Find Hotels Travelers Trust

Check-in: Any date
mm/dd/yyyy

Check-out: Any date
mm/dd/yyyy

☒ My dates are flexible

Price: Any Price U.S. Dollars
Hotel class: Any Class Adults: 2

Recommended For: All

Best deals: Budapest hotels

- [Budapest: Boek en bespaar tot 75%.](#)
Booking.com Geen reserveringskosten!
- [Great Budapest Hotels](#)
www.Venere.com/Budapest_Hotels See maps & pics, read book online. Relax and enjoy your stay!
- [Budapest easyHotel Deals](#)
www.easyHotel.com City Centre from just €15 per night from founder of easyJet
- [Cheap Hotels Budapest](#)
www.otel.com/BudapestHotels Fantastic rates on Budapest Huge Savings, Instant Confirmation!

[View all deals for Budapest](#)

Recommended Hotels (1-20 of 272)

Sort by: Popularity [next >>](#)

Free Budapest Guide

Get the best picks for where to eat and play.

[Download pdf](#)

**You may want to know something about
Budapest; look for some photographs...**

... on flickr ...

Flickr: Budapest - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.flickr.com/groups/budapest/

Signed in as Ivan Herman Help Sign Out

Home You Organize Contacts Groups Explore

Search this group's pool Search

Budapest
Group Pool Discussion 1,418 Members Map Invite Friends

Share This

Group Pool (19,017 items | Add photos or video)

NEW From apuc

NEW From André Fromont

NEW From carlogambino

NEW From carlogambino

NEW From Crashbandi

NEW From Crashbandi

NEW From Crashbandi

NEW From Crashbandi

NEW From Crashbandi

NEW From Crashbandi

NEW From Crashbandi

NEW From Crashbandi

» More

Discussion (33 posts | Post a new topic)

... on Google ...

budapest - Google Image Search - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://images.google.nl/images?hl=en&q=budapest&btnG=Search+Images&gbv=1

Web Images Maps News Video Gmail more

Sign in

Google

budapest

Search Images Search the Web Advanced Image Search Preferences

Moderate SafeSearch is on

Images Showing: All image sizes

Results 1 - 18 of about 19,900,000 for **budapest** [definition]. (0.25 seconds)

E-mail this photo E-mail.
Budapest
550 x 412 - 40k - jpg
www.tripadvisor.com

Budapest, Hungary
450 x 338 - 43k - jpg
www.transitionsabroad.com

Budapest looks its most beautiful at ...
1024 x 768 - 161k - jpg
web.kvif.bgf.hu

Beautiful-Budapest
430 x 320 - 34k - jpg
www.budapesthotels.com
[More from
www.budapesthotels.com]

Hotel Victoria Budapest
575 x 473 - 92k - jpg
www.victoria.hu

Fly to Budapest and experience one ...
909 x 682 - 347k - jpg
www.sterling.dk

Danube Bridge Elisabeth in Budapest ...
1024 x 768 - 194k - jpg
budapest5.freeblog.hu

Budapest had 2421831 inhabitants in ...
422 x 425 - 29k - jpg
www.squidoo.com

budapest night
575 x 352 - 206k - jpg
www.wayfaring.info

Budapest - Things to Do with a Day ...
400 x 300 - 32k - jpg
cruises.about.com

Jewish Cultural Heritage in Budapest
452 x 360 - 67k
www.budapesthotels.com

Hungary, Budapest, Parliament
640 x 480 - 199k - jpg
www.hungary.travelphotoguide.co


... or you can look at Ivan's

Budapest, my home town.../img_0467 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.ivan-herman.net/Photos/Album/Budapest/slides/img_0467.html

Budapest, my home town...



NEW Táncsis Mihály utca, Budapest

Camera: Canon EOS 450D | Date: 2008-07-26 | City: Budapest | Country: Hungary

Total images: 69 | Last update: 2008-08-08 | Help

(CC) BY-NC-ND © Ivan Herman, 2008

but you can also look at a (social) travel site

The screenshot shows a web browser window titled "Budapest Travel Guide | Budapest Tourism - RealTravel - Mozilla Firefox". The address bar shows the URL "http://realtravel.com/budapest-hungary-travel-guide-d13081-1.html". The website header features the "realtravel" logo with the tagline "Real People. Real Advice. Real Experiences.™". Navigation links include "Travel Guides", "Hotels", "Attractions", "Things To Do", "Editor's Picks", and "Deals". A search bar is located on the right. The breadcrumb trail reads "You are here: Destinations > Europe > Hungary > Budapest > Travel Guide". A red banner highlights "BUDAPEST TRAVEL GUIDE AND TOURISM". Below this, a menu includes "Introduction", "Guides", "Trips", "Photos", "Flights", "Hotels", "Restaurants", "Attractions", and "Deals". The main content area features a photo of a statue in front of a building, credited to "photo by Taisteal". The title "Budapest Travel Guide" is followed by a paragraph: "This capital city - made up of two parts, Buda and Pest - sits on one of the most beautiful areas of the Danube River and it shows. Often dubbed the 'Paris of Eastern Europe', it is a combination of Old World grandeur and a thriving cultural scene. Budapest has a vibrancy and vitality that never slows and the numerous sights can occupy travelers for weeks. With so much history and culture to explore, no traveler leaves unsatisfied." To the right, a "Price Compare Tool" section encourages users to "Search multiple sites for the best rate in Budapest" and provides buttons for "COMPARE FLIGHTS" and "COMPARE HOTELS". At the bottom, a section titled "Travel Guide Information From Our Partners" is visible.

What happened here?

- You had to consult a large number of sites, all different in style, purpose, possibly language...
- You had to mentally *integrate* all those information to achieve your goals
- We all know that, sometimes, this is a long and tedious process!

- All those pages are only tips of respective icebergs:
 - the real *data* is hidden somewhere in databases, XML files, Excel sheets, ...
 - you have only access to what the Web page designers allow you to see
- Specialized sites (Expedia, TripAdvisor) do a bit more:
 - they gather and combine data from other sources (usually with the approval of the data owners)
 - but they still control how you see those sources

- Sometimes you want more: you may want access to the original data and combine it yourself!

Here is another example...

The image displays three overlapping web browser windows, each showing a different neuroscience database interface.

