D 2.6.8 Report on Research Exchange and Collaboration

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Abstract.
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This deliverable presents T-REX, the program in Knowledge Web (KWeb) to support "Topic-oriented Research EXchange", and gives an overview of the exchanges performed throughout the project. The short-term goal of T-REX is to encourage, support and manage the exchange of researchers across KWeb members. The long-term goal of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members. In this deliverable we report on the exchanges that took place in 2004-2007.

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Executive Summary

This deliverable is part of the "WP 2.6 Weaving the European Semantic Web Research Network". It describes the program for exchange of researchers within Knowledge Web called "T-REX: <T>opic-oriented <R>esearcher <EX>change in Knowledge Web". The exchange program has been established during the first year of Knowledge Web and has been successfully continued in 2005, 2006 and 2007.

The short-term goal of T-REX is to encourage, support and manage primarily the exchange of researchers across all Knowledge Web (KWeb) members, but also to encourage exchanges with external parties such as partners of other EU thematic networks of excellence and external industrial partners.

The long-term goal of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members.

Key numbers for T-REX:
The amount of exchanges per year increased from 2006 to 2007, adding up to a total of **52 exchanges** in 2004-2007.

In the years 2004 to 2007, **27 partners** (20 KWeb partners and 7 external) participated in **2102 days of exchange** with an average duration of **~40 days per exchange**. The average duration was roughly stable between 2004 and 2007.

Key numbers for analysis of shared publications:
The **"share ratio"** of shared publications vs. total publications of KWeb members increased **from 4,2%** for the years 1984-2003 **to 7,6%** for the years 2004-2007.

Sustainability: KnowledgeWeb has played an important role in forming and furthering the European Semantic Web community. International conferences, driven by members of the KnowledgeWeb consortium, have become the major events in the area. We mention the European Semantic Web Conference Series and the International Semantic Web Conference Series as two such events. In 2007, the European Semantic Technology Conference was established, which is tailored towards applications and industry participation. It can be expected that the current momentum will be sustained.

Contents

Overview

In Sections 1-2 we will briefly summarize the goal and major recommendations of the T-REX program. A detailed description of the T-REX Goals, Timeline, Actors, Duration, Topic, Final Report, Process, Example Calculation, Recommendations can be found in the KWeb Deliverable 2.6.2 (M12) which is available online in the Knowledge Web Portal. In Section 3 we give an overview about the exchanges which took place in 2004 – 2007. Section 4 highlights first measurements of shared publications based on an exploration of the well-known DBLP literature database. In Section 5 we conclude.

1 Goals

The **short-term goal** of T-REX is to encourage, support and manage primarily the exchange of researchers across all Knowledge Web (KWeb) members, but also to encourage exchanges with external parties such as partners of other EU thematic networks of excellence and external industrial partners.

The **long-term goal** of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members.

2 Recommendations in a Nutshell

- Each KWeb member needs to spend at least **6.5 % of his total eligible costs for JPA** in KWeb for research exchange over the whole duration of KWeb.

- The sending organizations are responsible to cover these costs according to their own financial guidelines, potentially and most likely from their own KWeb budget.

- Members who are not able to send away people (e.g. due to organizational issues) should spend the same amount of money for attracting participants from other members. In this case not the sender, but rather the host is responsible to cover the costs.

- As default **2.5 KEUR per person and month of stay** are eligible costs for the sending organization which are granted without further permission. Higher costs need the approval of the KWeb EPMB *before* the beginning of the exchange.

- A **final report** needs to be provided by the participant no later than one month after the end of the exchange about the scientific achievements made during the exchange. All reports are collected within the KWeb portal.

- Exchanges with partners from other EU thematic networks of excellence and external industrial partners are encouraged. They might require different treatment and are expected to be handled on a case by case base. As key opportunity for

exchanges with industrial partners sabbaticals of senior research staff have been identified which can be supported by Knowledge Web by funding travel and accommodation expenses.

3 Exchanges in 2004-2007

We start by giving an overview on all exchanges of the T-REX program followed by a number of statistics and a listing of exchanges per partner.

3.1 General Overview of Exchanges

We here present the status of announced T-REX exchanges on 20.10.2007, the most recent version can be found in the KWeb portal.[1]

Participant	Sender	Host	Start	End
Thanh Tran Duc	University of Karlsruhe	Centre for Research and Technology Hellas	03.12.2007	14.12.2007
Angel López-Cima	Universidad Politécnica de Madrid	University of Innsbruck	22.10.2007	02.11.2007
Giorgos Stoilos	Centre for Research and Technology Hellas	University of Aberdeen	09.09.2007	19.09.2007
Guilin Qi	University of Karlsruhe	Université Paul Sabatier	05.09.2007	03.10.2007
Loredana Laera	University of Liverpool	Institut National de Recherche en Informatique et en Automatique	26.02.2007	12.03.2007
Martin Dzbor	The Open University	L3S Research Center	19.02.2007	28.02.2007
Zharko Aleksovski	Vrije Universiteit Amsterdam	The Open University	06.02.2007	06.03.2007
Giorgos Stoilos	Centre for Research and Technology Hellas	University of Aberdeen	06.02.2007	14.02.2007
Raúl García-Castro	Universidad Politécnica de Madrid	Vrije Univerditeit Amsterdam	01.02.2007	30.04.2007
Enrico Franconi	Free University of Bozen-Bolzano	UNS (ARG), Otago (NZ), NICTA/UNSW (AUS)	16.10.2006	30.04.2007
York Sure	University of Karlsruhe	Stanford University	24.06.2006	13.09.2006

