

SparqlExtension: Linking Data

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SparqlExtension - Logo?



Figure: The web on caffeine (NASA)

What do we do at TUDelft E&I?

- ▶ modelling and simulation
- ▶ data analysis
- ▶ economic forecasting
- ▶ focus: big industry, infrastructure and energy
- ▶ current projects: energy sector in the Netherlands, port of Rotterdam

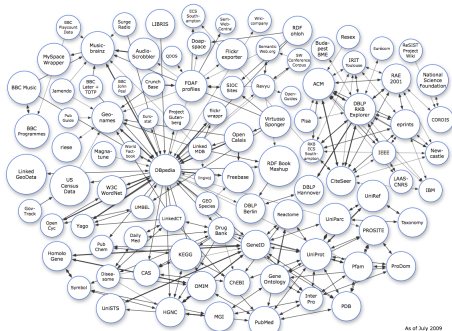
Modelling

- ▶ creating computer representation of the real world for analysis and forecasting
- ▶ extremely data intensive!

Data

- ▶ question: how to manage data better?
- ▶ answer (social): open, connect and collaborate
- ▶ answer (technical): mediawiki + semantic web

Semantic Web



- ▶ wikipedia - dbpedia
- ▶ governments: US, UK, **Department of Energy (US)**
- ▶ healthcare: **Malaria research, Johnson&Johnson, Merck**
- ▶ research institutions: **NASA, MIT, Max Planck Institute, ETH Zürich**

- ▶ great!
- ▶ problem: scalability (what about millions of data points?)
- ▶ problem: semantic standards (ask?)
- ▶ problem: linking data (how do we connect and link beyond the wiki?)
- ▶ problem: halo - great, but over-engineered, not flexible, closed-source!

SparqlExtension

- ▶ integrates Semantic Mediawiki with semantic data store
- ▶ query the local and remote data
- ▶ present results in variety of formats (tables, templates, charts)
- ▶ uses the linked data and links the local data back to the linked-data cloud
- ▶ open-source

A little less conversation, a little more action please! (Elvis)

Energy

[edit]

Top 20 Power Plants in Netherlands

[edit]



For a full list of power plants in Netherlands see Netherlands/Powerplants.

Energy Companies

[edit]

title	OutputMWh	CO2kg	IntensityKgMWh	CapacityMW
Eems Powerplant	17,800,000	7,013,689,327 394		2,047
Amer Powerplant	8,942,401	8,763,124,355 980		1,285
Maasvlakte Powerplant	6,801,753	7,267,033,369 1,068		1,060
Velsen Powerplant	4,378,995	1,545,736,672 353		815
Gelderland Powerplant	3,930,953	4,401,772,893 1,120		585
Borssele Powerplant Nuclear	3,320,563			504
Claus Powerplant	3,267,510	1,457,304,302 446		640
Hemweg Powerplant	3,140,113	3,516,901,260 1,134		600
Rijnmond Energie Powerplant	2,856,481	961,686,594 337		810
Borssele Powerplant	2,300,000	2,933,818,242 464		408
Akzo Delesto Powerplant	2,269,500	967,630,469 426		530
Elsta Powerplant	1,841,896	728,159,096 396		480
Lage Weide Powerplant	1,715,217	350,667,729 205		235
Willem Alexander Powerplant	1,656,332	1,574,985,215 951		235
Merwedekanaal Powerplant	1,610,748	549,082,641 341		300
Bergum Powerplant	1,309,354	624,263,763 477		664
Moerdijk Azn Powerplant	1,252,354	358,372,449 286		340
Roca (rotterdam) Powerplant	1,028,367	358,824,227 349		268
Pernis Refinery Powerplant	890,325	378,415,789 425		130
Swentibold Powerplant	880,117	309,232,065 352		225

Figure: Enipedia.Tudelft.nl

TODOs and worries

- ▶ integrate SparqlExtension with SMW better
- ▶ data stored in 3 locations
- ▶ output format integration with Semantic Result Formats

Perspectives for SMW

- ▶ leverage off the growing semantic data pool
- ▶ use as an semantic data manager & report engine
- ▶ top research institutions already excited

Thank You For Listening

Questions, comments?

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