CoCoDat - Collation of Cortical Data - Mozilla Firefox
 The window shows the CoCoDat homepage. The title is "CoCoDat: Collation of Cortical Is[...]" and the subtitle is "microcircuitry] Data". The description states: "CoCoDat is a microcircuitry database that published experimental reports. The data and cellular compartment), as well as the". A list of features includes: Morphology, Firing properties, Ionic currents, Ionic conductances, Synaptic currents, and Connectivity. Below this, it says: "The database is available for download u[...]" and "data tables but also a Search Board with p[...]" and "manual or automatic relaxation of the sea[...]".

Cell Centered Database - Mozilla Firefox
 The window shows the "Cell Centered Database™ Gallery" homepage. The title is "Cell Centered Database™ Gallery". The subtitle is "National Center for Microscopy and Imaging Research". The navigation bar includes: Data | Search | Gallery | Dictionary | Publications | MyCCDB | Data Download | Contact us | Help. Below the navigation bar, there are tabs for "2D image", "Reconstruction", "Segmentation", and "Animation".

NeuronDB - Thalamic relay neuron - Overview (A) () - Mozilla Firefox
 The window shows the "NeuronDB" homepage. The title is "NeuronDB". The subtitle is "Thalamic relay neuron". The navigation bar includes: Back, Mode: Overview (selected), Data/Search, plus Connectivity, plus Classical References/Notes, Models. Below the navigation bar, there are tabs for Region: Distal equivalent dendrite, Middle equivalent dendrite, Proximal equivalent dendrite, Soma, Axon hillock, Axon fiber, Axon terminal, All Compartments. Below the tabs, there are tabs for Properties: Receptors, Channels, Transmitters, All Properties (selected). Below the tabs, there are tabs for Interoperation: Gene and Chromosome, Experimental Data (neurodatabase.org), Microscopy Data (CCDB). Below the tabs, there are tabs for Neuron type: principal, Organism: Vertebrates. Below the tabs, there is a diagram of a thalamic relay neuron. Below the diagram, there is a list of compartments: 1. Equivalent dendrite, 2. Distal equivalent dendrite, 3. Middle equivalent dendrite, 4. Proximal equivalent dendrite, 5. Soma. To the right of the list, there are buttons for "Show other" for each compartment.

- Companies may have to hire a person to answer questions based on those (public!) databases!

Another example: social sites. Ivan has a list of “friends” by...

... Dopplr,

DOPPLR: Ivan Herman's fellow travellers - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.dopplr.com/traveller/IvanHerman/fellows

W easy jet

DOPPLR FOR IVAN

Find and Invite | Your connections | Your trips | Your account | Sign out


Visit our blog for updates

Where Next? { Gent, Boston, Vienna... }

+ Add a trip

Type the name of a city or a traveller

Find people and places



Welcome, Ivan

In the last 2 weeks,
one of your fellow travellers added a trip that coincides with you. [Find out more in your journal...](#)

You are at home in [Amsterdam](#).






You can [invite](#) people to Dopplr to see your trips, find them on [other networks](#) you use
or look for [travellers you already know](#) to encourage more coincidences.

You have a [public profile](#). [Edit it?](#)

You can now create a public profile to display to the whole internet if you want, not just Dopplr users — and take
any of the information to embed on your own website. [Give it a try!](#)

Your trips | Fellow travellers | Your journal | Your carbon

List or Map

-  Peter Brown is in [Montréal](#) until August 16th. [Boston](#) soon. [Montréal](#) later.
-  Daniel Appelquist is in [Washington](#) until August 23rd. [Aspen](#) soon. [Washington](#) later.
-  Eva Méndez is in [Maraña](#) until August 17th. [Santo Domingo](#) later.
-  Danny Weitzner is in [Bergen](#) until September 5th. [Los Angeles](#) later.
-  Charlton Barreto is in [Vienna](#) until August 18th. [Sacramento](#) soon. [Vienna](#) later.

... Twine,

The screenshot shows a Mozilla Firefox browser window displaying the Twine website. The address bar shows the URL <http://www.twine.com/user/ivanherman/connections>. The Twine logo is in the top left, with a 'BETA INVITE-ONLY' badge. The navigation bar includes links for Home, My Items, My Twines, My Connections (active), Explore, and Start a Twine. A search bar is on the right.

The main content area is titled 'My Connections'. It features a search bar labeled 'Search within My Connections...' and filters for 'View: All' and 'Sort by: Most Recent'. A sidebar on the left titled 'Refine your view by...' offers a filter for 'related twines'. The main list displays three connections:

- Dean Allemang**: at home, Oakland, CA, 3 Twines | 4 Items. Includes links for 'Send Message' and 'Disconnect'.
- David Provost**: Breathing, Boston, 20 Twines | 15 Items. Includes links for 'Send Message' and 'Disconnect'.
- Attila Gardos**: Hungary, Budapest, 9 Twines | 8 Items. Includes links for 'Send Message' and 'Disconnect'.

On the right sidebar, there are buttons for 'Connect with People' and 'Invite People to Twine', followed by a 'Recommended' section listing other users like jim, Steve, James, and Chris with their respective Twine counts.

... LinkedIn,

LinkedIn: My Contacts: Connections - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.linkedin.com/connections?trk=hb_side_cnts

