

Project IST 026850 SUPER

Semantics Utilized for Process management within and between Enterprises

Deliverable 12.1

SUPER PhD Programme

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Executive Summary

This document describes the SUPER PhD Programme that aims at establishing collaboration between PhD Students working in the SUPER project. The following deliverable describes programme goals, its members and benefits for the SUPER project as well as activities performed until now within the Programme.

Major achievements of the SUPER PhD Programme that will be described within this deliverable are as follows:

- exchange of young researchers between project partners' organizations,
- preparation of the web page containing SUPER-related materials for PhD Students (also from outside of the project),
- development of a newsletter containing information on e.g. upcoming workshops that may be of students' interest,
- establishment of mailing list for communication within the programme.

Moreover, the deliverable will also describe future actions that will be undertaken within the programme.

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1 Introduction

The SUPER PhD Programme is a part of the dissemination strategy of the SUPER European Project. The programme has been prepared for the PhD students from the partner organizations and its main objective is to allow students to gain experience and discuss ideas related to the SUPER project for the needs of improving their dissertations. The programme is also about obtaining experience from the international cooperation by means of exchange between partners. Its additional objective is the internal and external dissemination of the project achievements among both partners and external parties. As written in the SUPER Description of Work, the PhD Programme is focused on creating the next generation of researchers in the area of semantics and business processes¹.

2 Programme goals and beneficiaries

2.1 Programme goals

Goals for the SUPER PhD Programme were defined as follows:

- Training of PhD students working on the project in the SUPER topics – achieved by the creation of common resource pool (website) and training activities within organizations and outside of them (tutorials, scientific sessions).
- Enhancing the collaboration among the project partners – achieved by the PhD student exchange and collaboration during dissemination events preparation.
- Inducing new publication initiatives – mentoring activities by the senior professors guiding programme's participants.
- Intensifying dissemination of the project – increasing the available amount of information available to interested parties.
- Establishing a community of young researchers working on similar topics.

2.2 Programme activities

As the programme deals with strengthening the collaboration of the PhD students within SUPER, its activities are devoted to supporting or creating opportunities to achieve its goals. Therefore, the main activities of the PhD programme are the following:

- Coordination of the student exchange between the SUPER Project Partners,
- Organisation of special PhD sessions collocated with major events of interest (e.g. BIS, ESWC),
- Providing information on workshops, etc. that may be of interest to the PhD Students,
- Support of joint works on the publications.

¹ SUPER Description of work

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2.3 Programme beneficiaries

As it was previously described, the programme is beneficial to all considered parties (i.e. a hosting institution, a home institution, students and the project itself).

Nevertheless, the most important beneficiaries are its participants as the PhD programme is a great chance to extend capabilities and gather enormous amount of experience crucial to achieve success in a later career. The participation in the programme will surely lead to acquiring outstanding abilities in collaboration in different organizations spread all over Europe. This is asset that cannot be underestimated by any means. In addition, working with people coming from different backgrounds can greatly boost the effects of scientific work, as the diversity shall greatly enhance the view on variety of subjects, thus letting explore them more thoroughly. In case of exchange with enterprise partners, the students can gain recognition among business practitioners which can help them in the future if they find business practice more tempting than research career.

The programme has great influence on the quality of participants' dissertations. As participants work on research topics close to the SUPER domain of interest, they have an opportunity that cannot be diminished, to cooperate with the leading scientists in their dissertation's interest field. This gives an insight in the state of the art technologies and theoretical advances that cannot be obtained in any other way.

The home institution's greatest benefits lay in the knowledge transfer done by the students. More, the transfer is the chance to tighten the cooperation on scientific topics closely related to the SUPER project and any aside yet important to the cooperating organizations. Publications created by the students will demonstrate that both their host and home institutions are flexible and active members of the scientific community. Joint work is a great occasion for finding new domain of possible cooperation thus it helps in building strong relationship between partners possibly leading to the extension of cooperation in consortia for new European projects.

The PhD Programme has its contribution to the general policy of European Union of investments in human resources. While not being in the People track of the 6th and 7th Framework Programme, it levels up the expertise of the people involved of which their environment can take advantage.

