



D3.2.6 Summer School 2005

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Abstract.

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The intention of this deliverable is to describe the Third Summer School on Ontological Engineering and the Semantic Web (SSSW'05).

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Executive Summary

The intention of this deliverable is to describe the Third Summer School on Ontological Engineering and the Semantic Web (SSSW'05).

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Introduction

According to the revised KnowledgeWeb Technical Annex a report on the Third Summer School on semantic web technologies is required at the end of the second year of the Network's existence. This report will give information about the Third European Summer School on Ontological Engineering and the Semantic Web (SSSW-2005).

This is the third SSSW summer school following the second school held under the auspices of KnowledgeWeb in 2004.

The school's web site is at: <http://babage.dia.fi.upm.es/sssw05/>

The school was held in an excellent conference facility belonging to the Universidad Politécnica de Madrid, in the Sierra de Guadarrama Mountains about 50 km from Madrid.

While the school was underwritten by the KnowledgeWeb, we had six other sponsors ranging from universities to private companies including the Universidad Politécnica de Madrid, The Open University and Lispworks.

Instead of last year's three topic areas, we had six tutorials and a tutorial practical session. Last year we had:

- Ontologies: Theory, Methods and Tools;
- Human Language Technologies and Machine Learning for the Semantic Web;
- Semantic Web Services

This year's list of topics (and tutors) is given below:

- Knowledge Representation Languages for the Semantic Web (OWL Overview) - Sean Bechhofer
- Fundamentals on Ontological Engineering- Asun Gómez-Pérez
- Design Patterns in Knowledge Representation - Enrico Motta and Aldo Gangemi (Tutorial/Practical session)
- Ontology Mapping and Alignment - Natasha Fridman Noy
- Ontology Validation and Evaluation - Aldo Gangemi
- Human Language Technologies and Machine Learning for the Semantic Web - Fabio Ciravegna
- Semantic Web Services - John Domingue

Another innovation was a poster session for students. This was included in response to a student comment from SSSW 2004. 22 students presented posters in a session attended by the tutors. This turned out to be a lively, well-attended and fruitful session. We will certainly keep this as part of the programme for any future summer school.

Apart from the change from 3 topics to 7, the introduction of poster sessions, and the recording of tutorials and talks by a member of the University of Trento staff¹, the school had a similar format to previous years. The school was designed to be an intense, focused, week-long learning experience for students (and tutors) with formal, theoretical sessions followed by hands-on practical sessions. These sessions were conducted by researchers active in the semantic web and gave students an opportunity to become acquainted with state of the art ideas and tools. In addition, as a means of integrating the work on the seven topic areas, students had to work in groups of 4 or 5 on a mini-project related to one of the topic areas. The students presented their project work on the last day of the school and a prize was given for best presentation.

Six talks by invited speakers gave additional perspectives to the tutorial material and were unanimously welcomed by all the participants at the school.

A much needed break from this schedule was provided in the middle of the week by a visit to Segovia, a medieval city on the other side of the Sierra de Guadarrama.

While in general staff and students expressed satisfaction both with SSSW-2005's organization and content, a more detailed analysis of the questionnaire sent to students after the school indicates a few areas in which improvements could be made.

Of the 56 students at the summer school, 45 returned completed questionnaires, an 80% return rate. Last year we only had a 52% return rate probably due to the late issue of the questionnaire.

Organization Model followed

As in previous years, a simple organizational model was followed with Enrico Motta as director making the overall decisions about location, student numbers, tutor selection and so on. The director consulted with the co-director (Asunción Gómez Pérez) on overall strategy and before making detailed decisions. The co-director also acted as local organizer, making decisions on the detailed logistics based on the overall strategy. Once the decisions were made about the summer school components (number of tutorial strands, hands-on sessions, mini-project) and the tutor team selected, they, along with some of the invited speakers, formed an ad hoc management board in which any remaining decisions about, for example, the format of and detailed interaction among the various components of the school, were made, usually by email or telephone conferences.

Sponsors

There were 7 sponsors:

- KnowledgeWeb
- The Open University
- Universidad Politécnica de Madrid
- KMi
- Departamento de Inteligencia Artificial
- Ontology Engineering Group
- Lispworks, Cambridge, UK

¹ Contact Marco Ronchetti for details at marco.ronchetti@unitn.it

Statistics

The summer school had 56 students (1 was unable to attend), mostly in the 2nd year of their PhDs, from 14 countries. There were 7 tutors and 6 invited speakers from 6 countries. There were 94 submissions. 34% of those accepted were from KnowledgeWeb participants which is less than last year (44%).

