



Project no. 34721

TAGora

Semiotic Dynamics in Online Social Communities

<http://www.tagora-project.eu>

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Chapter 1

Exploitable knowledge and its use

In this section we present the exploitable results, defined as knowledge having a potential for industrial or commercial application in research activities or for developing, creating or marketing a product or process or for creating or providing a service. A list of these results is reported in the following tables:

Current Activities

| Exploitable Knowledge (description) | Exploitable product(s) or measure(s) | Sector(s) of application | Timetable for commercial use | Patents or other IPR protection | Owner & Other Partner(s) involved |
|--|--|--|---|--|--|
| BibSonomy | Web site (service) and Web server (software) | Public, especially researchers | Preliminary Service was online at the beginning of the project, improvements have been done according to project schedule. No commercial application planned. | – | UNIK |
| Ikoru | Web site (service) and Web server (software) | Internet Service Provider, Software Integrators, Consumer Electronics, Cultural Institutions | Version 1 of Web site online (2007), Demonstrations (2007) | Copyright on software | SONY-CSL |
| Zexe | P2P client application and MySQL database | Public, Academic and Cultural institutions, Small communities | – | – | SONY-CSL |
| Tagster prototype | P2P client application | Academic institutions, small companies | – | – | UNI KO-LD |
| MyTag | Web site (service) | Public, Academic institutions, small companies | – | – | UNI KO-LD |

Planned Activities

| Exploitable Knowledge (description) | Exploitable product(s) or measure(s) | Sector(s) of application | Timetable for commercial use | Patents or other IPR protection | Owner & Other Partner(s) involved |
|-------------------------------------|--|--|---|---------------------------------|-----------------------------------|
| BibSonomy | Web site (service) and Web server (software) | Public, especially researchers | Currently no commercial application planned | – | UNIK |
| Ikoru | Web site (service) and Web server (software) | Internet Service Provider, Software Integrators, Consumer Electronics, Cultural Institutions | Use for museum (2008) | Copyright on software | SONY-CSL |
| Zexe | P2P client application and MySQL database | Public, Academic and Cultural institutions, Small communities | Currently no commercial application planned | – | SONY-CSL |
| Tagster prototype | P2P client application | Academic institutions, small companies | Currently no commercial application planned | – | UNI KO-LD |
| MyTag | Web site (service) | Public, Academic institutions, small companies | Currently no commercial application planned | – | UNI KO-LD |

1.1 BibSonomy

The development of BibSonomy serves two purposes.

Firstly, the academic community will get benefit from it. Research groups world-wide struggle with the problem of publication and citation management and usually implement themselves an individual time consuming solution. With BibSonomy, instead, they may manage their internal and public lists of publications in a simple and efficient way. BibSonomy allows for the interoperation of communities, being its stored entries public by default. Even though there is a large demand for this kind of web tools, a commercial exploitation will be rather difficult to realize, as there are similar competitors on the web (like Connotea and CiteULike), who also have been offering their service free of charge.

Secondly, (and this is the main reason for our engagement in BibSonomy) the system allows us to collect valuable data about its complete usage. These data are an essential brick in our quantitative research, as currently no folksonomy benchmark data are available. The system allows us to implement and experiment our own algorithms, and to study their behavior in a living growing environment. BibSonomy already helped us to achieve a significant position among the *Web 2.0* research community.

1.2 Ikoru

The Ikoru system consists of two parts: the Web site and the Web server, whose brief description follows.

The Web site

The Web site is written in a mixture of HTML and Javascript. It was specifically developed to run experiments and gather data for the TAGora project. The web site currently handles photos and audio but might be extended to include video and other contents as well.

The current running version can be visited at <http://www.ikoru.net>. The Web site is constantly under development as new functionalities become necessary. It is open to the public and free of charge. Sony CSL shall continue to maintain this Web site for at least the duration of the TAGora project. There has been done little advertisement to promote the site and attract users, so far. In fact, the site is still undergoing a testing phase and we think that we must be able to offer a minimum of quality of service to the users before advertising it massively. Traditionally, partnerships within Sony have been in principle possible, but in this case they might be not trivial to set up because of the current tendency of Sony to outsource Web services.

The Web server

The Web server is written from scratch in C++. That means that it handles the following tasks:

- handle HTTP and SOAP requests,
- manage persistent sessions,
- assure the security (login, validating user input),
- store/retrieve tagging data in a persistent storage,
- receive the uploaded files (testing file type, conversion to Web formats, feature extraction),
- search data based on the text and content (for images),
- generate pages dynamically using key/value substitutions, and
- run the analysis scripts

The reason for the development effort was to allow the Ikoru server to run on a wide range of platforms, from embedded devices and personal computer to full range servers.

This software component can be used by third parties and integrated in larger development projects, for example, as a basis of a Content Management System (CMS) for internal company Web sites. It is also available to consumer electronics and computing equipment businesses that would like to include tagging services on their devices or use it as a value-adding service. Contacts within Sony, in particular with the Sony Cybershot division in Tokyo and the Digital Imaging Group in the United Kingdom, suggest that a transfer of technology may be feasible. Another possible outlet is in the cultural sector. Contacts with the Zentrum fur Kunst und Medientechnologien in Karlsruhe, Germany, showed that cultural institutions want to open up to a Web audience, in *Web 2.0* fashion. The Ikoru platform could be become a contender in this market.

Sony CSL has nor a precise planning nor a time-table to promote this technology. The current strategy is to increase the usability and reliability of the software through its effective use on the Web site and in small scale projects. In the long run, two options are available, either make it available as Open Source in the hope to attract a large user and developer base, or to seek a partnership for a commercial exploitation.

1.3 The zexe.net system

The zexe.net system is an online application consisting of a set of PHP scripts and a MySQL database. It is intended for usage by small-scale communities, which send tagged multimedia content (images, videos and sounds) directly from a mobile phone to the web. Even if the system already existed before the beginning of TAGora, it has been completely re-written so that it can support folksonomies. The system has been used in different contexts and with different groups, with the aim of raising awareness about specific social issues. We believe that tagging can greatly increase the usefulness of the zexe.net system, not only by providing a way to search for content, but also to represent the shared keywords which reflect a community's interests and to serve as a regulator for future activities by that community.

Additionally, the zexe.net system incorporates the possibility of cross-referencing tags with geographical information. A special mobile application automatically embeds latitude and longitude information into the EXIF tags of JPEG images. This application obtains location information from the built-in GPS modules of certain phone models. It is still undergoing a testing phase, and will be made publicly available as soon as it is stable. However, it has already been used in the *GENEVE*accessible* project.

The web-based part of the zexe.net system has proven to be stable, and thus can be exploited by the TAGora consortium, and also external communities. It is available on demand, and can be provided as an Open Source package bearing a GPL license.

1.4 Tagster prototype

The development of the peer-to-peer tagging system has two different purposes. The first one is to promote tagging as an easy way for personal data organization and metadata exchange. Therefore, the main goal behind Tagster is to implement a distributed folksonomy system in contrast to the commonly centralized tagging services. We expect that this approach of using tagging for distributed data organization will also find substantial interest in the peer-to-peer community. Thus, the efficient sharing of tagging metadata, which is independent from the actual information objects, is one of the most important aspects.

On the other hand - being one of the main goals within Tagora - Tagster will be used to gather comprehensive tagging data from its users. Such information will be very valuable for further analysis and one question we would like to investigate is whether a different tagging behavior can be observed in a distributed tagging system. Due to the possibility to tag different types of multimedia data we expect to collect richer tagging data in terms of tag co-relations between the media types. This would otherwise only be possible if datasets from different tagging services were integrated which is not always doable in coherent manner. Furthermore, Tagster allows us to implement and test new algorithms in a real system.

At the end of the second year Tagster was distributed and used within the ISWeb research group. It turned out that there are still some issues with the network communication and firewalls that need to be fixed before we can make Tagster available to a greater audience. The next step, however, is to make the software available to all project partners and finally also announce it publicly. Nevertheless, we have already presented Tagster outside the Tagora project, for example at the ESWC 2008 conference demo session.

1.5 MyTag

MyTag¹ application has been developed to enable cross-media searching over images, videos, and social bookmarks. MyTag provides transparent search across multiple tagging platforms, each providing different media content. The current implementation covers Flickr, YouTube, and del.icio.us. Furthermore, it incorporates the notion of personalisation, allowing users to grow a profile that, in turn, ranks search results in more suitable and refined manner.