2.4 Programme participants and mentors

Programme participants recruit from the project consortium organizations. They share a trait of involvement in the research work of the project. The participants work in a variety of research topics closely related to the main project objectives. The programme does not disqualify students that in their dissertations delve into topics not strictly overlapping the SUPER domain of interests. It's open to all PhD students from the project organizations.

A programme mentor is a person that helps the participants in their research work by providing comments on their publications and new incentives. Additionally, mentors help to sustain the high level of overall contribution of programme participants.

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Mentors were selected from the body of the project's professors. The choice criteria were the experience and the number of publications in the domain of the SUPER related research work. They were invited using the project official communication channels.

2.5 Programme structure

The programme was designed to advance in several phases defined as follows:

- Acquisition of data, materials and volunteers for the participation in the programme – all preliminary activities along with the acquisition of essential information on the volume.
- Shaping the programme's structure – organization of the programme's formal side and designing the details of the actions to be taken.
- Creation of infrastructure skeleton (web site, mailing list) – described in detail in the following sections.
- First PhD student exchanges - described in detail in the following sections.
- Publications and collaboration events (tutorials and special PhD sessions) - described in detail in the following sections.

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3 Performed actions

3.1 Tutorials

While not the integral part of the PhD Programme, tutorials are yet another collaboration opportunity for the programme participants allowing for better integration. Until now there have been four tutorials in which creation the PhD programme participants were involved both in the preparation phase as well as during presentations.

A half day tutorial entitled "Semantics for Business Process Management" was presented on the 4th European Semantic Web Conference (ESWC 2007) in Innsbruck, Austria. Another half day tutorial was held at the European Semantic Technologies Conference (ESTC) in Vienna. Additionally, two three hours long tutorials were held during the Autonomous Infrastructure, Management and Security Conference (AIMS 2007 Oslo, Norway, June 21 - 23 2007) and the 6th International Semantic Web Conference (ISWC 2007 Busan, Korea, November 11 - 15 2007).

The tutorials explained and demonstrated how the combination of Business Process Management (BPM) and Semantic Web Services (SWS) can eliminate the deficiencies that current BPM technology exhibits. State of the art was presented in both areas (process modelling and execution in BPM, the SOA concept in BPM, the SWS approach and frameworks, etc.). Additionally, a need for explicit use of semantics to overcome the current challenges in BPM was motivated, and a consolidated technical framework that integrates SWS into BPM technology was also presented.

3.2 Student exchange

The programme has already assisted in the PhD student exchange. Currently, nearly 30% of programme participants (from the total of 13) had the opportunity to gain experience and observe the SUPER project from the perspective of other projects' members.

The aim of exchange lines up with the three of four SUPER PhD programme's goals, namely:

- Training PhD students working on the project in the SUPER topics,
- Enhancing the collaboration among the project partners,
- Inducing new publication initiatives,
- Providing different point of view on the issues the PhD student is working on, working with the experts from the field.

First goal is being fulfilled by the intensified knowledge acquisition during the stay in the partner organizations. Participants are exposed to the new environment where new attitude, methods and research manners are present. More, they are given opportunity to gather information and knowledge different than those from their home institution. Absorption of the above mentioned leverages the overall value of the trained students thus it benefits to the general level of research in the SUPER.

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Second goal is achieved by building trust relations between partner institutions. Each exchange demonstrates goodwill of the home and host organization. What is more, exchanges are feats of willingness to cooperate and share valuable resources such as time, knowledge and effort to cooperate.

Third goal is realised by support and encouragement of writing publications co-authored by people from host and home institutions. The topics of the publications vary from the summary of work during the exchange to genuine research ideas.

The following participants have participated in the exchange:

Table 1 Participants of exchange among partners

Participant	Home institution	Hosting institution
Agata Filipowska	PUE	SAP
Monika Kaczmarek	PUE	SAP
Federico Michele Facca	CEFRIEL	LFUI
Maciej Zaremba	NUIG	LFUI

Details of the exchanges are presented below in separate tables for each participant.