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[1] http://knowledgeweb.semanticweb.org/ (click on 'Exchanges' in the lower part of the left navigation bar)

Mikalai Yatskevich	University of Trento	IBM Watson Research Center	19.06.2006	20.08.2006
Andrei Tamilin	University of Trento	University of Mannheim	16.06.2006	24.07.2006
Raúl Palma	Universidad Politécnica de Madrid	University of Karlsruhe	25.04.2006	24.05.2006
Wolf Siberski	L3S Research Center	University of Aberdeen	27.03.2006	02.04.2006
Jeff Pan	University of Aberdeen	University of Manchester	16.11.2005	16.11.2005
Max Völkel	University of Karlsruhe	DERI Galway	03.11.2005	17.12.2005
Stefano David	Universidad Politécnica de Madrid	Universidad Politécnica de Madrid	01.10.2005	31.12.2005
Peter Dolog	L3S Research Center	Vrije Universiteit Amsterdam	16.09.2005	15.10.2005
Stefano Spaccapietra	École Polythechnique Fédérale de Lausanne	Free University of Bozen-Bolzano	01.09.2005	30.09.2005
Mustafa Jarrar	Vrije Universiteit Brussel	Free University of Bozen-Bolzano	24.08.2005	30.09.2005
Elena Paslaru Bontas	Freie Universität Berlin	University of Karlsruhe	01.08.2005	19.08.2005
Jörg Diederich	L3S Research Center	The Open University	25.07.2005	19.08.2005
Jeff Pan	University of Manchester	Vrije Universiteit Amsterdam	04.07.2005	16.07.2005
Mikalai Yatskevich	University of Trento	Vrije Universiteit Amsterdam	01.07.2005	29.07.2005
Jos de Bruijn	University of Innsbruck	Free University of Bozen-Bolzano	28.06.2005	08.07.2005
Antoine Zimmermann	Institut National de Recherche en Informatique et en Automatique	University of Karlsruhe	19.06.2005	26.06.2005
Jeff Pan	University of Manchester	Centre for Research and Technology Hellas	22.05.2005	30.05.2005
Lyndon JB Nixon	Freie Universität Berlin	Centre for Research and Technology Hellas	09.05.2005	27.05.2005
Marc Ehrig	University of Karlsruhe	Institut National de Recherche en Informatique et en Automatique	25.04.2005	27.05.2005

Jeff Pan	University of Manchester	Free University of Bozen-Bolzano	17.04.2005	30.04.2005
Knud Möller	National University of Ireland Galway	University of Sheffield	04.04.2005	29.04.2005
Raúl Palma	Universidad Politécnica de Madrid	University of Karlsruhe	14.03.2005	14.04.2006
Wolf Siberski	L3S Research Center	Vrije Universiteit Amsterdam	16.02.2005	11.03.2005
Jeff Pan	University of Manchester	Free University of Bozen-Bolzano	31.01.2005	13.02.2005
Heiner Stuckenschmidt	University of Mannheim	L3S Research Center	17.01.2005	11.02.2005
Christoph Tempich	University of Karlsruhe	*INESC-ID Lisabon*	22.11.2004	11.02.2005
Wolf Winkler	National University of Ireland Galway	University of Karlsruhe	01.11.2004	31.12.2004
Pavel Shvaiko	University of Trento	Institut National de Recherche en Informatique et en Automatique	06.10.2004	03.11.2004
Marta Sabou	Vrije Universiteit Amsterdam	University of Manchester	04.10.2004	06.10.2004
Klaus Schild	Freie Universität Berlin	National University of Ireland Galway	27.09.2004	01.10.2004
Davide Guidi	University of Bologna	*Open University*	27.09.2004	27.01.2005
Rafael González-Cabero	Universidad Politécnica de Madrid	*University of Southampton*	24.09.2004	15.10.2004
Marta Sabou	Vrije Universiteit Amsterdam	University of Sheffield	13.09.2004	15.10.2004
Holger Wache	Vrije Universiteit Amsterdam	University of Trento	30.08.2004	10.09.2004
Rubén Lara Hernández	University of Innsbruck	National University of Ireland Galway	22.07.2004	30.09.2004
Alexander Polleres	University of Innsbruck	National University of Ireland Galway	20.07.2004	11.09.2004
Wolfgang Nejdl	L3S Research Center	École Polythechnique Fédérale de Lausanne	12.07.2004	13.08.2004
Angel López-Cima	Universidad Politécnica de Madrid	The Open University	04.06.2004	09.07.2004

Mª del Carmen Suárez-Figueroa	Universidad Politécnica de Madrid	University of Liverpool	25.02.2004	16.04.2004
Ilya Zaihrayeu	University of Trento	University of Innsbruck	16.01.2004	30.01.2004

3.2 Basic Statistics

The following calculations are based on the exchanges listed in the KWeb portal on 20.10.2007. The numbers here reflect the current status.