Account & Settings | Help | Sign Out | Language

People | Jobs | Answers | Companies

Advanced Search People Search

Contacts

Connections Imported Contacts Network Statistics Add Connections

Connections

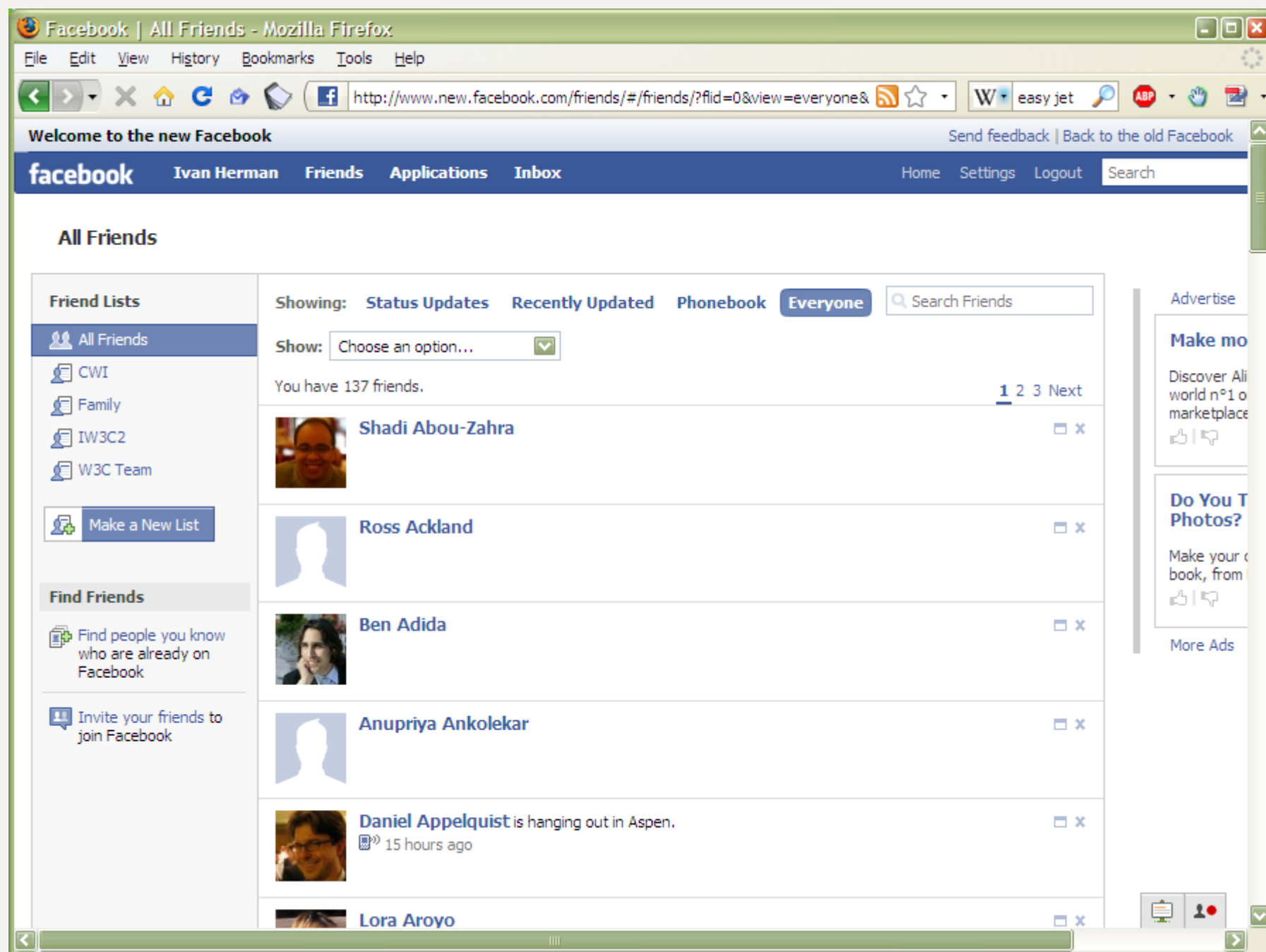
☐ Show contacts with new connections advanced options


Showing 311 of 311 connections. 15 outstanding sent invitations

	Name	Title	Connection Strength
A	Aasman, Jans Ja@franz.com View & edit details »	CEO at Franz Inc	252
B			
C			
D			
E	Abramatic, Jean-François jfa@ilooq.fr View & edit details »	Chief Product Officer at ILOG	163
F			
G			
H	Adida, Ben ben@adida.net View & edit details »	Software Security Researcher and Entrepreneur	148
I			
J			
K	Allemang, Dean dino-link@happydino.com View & edit details »	Chief Scientist at TopQuadrant Inc.	179
L			
M			
N			
O	Allison, Kevin kevin.allison@ft.com View & edit details »	San Francisco Correspondent at The Financial Times	152
P			
Q			
R	Alonso, Jose Manuel jalonso@w3.org View & edit details »	eGovernment Lead at W3C	106
S			
T			

Ivan Herman
Semantic Web Activity Lead, World Wide Web Consortium
What are you working on?
Your profile is 80% complete [Edit]

... and, of course, the ubiquitous Facebook



- He had to type in and connect with friends again and again for each site independently 
- This is even worse then before: he **feeds** the icebergs, but he still does not have an easy access to data...

What would we like to have?

- Use the data on the Web the same way as we do with documents:
 - be able to link to data (independently of their presentation)
 - use that data the way I want (present it, mine it, etc.)
 - agents, programs, scripts, etc. should possibly be able to *interpret* part of that data
- This does not mean you have to do these presentations, scripts ... but it would provoke ideas and applications that make better use of existing data
- *“The bane of my existence is to do things that my computer could do for me” — Dan Connolly*

Put it another way...

- We would like to *extend* the current Web with a “Web of data”:
 - allow for applications to exploit the data directly

But wait! Isn't this what mash-up sites are already doing?

Example: Klaus' trip to Brazil (tripit.com)

FLIGHT

Klaus Birkenbihl
Lufthansa 506
depart Frankfurt am Main (FRA) 22:35, arrive Sao Paulo (GRU) 05:15
seats 45H

Sunday, September 28, 2008

Sao Paulo, Brazil [\(Edit\)](#)
Avg: Sunny / Hi 25°C / Lo 17°C

[Add Plans](#)

DIRECTIONS

→ **Directions** [edit](#) | [delete](#) | [copy](#) | [move](#)

From: Rod. Hélio Smidt, sao paulo
To: RUA QUINTANA, 934, Sao Paulo, Brazil

[VIEW DETAILS](#)

HOTEL

→ **Trypp Berrini (check-in)** [edit](#) | [delete](#) | [copy](#) | [move](#)

TRYP BERRINI
Primary Guest: Klaus Birkenbihl

RUA QUINTANA, 934
Sao Paulo, SP, Brazil
Check in 28/9/2008, Check out 30/9/2008
Conf. # 603775

MAPS

→ **Map of TRYP BERRINI - RUA QUINTANA, 934, Sao Paulo, Brazil** [delete](#)

RUA QUINTANA, 934, Sao Paulo, Brazil

[VIEW DETAILS](#)

Monday, September 29, 2008

São Paulo, Brazil [\(Edit\)](#)
Avg: Sunny / Hi 26°C / Lo 17°C

[Add Plans](#)

MEETING

→ **Meeting with .br Office** [edit](#) | [delete](#) | [copy](#) | [move](#)

W3C Brazil Office
Av. das Nações Unidas, 11541, 7º andar, Sao Paulo

29/9/2008

DIRECTIONS

→ **Directions** [edit](#) | [delete](#) | [copy](#) | [move](#)

RUA QUINTANA, 934, Sao Paulo, Brazil

0,5 km (ca. 1 Minute.)