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Table 2 Exchange details – Agata Filipowska

Participant	Agata Filipowska
Topic of the exchange	Business Process-Oriented Organisational Ontologies, Evaluation Methodologies
Topic of the dissertation	Spatial Indexing for Creating Company Profiles
Current affiliation	Poznan University of Economics, Department of Information Systems
Host institution of the exchange	SAP Research Brisbane, Australia
Duration of the exchange	3 months (18 June 2007 - 14 September 2007)
Additional comments	Cooperation by creating the methodology for assessment of the SUPER SBPM methodology Development of the SUPER organisational ontologies stack Alignment of the SUPER organisational ontologies with the YATOSP framework Preparation of examples of processes described using the SUPER ontology Stack for the needs of process discovery

Table 3 Exchange details – Monika Kaczmarek

Participant	Monika Kaczmarek
Topic of the exchange	Semantic ecosystems and Semantic support for cross-organizational business processes
Topic of the dissertation	Business-driven Semantic Web services e-marketplace. However, please note that this is initial version
Current affiliation	Poznan University of Economics, Department of Information Systems
Host institution of the exchange	SAP Research Brisbane, Australia
Duration of the exchange	3 months (18 June 2007 - 14 September 2007)

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Table 4 Exchange details – Maciej Zaremba

Participant	Maciej Zaremba
Topic of the exchange	Work on SWS use-cases executed on WSMX including new and improved components such as: generic WSMML reasoner based Data Mediation, Keyword, QoS and LightSemantic Discovery, generic XML<->WSML adapter
Topic of the dissertation	Service Contracting Support in Semantic Web Service Discovery
Current affiliation	DERI Galway, NUIG
Host institution of the exchange	DERI Innsbruck, LFUI
Duration of the exchange	8 December 2006 – 15 December 2006
Additional comments	Collaboration with: Mick Kerrigan, Thomas Haselwanter, Adina Sirbu, Adrian Mocan, others. WSMX components integration has been carried out, and further collaboration steps has been established.

Table 5 Exchange details – Federico Michele Facca

Participant	Federico Michele Facca
Topic of the exchange	Semantic Data Mediation and Process Orchestration
Topic of the dissertation	Model-driven Design of Semantic Web Services and Web Applications
Current affiliation	CEFRIEL
Host institution of the exchange	DERI Innsbruck, LFUI
Duration of the exchange	6 months (1 February 2007 - 31 July 2007)
Additional comments	The research period was very fruitful as it allowed to closely cooperate with top researchers in the domain of participants dissertation. As a effect additional insight into the topic of Semantic Web Services was gained especially given that the host institution is the home of creators of WSMF framework. The exchange had also enabled to put into practice a lot of theoretical concepts from the dissertation interest domain.

The exchange is to bring measurable effects in the form of publications. As an example Agata Filipowska and Monika Kaczmarek are working on two journal publications based on the research carried out for the D.1.2. (Organisational Ontologies Stack for the needs of description of Business Processes) and D.2.3. (Methodology for evaluating the SBPM methodology developed within SUPER) deliverables.

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Having in mind the overall number of participants the exchange factor is higher than the average. The topics of the exchanges are varied. Nevertheless, they are strictly aligned with the mainstream of the research work performed in the SUPER project. In the opinion of the exchange participants the opportunity created by the programme let them gather new experience, gain new attitude towards their work and tighten the relations among project partners.

3.3 Programme Site

Within the Programme also collaboration platform for the participants has been implemented as a part of the SUPER's project site. It can be found under: <http://www.ip-super.org/content/view/103/91/>. Apart from the programme's description participants one can find there also resources strictly associated with the programme. Site hosts also a copy of newsletter issued to the participants and informing them of important issues and events.

The site has over 1.5 thousand impressions since its establishment on the 3rd of November 2006. In comparison with the main page that had circa 5.5 thousand impressions it is one of the more visited sites of the SUPER portal.



Figure 1 PhD Programme site

Along with the separate PhD programme site, there are also resources for external PhD students which constitute a great source of information about the project itself. Resources can be found under the following address: <http://www.ip-super.org/content/view/45/69/>. This web page is open for the general public.

Additional source of materials is provided at the site of one of the project partners, where a webcast on the technologies used in SUPER is available.