¹<http://mytag.uni-koblenz.de>

Chapter 2

Dissemination of knowledge

OVERVIEW OF DISSEMINATION PLAN

To assure that knowledge generated within the project will be disseminated to a wider scientific and non-scientific audience we conducted and plan to conduct the following actions:

Foster publications through standard scientific and engineering communication channels. Publish results in the best scientific journals and communicate the results of the project at top conferences. Use all the possible existing communication media to touch the largest possible audience;

Encourage the partners to organize tutorials at major conferences in the different fields that are relevant to the present project. Encourage the partners to contribute to summer schools or other educational activities that touch in particular younger students. Tutorials on subjects related to the project activities will be given by the senior scientists of the network in occasion of international workshops;

Foster the organization of workshop and conferences on themes related to the project;

Disseminate results to the press at large in order to diffuse them as widely as possible;

Establishing, maintaining, updating the project web site and project mailing lists;

Foster the exhibition of demonstrators in industrial exhibitions or in other contexts where the public at large and a broad scientific/engineering audience can get exposure to the ideas of the project. These exhibitions may also represent a platform in which the results of the project are tested;

Foster the preparation of professional dissemination material;

Maximize the availability of tools and experimental platforms developed by the partners during the project to the scientific community as large;

Disseminate the results to the other projects of the Complex System Initiative and to foster synergies and possible joint activities.

The following table summarize the dissemination actions performed and the actions planned for the next period.

Overview table

The dissemination activities, in form of a table, include past and future activities.

| Type | Type of audience | Countries addressed | Partner responsible/ involved |
|---|---|---------------------|-------------------------------|
| 1. Publications on International Journals | Scientific Community | All All | All All |
| 2. Publications on Books and Conference Proceedings | Scientific Community | All | All |
| 3. Posters | Scientific Community | All | All |
| 4. Talks, lectures and conference presentations | Scientific Community | All | All |
| 5. Tutorials | Scientific Community | All | All |
| 6. Conferences, Workshop and Summer Schools | Scientific Community | All | All |
| 7. Press, Radio and TV | General public | All | All |
| 8. TAGora Project Website and Portal | General public | All | PHYS- SAPIENZA |
| 9. Demonstrations in Industrial and Scientific Exhibitions | Industrial Community | All | All |
| 10. Tools, software, experimental platforms, multimedia presentations presentations | Scientific Community and General public | All | All |
| 11. Dissemination actions toward the other projects of the Complex System Initiative | Scientific Community | All | All |
| 12. Joint Publications | Scientific Community | All | All |

2.1 Publications in international journals:

2.1.1 Published or in Press

Second year

- V. Loreto and L. Steels *Social dynamics: Emergence of language* Nature Physics **3** 758 (2007).
- Ciro Cattuto, Christoph Schmitz, Andrea Baldassarri, Vito D. P. Servedio, Vittorio Loreto, Andreas Hotho, Miranda Grahl and Gerd Stumme, *Network Properties of Folksonomies*, In Susanne Hoche and Andreas Nürnberger and Jürgen Flach, editor(s), AI Communications

Journal, Special Issue on *Network Analysis in Natural Sciences and Engineering*, (20)4:245-262, IOS 2007.

- C. Castellano, S. Fortunato and V. Loreto, *Statistical physics of social dynamics*, in press in *Rev. Mod. Phys.*, (2008).
- Noy, N. F., Chugh, A. and Alani, H. *The CKC Challenge: Exploring Tools for Collaborative Knowledge Construction*, *IEEE Intelligent Systems*, **23**, (2008)
- C. Cattuto, A. Baldassarri, V. D. P. Servedio, V. Loreto, *Investigating Community Structure In Social Tagging Systems*, *Advances in Complex Systems* (to appear)

First year

- Cattuto, C., Loreto, V. & Pietronero, L., *Semiotic dynamics and collaborative tagging*, Proceedings of the National Academy of Sciences United States of America, 2007, **104**, 1461.
- Cattuto, C., Loreto, V. & Servedio, V. D. P., *A Yule-Simon process with memory*, *Europhysics Letters*, 2006, **76**, 208-214.
- F. Noy, N., Chugh, A., Alani, H., *The CKC Challenge: Exploring Tools for Collaborative Knowledge Construction* *IEEE Intelligent Systems*, 2008, **23**, 1.
- Tisselli, E., *thinkflickrthink: a case study on strategic tagging*, To appear in *Communications of the ACM Journal*.

2.1.2 Submitted for Publication

Second year

- C. Cattuto, A. Barrat, A. Baldassarri, G. Schehr and V. Loreto *The collective dynamics of social annotation* submitted for publication (2008)
- F. Pachet and P. Roy *Analytical Features: a Knowledge-Based Approach to Audio Feature Generation* Submitted to *Journal of Artificial Intelligence Research* (2008)
- F. Pachet *Description-Based Design of Monophonic melodies* Submitted to *Computer Music Journal* (2008)
- A. Capocci, A. Baldassarri, V. D. P. Servedio and V. Loreto *Statistical properties of interarrival times distribution in social tagging systems* Submitted for publication (2008)
- V. D. P. Servedio, A. Baldassarri, A. Capocci and V. Loreto *Hunting correlations in streams of text* Submitted for publication (2008)

2.2 Publications: Books & Conference Proceedings

2.2.1 Published or in Press

Second year

- A. Baronchelli, C. Cattuto, V. Loreto and A. Puglisi, *Complex systems approach to the emergence of language*, book chapter, in press in "Language, Evolution and the Brain", J. W. Minett & W. S-Y. Wang (Eds.) City University of Hong Kong Press, (2008).

- Vittorio Loreto, Ciro Cattuto and Andrea Baldassarri, *Information dynamics in web-based social systems*, position paper at the FET COSI-ICT Workshop, "Science of Complex Systems for Socially Intelligent ICT", October the 6th, 2007, Dresden, Germany,
- F. Pachet and P. Roy *Is Hit Song Science a Science?* Accepted to the International Symposium on Music Information Retrieval (ISMIR) (2008)
- Luc Steels and Eugenio Tisselli *Social Tagging in Community Memories USA* Proceedings of the AAAI Spring Symposium: Social Information Processing. Stanford University (2008)
- Olaf Göerlitz, Sergej Sizov and Steffen Staab *Tagster - Tagging-Based Distributed Content Sharing* Proceedings of the ESWC 2008 Demo Session **5021** 807-811 (2008)
- Max Braun, Klaas Dellschaft, Thomas Franz, Dominik Hering, Peter Jungen, Hagen Metzler, Eugen Müller, Alexander Rostilov and Carsten Saathoff *Personalized search and exploration with mytag WWW*, **1031** ACM (2008)
- Beate Krause, Andreas Hotho and Gerd Stumme *The Anti-Social Tagger - Detecting Spam in Social Bookmarking Systems* Proc. of the Fourth International Workshop on Adversarial Information Retrieval on the Web (2008)
- Ciro Cattuto, Dominik Benz, Andreas Hotho and Gerd Stumme *Semantic Analysis of Tag Similarity Measures in Collaborative Tagging Systems* Proceedings of the 3rd Workshop on Ontology Learning and Population (OLP3), Patras, Greece, July2008 (2008).
- Robert Jäschke, Beate Krause, Andreas Hotho and Gerd Stumme *Logsonomy - A Search Engine Folksonomy* Proceedings of the Second International Conference on Weblogs and Social Media(ICWSM 2008), AAAI Press (2008)
- Miranda Grahl, Andreas Hotho and Gerd Stumme *Conceptual Clustering of Social Bookmarking Sites* I-KNOW '07. 7th International Conference on Knowledge Management, Graz, Austria (2007).
- Dominik Benz and Andreas Hotho *Position Paper: Ontology Learning from Folksonomies* Workshop Proceedings of Lernen - Wissensentdeckung - Adaptivität (LWA 2007), 109 Martin-Luther-Universität Halle-Wittenberg (2007).
- Klaas Dellschaft and Steffen Staab *An Epistemic Dynamic Model for Tagging Systems* HYPERTEXT 2008, Proceedings of the 19th ACM Conference on Hypertext and Hypermedia, (2008).
- Miranda Grahl, Andreas Hotho and Gerd Stumme. *Conceptual Clustering of Social Bookmark Sites*. In Alexander Hinneburg, editor(s), Workshop Proceedings of Lernen - Wissensentdeckung - Adaptivität (LWA 2007), 50-54, Martin-Luther-Universität Halle-Wittenberg, (2007).
- Robert Jäschke, Leandro Marinho, Andreas Hotho, Lars Schmidt-Thieme and Gerd Stumme. *Tag Recommendations in Folksonomies*. In 11th European Conference on Principles and Practice of Knowledge Discovery in Databases, Warsaw, Poland, September 17-21, (2007).
- Beate Krause, Andreas Hotho and Gerd Stumme. *A Comparison of Social Bookmarking with Traditional Search*. In Craig Macdonald, Iadh Ounis, Vassilis Plachouras, Ian Ruthven and Ryan W. White, editor(s). Advances in Information Retrieval, 30th European Conference on IR Research, ECIR 2008, 101-113 (2008).