- Grand total days of exchanges: **2102**
- Total days of exchanges in 2004: **627**
- Total days of exchanges in 2005: **883**
- Total days of exchanges in 2006: **216**
- Total days of exchanges in 2007: **376**

- Grand total number of exchanges: **52**
- Number of exchanges in 2004: **16**
- Number of exchanges in 2005: **21**
- Number of exchanges in 2006: **5**
- Number of exchanges in 2007: **10**

- Overall average time per exchange: ~**41 days**
- Average time per exchange in 2004: ~**39 days**
- Average time per exchange in 2005: ~**42 days**
- Average time per exchange in 2006: ~**43 days**
- Average time per exchange in 2007: ~**38 days**
- Total number of partners involved: **27** (20 KWeb partners and 7 external)

3.3 Exchanges per Partners

The following table presents an overview of exchanges per partner. External partners, i.e. partners outside of the KWeb consortium, are marked with grey. The table is sorted by (i) the total numbers and (ii) the first letters of the organization names.

Total	From	To	Name
11	6	5	University of Karlsruhe
9	8	1	Universidad Politécnica de Madrid
9	4	5	Vrije Universiteit Amsterdam
8	6	2	L3S Research Center
6	2	4	National University of Ireland Galway
6	4	2	University of Manchester
6	5	1	University of Trento
6	1	5	Free University of Bozen-Bolzano

5	1	4	The Open University
5	2	3	Centre for Research and Technology Hellas
4	3	1	University of Innsbruck
4	1	3	Institut National de Recherche en Informatique et en Automatique
4	1	3	University of Aberdeen
3	1	2	École Polythechnique Fédérale de Lausanne
3	3		Freie Universität Berlin
2	1	1	University of Liverpool
2	1	1	University of Mannheim
2		2	University of Sheffield
1	1		Vrije Universiteit Brussel
1		1	IBM Watson Research Center
1		1	INESC-ID Lisabon
1		1	Stanford University
1	1		University of Bologna
1		1	University of Southampton
1		1	Université Paul Sabatier
1		1	Universidad Nacional del Sur (ARG)

4 Analysis of Shared Publications

To analyze shared publications of KWeb partners we analyzed the publicly available data of the DBLP literature database (see http://www.informatik.uni-trier.de/~ley/db/), a computer science bibliography provided by the Universität Trier.

Before we present the data we give a brief discussion on the collection of the data. First, publications of KWeb members available in DBLP start in 1984. However, the number of shared publications before 1999 can be neglected. Most of them are joint papers of Fensel and Studer who had the same affiliation at that time. Second, the number of publications in DBLP for 2007 is certainly not yet complete as there is a certain delay between publishing and appearance in DBLP. Thirdly, several members of KWeb changed affiliation during the runtime of KWeb, and this report dates from October 2007. We did not check affiliations of authors on the papers themselves as the papers are not available in DBLP, only their bibliographic metadata.

We collected all publications (co-)authored by KWeb members. We extracted the list of authors from the KWeb portal, i.e. we collected all publications of registered KWeb members at the KWeb portal. Then, we removed duplicates.

This led to a total of **3536** publications in total (1984-2007) and **1587** publications for the runtime of KWeb (2004-2007).

We counted the number of publications that have at least two authors from different institutions. The following table shows the numbers of shared publications for the years 1999 to 2007. The shared publications which have been published after the start of KWeb in 2004 are marked with grey.

Year	Shared Publications
1984-98	Neglectable
1999	14
2000	14
2001	13
2002	22
2003	19
2004	29
2005	42
2006	34
2007	16

The numbers indicate an increasing collaboration of KWeb partners.
- In the years **1984-2003** the total of publications is 1949 and the total of shared publications is 82 which leads to a "share ratio" of 82/1949 = **4,2%**

- In the years **2004-2007** the total of publications is 1587 and the total of shared publications is 121 which leads to a "share ratio" of 121/1587 = **7,6%**

5 Summary

The total amount of exchanges per year increased in 2007. The average duration per exchange was roughly stable with ~39 days per exchange in 2004, ~42 days in 2005, ~43 days in 2006, and ~38 days in 2007.

In the years 2004 to 2007, **27 partners** (20 KWeb partners and 7 external) participated in **2102 days of exchange** with an average duration of **~40 days per exchange**.

The analysis of DBLP bibliographic meta data revealed an increase of shared publications among KWeb partners. It could be shown that the **"share ratio"** of shared publications vs. total publications of KWeb members increased **from 4,2%** for the years 1984-2003 **to 7,6%** for the years 2004-2007 (runtime of KWeb).

KnowledgeWeb has played an important role in forming and furthering the European Semantic Web community. International conferences, driven by members of the KnowledgeWeb consortium, have become the major events in the area. We mention the European Semantic Web Conference Series and the International Semantic Web Conference Series as two such events. In 2007, the European Semantic Technology Conference was established, which is tailored towards applications and industry participation. It can be expected that the current momentum will be sustained.