<http://stadium.open.ac.uk/stadia/preview.php?whichevent=835&s=44&schedule=949>

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Semantic Web Services
Dr. John Domingue, Prof. Dr. Frank Leyman, Barry Norton
This event took place on 3rd April 2006

This webcast gives an overview of one of the background technologies to be used in Super which results from the **DIP** (dip.semanticweb.org) project. First a general overview of the semantic Web and Web services is given followed by the overall aim of semantic Web services research. The second part of the presentation gives a detailed description of the Web Services Modelling Ontology (WSMO). The final part incorporates a hands-on session using a number of DIP tools including **IRS-III** (kmi.open.ac.uk/projects/irs/) and **WSMO Studio** (www.wsmostudio.org).

Related Downloads
Standalone QuickTime Replay ([108Mb zip file](#)) as an alternative to watching the replay online.
[Return to the event page](#)

Click below to play the event (84 minutes)

Get QuickTime
Free Download

You need to install QuickTime 7 or later to view this presentation.

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Figure 2 Open University's webcasts

3.4 Mailing list

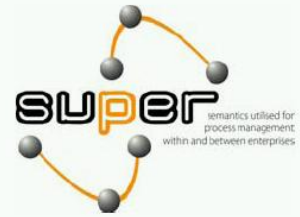
For the needs of communication a mailing list was set up at the premises of SAP. List is used as a broadcast communication tool to address all the participants directly. All the participants are registered as subscribers of the list. Information transmitted over the list consists of important news and announcements concerning the PhD programme participants.

The list's address is as follows: super.phdprogramme@listserv.sap.com

3.5 Newsletter

The PhD Programme's newsletter is a special bulletin issued on irregular basis. It gathers information concerning programme participants. Two channels of its distribution are the programme's mailing list and the programme's web site. Below please find an excerpt from the first issue.

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Dear PhD Programme Participants,

First of all, we would like to welcome you in our first programme newsletter.

Apart from the dedicated page at the official project site (<http://www.ip-super.org/content/view/103/91/>), this would be suitable channel to communicate various actions concerning all of the programme participants.

We have finally finished gathering information about people interested in participation both as a students and as mentors. We publish a complete list on the mentioned page.

The SUPER PhD programme is great opportunity to enhance one's skills and knowledge related to the broad notion of semantically extended business process

Figure 3 PhD Programme's newsletter

All the issues of the newsletter can be found at:

http://www.ip-super.org/component/option,com_docman/task,cat_view/gid,26/Itemid,127/

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4 Participant and mentor list

The programme has total of 13 members and 3 mentors coming from the following partner organizations:

- CEFRIEL (1 participant)
- TP S.A. (2 participants)
- SAP (3 participants)
- LFUI (2 participants and 2 mentors)
- PUE (4 participants and 1 mentor)

Table 6 Participant list

Participant's name	Affiliation
Federico Michele Facca	CEFRIEL
Jacek Frankowski	TP S.A.
Sebastian Stein	IDS Sheer
Ivan Markowic	SAP
James Scicluna	LFUI
Darko Anicie	LFUI
Ingo Weber	SAP
Christian Drumm	SAP
Monika Kaczmarek	PUE
Dominik Zyskowski	PUE
Agata Filipowska	PUE
Karol Wieloch	PUE
Paweł Rubach	TP S.A.

Table 7 Mentor list

Mentor	Affiliation
Witold Abramowicz	PUE
Martin Hepp	LFUI
Frank Leymann	USTUTT

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5 Future plans

As for the main activities, it has been planned to collocate a special PhD sessions with conferences and other events (such as tutorials) of the SUPER domain interest. As the programme has not fully entered to the “publication and collaboration events” phase the number and final outline of the planned actions is not yet defined in detail.

5.1 Scientific events

Exemplary event of this kind is a PhD session during the Business Information Systems conference to be held on the 5-7 May 2008 in Innsbruck. PhD students are encouraged to submit papers which base or enhance topics which are delved with within the SUPER project. The best paper is to be published in the proceedings of the conference. Such an event promotes research work of the PhD students and enables them to become significant members of the scientific community.

Articles created by the PhD Programme members are reviewed and consulted by programme mentors. Their experience in the domain is used to the benefit of the students letting them raise the level of their work.

In the Annex I of this deliverable please find enclosed call for papers of SUPER PhD Programme Session during the Business Information Systems 2008 conference.

Other events are planned during conferences organised by the ESSI Cluster and related to the Semantic Technologies being the SUPER foundation. Some of events during the BPM Conferences are also envisioned.

