

The Mobility Project

How to Make Paperless Mobility between Higher Education Institutions Possible?

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Prague, 2011-05-18

Agenda

- Real life scenarios (motivation)
- Wishful scenarios (goals)
- Possible solution
- Technical issues
- History of the project
- How to make it happen

International cooperation ...

- Let's have a look at a typical **European University** (like **University of Warsaw, UW**) which cooperates and exchange students with other universities ...
- It most probably uses some **Student Management Information System** (like **USOS**) for daily support of the **International Relations Office (IRO)**

USOS – module for IRO at UW



Biuro Współpracy z Zagranicą

USOS - BWZ

Studenci/uczelnie/inst.

Słowniki

Umowy

Przyjazdy

Wyjazdy

Zakończ

USOS - BWZ, Miłego dnia!

Komunikaty

Użytkownik: JMD
Baza: test
Wersja: 3.11

IRO – Bilateral agreements

USOS - [Umowy]

Akcja Edycja Zapytanie Blok Rekord Pole Okno Pomoc

Programy | Projekty | Projekty - budżety | **Umowy** | Warunki współpracy

Umowy

(*) Rodzaj	(*) Numer	(*) Data podpis	(*) Data rozpocz	Data ważności	(*) Status
Bilateralna	112/E/X06	13.11.2006	01.07.2007	30.09.2009	podpisana
Bilateralna	329/E/X106	20.01.2007	01.07.2007	30.09.2008	podpisana
Bilateralna	52/E/X06	10.11.2006	01.07.2007	30.09.2008	podpisana

Kod Erasmus: **CATANIA01** | Uczelnia zagraniczna lub instytucja zewnętrzna: **Universita degli Studi di Catania** | Kraj: **Włochy** | Kontynent: **Europa**

Koordynator instytucjonalny uczelni macierzystej: **Kowalska60225 Ewa60225** | Koordynator umowy uczelni macierzystej: **Kowalski13455 Jan13455**

Koordynator instytucjonalny zewnętrzny: **Walker389 Joan389** | Koordynator umowy zewnętrzny: **Walker392 John392**

Osoba (tylko dla umowy indywidualnej): | Uwagi:

Projekty

Numer projektu	Tytuł projektu
Erasmus 45834	Erasmus 45834

Jednostki organizacyjne zewnętrzne

Nazwa	Uczelnia zagr. lub instytucja zewn.
Faculta Giurisprudenza	Universita degli Studi di Catania

Jednostki organizacyjne

(*) Jednostka	Nazwa jednostki
22000000	Wydział Prawa i Administracji

Współpraca jednostek

Nazwa	Uczelnia zagr. lub instytucja zewn.
>	
>	
>	
>	

Szukaj ...

Raporty

MOBILITY w1

MOBILITY w2

IRO – Conditions of cooperation

USOS - [Umowy]

Akcja Edycja Zapytanie Blok Rekord Pole Okno Pomoc

Programy Projekt Projekt - budżety Umowy **Warunki współpracy**

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Bilateralna	329/E/X106	20.01.2007	01.07.2007	30.09.2008	podpisana
Bilateralna	52/E/X06	10.11.2006	01.07.2007	30.09.2008	podpisana
Bilateralna	509/E/X106	11.01.2007	01.07.2007	30.09.2010	podpisana

Kod Erasmus: I CATANIA01 Uczelnia zagraniczna lub instytucja zewnętrzna: Università degli Studi di Catania Kraj: Włochy

Warunki współpracy

Wyjazd z kraju A do B Przyjazd do kraju A z B

(*) Typ	W	Dziedzina	(*) Data rozpoczęcia	Data zakończenia	(*) Kraj A	Poziom stud.	L.	os.	Mies.	Tyg.	Godz.	(*) Kraj B	Poziom stud.	L.	os.	Mies.	Tyg.	Godz.	Poprzedzająca
studenci-studia	<input type="checkbox"/>	10.0	01.07.2007	30.09.2009	PL	wszyscy	2	20				IT	wszyscy	2	20				
nauczyciele akac	<input type="checkbox"/>	10.0	01.07.2007	30.09.2009	PL		1		1	8		IT		6		1	8		
	<input type="checkbox"/>																		
	<input type="checkbox"/>																		

(*) Dla kogo: Studenci, doktoranci Jednostka: 22000000 Nazwa jednostki: Wydział Prawa i Administracji

Nazwiska lub liczby: Opis tematów: Uwagi: dotyczy również III stopnia

Warunki współpracy poprzedzającej

Wyjazd z kraju A do B Przyjazd do kraju A z B

Typ	W	Dziedzina	Data rozpoczęcia	Kraj A	Poziom stud.	L.	os.	Mies.	Tyg.	Godz.	Kraj B	Poziom stud.	L.	os.	Mies.	Tyg.	Godz.	Poprzedzona	
	<input checked="" type="checkbox"/>																		

Dla kogo: Kod jednostki: Opis jednostki:

Nazwiska lub liczby: Opis tematów: Uwagi:

MOBILITY w1
MOBILITY w2

IRO – Incoming and outgoing mobility

USOS - [Wyjazdy]

Akcja Edycja Zapytanie Blok Rekord Pole Okno Pomoc

Program <wszystkie> Etap <wszystkie> Cykl dydaktyczny <wszystkie> Miejsce <wszystkie> Filtruj po etapach

Osoby

Nazwisko	Imię	PESEL	Jednostka osoby	Email	Obywatelstwo
Kowalska100011	Ewa100011		21000000	kowalska100011@usos.pl	polskie
Kowalska100016	Ewa100016		21010000	kowalska100016@usos.pl	polskie
Kowalska100020	Ewa100020		30050000	kowalska100020@usos.pl	polskie