- Robert Jäschke and Miranda Grahl and Andreas Hotho and Beate Krause and Christoph Schmitz and Gerd Stumme. *Organizing Publications and Bookmarks in BibSonomy*. In Harith Alani and Natasha Noy and Gerd Stumme and Peter Mika and York Sure and Denny Vrandečić, editor(s), Workshop on Social and Collaborative Construction of Structured Knowledge (CKC 2007) at WWW 2007, Banff, Canada, (2007).
- Szomszor, M., Cantador, I. and Alani, H., *Correlating User Profiles from Multiple Folksonomies* In ACM Conference on Hypertext and Hypermedia, Pittsburgh, Pennsylvania, 2008.
- Cantador, I., Szomszor, M., Alani, H., Fernandez, M. and Castells, P., *Enriching Ontological User Profiles with Tagging History for Multi-Domain Recommendations*. In 1st International Workshop on Collective Semantics: Collective Intelligence and the Semantic Web (CISWeb 2008), Tenerife, Spain, 2008.
- Görlitz, O., Sizov, S., Staab, S., *PINTS: Peer-to-Peer Infrastructure for Tagging Systems* Proceedings of the Seventh International Workshop on Peer-to-Peer Systems, IPTPS, February 2008. Tampa Bay, USA.
- Abbasi, R., Staab, S., *Introducing Triple Play for Improved Resource Retrieval in Collaborative Tagging Systems* Proceedings of ECIR'08 Workshop on Exploiting Semantic Annotations in Information Retrieval (ESAIR 2008).

First year

- Abbasi R., Staab S., Cimiano P., *Organizing Resources on Tagging Systems using T-ORG*. Proc. Workshop on "Bridging the Gap between Semantic Web and Web 2.0" at the 4th European Semantic Web Conference ESWC 2007, Innsbruck, Austria, June 7, 2007
- Aurnhammer, M., Hanappe, P. & Steels, L., *Augmenting Navigation for Collaborative Tagging with Emergent Semantics*, Proc. of ISWC2006 International Semantic Web Conference, Springer, LNCS, 2006.
- Dellschaft, K. & Staab, S., *On How to Perform a Gold Standard based Evaluation of Ontology Learning*, Proc. of ISWC-2006 International Semantic Web Conference, Springer, LNCS **4273**, 2006.
- Hotho, A., Jäschke, R., Schmitz, C. & Stumme, G. *Das Entstehen von Semantik in BibSonomy*, Social Software in der Wertschöpfung, Nomos, 2007 (in press).
- Hotho, A., Jäschke, R., Schmitz, C. & Stumme, G., Hochberger, C. & Liskowsky, R. editors, *Emergent Semantics in BibSonomy*, Proc. Workshop on Applications of Semantic Technologies, Informatik 2006, Gesellschaft für Informatik, 2006, P-94.
- Hotho, A., Jäschke, R., Schmitz, C. & Stumme, G., Avrithis, Y. S., Kompatsiaris, Y., Staab, S. & O'Connor, N. E. Editors, *Trend Detection in Folksonomies*, Proc. First International Conference on Semantics And Digital Media Technology (SAMT), Springer, 2006, **4306**, 56-70.
- Cattuto, C., Loreto, V. & Pietronero, L., *Semiotic Dynamics in Online Social Communities*, Proceedings of the European Conference on Complex Systems ECCS06, Oxford (UK), 2006.
- Schmitz, C., Grahl, M., Hotho, A., Stumme, G., Cattuto, C., Baldassarri, A., Loreto, Servedio, V. D. P., *Network Properties of Folksonomies*, Proceedings of the WWW2007 International World Wide Web Conference, 2007.

- Szomszor, M., Cattuto, C., Alani, A., O'Hara, K., Baldassarri, A., Loreto, V., Servedio, V. D. P., *Folksonomies, the Semantic Web, and Movie Recommendation*, "Bridging the Gap between Semantic Web and Web 2.0" at the 4th European Semantic Web Conference ESWC 2007, Innsbruck, Austria, June 7, 2007

2.2.2 Submitted for Publication

Second year

- B. Markines, C. Cattuto, F. Menczer, D. Benz, A. Hotho and G. Stumme, *Social Similarity*, submitted to the ACM 17th Conference on Information and Knowledge Management (CIKM2008) (2008).
- C. Cattuto, B. Benz, A. Hotho and G. Stumme, *Semantic Grounding of Tag Relatedness in Social Bookmarking Systems*, submitted to the International Semantic Web Conference 2008 (ISWC2008).
- Martin Szomszor, Harith Alani, Ivan Cantador, Kieron O'Hara and Nigel Shadbolt *Semantic Modelling of User Interests based on Cross-Folksonomy Analysis* submitted to Int. Semantic Web Conf., Karlsruhe, Germany (2008)
- Rabbat, P., Pachet, F., *Direct and Inverse Inference in Music Databases: How to Make a Song Funk ?* Ismir (International Symposium on Music Information Retrieval), Philadelphia, 2008.

First year

- Cattuto, C., Baldassarri, A., Servedio, V. D. P., Loreto, V., *Vocabulary growth in collaborative tagging systems*, submitted to the European Conference on Complex Systems ECCS07, 2007.
- Cattuto, C., Baldassarri, A., Servedio, V. D. P., Loreto, V., *Investigating Community Structure In Social Tagging Systems*, submitted to the European Conference on Complex Systems ECCS07, 2007.
- M. Grahl, A. Hotho, G. Stumme *Conceptual Clustering of Social Bookmarking Sites*. Submitted to the 7th International Conference on Knowledge Management, Graz, 2007
- Aucouturier J.-J., Pachet F., Roy P., Beurivé A. (2007) *Signal + Context = Better Classification*, submitted to the International Conference on Music Information Retrieval (ISMIR).
- Pachet, F., Roy, P., *Improving Multi-Class Analysis of Music Titles: A Large-Scale Study*, to appear in IEEE Transactions on Audio, Speech and Language Processing (2008).

2.3 Posters

Second year

- Robert Jäschke and Beate Krause and Andreas Hotho and Gerd Stumme. *Logsonomy - A Search Engine Folksonomy*. Proceedings of the Second International Conference on Weblogs and Social Media(ICWSM 2008), AAAI Press,2008.
- C. Cattuto, A. Baldassarri, V. D. P. Servedio, V. Loreto, *Vocabulary growth in collaborative tagging systems*, ECCS 2007 - European Conference on Complex Systems October 1st-5th, 2007, Dresden, Germany.

First year

- M. Aurnhammer, *Evolving Texture Features by Genetic Programming*, 9th European Workshop on Evolutionary Computation in Image Analysis and Signal Processing, Valencia (Spain), 2007.
- C. Cattuto, A. Baldassarri, V. D. P. Servedio, and V. Loreto, *Investigating Community Structure In Social Tagging Systems*, Spring Meeting of the German Physical Society (DPG), Regensburg (Germany), March 26-30th, 2007.
- Franz T., Saathoff C., Görlitz O., Ringelstein C., Staab S. (2006), SEA: Introducing the Semantic Exchange Architecture, presented at the European Semantic Web Conference 2006, Budva Montenegro.
- Aurnhammer M., *Evolving Texture Features by Genetic Programming*, 9th European Workshop on Evolutionary Computation in Image Analysis and Signal Processing, 10th European Conference on Genetic Programming, Valencia (Spain), 11-13 April, 2007.
- Hanappe P., *The Ikoru system: a testbed for collaborative tagging and content-based analysis*, poster at the Sony CSL OpenHouse, Tokyo, June 2007.
- Braun, M., Dellschaft, K., Franz, T., Hering, D., Jungen, P., Metzler, H., Miller, E., Rostilov, A., Saathoff, C., *Personalized Search and Exploration with MyTag* WWW 2008 Poster Session.
- Gorlitz, O., Sizov, S., Staab, S., *PINTS: Peer-to-Peer Infrastructure for Tagging Systems* Poster at German Workshop on 'Realistische Evaluierungsansätze für P2PIR-Systeme'.

