

MTA SZTAKI

Department
of Distributed
Systems

LODmilla: shared visualization of Linked Open Data

András Micsik
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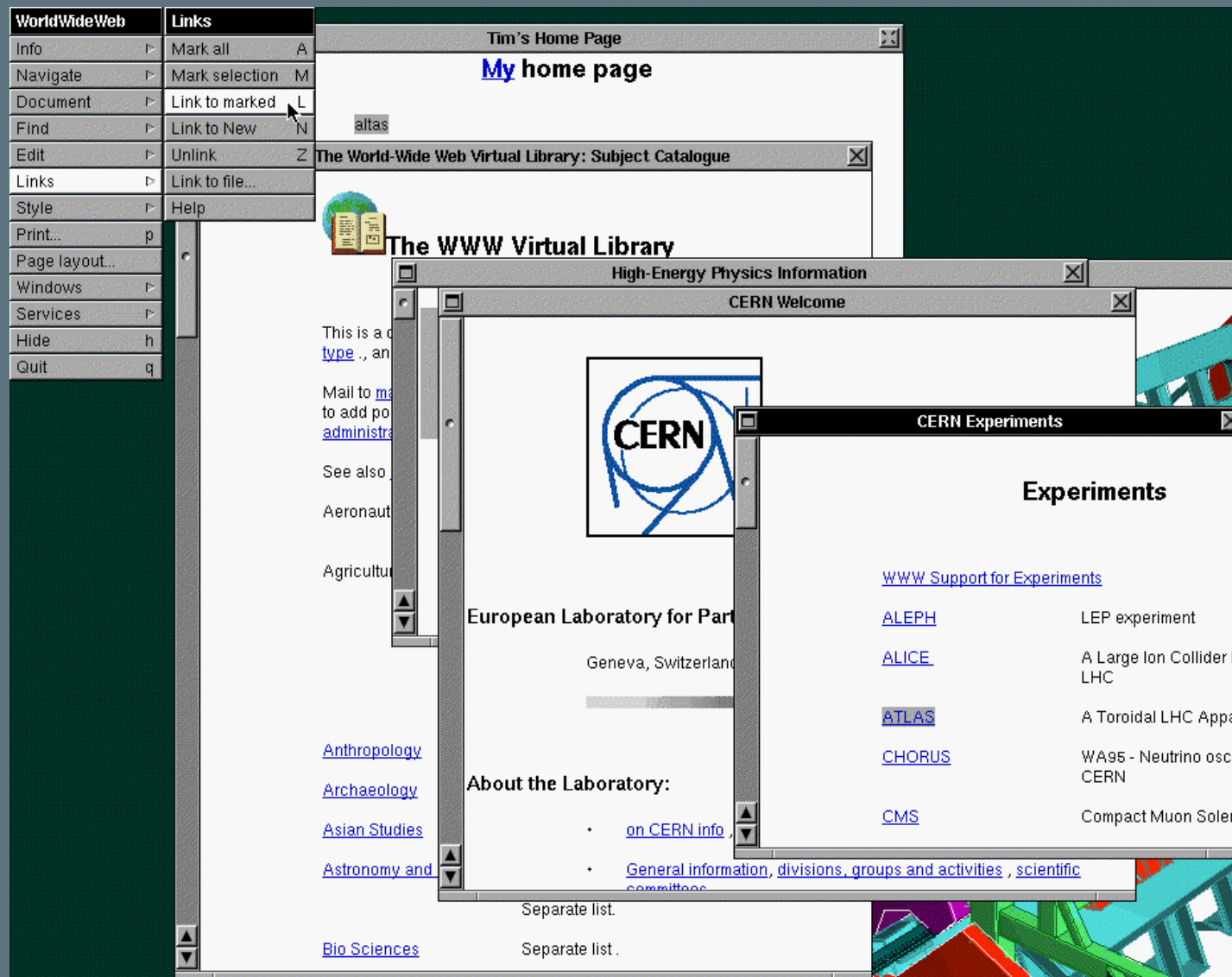


MTA Hungarian Academy of Sciences
SZTAKI Institute for Computer Science and Control