Wyjazdy

(*) **Jednostka** Nazwa jednostki Kod Erasmus (*) **Uczelnia zagraniczna lub instytucja zewnętrzna** Kraj

21220000 Katedra Europeistyki UK BRIGHT001 University of Sussex Wielka Brytania

Numer umowy Rodzaj umowy Uczelnia zagraniczna lub instytucja zewnętrzna Typ współpracy Numer teczki

847/E/XII07 Bilateralna University of Sussex studenci-studia BWZ981EUC08-S0229

Dziedzina Kod programu (*) **Rodzaj studiów** (*) **System studiów** (*) **Rok studiów**

14.1 <brak> magisterskie niestacjonarne - 3

(*) **Rok akad. wyj.** Plan. czas pobytu Planowany czas pobytu komentarz Czy praktyki Czy praktyki druga tura Punkty ECTS i kod sektorowy praktyk Czy kiedyś Erasmus Leonardo Czy EILC Czy umowa

2008 Inny Pierwszy trymestr (3 m-ce)

Pobyt od Pobyt do Data wyjazdu Data powrotu Rzeczywista data wyjazdu Rzeczywista data powrotu Przedłużenie/skrócenie (*) **Otrzymywane styp.** Jeśli inne to jakie

06.10.2008 12.12.2008 26.09.2008 13.12.2009 brak brak

Liczba miesięcy ze styp. bez styp. Czy dofinansowanie z tytułu niepełnospr. (*) **Dofinansowanie z jednostki** (*) **Typ wyjazdu** (*) **Stan**

2,25 0 brak studia aktywny

Grupa stypendiów Pierwsza stawka stypendialna (wyższa) Powody rezygnacji

Uwagi Finanse Decyzja - LA Języki, ECTS

Wyslij wiadomosc

MOBILITY w1

MOBILITY w2

IRO – Scholarships

(final amount depends on dates of arrival/departures)

Wyjazdy

Program <wszystkie> Etap <wszystkie> Cykl dydaktyczny <wszystkie> Miejsce <wszystkie> Filtruj po etapach

Nazwisko	Imię	PESEL	Jednostka osoby	Cykl dyd. wyjazdu	Numer teczki	Jednostka wyjazdu
	Magdalena		33210000	2007	BWZ981EUC07-S0003	33210000

Email: Obywatelstwo: Grupa stypendiów:

Wyplaty

Kod funduszu	Waluta	Licz. mies.	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	VIII*	IX*
ERASMUS	EUR	4,50			340,00	340,00	340,00	340,00	170,00							
UW EURO	EUR	4,50			17,00	17,00	17,00	17,00	8,50							
Waluta wypłaty					EUR	EUR	EUR	EUR	EUR							
Stan wypłaty					Z	Z	Z	Z	Z							
Data wydruku raportu					03.10.2007	03.10.2007	14.11.2007	14.11.2007	14.11.2007							
Data zlecenia przelewu					04.10.2007	04.10.2007	15.11.2007	15.11.2007	15.11.2007							

Opis funduszu:

Real life scenario – 1

University of Warsaw

- **December-January:**
 - Start of the **recruitment** for outgoing mobility
 - **List of offers** (resulting from international agreements) is available for students on the web

INTRODUCTION

TESTS

EXAM REPORTS

EDITING COURSES

EXAMS
REGISTRATION

POSTULATES

GIVING OPINIONS

STUDENT MOBILITY

▶ coordinated faculties

▶ Faculty of

Mathematics,
Informatics, and
Mechanics▶ signed
agreements▶ unsigned
agreements▶ assign outgoing
mobility▶ assigned
outgoing
mobilities▶ study
programmes

▶ mobility offers

▶ enrollments

▶ recommendation
templates

▶ my commissions

▶ my opinions

SURVEYS RESULTS

Coordination of Erasmus student mobility

at the faculty/unit: **Faculty of Mathematics, Informatics, and Mechanics** [\[select another\]](#)



This page displays **Signed bilateral agreements** that fulfil following criteria:

- have status other than 'unsigned' or 'under negotiation'
- terms and conditions of the agreement are linked to following unit: **Faculty of Mathematics, Informatics, and Mechanics**
- terms, conditions and the agreement itself are still valid,
- terms, conditions and the agreement itself come into effect within a year.

FILTER OPTIONS

Status:

Id:

Country:

Institution name:

Erasmus code:

From:

To:

Signed faculty/unit agreements

Showing first 30 table entries ... [show more](#) | [show all](#)

No.	Country	Erasmus code	Institution name	Qualifications stage	Id	From	To	Options
1	(in Polish) Austria	A WIEN01	Universität Wien	podpisana	517/E/XII06	2007-07-01	2010-09-30	details
2	(in Polish) Dania	DK ODENSE01	Syddansk Universitet	podpisana	659/E/II07	2007-07-01	2010-09-30	details
3	(in Polish) Dania	DK KOBENHA01	Kobenhavns Universitet	podpisana	214/E/XI06	2007-07-01	2010-09-30	details
4	(in Polish) Dania	DK ARHUS01	Aarhus Universitet	podpisana	193/E/XI06	2007-07-01	2010-09-30	details
5	(in Polish) Francja	F PARIS013	Université Paris Nord (Paris XIII)	podpisana	282/E/XI06	2007-07-01	2010-09-30	details
6	(in Polish) Francja	F PALAISE01	Ecole Polytechnique	podpisana	521/E/XII06	2007-07-01	2010-09-30	details
7	(in Polish) Hiszpania	E VALENCI01	Universidad de Valencia	podpisana	462/E/XII06	2007-07-01	2010-09-30	details
8	(in Polish) Hiszpania	E BARCELO02	Universitat Autònoma de Barcelona	podpisana	654/E/II07	2007-07-01	2010-09-30	details
9	(in Polish) Niemcy	D SAARBRU01	Universität des Saarlandes	podpisana	283/E/XI06	2007-07-01	2010-09-30	details
10	(in Polish) Niemcy	D MUNCHEN01	Ludwig-Maximilians-Universität München	podpisana	464/E/XII06	2007-07-01	2010-09-30	details
11	(in Polish) Niemcy	D DARMSTA01	Technische Universität Darmstadt	podpisana	540/E/I07	2007-07-01	2010-09-30	details
12	(in Polish) Szwecja	S UPPSALA01	Uppsala Universitet	podpisana	202/E/XI06	2007-07-01	2010-09-30	details
13	(in Polish) Portugalia	P LISBOA02	Universidade de Lisboa	podpisana	995/E/II08	2008-07-01	2011-09-30	details
14	(in Polish) Wielka Brytania	UK ABERDEE01	University of Aberdeen	podpisana	972/E/I08	2008-07-01	2011-09-30	details
15	(in Polish) Wielka Brytania	UK EDINBUR01	The University of Edinburgh	przedłużona	1130/E/X08	2009-07-01	2011-09-30	details