Australia	1	Ireland	1
Austria	1	Italy	15
Czech Republic	1	Netherlands, The	2
Denmark	1	Romania	1
France	5	Spain	7
Germany	6	United Kingdom	13
Greece	2	United States of America	1
		Total	57

Table 1: number of (selected) students per country

Males: 38	Female: 19
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Table 2: Female/male percentage: i.e., 33% of the students were women

An attempt was made this year to redress the imbalance between male and female in 2004 where only 26% of the students were women. A slightly higher percentage of women students were selected than applied.

The rest of this report will give an analysis of important aspects of the completed questionnaires.

Organization

84% of the students said they were ‘Very Happy’ with the organization of the summer school. Two central questions relating to the structure of the summer school were asked: firstly, about student’s rating of the importance of including a component; secondly on their enjoyment of a component. Student scores ranged from 1 = lowest rating to 5 = highest. (Note that in previous years the range was from 1 to 4.)

As Table 3 indicates, the greatest number of students gave 5s to all components, thus indicating that they felt that all components should have been included though there was a slight wariness about including the project.

I was very impressed with the overall organisation and conduct of the summer school. The energy and dedication of the staff was exemplary and the hospitality much appreciated.

However, their responses to the second question show that students enjoyed the project as much as other parts of the school and that they were most appreciative of the talks. While it is hard to analyze why, in 2004 and 2005 enjoyment scored slightly less highly than inclusion.

Inclusion				Enjoyment				Year
tutorials	hands-on	talks	project	tutorials	hands-on	talks	project	
4	3	4	4	3	4	4	2	2003
4	4	4	4	3	3	4	3	2004
5	5	5	4	4	4	5	4	2005

Table 3 showing the statistical mode for the student responses

Poster session

As we said above, this was an innovation this year which was generally well received. In fact it was as much a social, networking event as a formal presentation of ideas. 62% of the

Put the posters at the beginning of the school so that even before the session, students & tutors can see them

students found the poster session useful while 31% found it very useful. 35% found the feedback from tutors useful while 35% found it very useful. 38% found the feedback from other students useful while 38%

The addition of poster session was good idea keep it for the next summer schools

found it very useful. Note that since not all students presented a poster these questions were unanswered by several of our respondents. An overwhelming 84% (38 students) would include posters in future years with only 2 students opposed.

Topics

KR	HLT	SWS	2004
3	3	3	

Ont. Engineer.	OWL	Ont. Mapping	Ont. Valid.	HLT	SWS	
5	5	5	3	5	4	
173	178	187	146	184	181	2005

Table 4 Modes and totals for topic fulfilment of expectations

KR	HLT	SWS	2004
3	3	3	

Ont. Engineer.	OWL	Ont. Mapping	Ont. Valid.	HLT	SWS	
4	5	5	3	5	5	
181	186	187	152	183	182	2005

Table 5 Modes and totals for topic enjoyment

As Table 4 indicates, when asked to rate how well a topic fulfilled their expectations most students gave 5s for all topics with 4 for Semantic Web Services and 3 for Ontology Validation. As Table 5 indicates, the results were similar when students were asked to rate their enjoyment of the topics. The totals for fulfilment and enjoyment perhaps give a slightly more nuanced picture. While it is clear that Ontology Validation fulfilled fewer expectations and was enjoyed less, it is clearer from this that Ontology Mapping fulfilled most expectations and was enjoyed most.

The following list indicates what topics students feel should be added:

- Extra sessions on OWL
- Ontology evolution
- Rule languages
- Other ontology languages overview and comparison
- Not just ontologies but real working Semantic Web applications
- Trust
- Scalability

- Semantic Multimedia
- Multimedia annotation
- Real world ontologies

Most students were either happy (62%) or very happy (35%) with the topic associated hands-on sessions and the assistance given by tutors (47% and 51%, respectively).