1. Ost auf R. Quintana Richtung Praça João Duran Alonso 62 m
2. Bei Praça João Duran Alonso links 65 m

PageRank Alexa Compete 74.53.50.201

How does it work

- Klaus forwards to Tripit the documents (mails, URIs) I have wrt a trip.
e.g.
 - Flight bookings
 - Hotel reservations
 - Meetings
- Any time he has new documents he may add them
- Tripit tries to extract the relevant data from these documents
- It associates the documents to a trip
- It add information from other sites about weather, directions, travel guides ...
- It checks its own database for travel activities of friends
- It compiles a structured itinerary

This is great ... but

- Sometimes Tripit sends Klaus a message “Problem with your Triplt submission”
- Sometimes some data from a document are not identified
- Sometimes Klaus reads: “Please help us to improve! Let us know how good we captured your flight.”
- This is a hint on what Tripit does: in case it does not know how to find the data it has to guess
- Because there is no standardized way to access the data it has to use proprietary interfaces to get them.

- So in some ways, this shows the huge power of what a Web of data provides
- But mash-up sites are forced to do very ad-hoc jobs
 - various data sources expose their data via Web Services
 - each with a different API, a different logic, different structure
 - these sites are forced to reinvent the wheel many times because they don't use a standard way of doing things 😞

Put it another way (again)...

- We would like to *extend* to the current Web with a **standard** way for a “Web of data”

But what does this mean?

- What makes the current (document) Web work?
 - people create different documents
 - they give an globally unique address to it (i.e. a URI) and make it accessible to others on the Web

An example: Steven's site on Amsterdam

The Internet Guide to Amsterdam - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://homepages.cwi.nl/~steven/amsterdam.html

 The Internet Guide to Amsterdam

Contents

- [Introduction](#)
- [Time](#)
- [Weather](#)
- [Language](#)
- [Money](#)
- [Tipping](#)
- [Electricity](#)
- [Safety and Health](#)
- [Hotels](#)
- [Eating and Drinking](#)
- [Transport](#)
- [Shopping](#)
- [News](#)
- [Communications](#)
- [Places to See](#)
- [What's On](#)
- [The Amsterdam Year](#)
- [Maps](#)
- [Books](#)
- [Other Resources](#)

Designed to be printed out and taken with you.

Written by [Steven Pemberton](#), CWI, Amsterdam, and [Astrid Kerssens](#), Amsterdam.

Linked to by more than 450 other sites; more than **3,500,000** grunted readers!

The top Amsterdam travel guide according to Google. If you know how Google works, you know that that says something about this site!

See also [London](#)

A Review of this Guide

The Internet Guide To Amsterdam:
WebUser Gold Award

Rating: ★★★★★

Reviewed By: Jane Hoskyn

Sometimes, it's the simple things in life that make your heart skip a beat.

This is especially true when you're abroad and you need a guide that loads really fast on your mobile phone or PDA (check), doesn't involve clicking from page to page to find what you want (check), isn't written in fluffy tourist-board-speak (check), has all the links you need and none of the ones you don't (check), and is put together by someone who loves your destination and knows it better than the insides of his own eyelids (check). Step forward Steven Pemberton, creator of this exemplary guide to having a damn good time in the 'Dam.

Introduction

Amsterdam is an unusual city in that it has all the advantages of a big city – culture, history, food, entertainment, good

Then some magic happens...

- Others discover the site and they link to it
 - So Search engines can find it and index it
- The more they link to it, the more important and well known the page becomes
 - remember, this is one criterion, Search engines use to rank pages.
- This is the “Network effect”: some pages become important, and others begin to rely on it (even if the author did not expect it...)

This link to Steven's is, sort of, understandable...

The screenshot shows a web browser window displaying the Webuser website. The browser's address bar shows the URL: http://www.webuser.co.uk/sites/site_review.php?rev_id=1806&cid=186. The website header features the Webuser logo and navigation links: Home, News, Product reviews, Website reviews, Forums, Competitions, and Subscribe. A search bar is also present.

The main content area displays a review of "The Internet Guide To Amsterdam" by Jane Hoskyn. The review is circled in red. The review text includes a rating of five stars and the URL homepages.cwi.nl/~steven/amsterdam.html. The review text reads: "Sometimes, it's the simple things in life that make your heart skip a beat. This is especially true when you're abroad and you need a guide that loads really fast on your mobile phone or PDA (check), doesn't involve clicking from page to page to find what you want (check), isn't written in fluffy tourist-board-speak (check), has all the links you need and none of the ones you don't (check), and is put together by someone who loves your destination and knows it better than the insides of his own eyelids (check). Step forward Steven Pemberton, creator of this exemplary guide to having a damn good time in the 'Dam."

The right sidebar contains several promotional banners and links, including "FREE MAGAZINE", "Newsletter", "Quick Links", and "Find the best broadband deals".

... but this one is on the other side of the Globe!

Netherlands - Spring Break Information - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://msass.case.edu/international/SPNetherlandFAQ.html

CASE.EDU: HOME | DIRECTORIES | SEARCH

CASE WESTERN RESERVE UNIVERSITY
MANDEL SCHOOL OF APPLIED SOCIAL SCIENCES

INTERNATIONAL COURSES/PROGRAMS

MSASS | About | Admissions | Programs | Students | Faculty | Research | Library | Calendar | Departments

International Courses

- General Information
- Descriptions by Country
- Passport Application
- Dutch Visa Application
- Previous Trips
- Testimonials

Netherlands - Spring Break Information

Please also see the following links for information on the trip to the Netherlands

- General FAQ
- Applying for a Dutch Visa
- A Students Photo Journal of the Netherlands

What Forms do I need for this Program?

All of the forms you will need are linked from the Forms page.

More information? Check out these links:

Amsterdam Links
Spring Break Trip participants to Amsterdam may familiarize themselves with Amsterdam by visiting the following web sites. On website address nl refers to the Netherlands.
Information on travel outside the United States , including instructions on getting a passport: http://travel.state.gov
A must see website http://homepages.cwi.nl/~steven/amsterdam.html
United States Consulate, Amsterdam: http://www.usemb.nl
Virtual Tour of Amsterdam: http://www.channels.nl

What would that mean for a Web of Data?