Faculty – Student's application

Motivation letter in a foreign language

Please consider my candidature to the deans founded scholarship.

Dear Sir or Madam,

I am writing to propose my candidature to the Socrates-Erasmus student exchange program in the academic year 2009/10. I'm a student of the fourth year of mathematics. I am studying mathematics as a primary specialization in a Individual Studies Program in conjunction with physics.

It is a great combination which makes studying more interesting and purposeful. I am a hard-working and solid person. A result of that is the fact that every semester I am exceeding the required ECTS numbers and every subject I take on is passed by me. Thanks to such approach I have passed more subjects that were necessary, and I have also passed numerous subjects on the faculty of Physics.

I believe that an international scholarship will be a great opportunity for me to widen my horizons(not only mathematical) and to get more knowledge in various fields. I am aware that it may be a difficult challenge, however I am sure I will be able to cope with it and it will be a great benefit to me as well.

As a person who is travelling a lot, and with good knowledge in foreign languages I hope I won't have any problems to accommodate myself in a new environment. After finishing my master degree I am planning to continue my studies to reach the PhD degree.

Best regards



This application has been accepted.

Priority	Institutions to which the student wants to go. i (max 3)
1	Université Paris Nord (Paris XIII) (<i>Mathematics</i>)
2	Vrije Universiteit Brussel (<i>Mathematics</i>)
3	Universitat Autònoma de Barcelona (<i>Mathematics</i>)

RLMTODO		
Language	Level	
English	znam język dostatecznie dobrze, by rozumieć wykłady	
French	znam język dostatecznie dobrze, by rozumieć wykłady	
German	znam język dostatecznie dobrze, by rozumieć wykłady	

Courses with marks (max 3)		
1000-135RC1a	Partial differential equations I	4,5
1000-1L00RR	Differential equations in natural sciences	5
1000-135ST1	Statistics I	4,5

Opinion (min 1)(max 1)		
RLMTODO	Status i	Options i
Grzegorz Łukaszewicz	submitted	→ view

Real life scenario – 2

- **March:** **Lists of nominations** are ready, approved by departmental Erasmus coordinators (University of Warsaw recruited 1232 students for 2011/2012)
- **May:** **Learning Agreement** for each student is ready, approved by home and partner coordinators

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▶ mobility offers

▶ enrollments

▶ recommendation
templates

▶ my commissions

▶ my opinions

SURVEYS RESULTS

Coordination of Erasmus student mobility

at the faculty/unit: Faculty of Mathematics, Informatics, and Mechanics [select another]

Assigned outgoing student mobilities

PRINT THE LIST

 Polish
 English

SEND LIST TO COORDINATORS

 Polish
 English

→ export the list to file in CSV format

→ send e-mail to all 23 recipients from table below.

FILTER OPTIONS

Qualification stage:

Status of mobility:

Mobility type:

Status of LA:

Academic year:

Institution name:

Erasmus code:

Country:

Granted no sooner than:

Granted no later than:

SELECTED STUDENT

OR

Showing elements 1..23 (out of 23)

No.	Surname	Name	Country	Erasmus code	Institution name	Date of assignment	Acad. year	Mobility type	Status of mobility	Qualifications stage	Options
1	Baranowska Katarzyna		Niemcy	D MUNCHEN01	Ludwig-Maximilians-Universität München	2010-02-27	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
2	Bendowski Michał		Holandia	NL AMSTERDQ2	Vrije Universiteit Amsterdam	2010-02-24	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
3	Chapska Monika		Holandia	NL AMSTERDQ2	Vrije Universiteit Amsterdam	2010-02-12	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
4	Czeczko Artur		Francja	F PARIS013	Université Paris Nord (Paris XIII)	2010-03-02	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
5	Dudzik Krzysztof		Niemcy	D SAARBRU01	Universität des Saarlandes	2010-02-14	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
6	Falkiewicz Tomasz		Hiszpania	E LASPAL01	Universidad de Las Palmas de Gran Canaria		2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
7	Freus Oktawian		Portugalia	P PORTO02	Universidade do Porto	2010-02-25	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
8	Geras Krzysztof		Wielka Brytania	UK EDINBUR01	The University of Edinburgh	2010-02-24	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
9	Jarzębowski Przemysław		Wielka Brytania	UK EDINBUR01	The University of Edinburgh	2010-02-24	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
10	Jurek Michał		Niemcy	D MUNCHEN01	Ludwig-Maximilians-Universität München	2010-02-27	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement
11	Kacperski Andrzej		Dania	DK KOBENHA01	Kobenhavns Universitet	2010-02-24	2010	Studies	Active	Finished	<input type="button" value="I"/> → view → learning agreement

EDITING COURSES

EXAMS REGISTRATION

POSTULATES

GIVING OPINIONS

STUDENT MOBILITY

- ▶ coordinated faculties
 - ▶ Faculty of Mathematics, Informatics, and Mechanics
 - ▶ signed agreements
 - ▶ unsigned agreements
 - ▶ assign outgoing mobility
 - ▶ assigned outgoing mobilities
 - ▶ learning agreement
 - ▶ **decision**
 - ▶ study programmes
 - ▶ mobility offers
 - ▶ enrollments
 - ▶ recommendation templates
 - ▶ my commissions
 - ▶ my opinions

SURVEYS RESULTS



Learning Agreement has been approved. It should be printed and signed (correspondence will ensue). Subsequent edition of the agreement is possible until its expiration date in USOSweb.