2.4 Talks, lectures and conference presentations

Second year

- Vittorio Loreto (PHYS-SAPIENZA), *Cultural route to the emergence of names and linguistic categories*, *International workshop on Sociophysics, Status and Perspectives*, ISI Foundation, 26th-29th May 2008, Torino, Italy. *Invited Speaker*.
- Vittorio Loreto (PHYS-SAPIENZA), *Structure and evolution of collaborative web-based systems*, EU-China Summer School on *Internet, Sciences, and Society*, 1st-4th June 2008, Warsaw, Poland. *Invited Speaker*.
- Vittorio Loreto (PHYS-SAPIENZA), *Cultural route to the emergence of names and linguistic categories*, EU-China Summer School on *Internet, Sciences, and Society*, 1st-4th June 2008, Warsaw, Poland. *Invited Speaker*.
- Vittorio Loreto (PHYS-SAPIENZA), *Information dynamics in the social web*, Università Ca' Foscari, September the 27th 2007, Venice, Italy, *Invited Seminar*.
- Vittorio Loreto (PHYS-SAPIENZA), *Conventions and opinions formation in negotiation dynamics*, Workshop IACIA, Interacting Agents, Complexity and Inter-Disciplinary Applications, 5th October 2007, Dresden, Germany *Invited Speaker*.
- Vittorio Loreto (PHYS-SAPIENZA), *Convention and opinion formation in negotiation dynamics*, Bologna, Mathematics Dept., 18th October 2007, *Invited Seminar*.
- Vittorio Loreto (PHYS-SAPIENZA), *Dinamica dell'informazione nelle comunità on line*, Convegno *Conoscere la complessità: viaggio tra le scienze*, CSI-Piemonte, 22nd-23rd November 2007 Torino, Italy. *Invited Speaker*

- Andrea Baldassarri (PHYS-SAPIENZA), *Emergent Community Structure in Social Tagging Systems*, ECCS 2007 - European Conference on Complex Systems October 1st-5th, 2007, Dresden, Germany.
- Andrea Baldassarri (PHYS-SAPIENZA), *Emergent Community Structure in Social Tagging Systems*, Workshop on: Theoretical Aspects and Models of Large, Complex and Open Information Networks. ISI Foundation, Villa Gualino, November 19th - 21st, 2007, Torino, Italy.
- Vito D. P. Servedio (PHYS-SAPIENZA), *Network Structure of Folksonomies*, Social Websites - Complex Dynamics and Structure (satellite conference of ECCS'07). October 5th, 2007, Dresden, Germany.
- Andrea Capocci (PHYS-SAPIENZA), *Clustering and semantics of tagging networks*, Workshop on: Theoretical Aspects and Models of Large, Complex and Open Information Networks. ISI Foundation, Villa Gualino, November 19th - 21st, 2007, Torino, Italy.
- Ciro Cattuto (PHYS-SAPIENZA) gave an invited course at the Interdisciplinary College IK2008 (<http://ik2008.de/>), March 7-14, 2008, Günne (Germany). The course consisted of 5 hours of graduate-level lectures on the "Structure and Evolution of Collaborative Web-Based Systems" (<http://ik2008.de/html/sc173.html>).
- Ciro Cattuto (PHYS-SAPIENZA), *Stylized facts in social tagging systems* (invited), International School on Complexity: Course on "Statistical Physics of Social Dynamics: Opinions, Semiotic Dynamics, and Language". July 14th-19th, 2007, Erice, Italy.
- Ciro Cattuto (PHYS-SAPIENZA), *Networks of tag co-occurrence in collaborative tagging systems* (invited), Workshop on "Enhancing Social Interaction: Recommendation Systems, Reputation, P2P, Trust and Social Networks", European Conference on Complex Systems ECCS07. October 4th, 2007, Dresden, Germany.
- Ciro Cattuto (PHYS-SAPIENZA), *Memory and Growth in Collaborative Tagging Systems*, Workshop on "Social Websites - Complex Dynamics and Structure", European Conference on Complex Systems ECCS07. October 5th, 2007, Dresden, Germany.
- Ciro Cattuto (PHYS-SAPIENZA), *Social information processing on the web* (invited), Physics Department, University of Perugia (Italy). November 7th, 2007, Perugia, Italy.
- Ciro Cattuto (PHYS-SAPIENZA), *Networks of tag co-occurrence in collaborative tagging systems* (invited), Workshop on "Theoretical Aspects and Models of Large, Complex and Open Information Networks". ISI Foundation, Villa Gualino, November 19th - 21st, 2007, Torino, Italy.
- Ciro Cattuto (PHYS-SAPIENZA), *Social Information Processing on the Web* (invited), First Conference of the Enrico Fermi Center. November 30th, 2007, Roma, Italy.
- C. Cattuto (PHYS-SAPIENZA), *Networks of tag co-occurrence and measures of relatedness in social tagging systems*, Meeting of the German Physical Society (DPG), Working Group Physics of Socio-Economic Systems (AKSOE). February 27th, 2008, Berlin (Germany).
- C. Cattuto (PHYS-SAPIENZA), *Social bookmarking and social similarity* (invited), Department of Physics, University of Fribourg. April 21st, 2008, Fribourg (Switzerland).
- Gerd Stumme (UNIK), *Information Retrieval and Knowledge Discovery in Folksonomies*, Social Websites - Complex Dynamics and Structure (satellite conference of ECCS'07). October 5th, 2007, Dresden, Germany.

- Beate Krause (UNIK), *The Anti-Social Tagger - Detecting Spam in Social Bookmarking Systems*. Fourth International Workshop on Adversarial Information Retrieval on the Web, 2008.
- Miranda Grahl (UNIK), *Conceptual Clustering of Social Bookmark Sites*. In Alexander Hinneburg, editor(s), *Workshop Lernen - Wissensentdeckung - Adaptivität (LWA 2007)*, Martin-Luther-Universität Halle-Wittenberg, 2007.
- Andreas Hotho (UNIK), *Logsonomy - A Search Engine Folksonomy*. Second International Conference on Weblogs and Social Media(ICWSM 2008), 2008.
- Beate Krause (UNIK), *A Comparison of Social Bookmarking with Traditional Search*. 30th European Conference on IR Research, ECIR 2008.
- Miranda Grahl (UNIK), *Conceptual Clustering of Social Bookmarking Sites*. 7th International Conference on Knowledge Management (I-KNOW '07), 356-364, Know-Center, Graz, Austria, 2007.
- Andreas Hotho (UNIK), *Organizing Publications and Bookmarks in BibSonomy*. Workshop on Social and Collaborative Construction of Structured Knowledge (CKC 2007) at WWW 2007, Banff, Canada, 2007.
- Martin Szomszor (UNI-SOTON) *Correlating User Profiles from Multiple Folksonomies In ACM Confrence on Hypertext and Hypermedia*, Pittsburgh, Pennsylvania, 2008.

First year

- Staab S., *Topic Communities in Peer to Peer Networks*. Talk at the workshop on *Semantic Network Analysis* at the European Semantic Web Conference 2006, June 11-15th, Budva, Montenegro.
- Nigel Shadbolt, panel on *The Next Wave of the Web*, World Wide Web Conference, Edinburgh, 2006.
- G. Stumme: *Semantic Network Analysis of Ontologies*. Fachgruppentreffen FGML, 7.10.2006, Hildesheim
- Görlitz O., *Tagora: Analysing Folksonomies in Online Communities*. Talk at the workshop on *Formation of Social Networks in Social Software Applications*, GI Annual Meeting 2006, October 2-10th, Dresden, Germany.
- Schmitz, C.: *Trend Detection in Folksonomies*, Proc. First International Conference on Semantics And Digital Media Technology (SAMT), Athens, Greece, December 6-8, 2006.
- Staab S., *Ontology Learning*. Invited Talk at the Inaugural Workshop of the Language, Interaction and Computation Lab at the Center For Mind / Brain Sciences (CIMeC), May 19, 2007, Rovereto, Italy.
- C. Cattuto, *Stochastic Models of Tagging Behavior*, International workshop on "Cooperation in Selfish Systems incorporating TagWorld I", University of Bologna Residential Center, Bertinoro (Italy), May 26-29th, 2006.
- C. Cattuto, *Semiotic Dynamics in Online Social Communities*, European Conference on Complex Systems ECCS06, Saïd Business Schoo, Oxford (UK), September 25-29th, 2006.
- C. Cattuto, *Complex Dynamics and the new Web Language*, 2005 Erice Prize for Science and Peace, Pontifical Academy of Sciences, The Vatican, December 21st, 2006.