Mini-Project

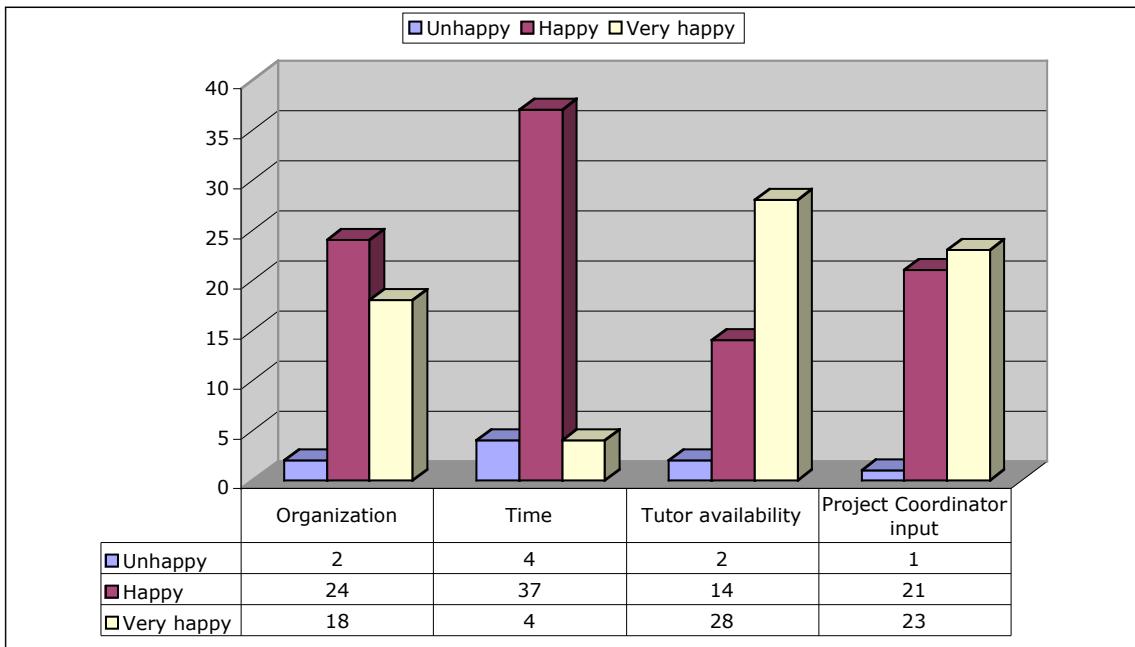


Figure 1 Answers to questions about the project

Figure 1 indicates that in general students were happy or very happy with the project organization, time allocated, tutor availability and input from the project coordinator. It is clear however that few students were very happy about the time allocation for the project (9%) although most expressed themselves happy. It is also clear that students were slightly more inclined to be very happy with the project coordinator's input and overwhelmingly so inclined with the input from tutors.

I think the mini-project strikes the right balance between some serious technical issues and a light-hearted look at things. The project presentation session was great fun - even though some groups took it far too seriously.