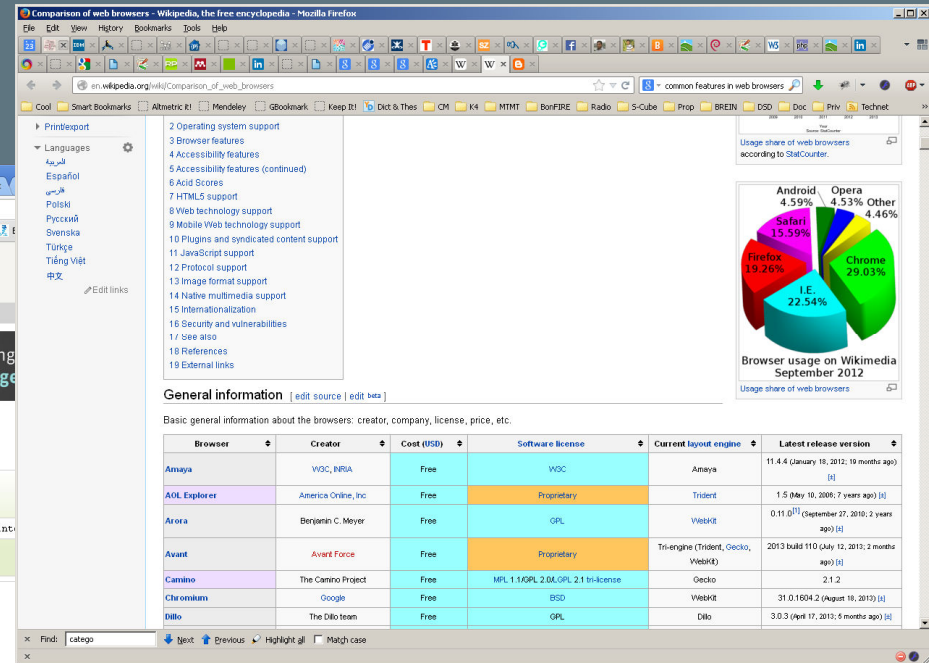
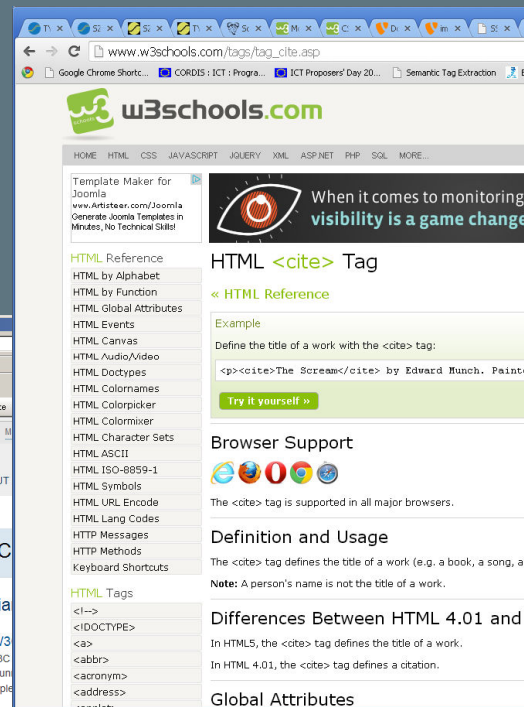
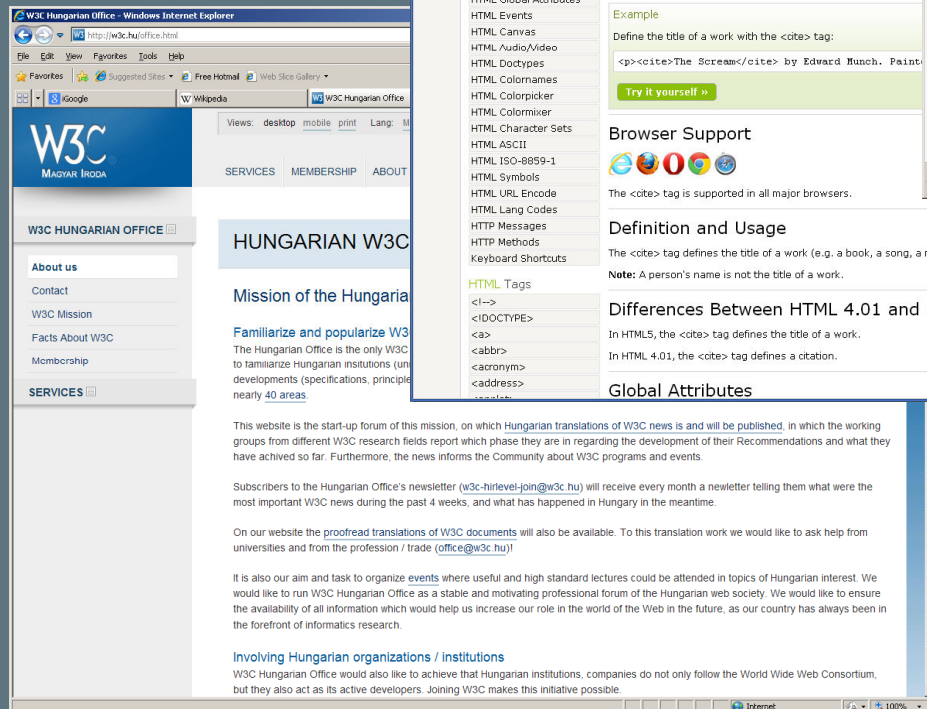
- DSD = Department of Distributed Systems
 - We participated in DELOS1-3 and several other DL projects in the past
 - Metadata schema registries in CORES
- Context of current work
 - Past
 - lod.sztaki.hu: cultural assets of Hungary (via nda.sztaki.hu)
 - eprints.sztaki.hu: institutional publication repository
 - Future
 - Next generation of scientific journals
 - E-science text mining centre

- Lessons from web browsing
- Visualisations for LOD
- What is generic LOD browsing?
- LODmilla: our LOD browser prototype