In reference to

Student:	Michał Bendowski
Study program:	DZ-INF - Bachelor's degree, first cycle programme, Computer Science
Period of study:	I3 - Computer Science, 3rd grade
Term:	2009 - Academic year 2009/10

General information

Decision number:	102582
Decision date:	2010-03-23
Decision type:	REPLACEMENT
Decision state:	W - to be completed modification deadline: 2011-03-15
Stage of creation:	Accepted
Next period of study:	(no change)
Comment:	Porozumienie w sprawie programu zajęć (LA)

External courses

No	Name	Term	Passed	ECTS	Language		Coordinator	Status	Options
Current approved course list									
1.	Logical Verification	2010L	NO	6.00	English	none / none	(unknown)	Z - approved	
	LAB WYK EGZ Educational institution: Vrije Universiteit Amsterdam								
2.	Network Programming	2010L	NO	9.00	English	none / none	(unknown)	Z - approved	
	WYK LAB EGZ Educational institution: Vrije Universiteit Amsterdam								
3.	Operating Systems Practical	2010L	NO	9.00	English	none / none	(unknown)	Z - approved	
	LAB Educational institution: Vrije Universiteit Amsterdam								
4.	Scientific Writing in English	2010L	NO	3.00	(unknown)	none / none	(unknown)	Z - approved	
	PRA-P WYK Educational institution: Vrije Universiteit Amsterdam								
5.	Software Configuration Management	2010L	NO	6.00	English	none / none	(unknown)	Z - approved	
	CW PRA-P WYK Educational institution: Vrije Universiteit Amsterdam								
Total number of ECTS credits attempted:				33.00					

Real life scenario – 3

- **International Relations Office** is ready to deliver lists of nominated students to partner institutions
 - Personal data
 - Learning agreement

- When student returns (after a semester or a year) International Relations Office would like to get:
 - Transcript of records
 - Exact dates of arrival and departure (to calculate exact amount of scholarship)

Learning Agreement

LEARNING AGREEMENT
Academic year: Winter semester 2009/2010
Field of study: Informatics, Computer Science (code 11.3)

Name of student:
Aleksander G

Sending institution:
University of Warsaw *Country:*
Poland

DETAILS OF THE PROPOSED STUDY PROGRAM ABROAD/LEARNING AGREEMENT

Receiving institution:
Université Paris Nord (Paris XIII) *Country:*
France

Current version

<i>Course unit code (if any)</i>	<i>Course unit title (as indicated in the information package):</i>	<i>Number of ECTS credits if applied</i>
	Algoritmique parallele et distribuee	4
	Analyse de Fourier et theorie du signal	4
	Calcul haute performance	5
	Modelisation mathematique pour le traitement des images	5
	Programmation mathematique approfondie	5
	Systemes distribues	4

Date *Student's signature:*

SENDING INSTITUTION
 We confirm that this proposed program or study/learning agreement is approved.

The document has been automatically generated from the electronic system USOS. The study program listed above has been approved by Erasmus Departmental Coordinator.
Date: 2009-11-14

The document has been automatically generated from the electronic system USOS. The study program listed above has been approved by Erasmus Institutional Coordinator.
Date: 2009-11-14

RECEIVING INSTITUTION
 We confirm that this proposed program of study/learning agreement is approved.

Departmental coordinator's signature *Institutional coordinator's signature*

Date: *Date:*

Learning Agreement → Transcript of Records

In reference to

Student:	Piotr S
Study program:	DM-JSIM - Double Degree Program in Computer Science and Mathematics
Stage:	JSIM4I - Fourth year JSIM 3I+4M
Term:	2007 - Academic year 2007/08

General information

Decision number:	75064
Decision date:	2008-08-17
i Decision type:	MODIFICATION
Decision state:	Z - approved
i Stage of creation:	Filling in
Next stage:	(no change)
Comment:	Porozumienie w sprawie programu zajęć (LA)

External courses

#	Name	Term	Passed	ECTS	Language	i	Coordinator	Status
1.	Agent Based Systems U02497	2007	YES	5.00	English	none / none	Michael Rovatsos	Z - approved
	CW (8 hours), WYK (20 hours). Institution: (in Polish) The University of Edinburgh							
2.	Computer Communications and Networks U03858	2007	YES	5.00	English	none / none	Mahesh Marina	Z - approved
	WYK (20 hours). Institution: The University of Edinburgh							
3.	Computer Security U03025	2007	YES	5.00	English	none / none	David Aspinall	Z - approved
	WYK (20 hours). Institution: (in Polish) The University of Edinburgh							
4.	Enterprise Computing U01902	2007	YES	5.00	English	none / none	Stephen Gilmore	Z - approved
	CW (8 hours), WYK (20 hours). Institution: (in Polish) The University of Edinburgh							
5.	Informatics 2D: Reasoning & Agents U02602	2007	YES	10.00	English	none / none	Jacques Fleuriot, Michael Rovatsos	Z - approved
	CW (10 hours), LAB (20 hours), WYK (30 hours). Institution: (in Polish) The University of Edinburgh							
max ECTS to achieve:				30.00	i			
achieved ECTS total:				30.00	i			