- Lessons learnt: we should be able to:
 - “publish” the data to make it known on the Web
 - standard ways should be used instead of ad-hoc approaches
 - the analogous approach to documents: *give URI-s to the data*
 - make it possible to “link” to that URI from *other* sources of data (not only Web pages) using standard approaches
 - ie, applications should not be forced to make targeted developments to access the data (as we saw with mash-ups)
 - generic, standard approaches should suffice
 - and let the network effect work its way...

Example: combine data from experiments

- A drug company has huge amount of old experimental data on its Intranet
- Data in different formats (XML, databases, ...)
- To reuse them:
 - make the important facts available on the Web via standards
 - use *off-the-shelf* tool to integrate, display, search

Internal Compound Repurposing Example

Welcome, Allergy & Respiratory Team Member

This tool allows you to identify opportunities for additional uses of compounds from other teams within your project. It combines internal data, public data and the results of data mining experiments to provide testable hypotheses.



Control Panel & Item Filtering

Area	5/2	Approach	3/2	Term+Reason	1/2	Max_Stage_Reached	1/2	Literature Links
29 Pain	<input checked="" type="checkbox"/>	7 Antibody	<input type="checkbox"/>	37 ACTIVE	<input type="checkbox"/>	51 Candidate	<input checked="" type="checkbox"/>	0 - 50
16 Metabolic Disease	<input checked="" type="checkbox"/>	1 Recombinant	<input type="checkbox"/>	12 BIOMARKER	<input type="checkbox"/>	10 Discovery	<input type="checkbox"/>	
8 Cancer	<input type="checkbox"/>	18 SM_Agonist	<input checked="" type="checkbox"/>	51 EFFICACY	<input checked="" type="checkbox"/>	41 Exploratory	<input type="checkbox"/>	
3 Sexual Health	<input checked="" type="checkbox"/>	12 SM_Antagonist	<input checked="" type="checkbox"/>	11 MARKET	<input type="checkbox"/>	19 HTS	<input type="checkbox"/>	
2 Infectives	<input checked="" type="checkbox"/>	21 SM_Inhibitor	<input checked="" type="checkbox"/>	11 REORG	<input type="checkbox"/>	11 Phase I	<input type="checkbox"/>	
1 Urogenitals	<input checked="" type="checkbox"/>			10 TOXIC	<input type="checkbox"/>	13 Phase III	<input type="checkbox"/>	
						41 Screening	<input type="checkbox"/>	

51 items filtered from 710 originally (Reset All Filters)

Area	Original+Indication	Target_Name	Approach	Start	Term+Reason	Max_Stage_Reached	Owner	OMM_LR_All Lit_2007 LR_Mech IMA GEO Pathway Compounds
Metabolic Disease	Diabetes	Liver glycogen phosphorylase	SM_Inhibitor	2007-Q2	EFFICACY	Candidate	P. Person	SW-030072
Sexual Health	Erectile Dysfunction	Integrin alpha-3 (Galactoprotein B3)(VLA-3) (CD49C)	SM_Antagonist	2006-Q3	EFFICACY	Candidate	P. Person	SW-029782
Sexual Health	Erectile Dysfunction	Leukotriene C4 synthase	SM_Agonist	2006-Q3	EFFICACY	Candidate	M. Manager	SW-029638
Sexual Health	Erectile Dysfunction	transcription elongation factor A (SII)-like 4	SM_Inhibitor	2005-Q2	EFFICACY	Candidate	P. Person	SW-029626
Infectives	HIV	Putative four repeat ion channel (ix)	SM_Inhibitor	2006-Q2	EFFICACY	Candidate	L. Leader	SW-029994
Infectives	HIV	Voltage-gated potassium channel protein KV3.2 (ix)	SM_Agonist	2007-Q1	EFFICACY	Candidate	A. Scientist	SW-029653
Urogenitals	Incontinence	Human RNA binding motif (RBM) gene, partial cds.	SM_Agonist	2007-Q3	EFFICACY	Candidate	L. Leader	SW-029684
Pain	Migraine	Monocarboxylate transporter homologue 2 (SLC6A4) (ix)	SM_Inhibitor	2007-Q3	EFFICACY	Candidate	L. Leader	SW-030085

Courtesy of Nigel Wilkinson, Lee Harland, Pfizer Ltd, Melliya Annamalai, Oracle (SWEQ Case Study)

But it is a little bit more complicated 🤖

- On the traditional Web, humans are implicitly taken into account
- A Web link has a “context” that a person may use

Eg: public encryption key on Ivan's page:

Ivan Herman - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.w3.org/People/Ivan/

W3C

Ivan Herman

[My Work at W3C](#) | [Contact information](#) | [Short CV](#) | [Upcoming trips](#) | [Public presentations](#)

My Work at W3C

I am Semantic Web Activity Lead; that is my main work at W3C. I am member of [IW3C2](#) (International World Wide Web Conference Committee) (the committee coordinating the yearly WWW conference series), serving as a liaison for W3C, and of [SWSA](#) (Semantic Web Science Association), the committee responsible for the International Semantic Web Conferences series.

As part of my work, I also participate in lots of outreach activities, and I regularly make presentations, tutorials, etc. You can consult my [list of presentations](#) for further details.

Contact information

Email:
ivan@w3.org
 (sha1sum: 5ac8032d5f6012aa1775ea2f63e1676bafd5e80b)


Postal address:
 C/o Centre for Mathematics and Computer Sciences (CWI)
 Kruislaan 413, P.O. Box 94079, 1090 GB Amsterdam, The Netherlands.

Phone numbers:
 phone: +31-20-5924163
 mobile phone: +31-641044153
 fax: +31-20-5924312