- C. Cattuto, *Stochastic Models for Collaborative Tagging*, Noise in Physical Systems (N.i.P.S.) Workshop, Castello di Monterone, Perugia (Italy), March 10th, 2007.
- C. Cattuto, DPG Conference, Working Group Physics of Socio-Economic Systems, *Stochastic Models for Social Tagging Behavior*, Spring Meeting of the German Physical Society (DPG), Regensburg (Germany), March 26-30th, 2007.
- C. Cattuto, *Structure and Evolution of Collaborative Tagging Systems*, Collaborative Knowledge Management workshop (CoKM2007) at the Professional Wissensmanagement conference (WM2007), Potsdam (Germany), March 28-29th, 2007.
- C. Cattuto, *Semiotic dynamics in online communities*, Seminar on Language, Evolution, and the Brain (SLEB), International Institute of Advanced Studies (IIAS), Kyoto (Japan), April 23-27th, 2007.
- C. Cattuto, *Emergent semantics in online communities*, Language Engineering Group, Chinese University of Hong Kong, Hong Kong, May 4th, 2007.
- V. D. P. Servedio, DPG Conference, Section Dynamics and Statistical Physics, *Ranking and Community detection in unweighted networks*, Spring Meeting of the German Physical Society (DPG), Regensburg (Germany), March 26-30th, 2007.
- V. Loreto, DPG Conference, Working Group Physics of Socio-Economic Systems, *Non-equilibrium phase transitions in negotiation dynamics*, Spring Meeting of the German Physical Society (DPG), Regensburg (Germany), March 26-30th, 2007.
- V. Loreto, *Simon's like models with memory for tagging behaviour*, Conference on New Directions in Complex Systems, Buyukada, Istanbul (Turkey), September 3-9, 2006.
- V. Loreto, *Stochastic models for tagging behaviour*, Language simulations Conference, Warsaw (Poland), September 11-14, 2006.
- V. Loreto, *Cultural route to the emergence of linguistic agreement*, EPFL, Lausanne, November 13, 2006.
- V. Loreto, *Complex systems approach to Language Games*, International Conference on Complex systems: from Physics to Biology and the social sciences, Lisbona (Portugal), November 22-25, 2006.
- V. Loreto, *Characterization of Complexity*, V Seminaire Transalpin de Physique "Dynamics and statistics in complex systems", Villa Gualino, Torino - Italy, February 26 - March 2, 2007.
- V. Loreto, *Language Games: a physicist point of view*, Seminar on Language, Evolution, and the Brain (SLEB), International Institute of Advanced Studies (IIAS), Kyoto (Japan), April 23-27th, 2007.
- V. Loreto, *Cultural route to the emergence of linguistic categories*, Language Engineering Group, Chinese University of Hong Kong, Hong Kong, May 4th, 2007.
- Szomszor, M., Cattuto, C., Alani, A., O'Hara, K., Baldassarri, A., Loreto, V., Servedio, V. D. P., *Folksonomies, the Semantic Web, and Movie Recommendation*, "Bridging the Gap between Semantic Web and Web 2.0" at the 4th European Semantic Web Conference ESWC 2007, Innsbruck, Austria, June 7, 2007.
- Schmitz, C.: *Network Properties of Folksonomies*, Challenge on Collaborative Knowledge Creation at the WWW2007 International World Wide Web Conference, Banff, Canada, May, 8-12, 2007.

- Hotho, A.: *BibSonomy - A social publication reference management system*. Challenge on Collaborative Knowledge Creation at the WWW2007 International World Wide Web Conference, Banff, Canada, May, 8–12, 2007.
- A. Hotho: *BibSonomy - Research around a Folksonomy System*, Informatik-Kolloquium Magdeburg, 31.5.2007
- Hanappe P., *Introduction to Collaborative Tagging*, Università IUAV di Venezia, Italy, June 2006.
- Hanappe P., *Collaborative Tagging and Semiotic Dynamics*, presentation at the Hochschule für Gestaltung, Karlsruhe, Germany, November 2006.
- Staab, S., *On Understanding the Sharing of Conceptualizations* at the Conference "Processing Text-technological Resources", Bielefeld, Germany, March 13-15, 2008.
- Staab, S., *On Knowledge and Its Dynamics in Social Media*, Chinese Academy of Sciences, Beijing, China, April 21, 2008.
- Görlitz, O., Sizov, S., Staab, S., *Tagster - Tagging-Based Distributed Content Sharing* Proceedings of the ESWC 2008 Demo Session.

2.5 Tutorials

UniK provides four online tutorials for BibSonomy. They explain what the links around a BibSonomy entry mean, how to integrate BibSonomy into ones browser, how to add keywords to ones bookmarks, and how to provide metadata for your publication. The tutorials are available online at <http://www.bibsonomy.org/help/tutorials>.

2.6 Conferences, Workshops and Summer Schools

Completed

Completed Second year

- Vittorio Loreto (PHYS-SAPIENZA) was the vice-chairman of the XXIII IUPAP International Conference on Statistical Physics, STATPHYS 23, Genoa, Italy, 9-13 July 2007. (<http://www.statphys23.org>).
- Vittorio Loreto (PHYS-SAPIENZA) and Luc Steels (SONY-CSL) organized the *International School on Complexity: Course on Statistical Physics of Social Dynamics: Opinions, Semiotic Dynamics, and Language*, jointly with Ettore Majorana Foundation and Center For Scientific Culture, Erice, Italy 13-20 July, 2007. (<http://pil.phys.uniroma1.it/erice2007>).
- Gerd Stumme is co-organizing the "Web Mining 2.0 Workshop" that will be co-located with the 18th European Conference on Machine Learning / 11th European Conference on Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD) 2007, September 21, 2007 - Warsaw, Poland. (<http://www.kde.cs.uni-kassel.de/ws/ecmlpkdd2007/>)

- Andreas Hotho is co-organizing the “International Workshop on Data Mining in Web 2.0 Environments” held in conjunction with the IEEE International Conference on Data Mining (ICDM 2007) on October 28, 2007 in Omaha, United States.
(<http://www.kde.cs.uni-kassel.de/ws/Web2DM/>)
- Andreas Hotho is co-organising the Workshop ‘Wikis, Blogs, Bookmarking Tools - Mining the Web 2.0’ at ECML PKDD 2008, Antwerp, Belgium, 15. September 2008
- Andreas Hotho co-organised the Workshop ‘ Emergent Semantics and Ontology Evolution’ at ISWC 2007, Busan, Korea, Workshop 13. November 2007
- Andreas Hotho co-organised the Workshop ‘Data Mining in Web 2.0 Environments’ at the IEEE International Conference on Data Mining 2007, Omaha, United States, 28. October 2007
- Gerd Stumme co-organised the Workshop ‘Web Mining 2.0’ at ECML/PKDD 2007, Warsaw, Poland, 21. September 2007
- Andreas Hotho co-organised the Workshop ‘Bridging the Gap between Semantic Web and Web 2.0’ at ESWC 2007, Innsbruck, Austria, 7. June 2007
- Ciro Cattuto co-organised the Workshop on “Social Websites - Complex Dynamics and Structure” (<http://www.tagora-project.eu/outreach/eccs07>) at the European Conference on Complex Systems ECCS07. October 5th, 2007, Dresden, Germany.
- Ciro Cattuto was the chairman, together with Filippo Menczer, of the “social linking” track (<http://www.sigweb.org/ht08/home/soclinking.html>) at the ACM Hypertext 2008 conference (<http://www.sigweb.org/ht08/>), Pittsburgh (USA), June 19-21, 2008.