Grades from the University of Edinburgh

USOS - [Szczegóły przedmiotów zewnętrznych decyzji]

Akcja Edycja Zapytanie Blok Rekord Pole Okno Pomoc

Osoba **Sara**

Program **Informatyka, stacjonarne, jednolite magisterskie (DM-INF)**

Decyzja **18.09.2009 2008 14**

Przedmioty zewnętrzne | Dotychczasowe zaliczenia

Cykl dyd.	Kod przedmiotu	Nazwa przedmiotu	Ocena	ECTS	Zal.	Status
2008L		Agent Based Systems	5	5	<input checked="" type="checkbox"/>	Z
2008L		Compiling Techniques	5	5	<input checked="" type="checkbox"/>	Z
2008L		Enterprise Computing	5	5	<input checked="" type="checkbox"/>	Z
2008L		Informatics 2D: Reasoning & Agents	5	10	<input checked="" type="checkbox"/>	Z
2008L		Multi-agent Semantic Web Systems	5	5	<input checked="" type="checkbox"/>	Z
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	

Przycisk "Filtruj po jedn." pozwala ograniczyć listę dostępnych do wpisania przedmiotów.

Zajęcia przedmiotu

Komentarz

Liczba ocen do średniej: Suma ocen do średniej: Suma ECTS:

Typ zajęć	Opis typu zajęć	Godz.	Ocena
CW	Ćwiczenia		
LAB	Laboratorium		
WYK-MON	Wykład monograficzny		

Dodatkowe informacje dotyczące przedmiotu

Nazwa angielska: **Agent Based Systems**

Koordinator:

Kod języka: **ANG**

Uczelnia (ze słownika szkół): **The University of Edinburgh**

Uczelnia (należy wpisać jedynie wówczas, gdy brak w słowniku):

I. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1. Surname: *S*
2. First name(s): *Piotr Krzysztof*
3. Date of birth (day, month, year): *24.09.1985*
4. Student identification number or code: *219737*

II. INFORMATION IDENTIFYING THE QUALIFICATION

1. Diploma number : *1000/46331/2009*
2. Name of qualification and the title conferred ¹⁾ *magister*
3. Main field of study and field of specialisation for the qualification : *Computer Science*
4. Name and status of awarding institution¹⁾

Uniwersytet Warszawski

Uniwersytet Warszawski, established in 1816 is a public higher education institution. The university is entitled to confer the degrees of 'doktor', 'doktor habilitowany' and apply for the title of 'profesor'. The university educates students in the spirit of Magna Charta Universitatum and is also a party to the Agreement of Polish Universities on the Quality of Education, as a result of which the University Accreditation Commission was established.

5. Name and status of institution administering studies ²⁾

Uniwersytet Warszawski

Uniwersytet Warszawski, established in 1816 is a public higher education institution. The university is entitled to confer the degrees of 'doktor', 'doktor habilitowany' and apply for the title of 'profesor'. The university educates students in the spirit of Magna Charta Universitatum and is also a party to the Agreement of Polish Universities on the Quality of Education, as a result of which the University Accreditation Commission was established.

The University of Edinburgh - United Kingdom

6. Language(s) of instruction/examination: *Polish, English*

III. INFORMATION ON THE LEVEL OF QUALIFICATION

1. Level of qualification: *second cycle programme*
2. Official length of programme: *5-year studies (3+2)*
3. Access requirements: *maturity certificate or entrance examination*

Academic year 2007/08

<i>Computer Security</i>	<i>wyk 20</i>	<i>5</i>	<i>5</i>
<i>Computer Communications and Networks</i>	<i>wyk 20</i>	<i>5</i>	<i>5</i>
<i>Enterprise Computing</i>	<i>wyk 20/cw 8</i>	<i>4</i>	<i>5</i>
<i>Agent Based Systems</i>	<i>wyk 20/cw 8</i>	<i>4,5</i>	<i>5</i>
<i>Decision support systems</i>	<i>sem 60</i>	<i>4,5</i>	<i>12</i>
<i>Distributed Systems</i>	<i>sem-mgr 60</i>	<i>ZAL</i>	<i>6</i>
<i>Informatics 2D: Reasoning & Agents</i>	<i>wyk 30/cw 10/lab 20</i>	<i>4,5</i>	<i>10</i>

Diploma supplement

Real life scenario – 4

- Similarly for incoming students ...

Admission of incoming students



Online application for short-term studies University of Warsaw

[Home](#)

[Help](#)

[Log in..](#)

mobility.uw.edu.pl > Home

Welcome to the online application for short-term studies

In order to apply for short-term studies at the University of Warsaw please [create a new account](#) and then follow the instructions.

Application Deadlines 2011/2012:

Full academic year or first semester (starting October 1st, 2011):
May 15th, 2011

Second semester (starting February 13th, 2012):
November 15th, 2011

E-mail:

Password:

[Create a new account](#)

[Recover forgotten password](#)

Admission of incoming students



Online application for short-term studies University of Warsaw

Home

Application

Help

Log out

Application

Step by step

1. All personal data completed. [Review and modify.](#)
2. Accommodation decision made. [Review.](#)
3. Status filled in. [Review and modify.](#)
4. Studying details completed. [Review and modify.](#)
5. **[Upload your documents.](#)**
6. **The confirmation of acceptance.**
7. **Send the application form by post.**

Message inbox

No new messages.

Real life scenario – 5

- A lot of information has to be passed during the whole process
- Partner universities keep this information in their databases and handle it using sophisticated computer systems
- How is the data exchanged between partner institutions?