Selected Student Suggestions and Comments

Have you any suggestions as to how organization might be improved?	<p>Lunches should be kept lighter and less formal. A heavy evening meal is fine but a light buffet style lunch would suffice.</p> <p>More hands-on practical sessions!</p> <p>Hands-on sessions are too short, should have theoretical 'tutorials' and practical ones.</p> <p>Not two complete meals per day. Maybe a simple buffet for lunch? A less strict schedule (with social activities)</p> <p>Can it really be improved? I don't see how!</p> <p>Poster session the first day</p> <p>Different days for the swimming pool and (Segovia's?) dinner</p> <p>Organise less tight schedule, we can have the same amount of hours but more time for working on project</p>
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	<p><u>and share experience with other students. Schedule dinner later.</u></p> <p>Would you add any additional components, and if so, what?</p> <p>I think there's no time for add more components!</p> <p>I would integrate both the hands-on and the mini-project. So that a simple implementation can be developed using the techniques presented at the school</p> <p>No, the programme is full enough as it is</p> <p>Something in-between hands-on and formal tutorial. During hands-on a lot of time is spent on trivial/practical problems with the tools</p> <p>Have a formal session to create FOAF files for everybody (or require this for application to the SS) - and publish those!</p> <p>The addition of poster session was good idea keep it for the next summer schools</p>
Any other comments on the organization of the summer school?	<p>I was very impressed with the overall organisation and conduct of the summer school. The energy and dedication of the staff was exemplary and the hospitality much appreciated.</p> <p>Very tight schedule: the bus is coming! Everything perfect, maybe too much food</p> <p>Great composition of lectures, practicals and fun. I liked the strong enforcement of talk times. Maybe poster session earlier during summer school, because it helps to (learn people know?)</p> <p>Excellent organisation!</p> <p>TOO MUCH FOOD DURING THE MEALS!!!</p> <p>We had too much food. I will suggest to have sort of sandwiches for lunch, so we can have more spare time and we do not have to wait for meal for 1 hour.</p> <p>Good mix of social events, tutorials and hands-on</p> <p>School should extend two days more</p>
Have you any suggestions as to how poster sessions might be improved?	<p>Spread the poster session over two separate days with different students presenting. This allows more time on fewer posters and also allows those students presenting in one session to at least see the work of some of the other students.</p> <p>Larger room, prints in A4 format of all posters.</p> <p>More presentations not posters</p> <p>Just do it outdoors - we are in Spain!</p> <p>More time?</p> <p>Schedule it sooner, so we know which students are most related to our own topics</p> <p>Make more than 1 to allow everyone to see everybody's posters. The people that presented a poster didn't have time to visit others</p> <p>The posters needed to be more spaced out so we can have room to stand and can hear the conversation</p> <p>Perhaps it would be better to put them in one room on a wall.</p> <p>The time that was provided for poster session was not sufficient, as students that had a poster did not have the time to see the other posters. I would propose for next year to be 'available' all posters in a room from the first day.</p> <p>Posters on the wall?</p> <p>Larger room, vertical displays?</p> <p>The A2 size limit was a barrier to me bringing a poster; otherwise I could have revised an existing A1 poster</p> <p>Have a list of posters hanging somewhere so that people know what are the topics...</p> <p>Hang the posters since the beginning of the school in a visible place (eg meditation room)</p> <p>Only some tutors looked at all the posters.</p> <p>Maybe to make it compulsory and longer session. Also to put the posters at the beginning of the school</p>

	<p>so that even before the session, students & tutors can see them and have more time to discuss about it.</p> <p>OK. Providing poster title. Have 2 evenings of posters. Have the poster description available within the documents that students have at the beginning of the school.</p> <p>Put posters up on the wall</p> <p>Perhaps a more wide room would be better</p> <p>Smaller groups (split the session into 2 days)</p> <p>More space, less heat ;-)</p> <p>I would prefer to do the poster session in two days in order to see everyone's poster</p> <p>I think it may be obligatory. I subscribed and would have brought it if I had no (time)-intensive case of death in my family the last 3 weeks</p> <p><u>I suggest to provide poster title or description before poster session.</u></p>
If you would prefer to have more topic areas, what would you add?	<p>Some extra sessions on OWL</p> <p>Ontology evolution</p> <p>Rule languages</p> <p>Other ontology languages overview. Comparison.</p> <p>The invited talks were very helpful either in addition to (focal?) tutorials either focusing on other areas, eg multiagents, semantic grid. Additions would be ontologies and p2p networks</p> <p>Semantic Web. Not just ontologies, but real, workable and working examples</p> <p>More on trust and how to handle inconsistent assertions and lies</p> <p>Scalability thing</p> <p>Semantic Multimedia!</p> <p>Multimedia and semantic web. Multimedia annotation for semantic web</p> <p>More examples of real-world ontologies not just toy/conceptual examples</p> <p>Rules</p>
Add any critical comments or positive suggestions as to how hands-on sessions might be improved.	<p>Sending the documentation for the sessions before the school attendance (and the links to tools to be used)</p> <p>More computers so that students can work in groups no larger than two</p> <p>Hand out the instructions on beforehand (as was done with the owl tutorial). Confusing to read and do the assignment at the same time</p> <p>Instead of having many small, autonomous groups try to build bigger ones (~to people), which solve the problems together with a dedicated tutor.</p> <p>Present solution at the end of the sessions</p> <p>Describe exercises with more detail</p> <p>Some sessions had too much slides and were not always organised.</p> <p>Work in larger groups but led by a tutor. When following the written instructions in the hands-on session it's easy to accomplish the task but also to forget what we are doing this for.</p> <p>In one case the topic was too theoretical - perhaps we should have given a little bit more introduction to it</p> <p>Especially for hands-on session it would be better if we have some handouts in order to guide us and especially have the 'correct' results or a proposed solution so that to assess our (think?). Take as good examples Fabio's and John's hands-on sessions!</p> <p>Better tested. Much frustration with Armadillo</p> <p>Sessions were very high-level. I would like talks detailing technology, not just overviews</p> <p>Sessions were great, but sometimes questions unclear or too hard (eg ontology design patterns were not explicitly explained).</p>