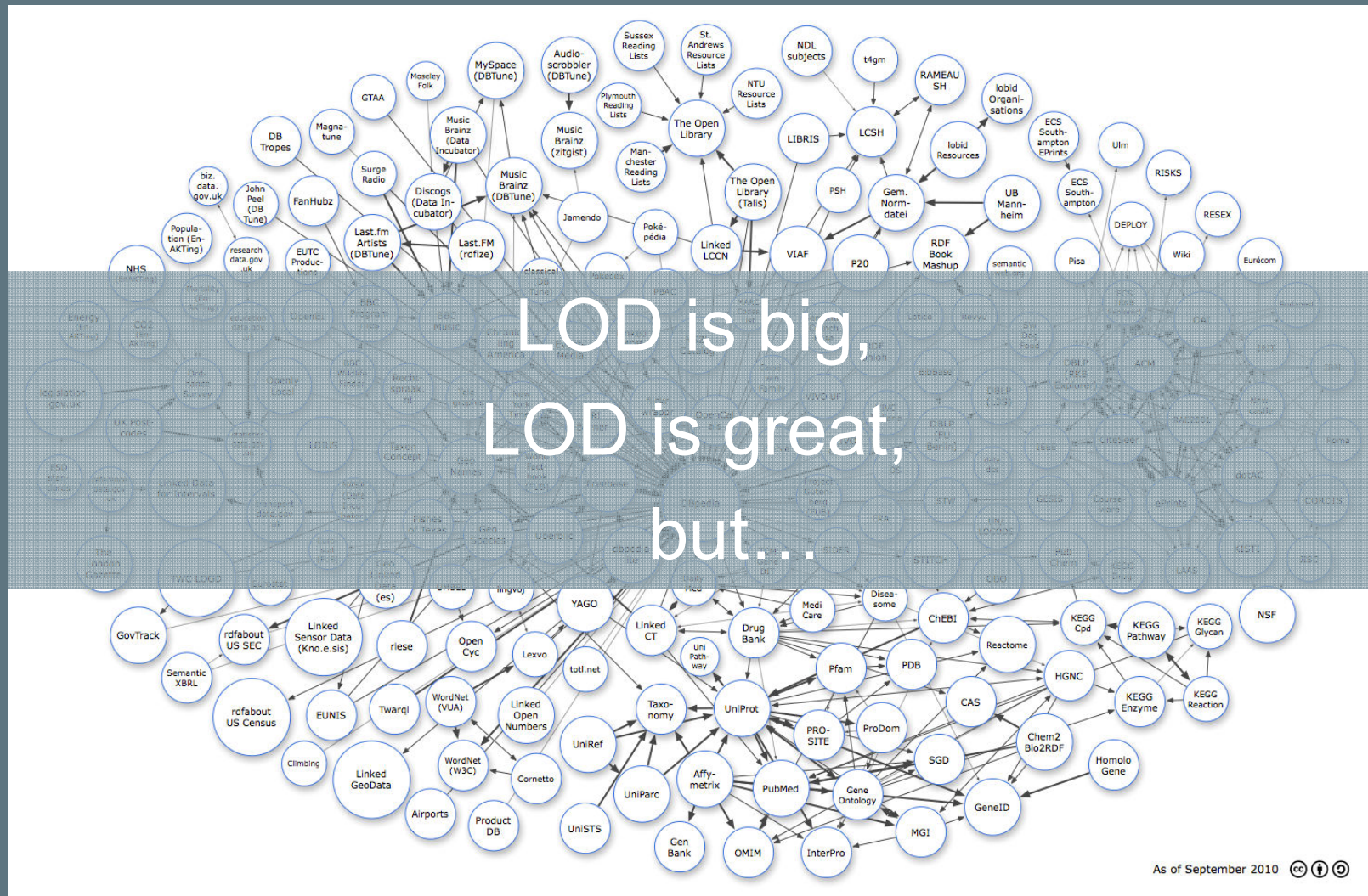
The first WWW browser (1990)