Real life scenario – 6

Sending data from home to partner institution



e-mail



(all pictures are obtained from the Internet)

Real life scenario – 7



Nominations are:

- typed manually into partner's system (many different systems, many different styles and requirements)
- scanned,
- faxed,
- delivered by phone call
- ...

Usually many times

(updates are common)

Problems with national alphabets (data coding):

ą, ę, ł, ń, ó, ś, ź, ż

The screenshot shows the 'moveonnet' web interface. The navigation bar includes 'HOME', 'DIRECTORY', 'FOR INSTITUTIONS', 'FOR STUDENTS', 'EVENTS', 'ABOUT', and 'MY MOVEONNET'. The main content area is titled 'INSTITUTION'S DATA' and 'E-NOMINATION'. It displays the following information:

Back to nomination of outgoing students

G , Urszula

Status: accepted

Information about student

Nationality	Poland
Sex	Female
Date of birth	26/03/1988
Email	urszula.g @op.pl

Information about institutions

Home institution	Poland - Uniwersytet Warszawski (PLWARSZAW01)
Home Coordinator	Head Sylwia Salamon (sylwia.salamon@adm.uw.edu.pl)
Host institution	Germany - Europa-Universität Viadrina Frankfurt (Oder) (DEFRANKFU08)
Host Coordinator	Bernd Schünow (students-in@euv-frankfurt-o.de)

Information about exchange studies

Exchange programme	Erasmus
Field of study	345 - Management and administration
Study level	F - First cycle
Exchange period	WS09/10 (1 Semester / 6 Months)

[Edit data](#) [Cancel nomination](#) [Send message to partner](#)

Nomination history

✓	11/08/2009	Accepted - Acceptance received from DEFRANKFU08 "The Letters of Acceptance for your students have been faxed to your office today. The originals are now on the way to you with a letter."
ⓘ	20/05/2009	Acknowledged - Acknowledgement received from DEFRANKFU08 "Please note that this acknowledgment does not guarantee acceptance. We can only give you a definitive answer after you have correctly completed the application process. You will find further information about the application process for the European University Viadrina, accommodation and courses of study on our website at the following link: http://www.euv-frankfurt-o.de/en/internationales/internationals/bewerbung/index.html (in English) or http://www.euv-frankfurt-o.de/de/internationales/internationals/bewerbung/index.html (in German). The deadlines for applications are for our winter semester: July 15th for our summer semester: January 15th Applications have to be done online first, following the link https://euv-frankfurt-o.moveonnet.eu/moveonline/incoming/ After filling in your details here, please print out the form, sign it and send it - signed and stamped by your home university - to the following address: Europa-Universität Viadrina Department of International Affairs incoming students Große Scharrnstraße 59 15230 Frankfurt (Oder) "
👤	20/05/2009	Nominated - Nomination sent to DEFRANKFU08
👤	20/05/2009	Student added

Real-life Wishful scenario

?

List of nominated students → SEND button

USOS - [Wyjazdy]

Akcja Edycja Zapytanie Blok Rekord Pole Okno Pomoc

Program <wszystkie> Etap <wszystkie> Cykl dydaktyczny <wszystkie> Miejsce <wszystkie>

Filtruj po etapach

Filtr

Osoba

Szukaj po indeksie

Szukaj...

Dokumenty

Szukaj duplikatów

Raporty

Raporty lokalne

Raport ERASMUS

Generuj nr teczki

Usuń nr teczki

Programy osoby

Wyślij wiadomość

MOBILITY w1

MOBILITY w2

Projekt MOBILITY

Kanwa testowa projektu MOBILITY.
Proszę nie używać w trakcie pracy na bazie produkcyjnej.

Data przyjazdu osoby wyjeżdżającej do uczelni przyjmującej:

Wysyłanie listy nominowanych studentów:

Kod ERASMUS uczelni partnerskiej	Umowa	Rok akademicki wyjazdu	<input type="button" value="Wyślij"/>
<input type="text" value="PARMA01"/>	<input type="text" value="1207/E/X108"/>	<input type="text" value="2009"/>	<input type="text" value="partner_send_nominated_stud"/>

Ostatni komunikat o błędzie

Wszystkie dane pobrane z systemu są wpisywane do formularza, jednak nie są zapisywane do bazy danych.

List of incoming students → GET button

USOS - [Przyjazdy]

Akcja Edycja Zapytanie Blok Rekord Pole Okno Pomoc

Osoby Program <wszystkie> Etap <wszystkie> Cykl dydaktyczny <wszystkie> Miejsce <wszystkie> Filtruj po etapach

Projekt MOBILITY

Kod dyscypliny	Poziom studiów	Rok. akad. przyjazdu	Okres przyjazdu	Jednostka przyjmująca	Czas utworzenia wpisu
08.4	2	2008	S1	Facolta di Lingue e Letterature straniere	19.06.2009 12.38.33
10.0	4	2008	S2	Facolta di Giurisprudenza, Istituto di Diritto e	19.06.2009 12.38.33
10.0	2	2008	S1	Facolta di Lingue e Letterature straniere	20.06.2009 17.42.52
10.0	4	2008	S2	Facolta di Giurisprudenza, Istituto di Diritto e	20.06.2009 17.42.52

Jednostka wysyłająca
Instytut Archeologii

Nazwisko i imię koordynatora jednostki przyjmującej
Prof. Modrzewska-Pianetti Iwona

Nazwisko	Imię	Data urodzenia	Kraj urodzenia	Płeć	Czas utworzenia wpisu
Kurzydowski	Michał	1985-10-26	PL	M	19.06.2009 12.38.33
Kowalski	Fabio	1985-01-14	PL	M	19.06.2009 12.38.33

Miasto urodzenia Email
Warszawa michal.kurzydowski@student.s.mimuw.edu.pl

Zamknij

MOBILITY w. 1
MOBILITY w. 2

Organization data of the partner institution → GET button

Programy | Projekty | Projekty - budżety | Umowy | Warunki współpracy

Umowy

(*) Rodzaj	(*) Numer	(*) Data podpis	(*) Data rozpocz	Data ważności	(*) Status	
Bilateralna	408/E/XII06	08.12.2006	01.07.2007	30.09.2008	podpisana	Osoby zewnętrzne
Bilateralna	475/E/XI06	08.12.2006	01.07.2007	30.09.2008	podpisana	Jednostki zewn.

