UNIVERSITE LIBRE DE BRUXELLES
Ecole Polytechnique de Bruxelles

February 2014

INFO-H511 : Web Services
Course Information

Course Objectives

This course introduces web services and their related technologies. The course's main objectives are :

- To obtain a working knowledge of the internet (as the underlying Web infrastructure) and the HTTP protocol, which is the driver behind all main web services.
- To obtain an indepth understanding of the 2 major classes of web service technologies :
  1. the "Big Web Services" (WS-*)
  2. the "REST"-style web services ;
- To critically analyze the advantages and disatvantages of both sets of technologies ;
- To obtain a background on Service Oriented Architecture (SOA) and Resource Oriented Architecture (ROA) ;
- To learn about current trends of services on the web.

After successful completion of this course the student will be able to :

- build programming-language specific web service client wrappers given a web service to connect to,based on the working knowledge of HTTP ;
- analyze web service requirements, and choose the according appropriate technology for implementation ;
- design and implement web services from the server side ;
- critically evaluate new web service technologies.

Contacts

- Course responsible : Stijn Vansummeren (UB4.125, `stijn.vansummeren@ulb.ac.be`)
- Assistant : Stefan Eppe (UB4.133, `stefan.eppe@ulb.ac.be`

- Course Web Page : `http://cs.ulb.ac.be/public/teaching/infoh511`

Method of organization and evaluation

The course is organized as a combination of ex-cathedra lectures (given by the course responsible) ; seminars (prepared by and given by the students) ; machine exercises ; and project work.

The course does not have a traditional exam. Instead, students are graded on :

1. active participation to the seminars (4/20) ;
2. the preparation and presentation of one seminar (6/20) ;
3. project work (10/20) to be delivered by the end of the semester.

Seminars are organized as follows :

- for each seminar, a small group of two to three students is given a list of reading resources on a particular topic as well as a set of accompanying questions. The group is asked to prepare a presentation on the topic (answering the given questions) and present this presentation during the seminar.
- The non-presenters are requested to read the same resources in preparation of the seminar ;
- During the seminar, the presenters present their presentation while the other students critically evaluate this presentation, and fuel discussion on the answers presented to the questions.

Each student will help prepare and present exactly one seminar. Attending the seminars presented by other students is a mandatory requirement for passing the course. Should you be unable to attend one of the theory lectures for whatever reason, please contact the course responsibles as soon as possible.

Seminar presentations are graded on the following criteria :

- correctness of presented material ;
- clarity of presentation (synthesis of the topic by means of original examples, diagrams, demonstrations, ...) ;
- the consultation of additional resources not on the reading list ;
- the active fueling of discussions with non-presenters.

Schedule

Date	**Time**		**Content**	**Room**
Wed 12 Feb	14h-16h	Lect. 1	HTTP + Web Services general intro	
Wed 19 Feb	10h-16h	Ex. 1	Lab 1 : Programmating HTTP	
Wed 19 Feb	14h-16h	Lect. 2	REST	
			Group submission deadline	
Wed 26 Feb	10h-12h	Ex. 2	Lab 2 : Developping REST services	
Wed 26 Feb	14h-16h		*No lecture – opportunity for seminar preparation*	
			Project proposal deadline	
Wed 05 Mar	14h-16h	Lect/sem 3	SOAP seminar	
Wed 12 Mar	10h-12h	Ex. 3	Lab 3 : Using & developing SOAP services	
	14h-16h	Lect/sem 4	WSDL seminar	
Wed 19 Mar	10h-12h	Ex. 4	Lab 4 : Composite services	
	14h-16h	Lect/sem 5	UDDI seminar	
Wed 26 Mar	14h-16h	Lect/sem 6	Security 1 seminar	
Wed 02 Apr	10h-12h	Ex. 5	Lab 5 : Presentation layer	
	14h-16h	Lect/sem 7	Security 2 seminar	
Wed 23 Apr	10h-12h	Ex. 6	Free to work on project. Opportunity for Q&A.	
	14h-16h	Lect/sem 8	Addressing, resources, notification	
Wed 30 Apr	10h-12h	Ex. 7	Free to work on project. Opportunity for Q&A.	
	14h-16h	Lect/sem 9	Current trends in services on the web	
Wed 07 May	10h-12h	Ex. 8	Free to work on project. Opportunity for Q&A.	
	14h-16h	Lect. 10	Questions & answer session	
Wed 14 May			**Project assignment due**	
Wed 21 May			**Project defenses**	