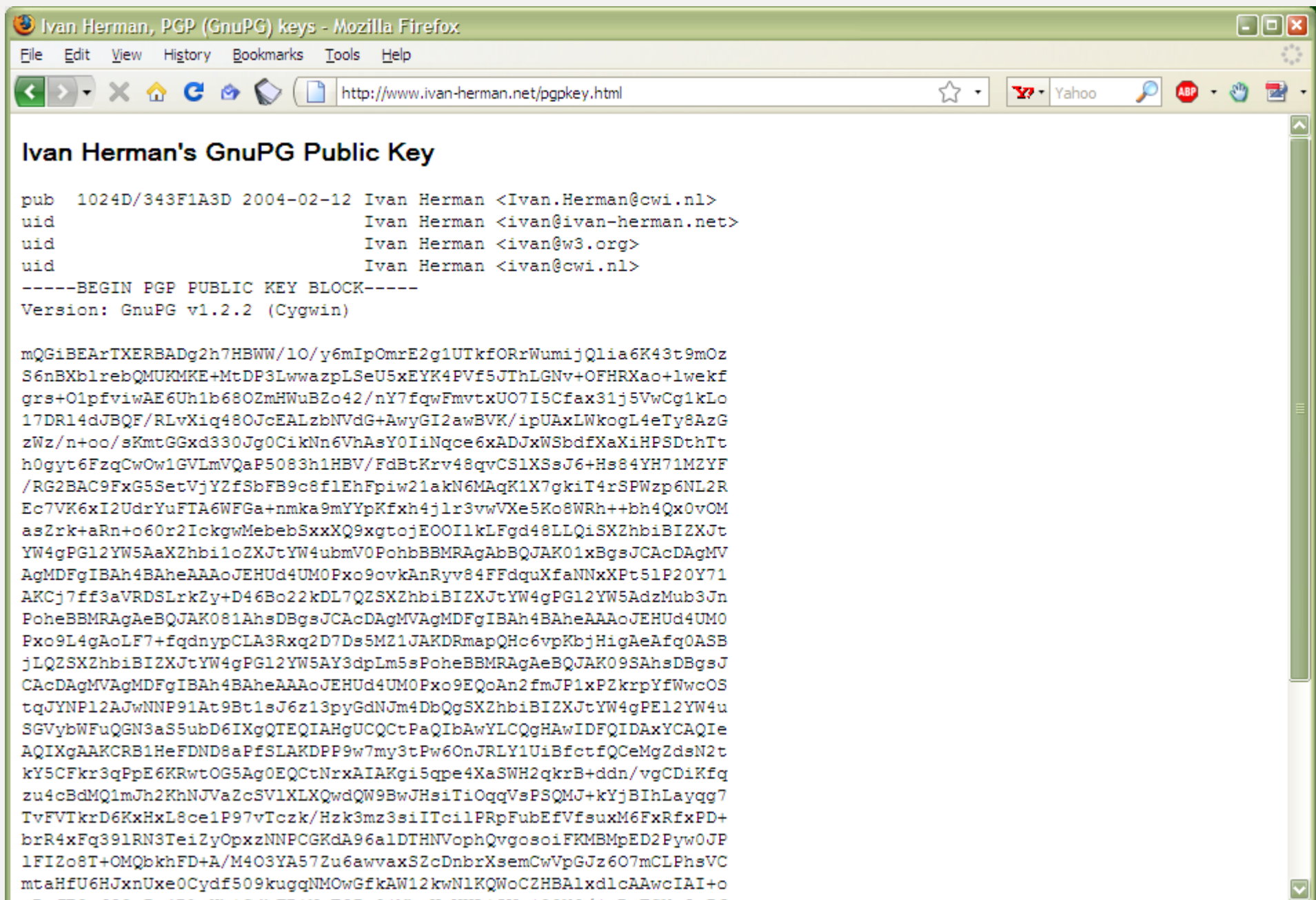
PGP/GPG:
 My GnuPG key and signature is available on-line.

FOAF:
 You can either extract a short FOAF information from this page, or consult my more complete, public FOAF file.

Misc:



Eg: public encryption key on Ivan's page:



The screenshot shows a Mozilla Firefox browser window with the title "Ivan Herman, PGP (GnuPG) keys - Mozilla Firefox". The address bar displays the URL "http://www.ivan-herman.net/pgpkey.html". The page content is titled "Ivan Herman's GnuPG Public Key" and contains the following text:

```
pub 1024D/343F1A3D 2004-02-12 Ivan Herman <Ivan.Herman@cwil.nl>
uid                               Ivan Herman <ivan@ivan-herman.net>
uid                               Ivan Herman <ivan@w3.org>
uid                               Ivan Herman <ivan@cwil.nl>
-----BEGIN PGP PUBLIC KEY BLOCK-----
Version: GnuPG v1.2.2 (Cygwin)

mQGIBEARTXERBADg2h7HBWW/1O/y6mIpOmrE2g1UTkfORrWumijQ1ia6K43t9mOz
S6nBXblrebQMUKMKE+MtDP3LwwazpLSeU5xEYK4PVf5JThLGNv+OFHRXao+lwekf
grs+O1pfviwAE6Uh1b68OZmHWuBZo42/nY7fqwFmvtxUO7I5Cfax31j5VwCg1kLo
17DR14dJBQF/RLvXiq48OJcEALzbNVdG+AwyGI2awBVK/ipUAxLWkogL4eTy8AzG
zWz/n+oo/sKmtGGxd330JgOCikNn6VhAsY0IiNqce6xADJxWSbdfXaXiHPSDthTt
h0gyt6FzqCwOw1GVLmVQaP5083h1HBV/FdBtKrv48qvCS1XSsJ6+Hs84YH71MZyF
/RG2BAC9FxF5SetVjY2fSbFB9c8f1EhFpiw21akN6MAgK1X7gkiT4rSPWzp6NL2R
Ec7VK6xI2UdrYuFTA6WFGa+nmka9mYYpKfxh4jlr3vwVXe5Ko8WRh++bh4Qx0vOM
asZrk+aRn+o60r2IckgwMebSxxXQ9xgtoJE0OI1kLFgd48LLQiSXZhbIBIZXJt
YW4gPG12YW5AaXZhb1loZXJtYW4ubmV0PohbBBMRagAbBQJAK01xBgsJCACDAgMV
AgMDFgIBAh4BAheAAAoJEHud4UM0Pxo9ovkAnRyv84FFdquXfaNNxXPt51P20Y71
AKCj7ff3aVRDSLrkZy+D46Bo22kDL7QZSXZhbIBIZXJtYW4gPG12YW5AdzMub3Jn
PoheBBMRagAeBQJAK081AhsDBgsJCACDAgMVAgMDFgIBAh4BAheAAAoJEHud4UM0
Pxo9L4gAoLF7+fqdnypCLA3Rxxq2D7Ds5MZ1JAKDRmapQHc6vpKbjHigAeAfg0ASB
jLQZSXZhbIBIZXJtYW4gPG12YW5AY3dpLm5sPoheBBMRagAeBQJAK09SAhsDBgsJ
CACDAgMVAgMDFgIBAh4BAheAAAoJEHud4UM0Pxo9EQoAn2fmJP1xPZkrpYfWwcOS
tqJYNP12AJwNNP91At9Bt1sJ6z13pyGdNJm4DbQgSXZhbIBIZXJtYW4gPE12YW4u
SGVybWVufuQGN3aS5ubD6IXgQTEQIAHgUCQCTPaQIbAwYLCQgHAwIDFQIDAxYCAQIe
AQIXgAAKCRB1HeFDND8aPfSLAKDPP9w7my3tPw6OnJRLY1UiBfctfQCeMgZdsN2t
kY5CFkr3qPpE6KRwtOG5Ag0EQCTNrxAlAKgi5qpe4XaSWH2qkrB+ddn/vgCDiKfq
zu4cBdMQ1mJh2KhNJVaZcSV1XLXQwdQW9BwJHsiTiOqqVsPSQMj+kYjBiHlayqg7
TvFVTkrD6KxHxL8ce1P97vTczk/Hzk3mz3siITcilPRpFubEfVfsuxM6FxFrxfPD+
brR4xFq391RN3TeiZyOpzxNNPCGKdA96alDTHNVophQvgosoiFKMBMPEd2Pyw0JP
lFIzo8T+OMQbkhFD+A/M4O3YA57Zu6awvaxSZcDnbrXsemCwVpGJz6O7mCLPhsVC
mtaHfU6HJxnUxe0Cydf509kugqNMOWGfKAW12kwN1KQWOCZHBAlxdlcAAwcIAI+o
```