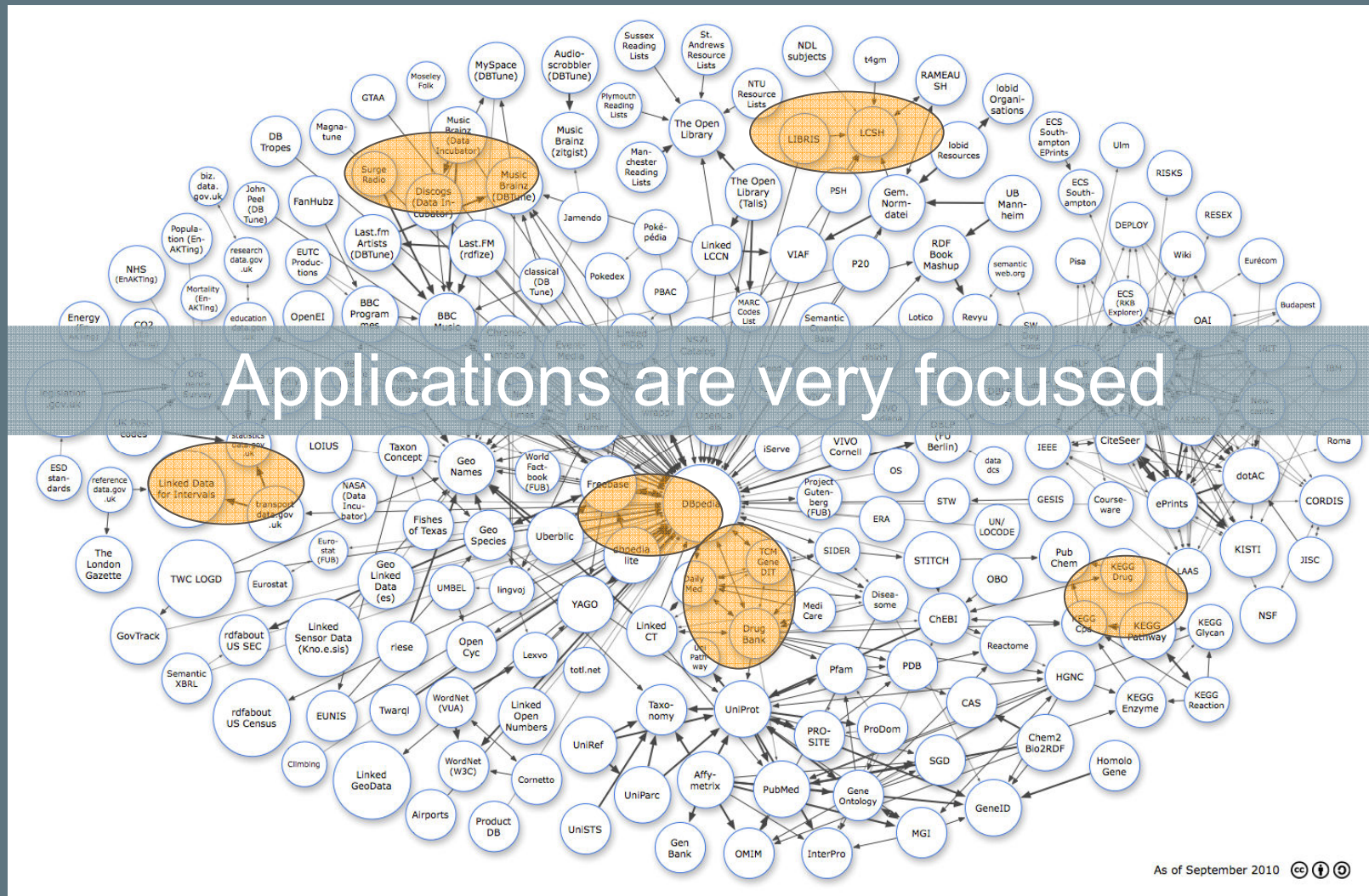


Bookmarks
Tabs
History
Toolbars
Plug-ins
...



Open
Reload
Save
Zoom
Find
...





8

- Text only
- One node at a time



Tim Berners-Lee

Source RDF/XML Turtle

Sir Timothy John "Tim" Berners-Lee, OM, KBE, FRS, FEng, FRSA (born 8 June 1955), also known as "TimBL", is an English computer scientist, MIT professor and the inventor of the World Wide Web. He made a proposal for an information management system in March 1989 and on 25 December 1990, with the hel

Agent AlumniOfTheQueen'sCollege,Oxford ComputerPioneers EnglishComputerScientists EnglishExpatriatesInTheUnitedStates EnglishInventors FellowsOfTheBritishComputerSociety FellowsOfTheRoyalAcademyOfEngineering FellowsOfTheRoyalSociety FellowsOfTheRoyalSocietyOfArts JapanPrizeLaureates LivingPeople MacArthurFellows PeopleFromBarnes PeopleFromLondon Person Person Person Person100007846 PersonWithOccupation Thing

