

Measuring Social Networks and Services

The web is more a social creation than a technical one. The ultimate goal of the Web is to support and improve our web-like existence in the world. – Sir Tim Berners-Lee

Big Picture

□ Intl. Information Infrastructure

→ World Wide Web

→ Giant Global Graph

- Sir Tim Berners-Lee (2007)
- <http://dig.csail.mit.edu/breadcrumbs/node/215>

□ GGG

- ~ Semantic Web
 - W3C
- And **Social Web/Network?**
 - Sociological term: Social Media



Semantic Web

- Methods and technologies to allow **machines** to understand the meaning of information on the Web.
 - Questionable feasibility of W3C approach (addressed by microformats)
- Common framework that allows **data** to be shared and reused across applications.
 - Documents such as HTML page are readable by humans. Data are readable by machines.
- Autonomous **agents**, metadata, relations
 - smarter than common web browsers or thermostat ;-)
- RDF, ontologies, SPARQL, reasoning, ...
- *Where are the people? And social interaction & dynamics?*

Real World Examples

□ DBpedia

- A community effort to extract structured information from Wikipedia.
- One of Linked Open Data's datasets

□ Friend of a Friend

- FooF describe persons, their activities and their relations to other people and objects.



Web as a Kind of Social Media

- Media = channel or tool to deliver data ~ interaction.
 - One-to-one, one-to-many (mass media), **many-to-many**

- User-generated content
 - Consumer generated media
 - Prosumer (A. Toffler, 1980, M. McLuhan 1972)
 - E.g. player generated content (common in RPG)
 - Value given by **not so** many to many
 - Participation inequality (aka 90–9–1 rule),
e.g. Wikipedia: 99.8–0.2–0.003
J. Nielsen: http://www.useit.com/alertbox/participation_inequality.html

- Social Networks (online community)
 - Membership Lifecycle (Amy Jo Kim, 2000)

Papers & Notable Contributions

- Information Retrieval: *Access Rights in Enterprise Full-text Search*
 - Kasprzak, J. - Brandejs, M. - Čuhel, M. - Obšivač, T. In ICEIS 2010: Proceedings of the 12th International Conference on Enterprise Information Systems, Volume 1: Databases and Information Systems Integration. 2010. vyd. Funchal, Portugal : INSTICC – Institute for Systems and Technologies of Information, Control and Communication, 2010. od s. 32-39, 8 s. ISBN 978-989-8425-04-1.
 - → So-called virtual tokens are suitable for social metadata

- Data mining & e-learning
 - ECEL 2010, Porto: *Towards text mining in technology-enhanced learning*
 - CELDA 2009, Rome: *Advantages of Versatile E-learning Tools*

- Absolventská síť MU (software)

- Wikinomics Forum 2010 conference organizer

Thesis proposal

- **Social software and user **attributes/metrics identification****
 - Identity, Reputation, Presence, Relationships, Groups, Conversations, Sharing, ...
 - Engagement (Participation Inequality), Retention, ...
 - Critical Mass (Tipping Point), Network Effect and other sociodynamics terms
 - Roots of Net'sm Web's ad GGG's success (!?)

- **Described by informatics terms**
 - Mainly from graph theory: node centrality, topology, bridge, reach, ...

- **Data Warehouse and framework for Data Mining & Social Network Analysis**
 - How to store and evaluate metrics we are in need for aforementioned?
 - (?) Reporting and Visualization (similar to Google Analytics)

 - Data which help us to understand what is happening “at the bottom” of MU.



T. O.

□ Let's network. :-)

- <http://cz.linkedin.com/in/obsivac>
- <https://is.muni.cz/osoba/obsivac>
- <http://twitter.com/obsivac>
- ...

- Wikinomics Forum 2011, UISK FF UK (?)
 - wikinomie.cz

How web influenced society?

- Knowledge sharing
- Crowdsourcing (J. Howe, Wired Mag, 2006)
 - Outsourcing tasks to community
 - The Wisdom of Crowds (J. Surowiecki, 2004)
- Network society (M. Castells, since 1996)
 - Step further from information (aka postindustrial) society
- Attention Economy, Economy of Free, Link Economy, Wikinomics