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6 Conclusions

The SUPER PhD Programme has developed well since its initial stadium and become fully operational enterprise.

The most significant achievements so far are:

- Creation of programme's infrastructure
 - Mailing list
 - Web site
 - Resource provision
 - Newsletter
- Launching first tutorials and sessions
 - "Semantics for Business Process Management"
 - SUPER PhD Programme Session
- Exchange of PhD Programme's participants
 - Over 30% of participants
 - Average time of exchange is over two and half months

Within the next months we plan to organize a number of events where participants of the PhD programme would be able to tighten the cooperation and gather new experience. The outcome of the PhD Programme will be also joint publication of PhD students and hosting partners taking into account research undertaken during exchanges among the project partners.

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7 Annex I

***** SUPER PhD Programme Session: Call for Papers *****

The 11th Business Information Systems (BIS 2008)

Innsbruck, Austria 5-7 May 2008

<http://bis.kie.ae.poznan.pl>

SUPER Phd Programme Session

It is our pleasure to invite you to submit your work to BIS 2008 conference SUPER PhD Programme session. It will take place in May 2008 in Innsbruck and will be jointly organized by Poznan University of Economics and University of Innsbruck.

The theme of the conference reflects recent developments in providing services over the Web and efforts in utilizing social phenomena of blogs, wikis, and folksonomies for advantages of the enterprises and public administrations. The basic idea behind is to bring services closer to users and to enable users to leverage the services or even build communities around services. Web 2.0 and Semantic Web allow for enterprise outreach and self-service. As it still not clear what Web 2.0 will mean for enterprises it is a perfect germ for investigations of research papers for BIS 2008.

The goal of the SUPER Phd Programme session is to create an opportunity for doctoral students to test their research ideas, present their current progress and future plans, and most of all to receive constructive criticism and insights related to their future work and career perspectives. PhD Programme Mentors will be assigned to each student to provide individual feedback and advice on the paper, the focus of the work and further developments.

All papers submitted to the SUPER PhD Programme Session stream will undergo a thorough reviewing process with a view to providing detailed and constructive feedback. The best submissions will be selected for presentation at the SUPER PhD Programme Session. The best of papers will be published in the proceedings of BIS 2008.

Topics:

The SUPER PhD Programme Session of BIS 2008 solicits submission of PhD research papers dealing with various issues important from the perspective of the SUPER project. Topics include, but are not limited to:

- * business process management
 - o semantic business process management
 - o adaptive and dynamic processes
 - o ERP/SCM implementations
 - o business rules
 - o integration of data and processes
 - o inter-organizational processes
 - o collaborative BPM
- * ontologies

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- o creation, learning, population, evolution and evaluation of ontologies
 - o ontologies for enterprise content management
 - o natural language processing and cognitive science
 - o semantic integration of heterogeneous semistructured information sources
 - o interoperability of heterogeneous information systems
 - o business models for Web information integration and aggregation
 - * contexts
 - o location-aware and geography-centric information systems
 - o wireless and mobile applications
 - o multi-agent distributed systems
 - o semantic web personalization
 - o ambient computing
 - o applications and challenges of RFID technology
 - * content retrieval and filtering
 - o hidden Web search and crawling
 - o data integration from Web information sources
 - o modelling and describing evolving data sources
 - o adaptive integration of evolving data sources
 - o information gathering support for knowledge-intensive enterprises
 - o search over semi-structural Web sources
 - o business models for a content
 - * web services
 - o software as a service (SaaS)
 - o service oriented computing (SOA)
 - o semantic web services
 - o composition, choreography and orchestration
 - o open, decentralized self-service
 - o trust and quality of service (QoS)
 - o service level agreements
 - * collaboration
 - o social networks and social wikis
 - o enterprise mashups, Enterprise 2.0
 - o infrastructures for collaboration (P2P, TSC, etc.)
 - o semantic grid
 - o security in distributed systems
 - o Web-based model for discoverability, consumption, and reuse
 - * e-government
 - o e-participation, e-democracy
 - o e-administration
 - o digital divide
 - o government application integration
 - o e-government and multilingualism
 - o interoperability of public administrations and privatepublic partnership
-