Person

Alma mater

The Queen's College, Oxford

Birth date

8 June 1955

Birth name

Timothy John Berners-Lee

Birth year

1955-01-01T00:00:00+02:00

Occupation

Computer scientist

Tim Berners-Lee 1

Residence

Massachusetts

Person

Surname

Berners-Lee

Category:Fellows of the American Academy of Arts and Sciences

Category:Fellows of the British Computer Society

Category:Fellows of the Royal Academy of Engineering

Category:Fellows of the Royal Society

Category:Free software people

Category:HTTP

Category:Internet Hall of Fame inductees

Category:Internet pioneers

Category:Japan Prize laureates

Category:Knights Commander of the Order of the British Empire

Category:Living people

Category:MacArthur Fellows

Category:Members of the Order of Merit

Category:Members of the United States National Academy of Engineering

Category:People educated at Emanuel School

Category:People from Barnes, London

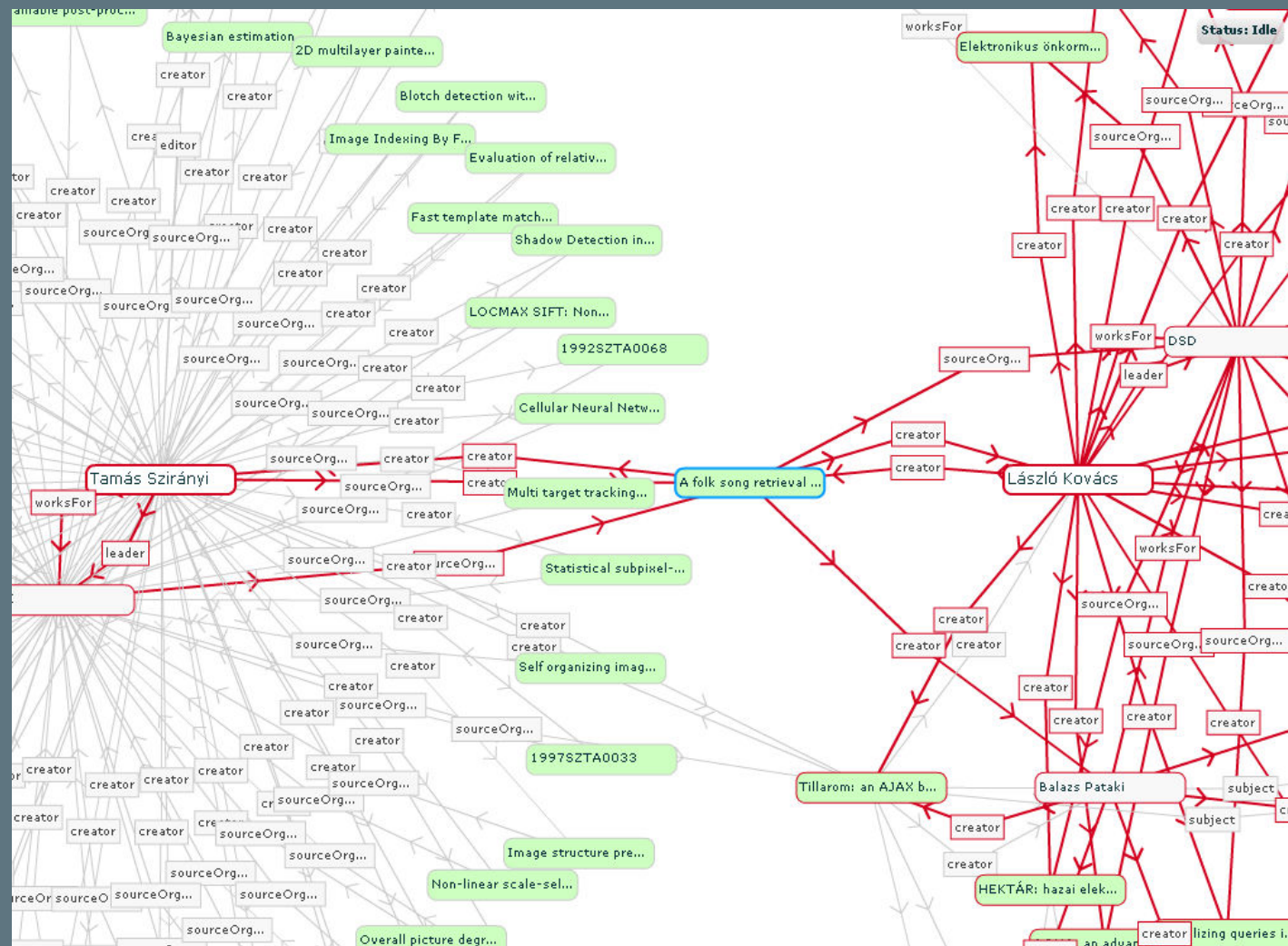
Category:People from London

Category:Royal Medal winners

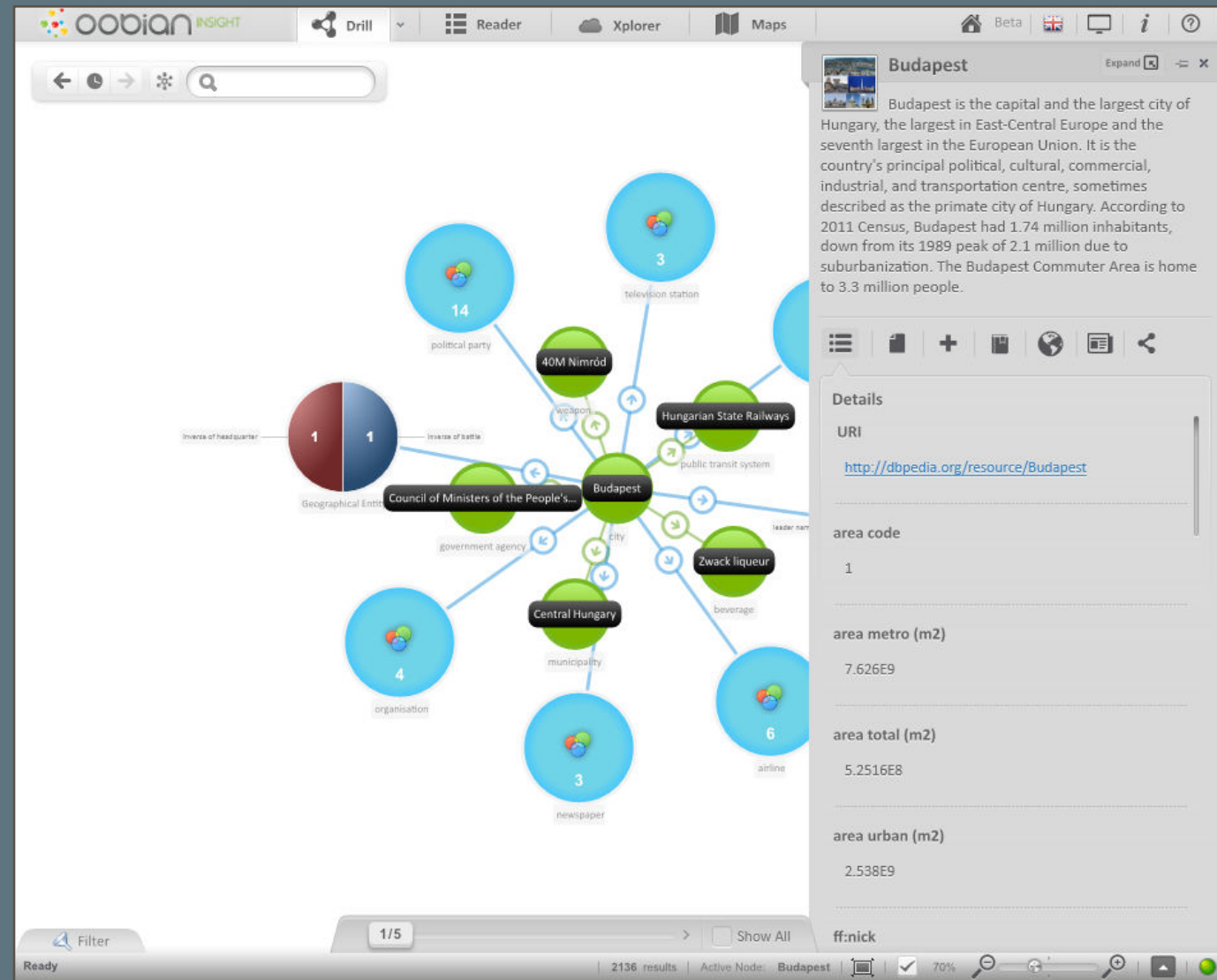
Category:Unitarian Universalists

Category:World Wide Web Consortium

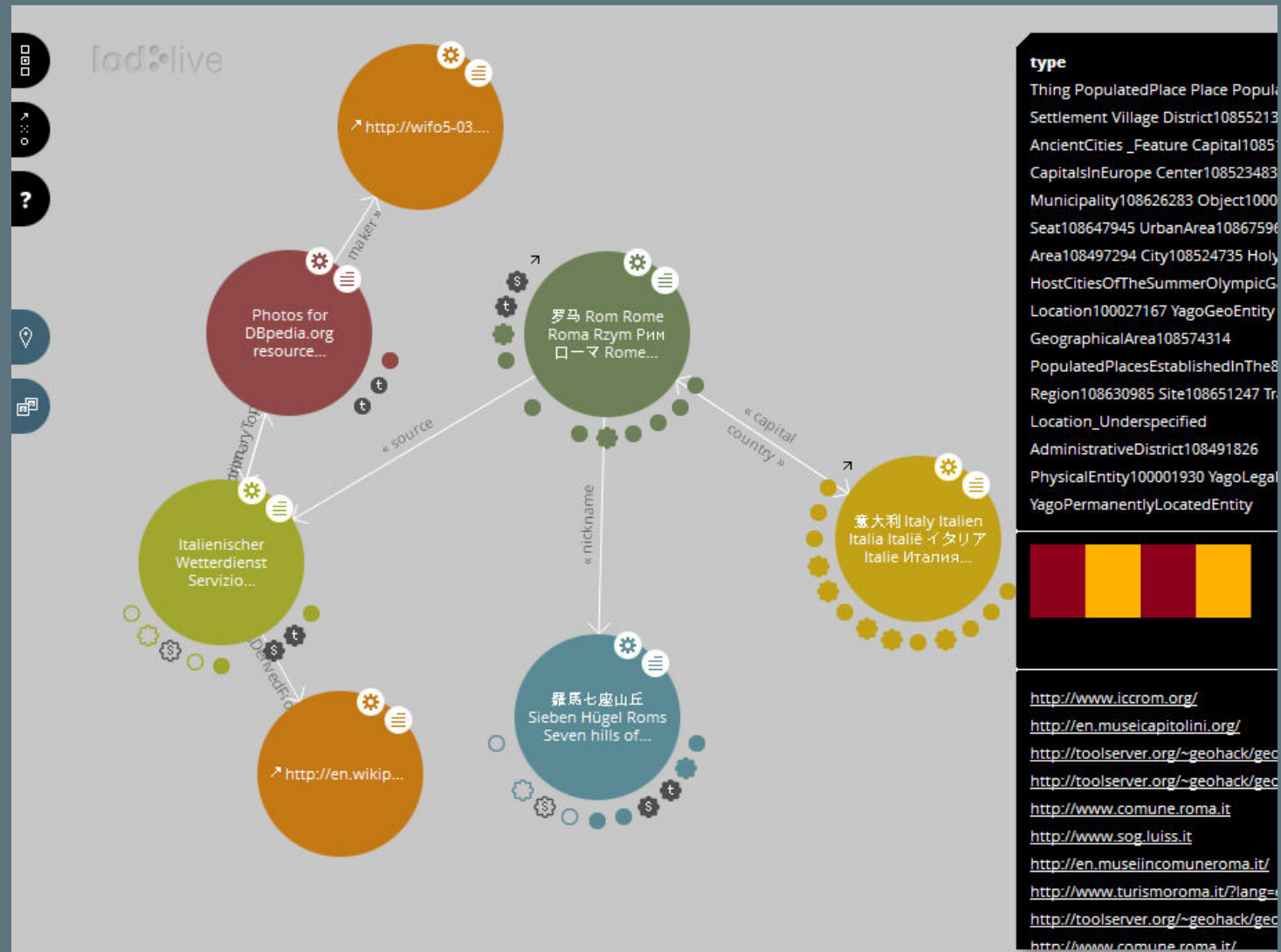
- No text
- Not config free
- Works only on a single site
- Limited path depth
- Works only with SPARQL



- One node at a time
- Works only on a single site



- Hard to navigate
- Not config free
- Works only with SPARQL



- Managing the graph
 - Open/close/select nodes
 - Zoom/pan
- Managing RDF
 - Read triples (contents and links in and out)
- Social features
 - Save/share graphs
 - Comment nodes
- Flexible exploration (via plug-ins)
 - Search by text in properties and literal values
 - Search paths between nodes
 - ...