	<p>Some of the handouts were a bit hard to follow when doing the exercises</p> <p>The hands-on session should immediately follow the hands-on, especially critical for separate topics</p> <p>Integrate with mini-projects</p> <p>Good ideas but not enough time to really understand everything.</p> <p>Give us solutions! Me, personally, I always think 'who am I to decide whether my solution is correct?'. I can only think that but I can't know for sure until I saw a solution.</p> <p>Provide detailed (printed) solutions at the end. Be less tool-oriented, and more general. IRS & Armadillo are great but I probably will not use them anymore</p> <p>Some tutorials should have been broken down more into small achievable tasks rather than large monolithic complex ones like using POLCE</p> <p>The sessions were too short for these (some of) exercises</p> <p>Tend to be fairly chaotic</p>
Add any critical comments or positive suggestions as to how the mini-project sessions might be improved.	<p>Really useful input and nice contact! [Tutors]</p> <p>I think the mini-project strikes the right balance between some serious technical issues and a light-hearted look at things. The project presentation session was great fun - even though some groups took it far too seriously.</p> <p>No - was fine</p> <p>No, it's fine the way it is. The students presentations prove it.</p> <p>Provide people with examples from other years so they can see how much is realistically possible.</p> <p>The mini-project was great but time was limited. A good idea would be to start 'officially' the mini-project one day before.</p> <p>Not start planning on the first day; make it more short-term, so the people don't work on it all the time. Limit the project size - it should be realised without needing an IP</p> <p>I think the mini-project was too open and required a lot of time, it wasn't clear how much detail was required. In the end we only spent about 1 or 2 hours discussing the technical and motivational background of our project and didn't go into much depth. Also, using Powerpoint required a lot of extra time, which distracted from the project (at least 2 more hours). Perhaps it would be better to simply provide students with flip-charts and shorten the time spent on the project?</p> <p>It could be helpful if tutors advise hot open topics for mini-projects during their talks</p> <p>Reduce the pressure</p> <p>Integrate with hands- on</p> <p>The presentations can take less time if the .ppt files are all stored on one computer to be used by all students</p> <p>Combination of tutor-led session and tutor-available was really nice! Good idea! And very effective!</p> <p>Have a little bit more time to work on project - start earlier</p> <p>To give more time for preparation</p> <p>More time it could be better</p> <p>More time for the project</p>
Any other comments or suggestions	<p>I would like to have the documentation before in order to preview with more time. Here the time is restricted and I was very tired at night to review it properly!</p> <p>The organisation of the school was excellent. The academic (theoretical) and practical sessions very useful. However, the most important aspect of such summer schools is the opportunity to network with other students and get an insight into their work/research.</p> <p>Also, the opportunity to get to know academics who are well-established in the field and to consult them about one's own research is invaluable.</p> <p>The very busy social programme provides an ideal opportunity to achieve these objectives and I leave for home much the wiser and with many new perspectives/insights into my own work.</p> <p>Very good school. Learned a lot, and enjoyed the social events. Too much food!!</p>