Completed First year

- Gerd Stumme and Christoph Schmitz were co-organizers of a workshop on Semantic Network Analysis that was co-located with the European Semantic Web Conference ESWC-2006, June 12, 2006 at Budva, Montenegro.
(<http://www.kde.cs.uni-kassel.de/ws/sna2006/>)
- Andreas Hotho co-chaired the “Workshop on Web Mining 2006 (WebMine)” that was co-located with the European Conference on Machine Learning/International Conference on Principles of Knowledge Discovery in Databases 2006, September 18th, 2006, Berlin, Germany.
(<http://www.kde.cs.uni-kassel.de/ws/webmine2006/>)
- Steffen Staab co-organized the 15th International Conference on Knowledge Engineering and Knowledge Management, EKAW 2006, Pödebrady, Czech Republic, October 2-6 2006.
(<http://ekaw.vse.cz/>)
- Vittorio Loreto (PHYS-SAPIENZA) organized the II Bagnovignoni meeting on *Semiotic Dynamics: Grammar*, Bagnovignoni (Siena), Italy, 23-26 October 2006.
- Steffen Staab co-organized the 1st International Conference on Semantic and Digital Media Technologies, Athens, Greece, 6-8 December 2006.
(<http://www.samt2006.org/>)
- Harith Alani and Gerd Stumme organized a workshop on Social and Collaborative Construction of Structured Knowledge at the World Wide Web Conference 2007.
(<http://km.aifb.uni-karlsruhe.de/ws/ckc2007>).

- Andreas Hotho co-chaired the Workshop “Bridging the Gap between Semantic Web and Web 2.0” that was co-located with the 4th European Semantic Web Conference ESWC 2007, June 7, 2007, Innsbruck, Austria.
(<http://www.kde.cs.uni-kassel.de/ws/eswc2007/>)
- 1st International Workshop on Collective Semantics: Collective Intelligence & the Semantic Web (CISWeb 2008) at the 5th European Semantic Web Conference (ESWC-08) <http://www.eswc2008.org>, June 2, 2008, Tenerife, Spain
- General and local chair for the 3rd International Conference on Semantic and Digital Media Technology, 2008 (SAMT-2008), Dec 3-5, 2008, Koblenz, Germany
- Program chair for the 7th International Semantic Web Conference, 2008 (ISWC'08), Oct 26-30, 2008 Karlsruhe, Germany
- General chair, ACM IUI-2008, International Conference on Intelligent User Interfaces, January 13-16, 2008, Maspalomas, Spain
- PC Co-Chair, ODBase-2007, The 6th International Conference on Ontologies, DataBases, and Applications of Semantics, Nov 25-30, 2007, Albufeira, Portugal

Planned

Planned Second year

- The TAGora project is organizing a Dagstuhl Seminar on *Social web communities* (seminar n.08171), Dagstuhl, Germany, 20-25 September 2008.
- Vittorio Loreto (PHYS-SAPIENZA) will be the session leader of the Information and Communication Technologies session at European Conference on Complex Systems 2008 (ECCS 2008), Jerusalem, Israel, September 14th-19th, 2008.
- The Discovery Challenge of ECML/PKDD 2008 is organised by UNIK. The challenge is on spam detection and tag recommendations on BibSonomy data. The tasks are published, the results will be presented at ECML/PKDD 2008 in September 2008.
- Andreas Hotho is co-organising the Workshop ‘Wikis, Blogs, Bookmarking Tools - Mining the Web 2.0’ at ECML PKDD 2008, Antwerp, Belgium, 15. September 2008

Planned First year

- Vittorio Loreto (PHYS-SAPIENZA) will be the vice-chairman of the XXIII IUPAP International Conference on Statistical Physics, STATPHYS 23, Genoa, Italy, 9-13 July 2007.
(<http://www.statphys23.org>).
- Vittorio Loreto (PHYS-SAPIENZA) and Luc Steels (SONY-CSL) are organizing the *International School on Complexity: Course on Statistical Physics of Social Dynamics: Opinions, Semiotic Dynamics, and Language*, jointly with Ettore Majorana Foundation and Center For Scientific Culture, Erice, Italy 13-20 July, 2007.
(<http://pil.phys.uniroma1.it/erice2007>).

- Gerd Stumme is co-organizing the “Web Mining 2.0 Workshop” that will be co-located with the 18th European Conference on Machine Learning / 11th European Conference on Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD) 2007, September 21, 2007 - Warsaw, Poland.
(<http://www.kde.cs.uni-kassel.de/ws/ecmlpkdd2007/>)
- Ciro Cattuto (PHYS-SAPIENZA) is organizing a satellite workshop of the European Conference on Complex Systems 2007 (ECCS 2007) on *Social websites: complex dynamics and structure*, Dresden, Germany, 5th October 2007.
- Andreas Hotho is co-organizing the “International Workshop on Data Mining in Web 2.0 Environments” held in conjunction with the IEEE International Conference on Data Mining (ICDM 2007) on October 28, 2007 in Omaha, United States.
(<http://www.kde.cs.uni-kassel.de/ws/Web2DM>)
- Steffen Staab is co-organizing the 6th International Conference on Ontologies, DataBases, and Applications of Semantics (ODBase), Vilamoura, Portugal, November 25-30, 2007.
(<http://www.cs.rmit.edu.au/fedconf/index.html?page=odbase2007cfp>)
- Steffen Staab is the general chair of the International Conference on Intelligent User Interfaces, Canary Islands, Spain, January 13-16, 2008.
(<http://www.iuiconf.org/>)
- The TAGora project is organizing a Dagstuhl Seminar on *Social web communities* (seminar n.08171), Dagstuhl, Germany, 20-25 April 2008. *rightarrow* moved to September 2008 due to date conflicts with major conferences.

2.7 Press, Radio & TV.

2.7.1 Press

First year

- Swaminathan, N., *Tag, You're It: Scientists Describe Collaborative Tagging Sites like Del.icio.us*, ScientificAmerican.com, 23 January 2007
(<http://www.sciam.com/article.cfm?articleid=5021D304-E7F2-99DF-33DDD86F3B3ECA20>).
- Bohannon, J., *Folk Wisdom for Web Sites*, ScienceNOW, 23 January 2007
(<http://sciencenow.sciencemag.org/cgi/content/full/2007/123/5>).
- Progetto italiano studia nuovo linguaggio rete: Un gruppo INFN-CNR studia lo sviluppo del fenomeno “tagging”, che genera nuove modalità di categorizzazioni, *Corriere della Sera*, 19 July 2006,
(http://www.corriere.it/Primo_Piano/Scienze_e_Tecnologie/2006/07_Luglio/19/web2.shtml).
- Al via un progetto di ricerca per studiare la dinamica della informazione sul web, *BUR.it - Bollettino Universit & Ricerca*, 18 July 2006,
(http://www.bur.it/2006/N_G_061926.php).
- Al via un progetto di ricerca per studiare la dinamica dell'informazione sul web, *Sussidiario*,
(<http://www.sussidiario.it/notizie/ultimora/messages/12581.shtml>).
- Vittorio Loreto (PHYS-SAPIENZA), *Il volo delle Oche*, Radio24, 1st July 2006.
([http://ilsole24ore.com/radio24/\\$audio/oche010706.rm](http://ilsole24ore.com/radio24/$audio/oche010706.rm)).