SZTAKI LODmilla

- ▶ Add new node
- ▶ Select nodes
- ▶ Search in nodes
- ▶ Remote content search
- ▼ Find path between nodes

depth: 4
 max: 15

Find path

Palettes

Graph

Info panels

Common actions

Tamás Szirányi

literals

out

in

Label: Tamás Szirányi

Name: Tamás Szirányi

Homepage: <http://www.sztaki.hu/~sziranyi/>

Description: Present Positions: Scientific Adviser with the Analogical and Neural Computing Laboratory in the Computer and Automation Inst. of Hungarian Academy of Sciences Full Professor with the Image Processing and Neurocomputing Department of the Veszprém University, Veszprém, head of Image Processing laboratory Full Professor with the Peter Pazmany Catholic University, Department of Information Technology Associate Editor of IEEE Tr. Image Processing, Senior member of IEEE - Biography: Tamás Szirányi received the Diploma and the Dr.Techn. degrees in electronics technology from the Technical University of Budapest in 1980 and 1983, respectively. He received the Ph.D. degree in electronics and computer engineering in 1991, and the Doctor of Sciences degree in image processing in 2001 from the Hungarian Academy of Sciences. He addressed full-professorship at the Veszprém University and in 2001 at the Peter Pazmany Catholic University. Until 1991, he was a Research Fellow and Project Manager of Optoelectronics Development at the VIDEOTON Development Institute, Budapest. Then his work involved designing of optical data storage, laser printer and document scanning devices, also applications of laser systems. He led a research department and organized several projects. At the same time, he was a lecturer in electronics and computer technology at the Technical University of Budapest through several years. He is currently a scientific advisor at the Computer and Automation Research Institute of Hungarian Academy of Sciences, and he is a full professor at the Image Processing and Neurocomputing Department of the Veszprém University. - His research activities include: Image analysis, Pattern recognition, Intelligent image sensor systems, Texture and motion segmentation, Surveillance systems for panoramic and multiple camera systems, Measuring and testing the image quality, Scale-space Fields and stochastic optimization, Markov Random Fields and stochastic optimization, Image rendering and coding, Subpixel measurement, Information theory of image analysis, Image and video compression, Pattern and texture analysis with cellular nonlinear networks. He also developed systems including optoelectronic devices, analog/digital hardware, DSPs and Cellular nonlinear networks. He has published more than 120 scientific papers (including 40 in SCI journals), and known distinct references to his publications are more than 300. He is the founder and past president (1997-2002) of the Hungarian Image Processing and Pattern Recognition Society (KÉPAF), and he was on the Governing Board of the International Association for Pattern Recognition (IAPR). He was a member of the EU Network of Excellence MUSCLE (Multimedia Understanding through Semantics, Computation and Learning). He was the co-chair of an international workshop FSPIPA. He was honored by SZTAKI's scientific awards (1997, 2003, 2005 and 2006), by the Széchenyi professorship and by the Master Professor award in 2001. He was plenary invited speaker of "Multimedia Content Representation,

Load Save/Share Clear Delete selected Undo

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Credits

Useful features implemented

- Find a starting point using autocomplete
- Find text occurrences in a node
- Expand via given properties
- Find text occurrences in neighbour nodes
- Undo
- Share graph view via URI
- Select/unselect nodes by type
- Find paths between selected nodes

Searching text inside a node

SZTAKI LODmilla

- Add new node
- Select nodes
- ▼ Search in nodes

depth: 1

Clear results
- Remote content search
- Find path between nodes

Rome

literals out in

- Montova
- Memorial to Maria Raggi (Bernini)
- 2011 NAIA Football National Championship
- Medusa (Bernini)
- Bust of Pope Paul V (Bernini)
- 2005 Coppa Italia Final
- Decemviri Altarpiece
- Madonna with Child between Sts. Flavian and Onuphrius
- Two Busts of Scipione Borghese
- Venus Blindfolding Cupid
- Venus and Adonis (Titian, Rome)
- Salome (Titian)
- The Prophet Isaiah (Raphael)
- 2003 Coppa Italia Final
- 1961 Inter-Cities Fairs Cup Final
- Romulus and Remus (Rubens)**
- Susanna and the Elders (Rubens)

Combatant (5)

- Battle of Mount Scorobas
- Aetolian War
- Battle of Gythium
- Battle of Tenedos
- Battle of Mount Olympus

Coronation (3)

- Conrad II, Holy Roman Emperor
- Henry II, Holy Roman Emperor
- Otto I, Holy Roman Emperor

Body

List of mayors of Rome

Comune (7)

- Roma Tiburtina railway station
- Acilia
- Roma Termini railway station
- Ostia (Rome)
- Roma Trastevere railway station
- Roma Ostiense railway station
- Roma San Pietro railway station

Line

Roma Termini railway station

Data

Japanese Language Proficiency Test

Ground

M. Roma Volley

Host city (4)

- 1960 Summer Olympics
- 1960 Summer Paralympics
- 1998 FEI World Equestrian Games
- 1987 World Championships in Athletics

Last stopover

1959 Turkish Airlines Gatwick crash

Location (106)

Load

Save/Share

Clear

Delete selected

Undo

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Searching text in neighbourhood

SZTAKI LODmilla

- ▶ Add new node
- ▶ Select nodes
- ▶ Search in nodes
- ▼ Remote content search

depth: 5
max: 25

Search

Find path between nodes

KOPI - an online plagiarism sear...

literals out

Label: KOPI - an online plagiarism search and information portal

Title: KOPI - an online plagiarism search and information portal

Abstract: Due to the growing amount of digitally available documents, the plagiarism of publications causes more and more serious problems year by year. The aim of the KOPI project, carried out at the Department of Distributed Systems (DSD) of SZTAKI, was to develop an on-line plagiarism search portal, which helps both digital libraries to protect their documents and teachers to find copied works or publications.