Projekt Bologna

W formularzu są dostępne dane przesłane z uczelni partnerskich przez usługę sieciową sendHeiData.
W obecnie dostępnej wersji dane można tylko przeglądać i usuwać.

Kod uczelni	Nazwa uczelni	Time	Time
PARMA01	University of Parma	22.05.2009 11.03.26	
PARMA01	University of Parma	22.05.2009 11.02.41	
PARMA01	University of Parma	22.05.2009 10.14.48	
PARMA01	University of Parma	22.05.2009 09.59.16	

Projek

Numi

Erasm

Jednc

(*) Jedn

210200

Euc ID: 29240-IC-1-2007-1-IT-ERASMUS-EUC-1 [Usuń]

URL uczelni: www.unipr.it

Kraj: IT Kod pocztowy: 43100 Miasto: Parma

Ulica: via universita Numer domu: 12

Koordynator administracyjny

Nazwisko: Cordaro Imię: Tiziana Stanowisko: Head of International Student Exchanges Service

Telefon: +390521034150 Fax: +390521034353 e-mail: tiziana.cordaro@unipr.it

Nazwa jednostki organizacyjnej: Servizio Scambi Didattici Internazionali Nazwa angielska jednostki organizacyjnej: International Student Exchanges Service

Koordynator instytucji

Nazwisko: Prof. Iaccarino Imię: Silvia Stanowisko: Rector delegate international student mobility

Telefon: +390521905359 Fax: +390521905305 e-mail: silvia.iaccarino@unipr.it

Nazwa jednostki organizacyjnej: Dipartimento di Lingue e Letterature Straniere Nazwa angielska jednostki organizacyjnej: Department of Earth Science

Zamknij

Exchanged data ...

- International cooperation
 - HEI information record
 - Bilateral agreement between two HEIs
- Mobility (incoming and outgoing)
 - Students nominated for mobility
 - Course catalog
 - Learning agreement
 - Transcript of records

**GOAL → STOP SENDING PAPER,
EXCHANGE DATA ELECTRONICALLY
BY PUSHING BUTTONS**

Mobility nodes?





SEND and GET buttons (web services)

sendOrganizationData()

getOrganizationData()

sendAgreementData(), getAgreementData()

sendNominatedStudents()

getNominatedStudents()

sendArrivalDate(), getArrivalDate()

sendDepartureDate(), getDepartureDate()

sendLearningAgreement()

getLearningAgreement()

sendTranscriptOfRecords()

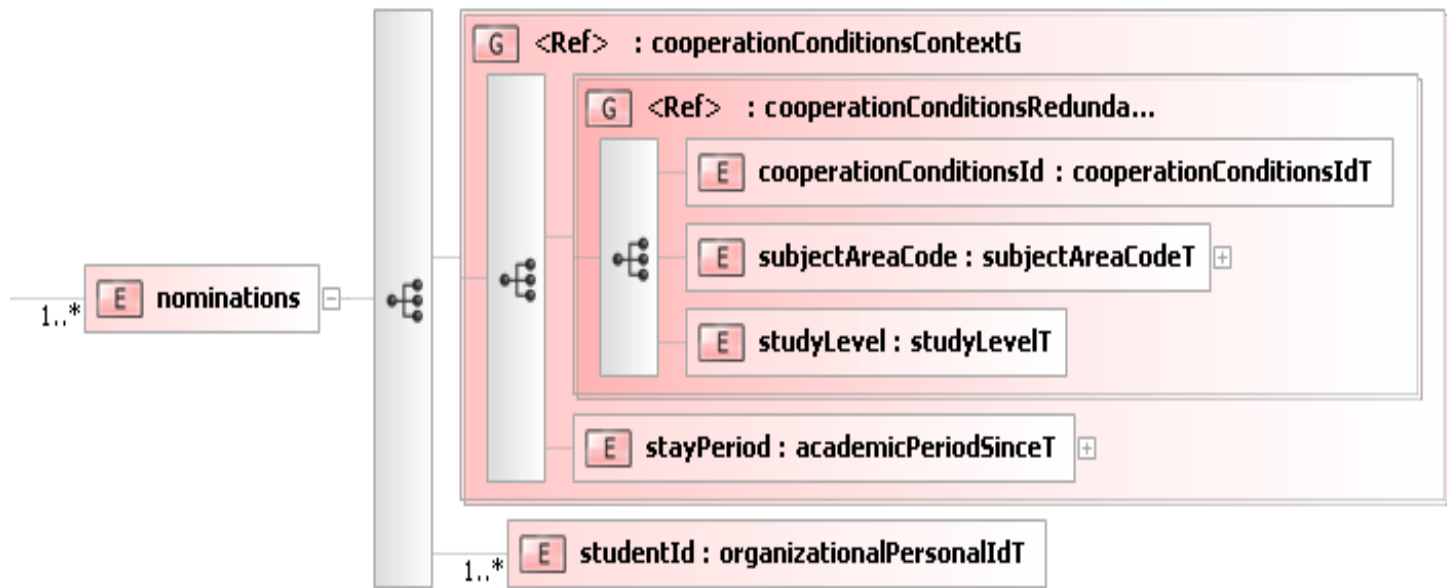
getTranscriptOfRecords()

getCourseData()

validateNationalPersonalID()