	<p>Can the food be made less oily? Could towels be changed more regularly? More in-depth practical sessions.</p> <p>The organized social program was fine, but the overall schedule was just a bit too "extreme". Where was the siesta? Anyway: it probably is one of the (funniest?) summer schools ever.</p> <p>It would be fine to have more time for relax after lunch.</p> <p>The school was interesting and well-balanced; hard to imagine much improvement</p> <p>Great, funny and very useful. Thanks for all!</p> <p>The only criticism is the food provided, which was quite fatty and not varied enough. Would prefer to have a smorgasbord so can choose what you want to eat.</p> <p>Every student could describe in a short message what his/her research topics are and that information could be handed out to every student in advanced (with the bags for example) I enjoyed it very much - thanks!</p> <p>If the poster session was on Monday afternoon, we had the opportunity to exchange our ideas 'earlier' and maybe to create different (or easily) the groups for the mini-project. The social programme was GREAT!!! Even though we didn't have a lot of time for ourselves I wouldn't propose to change anything. I have so many good things to say for the excellent organisation but the bus has already arrived!</p> <p>Don't do more activities, schedule is packed already, but still ok.</p> <p>Overall, I had a great time and learnt a lot at the same time. The tasks were at the right level and the invited speakers were interesting. I would recommend it to everyone working in the area of the SW - whether that is their main focus of research or not. I would have preferred more group-based hands-on sessions.</p> <p>Great Programme - don't change it too much!</p> <p>It would be really good to have a more unstructured time in future summer schools; the programme is very full and it would be good to just have some free time for resting, chatting, phoning home, etc. The social programme was great, especially the trip to the pool. The food could be a lot better; more fresh stuff and a bit less meat/fish & potatoes would be great. Overall a fantastic event; thanks to everyone involved</p> <p>Faster meals! But it was great, really loved it!</p> <p>While it's pretty impossible as top-researchers are too busy, two weeks for the summer school are definitely better than one. Selection of music for the disco should be improved ;-) Lunch takes too much time. An apple plus a sandwich is enough</p> <p>The schedule with lunch, dinner, social events was too tight. It was hard to get any time off for relaxing. I think there were too much generic talks. I expected the talks and hands-on/project to get more into detail. To achieve this, maybe a more hands-on orientated organisation would be reasonable. Having one bigger mini-project with a more specified aim and which is supported by talks and specific hands-on sessions. So everything would be presented in a more integrated way.</p> <p>It will be difficult to be more successful but you could introduce 'practical' tutorials that separate the global overview from the technical ones. For example on ontology alignment the global overview will talk about 'what is an alignment and its associated difficulties' and the practical one 'how it is done'. The hands-on session would then help us to practically do it with some tool.</p> <p>When you prepare presentations please be sure that you do not go beyond the schedule time, as for formal sessions it used to happen often and in a school, with such time pressure I think it's important to enjoy full break periods. Anyway, well done!</p> <p>Student feedback could be more. But I'm part of the group so it counts for myself as well of course Congratulations and thank you! I'm sure this week causes a positive difference for my PhD! I feel it like everyone should participate in such a summer school at least once during his/her PhD.</p> <p>Would be useful if invited speakers could stay longer (e.g. Carole, Frank) but I appreciate busy professors aren't always able to do this!</p> <p>I guess, summer school should extend time. Problem: summer school starts weekend and problem is</p>
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	coming to school. I think it should better to start from Saturday.
	Generally - more time (maybe 10 instead of 7 days)

Conclusions with regard to the summer school

1. Perhaps (more) material should be sent to students in advance of the school.
2. We might consider adding *semantic multimedia* to the list of topics
3. We must keep the poster session, make it compulsory and use it to introduce students to each other.
4. Working tools are still an issue. Clear, written instructions for hands-on sessions, tools and project are needed.
5. We need more computers and more groups for hand-on sessions.
6. Solutions for practical exercises should be provided.
7. We should try to provide more time for the project and look again at its positioning.
8. We should consider the integration of the project with hands-on sessions though it is hard to do this if we give students free choice of project topics.
9. There is obviously a problem with the quality of the food and the time spent at lunch.
10. A slightly less hectic schedule (teaching and social) would be welcomed by all.

Future schools

It is likely that a summer school will be held in 2006.

We have long considered setting up some infrastructure for past students of the summer school with a view to nurturing a community of practice and ultimately linking up with the Free University of Berlin's student community. This year the students created a community for themselves using a Yahoo group which suggests that they would welcome such an opportunity. While the community of practice is not part of any work package we will consider what might be possible for future schools. The difficulty is that apart from the communication tools available with systems such as Yahoo groups it is hard to know what students want. Perhaps we could include questions on this in the questionnaire. It is likely though that students will want some tutor interaction as well as peer input. It is also hard to find any tools for supporting a community of practice which are based on or incorporate semantic technologies. We are including some community oriented services in the advanced semantic platform for learning – ASPL (Work Package 3.3). However, while we have ideas for a service which allows readers to use a comment ontology to express their views on material as a means of sharing within a group, the current version of ASPL confines its community tools to finding key authors and texts in a domain. There are few, if any, well-known examples of semantic support for communities of practice although the tagging opportunities in social web sites such as flickr (<http://www.flickr.com/>), Technorati (<http://www.technorati.com/tag/>), CiteULike (<http://www.citeulike.org/>) and del.icio.us (<http://del.icio.us/>) suggest future directions.