Humans can interpret labels ...

- A human understands that this is Ivan's encryption key (it is in the text!)
- She knows what she can do with it (e.g. add it to her keyring). Therefore to label a link “click here” is a usability and accessibility clash in most cases.
- On a Web of Data, something is missing; machines can make no sense of that link alone

So for the Web of data ...

- extra information (“label”) must be added to a link: “this links to a GnuPG public key”.
- this information should be machine readable
- this is a characterization (or “classification”) of *both* the link *and* its target
- in some cases, the classification should allow for some limited “reasoning”

Let us put together what we need for a Web of Data

- URI-s to publish data, not only full documents
- data can to link to other data
- the data and the links (the “terms”) should be characterized/classified to convey some extra meaning
- standards for all these to maintain interoperability

Example: find the right experts at NASA

- NASA has nearly 70,000 civil servants over the whole of the US
- Their expertise is described in 6-7 databases, geographically distributed, with different data formats, access types...
- Task: find the right expert for a specific task within NASA!

Example: find the right experts at NASA

- Approach: integrate all the data with standard means, and describe the data and links using generic vocabularies

POPS v.28.3 – Connected to 'POPS on FatDuck' – Using Model 'POPS on FatDuck Model' – Logged in as 'Michael Grove'

File Options Bookmarks Advanced Help

NASA Center (15) Source: x500

- ARC
- DFRC
- GRC
- GSFC**
- HQ
- IVV
- JPL
- JSC
- KSC
- LARC
- MAF
- MSFC

Project (176) Source: WIMS

- Mars Global Surveyor
- Mars Odyssey 2001
- Mars R&A
- Mars Reconnaissance Orbiter 2005 (...)
- Messenger
- Minor Revital
- Mission Operations
- Mission Science Guest Investigator
- Mission Success – Center Specific
- Multi-Mission Operations
- NMP Program Management and Futur...
- NPP/ESS Preparation Project (NPP)

Competency (21) Source: CMS

- Astrobiology
- Astronomy and Astrophysics
- Climate Change and Variability
- Earth Atmosphere
- Earth Science Applications Research
- Earth System Modeling
- Fluid Physics
- Fundamental Physics
- Geophysical/Geologic Science
- Geospatial Science and Technologies**
- Icing Physics
- Laser Technology

People (1) Source: ...

- Jeanne M ...

Information Panel

View Different Social Network's Present in the Data

POPS

Jeanne M ...
Skill: Earth Sciences Competency Suite
Project: Center Investment Accounts

Jeffrey T ...
Facility: HQ

Michael H Grove
Name: Michael Grove
Email: @nasa.gov
Phone: 301.
Employer: Clark and Parsia

Legend:

- Same Skill and Same Department
- Same Skill and Same Project
- Same Skill, Project, and Facility
- Am I Connected?

1 of 1

Social Net

Michael Grove, Clark & Parsia, LLC, and Andrew Schain, NASA, (SWEO Case Study)

So What *is* the Semantic Web?

**It is a collection of standard technologies
to realize a Web of Data**

It is that simple...

but of f course, the devil is in the details

- a common model has to be provided for machines to understand the “labels” and draw some conclusions from that info
- the “classification” of the terms can become very complex for specific knowledge areas: this is where ontologies, thesauri, vocabularies, etc, enter the game...

Example: eTourism in Zaragoza

Zaragoza TURISMO

TOURISM

Start > Proposed route > Details about the day

ITINERARY FOR 17/06/08

We propose the following route. You can modify it to your taste indicating the places you would like to visit or the activities you would like to do.

Click on each of the monument names to read detailed information below. You can modify your selection using the button "At another time" which will move the site from its current slot and try to place it at another time or on another day, and "It doesn't interest me" which deletes it from the route). You can also press "No itinerary at these times", in order to leave a free morning or afternoon. Remember that any changes made will not be confirmed until the route is recalculated.

Back to Create

Proposed routes **Other suggestions**

Morning

-Tourist Sites-

- (10:10) Basilica of the Pilar
- (10:55) Ibercaja Camón Aznar Museum
- (11:40) Cathedral of San Salvador o La Seo
- (12:25) The Caesaragusta Forum Museum
- (12:55) The Caesaragusta River Port Museum
- (13:25) The Caesaragusta public baths museum
- (13:50) Iglesia Parroquial de San Gil Abad
- (14:15) Molins house

No itinerary at these times

Afternoon

-Tourist Sites-

- (16:15) Church of la Mantería
- (16:35) Church of San Idefonso o de Santiago el Mayor
- (17:00) Church of Santo Tomás de Aquino (Escuelas Pías)
- (17:20) Church of San Pablo
- (17:50) Casa Armat
- (18:10) Central market
- (18:30) Church of Santa Isabel de Portugal o San Cayetano
- (18:45) Samaritana fountain
- (19:05) Church of San Felipe and Santiago el Menor
- (19:25) Church of San Juan de los Panetes
- (19:50) Church of Santa Cruz
- (20:20) Church of Santa Maria Magdalena

No itinerary at these times

Zaragoza street plan

Tourist site

BASILICA OF THE PILAR

Full accessibility

The construction of the current Basilica of the Pilar is closely linked to the increase in devotion to the Pilar throughout the 17th century. The previous Gothic-Mudejar building was not big...