- Comportamento online, sotto c'è la matematica, *Corriere dell'Università e del Lavoro*, 5-18 February 2007, p. 6.
- Dopo i bloggers arrivano i "taggers": il nuovo fenomeno del web tra i nuovi punti del progetto "Tagora" del CNR, *ITnews*, 31 July 2006, (<http://www.itnews.it/news/2006,182,dx,0731,135847.html>).
- Dopo i bloggers arrivano i "taggers": il nuovo fenomeno del web tra i nuovi punti del progetto "Tagora" del CNR, *pc-facile.com*, 2 August 2006, (http://www.pc-facile.com/news/dopo_bloggers_arrivano_taggers/).
- Dotta, G., Tagora, studio italiano sulla folksonomy, *HTML.it*, 19 July 2006, (<http://webnews.html.it/news/leggi/4468/tagora-studio-italiano-sulla-folksonomy/>).
- Frittella L., Verso il web del futuro: Lo studio "Tagora" è rivolto alle dinamiche dell'informazione in Internet, *Rai.it*, 31 July 2006, (<http://www.rai.it/news/articolonews/0,9217,1067143,00.html>).
- Gallavotti B., *Come si spia il futuro di Internet: un progetto europeo indaga la folksonomia, il fenomeno di organizzazione spontanea dei contenuti. Fisici e neuroscienziati impegnati in un'impresa interdisciplinare, ispirata dalla logica dei sistemi complessi*, La Stampa, 28 March 2007 (http://www.tagora-project.eu/wp-content/2007/05/bohannon_folksonomy_sciencenow.pdf).
- Gruppo studia linguaggio e dinamiche della rete, *Broadcast&Video*, n. 373, 21 July 2006, p. 12.
- Guidolanda F., Tagora, lo studio del Web 2.0, *InternetNews*, 24 July 2006, (<http://internetnews.blog.dada.net/permalink/270736>).
- Manacorda E., Internet: Dimmi come cataloghi... *Galileo - Giornale di scienza e problemi globali*, 4 August 2006, (http://www.galileonet.it/Magazine/mag0630/0630_2.html).
- Molinari C., Il web del futuro, *Il web del futuro - Cached Blog*, 1 August 2006, (<http://www.cached.it/blog/archives/248-Il-web-del-futuro.html>).
- Progetto "TAGora" sulle nuove dinamiche del web, *Città della Scienza*, 3 August 2006, (http://www.cittadellascienza.it/news_dal_mondo/index.cfm?sw=1&id_cat=6&ID_LANCI=5078).
- Progetto "Tagora": Semiotic Dynamics in on-line Social Communities?, *Ricerca Italiana*, 25 July 2006, ([http://www.ricercaitaliana.it/news/news_ente-redazione_ri.htm\(linkaPDFINFM\)](http://www.ricercaitaliana.it/news/news_ente-redazione_ri.htm(linkaPDFINFM))).
- Sante J. Achille, Europe studies the Web 2.0 Phenomenon with TAGora, *Multilingual Search*, 20 July 2006, (<http://www.multilingual-search.com/527/20/07/2006/en/>).
- TAGora: ecco dove ci porterà il web, *La Stampa Web*, 31 July 2006, ([http://www.stampa.cnr.it/documenti/agenzie/2006/Lug/31_lug_06_02.txt\(adkronos\)](http://www.stampa.cnr.it/documenti/agenzie/2006/Lug/31_lug_06_02.txt(adkronos))).
- TAGora: esplorare le dinamiche del web, *ADV News 24h*, 3 August 2006, (<http://www.advmagazine.net/advnews-24h/index.php?p=11015048441707>).
- TAGora: esplorare le dinamiche del web, *Amici Amici Magazine*, n. 1518, 3 August 2006.

- TAGora: esplorare le dinamiche del web, , *Jugo*, 31 July 2006, (<http://www.jugo.it/modules.phpname=News&file=article&sid=4118>).
- TAGora: un progetto italiano verso il web semantico, *Googlisti.com*, 26 July 2006, (<http://googlisti.com/tag/tagora/>).
- Tagora, studio italiano sulla folksonomy, *HTML.it*, (<http://webnews.html.it/news/stampa/4468/tagora-studio-italiano-sulla-folksonomy/>).

2.7.2 Talks at non-technical events, Radio

Second year

- Vittorio Loreto (PHYS-SAPIENZA), *Complessità, informazione e altre storie*, Secondo ciclo di conferenze sul tema *Armonie del cosmo: le "due culture"*, Teatro dell'Opera, Roma, Italy, 15th May 2008.
- Vittorio Loreto (PHYS-SAPIENZA), Italian Radio, Rai - Radio 3 Scienza, *Complessità senza complessi*, 24th April 2008. (http://www.radio.rai.it/radio3/view.cfm?Q_EV_ID=249235)
- Ciro Cattuto (PHYS-SAPIENZA), radio interview on complexity and on-line user behaviors: <http://www.formicablu.it/fmblue/index.php?LoudbotService=3&id=198>, November 20th, 2007.
- Vittorio Loreto (PHYS-SAPIENZA), Italian Radio, Rai - Radio 3 Scienza, *La lingua batte dove la fisica vuole*, 23rd October 2007. (http://www.radio.rai.it/radio3/view.cfm?Q_EV_ID=229258)
- Vittorio Loreto (PHYS-SAPIENZA), Italian Radio, Rai - Radio 3 Scienza, *La fisica dei sistemi complessi*, 20th September 2007. (http://www.radio.rai.it/radio3/view.cfm?Q_EV_ID=226108)
- Ciro Cattuto and Vittorio Loreto (PHYS-SAPIENZA) gave a lecture at the Perugia Science Festival (<http://www.perugiasciencefestival.it>): "Caffè corretto con frattali: I sistemi complessi da Internet alle galassie", September 8th, 2007, Perugia (Italy).
- Ciro Cattuto (PHYS-SAPIENZA) gave several lectures in the context of a dissemination event repeated at different locations in Italy: at the science fest organized by the Lazio Region (<http://festivalscienza.it>), in Poggio Mirteto (Lazio) and Viterbo (Lazio); and at a dissemination event organized at the STATPHY23 conference in Genova.

First year

- C. Cattuto, panel on *Collaborative collection making* at the Sony Intensive Science event, La Maison Rouge, Paris, October 6-10th, 2006.
- V. Loreto (PHYS-SAPIENZA), *La nascita del consenso nei sistemi complessi: l'esempio del linguaggio*, round table on "La Nascita del Consenso" at the Roma Opera Theatre, Roma, May 31st, 2007.
- C. Cattuto, *Il web come sistema complesso: la gestione collaborativa della conoscenza*, round table on "La Nascita del Consenso" at the Roma Opera Theatre, Roma, May 31st, 2007.

Figure 2.1: <http://www.tagora-project.eu>

- C. Cattuto, *La complessità nel cyberspazio*, “Apriamo la mente. Lazio, terra di scienza” science festival, Viterbo (Italy), May 26th, 2007.
(www.culturalazio.it/binary/lazioCultura/agenda/programmi_Mela.1178712093.pdf)
- G. Stumme, C. Schmitz: *Jagd auf die Hommingberger Gepardenforelle Sucurreng3.texmaschinen und Soziale Software*. Presentation for B Braun AG, Kassel, 19.9. 2006
- Tisselli, E., *Tags and maps: fragmented mirrors*, round table at the “Createurs singuliers” Symposium at the Museum of Contemporary Art of Geneva, Geneva, May 27th 2008.

2.8 TAGora Project Website and Portal

As part of the project presentation task, a web site has been set up as a single reference point for all the public activities of the TAGora project. The second-level domain `tagora-project.eu` was registered and reserved for the TAGora project. A dedicated Linux server was purchased and is currently hosted in the computer room of the PHYS-SAPIENZA team. The server is running the open-source Apache (<http://www.apache.org>) web server and related services. The TAGora web site, <http://www.tagora-project.eu> (Fig. 2.1) is managed by using Wordpress (<http://wordpress.org>), the popular open-source content management system (CMS). The Wordpress installation was highly customized to fit the project needs, both in terms of graphical layout and in terms of content structure. The front page of the web site provides an outline of the TAGora mission and a list of the participating institutes. The main navigation bar (see Fig. 2.1, top) provides access to the following sections:

- **people**, <http://www.tagora-project.eu/people>: this section provides short bios of all the persons involved in the TAGora project.
- **consortium**, <http://www.tagora-project.eu/consortium>: this section, which can be reached as a subsection of the “People” button, gives an overview of the TAGora consortium, highlighting the complementarity of the partners in relation to the project mission. A list of the TAGora teams follows, providing details about the areas of expertise of each team and its position within the international research community.
- **products**, <http://www.tagora-project.eu/products>: this section showcases the applications developed in the framework of the project (currently the Ikoru image-tagging application by Sony CSL, the BibSonomy social bookmarking system developed at the University of Kassel, Zexe.net developed at the Sony-CSL laboratory and Tagster, developed at the university of Koblenz).
- **contact**, <http://www.tagora-project.eu/contact>: provides contact information for the project. This includes the email address for project inquiries, info@tagora-project.eu, the address of the project coordinator, and information access to the TAGora mailing list for announcements and project news, available at <http://lists.tagora-project.eu/listinfo/news>.

In addition to the above section, three more dynamic website sections are available, whose content is constantly updated to reflect the progress of the project:

- **blog**, <http://www.tagora-project.eu/blog>: this section is a full-blown blog for the TAGora project, co-authored by several project members. The blog is used to announce all kinds of events and news involving the TAGora project, covering scientific results, participation to

conferences and workshops, project-sponsored events, press releases, articles in the press and so on. RSS and Atom feeds are provided to allow better exchanges with the blogging community.

- **outreach**, <http://www.tagora-project.eu/outreach>: this section is a subset of the TAGora blog, focusing on blog entries that deal with press releases and articles in the press.
- **publications**, <http://www.tagora-project.eu/publications>: provides a live list of papers published by members of the TAGora project. For each article, the full bibliographic information is given, together with an PDF version of the paper. The publication list is constantly updated by polling BibSonomy: project members post their new articles to BibSonomy, under the group "TAGora", and tag them as *tagorapub*. The TAGora website polls the BibSonomy RSS feed for the TAGora group and when it detects new articles tagged with *tagorapub*, it loads them into Wordpress and published them. This kind of integration is an original design deployed by the TAGora project.