Date: 200407

Identifier (2)

- http://dsd.sztaki.hu/people/mate_pataki/200407
- http://www.ercim.org/publication/Ercim_New

Is Part Of: ERCIM NEWS

Language: angol

Genre (2)

- Folyóíratcikk
- tudományos

Thumbnail Url:
<http://www.sztaki.hu/sztatik/getbinarydata.php?dn=documentIdentifier=2004SZTA0339,ou=Publica>

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[Credits](#)

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Finding a path

SZTAKI LODmilla

- ▶ Add new node
- ▶ Select nodes
- ▶ Search in nodes
- ▶ Remote content search
- ▶ Remote connection search
- ▼ Find path between nodes

depth: 4

max: 15

Find path

Load

Save/Share

Clear

Delete selected

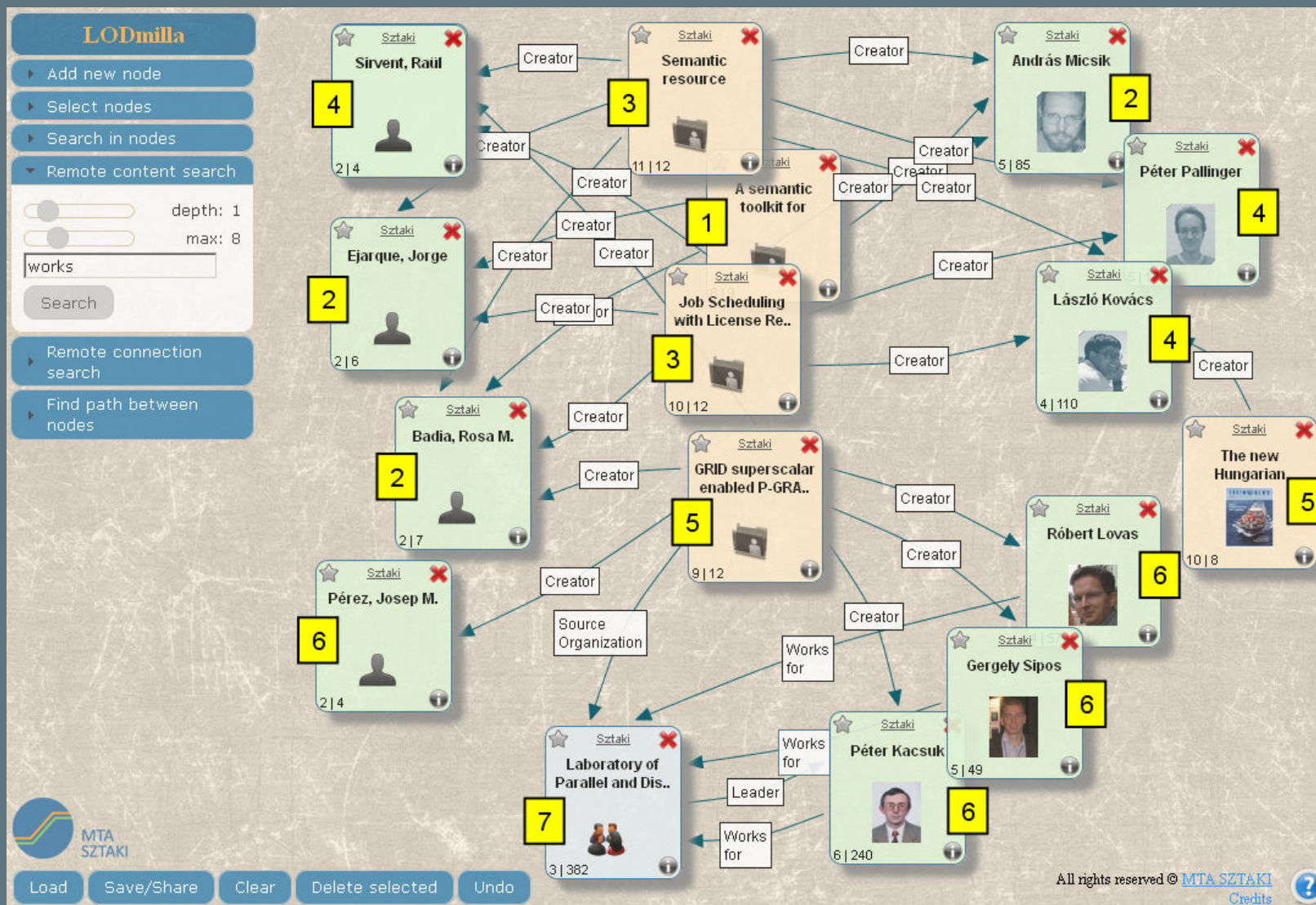
Undo

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[Credits](#)

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- Frontend
 - jQuery + jsPlumb (HTML, CSS, SVG)
 - Jsonp and/or proxy
- Backend
 - Java + Jena
 - SPARQL or graph traversal via dereferenceable URIs
 - Caching

Use case example



Find paper => Expand creator links =>
Content search on keywords => Find paths between authors

- LODmilla: generic LOD browsing
 - Graph+text visualisation
 - Extensible actions
 - Save and share graphs
 - Works out-of-the-box (no config)
 - Works across LODs
 - having either dereferencable URIs
 - or SPARQL endpoints
- Future plans
 - Annotations
 - Plug-in mechanism
- Wanted:
 - developers to improve the prototype
- Contact:
micsik (at) sztaki.mta.hu

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