Know more...

It doesn't interest me

At another time

Why are you recommending it?

Google Maps IDEZar

Mapa Satélite Híbrido

Paseo de Echegaray y Caballero

Paseo de la Ribera

Rio Ebro

Plaza de San Salvador

Calle de San Salvador

Calle de San Juan

Calle de San Felipe

Calle de San Juan de los Panetes

Calle de Santa Cruz

Calle de Santa Maria Magdalena

Datos de mapa © 2008 Tele Atlas

W3C IDEZar Export to KML

Back to Create

- Provide personalized itinerary service
- Integration of different databases in Zaragoza (using targeted ontologies)
- Use rules on the data to provide a proper itinerary

Courtesy of Jesús Fernández, Municipality of Zaragoza, and Antonio Campos, CTIC (SWEO Use Case)

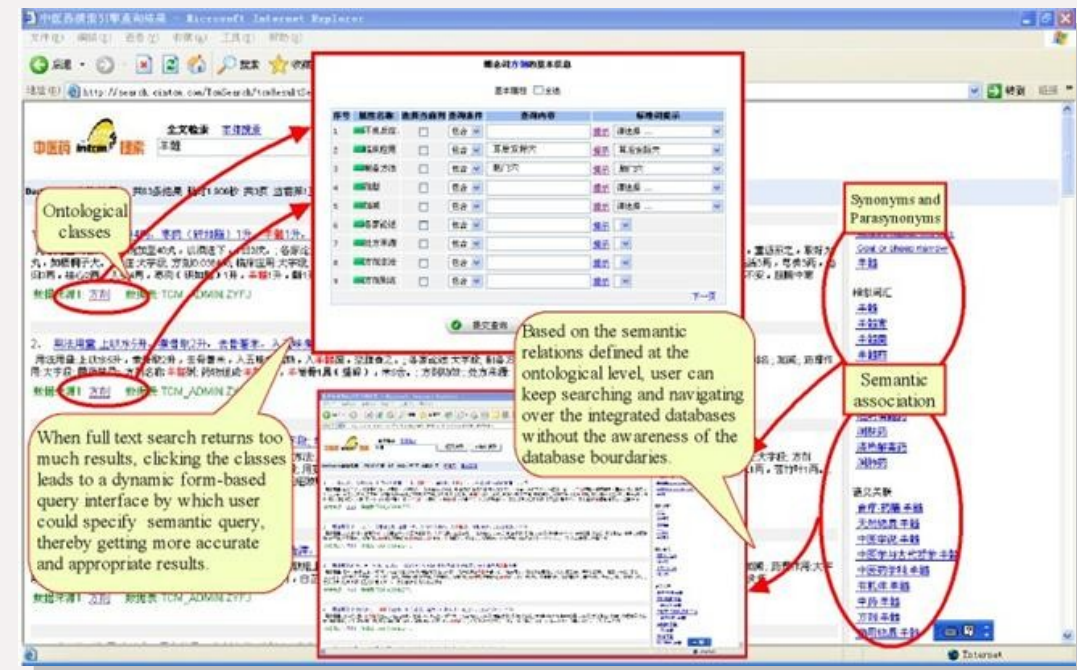
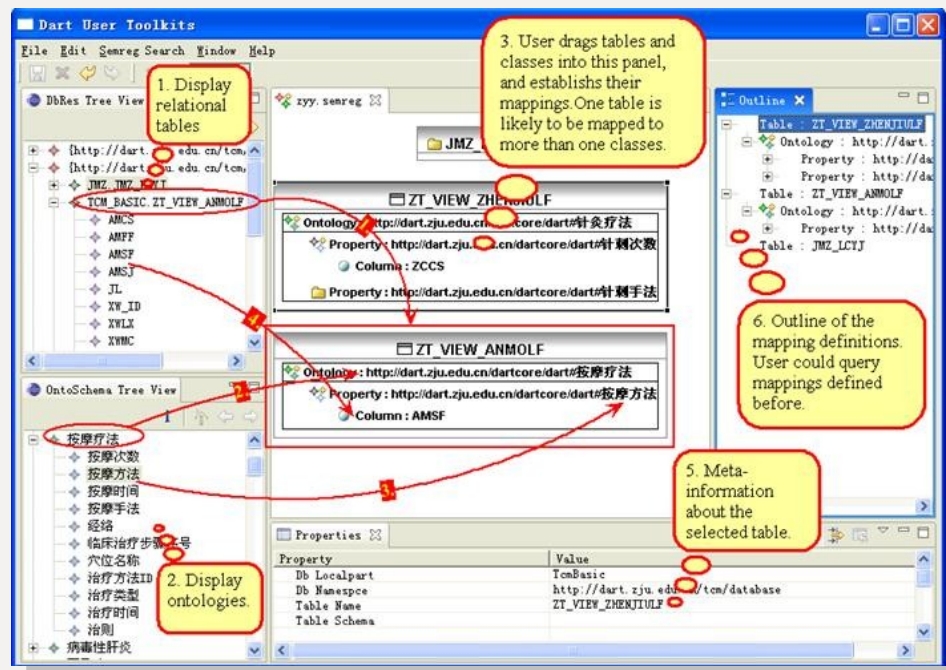
**Wait! Does it mean that you have to
convert all your data in some way?**

Convert your data?

- Not necessarily; this would not always be feasible
- There are technologies to make your data accessible to standard means without converting it
 - run-time “bridges” (e.g. rewriting queries on the fly)
 - generate only entry points in separate datasets
 - annotate existing data (e.g. XHTML pages)
 - etc

Example: integrate knowledge for Chinese Medicine

- Integration of a large number of TCM databases
 - around 80 databases, around 200,000 records each
- Uses specialized ontologies
- Queries are converted on-the-fly to the databases



Courtesy of Huajun Chen, Zhejiang University, (SWEQ Case Study)

In the end ...

- There is a huge potential for useful applications once we have a web of data
- Mash-ups give good examples for applications based on linking data
- When (re)designing a web site some thoughts on publishing data along with the documents might pay in the future.





- Slides are available at:
<http://www.w3.org/2008/Talks/1002RioDeJaneiro-KB-IH/>
in OpenDocument Presentation Format and PDF.