New buttons, moreover, have been added to the website in order to add some more portal-like features:

- **data**, <http://www.tagora-project.eu/data>: provides dataset reporting the tagging activities in some major online tagging communities such as del.icio.us, Flickr, Bibsonomy; moreover, software tools useful to analyze and simulate tagstreams and networks are provided.
- **tagging**, <http://www.tagora-project.eu/tagging>: provides a list of social tagging websites, among the most popular in the Web. Along with a list of website, some video-tutorial are included in order to explain the user how to use them.

All the content included in the above three sections (blog entries, press entries, publication entries) is tagged, and a live tag-cloud is provided in the sidebar of the website (Fig. 2.1, right). Blog posts have editorially given tags, while the tags of publication entries are automatically pulled from BibSonomy. Tags can be effectively used to browse the whole dynamic content of the TAGora website. Standard text search of the website content is also available.

2.9 Demonstrations in Industrial and Scientific Exhibition

SONY-CSL met with the following people and corporate divisions to discuss collaborative tagging and demonstrate the Ikoru system (see Task 2.2):

- Steve Amagai (Sony Corporation, Tokyo)
- Gerald Reitmayr (Senior Manager E-Business at Digital Imaging Sony Europe)
- Mr Ozawa (Product Planning Dept. VBD, ITCNC, Sony Corporation)
- Akikazu Takeuchi of So-Net (Sony Communication Network Corporation, Tokyo)
- Masanao Tsutsui (Sony CyberShot, Digital Imaging Business Group, Tokyo)
- Dr Sato (Mobile Product R&D Group, Sony Corporation, Tokyo)
- Dr Toshino (PAO Group, Sony Corporation, Tokyo)

Planned actions

- We plan to present a position paper about TAGora at the Complexity Research Projects (CRP) Forum in Dresden (Germany), October 6th, 2007.

2.10 Other dissemination actions

Second year

- PHYS-SAPIENZA presented a stand with videos and demos at the Convegno *Conoscere la complessità: viaggio tra le scienze*, CSI-Piemonte, 22nd-23rd November 2007 Torino, Italy.
- Hanappe P., Linke A., *Phenotypes/Limited Forms*, art installation, Zentrum für Kunst und Medien, Karlsruhe, Germany, October 2007 - January 2009.
- Hanappe P., Linke A., *Phenotypes/Limited Forms*, art installation, "Selective Knowledge" exhibition at the The National Bank of Greece Cultural Foundation, Institute for Contemporary Art and Thought, Athens, Greece, April - July 2008.
- Linke A., Hanappe P., Tisselli E., Rich A., Kuhn W., Mende D., Pocock P., Korn S., students of the curator class at the HfG Karlsruhe, *Interactive Photo Archive* (working title), Institute for Contemporary Art and Thought, Athens, Greece, planned for October 2007.

First year

- Aurnhammer M., Hanappe P., Linke A., Brunello M., Graziani S., and the students of the Faculty of Arts and Design, Università IUAV di Venezia, ClaVES undergraduate degree in Visual Arts and Theatre, *Linking Linke*, La Maison Rouge, Paris, October 2006.
- Aurnhammer M., Hanappe P., Linke A., Brunello M., Graziani S., and the students of the Faculty of Arts and Design, Università IUAV di Venezia, ClaVES undergraduate degree in Visual Arts and Theatre, *Linking Linke*, Sony ExploraScience Museum, Tokyo, December 2006 - January 2007.
- Sony CSL, *Intensive Science*, brochure for the 10th anniversary of the Sony Computer Science Laboratory, Paris, October 2006.
- Debatty R., *Net_Dérive, the city as instrument, We make money not art*, 19 October 2006, <http://www.we-make-money-not-art.com/archives/009042.php>
- Rheingold H. *Street Ethnographers*, Smart Mobs, 22 May 2007, http://www.smartmobs.com/archive/2007/05/22/street_ethnogra...html
- Green J.-A., *canal*MOTOBOY: Empowering people to tell their stories*, Networked_performance, 11 May 2007, <http://www.turbulence.org/blog/archives/004266.html>
- Wellington C., *Motoboys transmitem de celulares*, Overmundo, 10 May 2007, <http://www.overmundo.com.br/agenda/motoboys-transmitem-de-celulares>
- Aurnhammer M., Hanappe P., *Linking Linke and Collaborative Tagging*, panel discussion, Intensive Science Exhibition, La Maison Rouge, Paris, October 2006.
- Steels L., Pachet F., Hanappe P. *Collective Intelligence and Sustainable Development*, Solutions for a Sustainable Worlds Workshop, Camargue, France, May 2007.

2.11 Dissemination actions toward the other projects of the Complex System Initiative

Second year

- Vittorio Loreto (PHYS-SAPIENZA) took part to the Workshop on the results of the 'Simulating Emergent properties of Complex Systems' pro-active initiative, Brussels, 25th October 2007.
- Vittorio Loreto (PHYS-SAPIENZA) presented the TAGora project to the Showcase of European Complexity Science Projects (CRP Forum), October the 6th, 2007, Dresden, Germany.
- Vittorio Loreto (PHYS-SAPIENZA) presented a position paper *Information dynamics in web-based social systems* at the FET COSI-ICT Workshop, "Science of Complex Systems for Socially Intelligent ICT", October the 6th, 2007, Dresden, Germany.
- Vittorio Loreto (PHYS-SAPIENZA) will be the session leader of the Information and Communication Technologies session at European Conference on Complex Systems 2008 (ECCS 2008), Jerusalem, Israel, September 14th-19th, 2008.

First year

- Vittorio Loreto (PHYS-SAPIENZA) is the vice-chairman of the XXIII IUPAP International Conference on Statistical Physics, STATPHYS 23, Genoa, Italy, 9-13 July 2007. (<http://www.statphys23.org>).
- Vittorio Loreto (PHYS-SAPIENZA) and Luc Steels (SONY-CSL) are organizing the *International School on Complexity: Course on Statistical Physics of Social Dynamics: Opinions, Semiotic Dynamics, and Language*, jointly with Ettore Majorana Foundation and Center For Scientific Culture, Erice, Italy 13-20 July, 2007. (<http://pil.phys.uniroma1.it/erice2007>).
- Ciro Cattuto (PHYS-SAPIENZA) is organizing a satellite workshop of the European Conference on Complex Systems 2007 (ECCS 2007) on *Social websites: complex dynamics and structure*, Dresden, Germany, 5th October 2007.

2.12 Joint Publications

Second year

- Ciro Cattuto, Dominik Benz, Andreas Hotho and Gerd Stumme *Semantic Analysis of Tag Similarity Measures in Collaborative Tagging Systems* Proceedings of the 3rd Workshop on Ontology Learning and Population (OLP3), Patras, Greece, July2008 (2008).
- V. Loreto and L. Steels *Social dynamics: Emergence of language*, Nature Physics **3** 758 (2007).
- B. Markines, C. Cattuto, F. Menczer, D. Benz, A. Hotho and G. Stumme, *Social Similarity*, submitted to the ACM 17th Conference on Information and Knowledge Management (CIKM2008) (2008).
- C. Cattuto, B. Benz, A. Hotho and G. Stumme, *Semantic Grounding of Tag Relatedness in Social Bookmarking Systems*, submitted to the International Semantic Web Conference 2008 (ISWC2008).

First year

- Cattuto, C., Schmitz, C., Baldassarri, A., Servedio, V. D. P., Loreto, V., Hotho, A., Grahl, M., Stumme, G., *Network Properties of Folksonomies*, AICOM Special Issue on *Network Analysis in Natural Sciences and Engineering*, 2007.
- Schmitz, C., Grahl, M., Hotho, A., Stumme, G., Cattuto, C., Baldassarri, A., Loreto, Servedio, V. D. P., *Network Properties of Folksonomies*, Proceedings of the WWW2007 International World Wide Web Conference, 2007.
- Szomszor, M., Cattuto, C., Alani, H., O'Hara, K., Baldassarri, A., Loreto, V. and Servedio, V. D. P., *Folksonomies, the Semantic Web, and Movie Recommendation*. In Proceedings of 4th European Semantic Web Conference, Bridging the Gap between Semantic Web and Web 2.0 (2007) (in press), Innsbruck, Austria.