Data format – WSDL

- Should model the **problem domain** well
- Should be as **simple** as possible and conform to existing **standards** as strictly as possible, **but**
 - Existing standards do not conform to each other
 - They do not cover fully the problem domain
- We try to take into account achievements of:
 - *Metadata for Learning Opportunities* (MLO) – programs of study and course catalogs
 - *European Learner Mobility* (ELM) – Europass portfolio
 - SCHAC (*SCHema for Academia*) – LDAP attributes



Liquid XML Studio - FREE Community Edition 7.1.4.1284

```

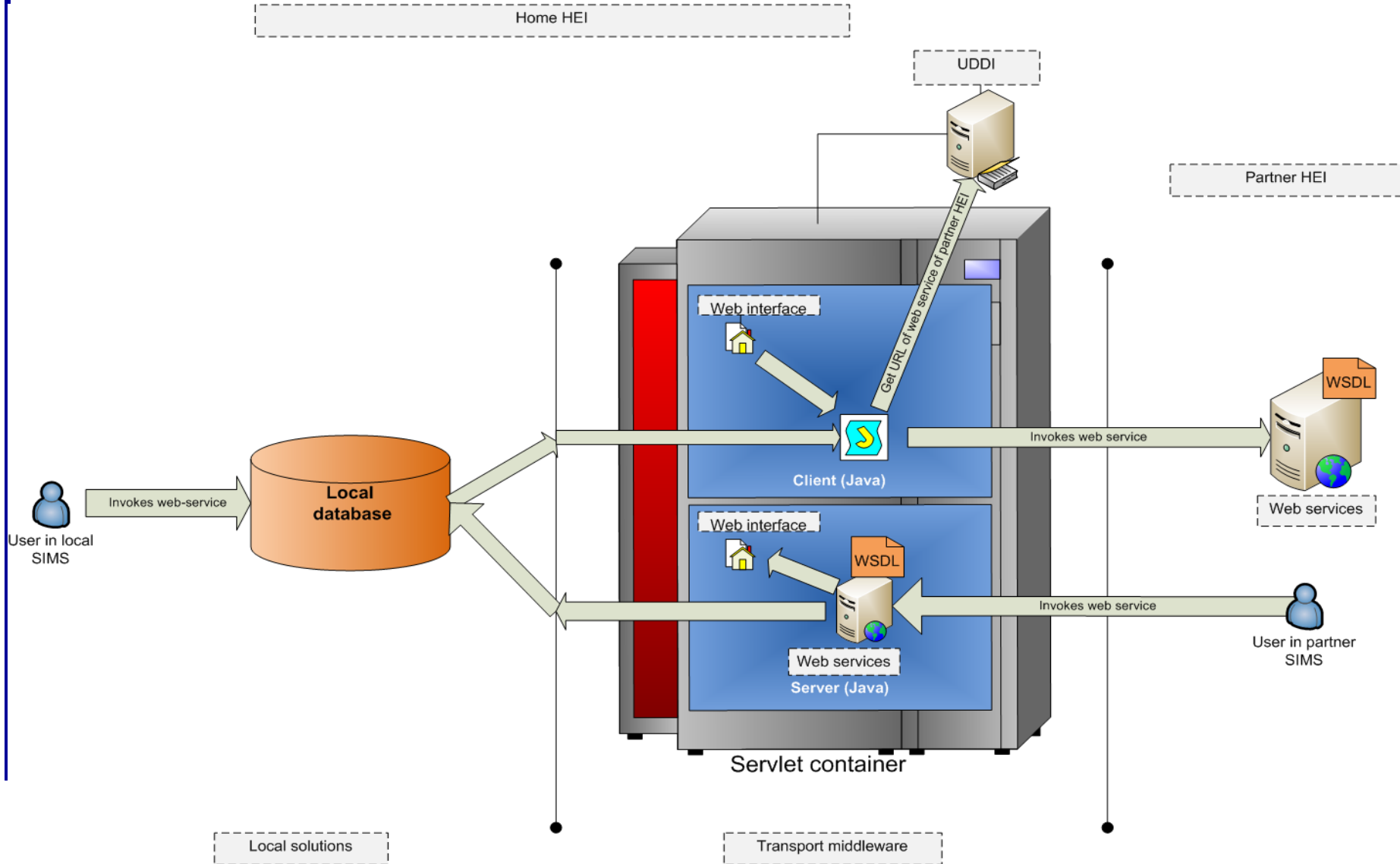
<tns:nominations>
  <tns:cooperationConditionsId>1</tns:cooperationConditionsId>
  <tns:subjectAreaCode>
    <tns:value classification="eu">11.3</tns:value>
  </tns:subjectAreaCode>
  <tns:studyLevel>1</tns:studyLevel>
  <tns:stayPeriod>
    <tns:academicYear>2008</tns:academicYear>
    <tns:academicPeriod>S1</tns:academicPeriod>
    <tns:duration>1</tns:duration>
  </tns:stayPeriod>
  <tns:studentId>unipr.it:9001</tns:studentId>
  <tns:studentId>unipr.it:7042</tns:studentId>
  <tns:studentId>unipr.it:4603</tns:studentId>
</tns:nominations>

```

Software

- Distributed network of web servers, one for each HEI
- UDDI (*Universal Description Discovery and Integration*) registry stores addresses of endpoints
- Technologies involved:
 - Java with Spring framework
 - Apache as HTTP server and Apache Tomcat as a servlet container
 - Apache Camel as a routing and mediation engine
 - Apache CXF as a web services framework
 - Apache jUDDI as a UDDI Registry implementation
 - Apache Qpid as an AMQP implementation
 - ICEfaces as RIA (*Rich Internet Application*) framework etc.

Architecture of the mobility node





UDDI – Universal Description, Discovery and Integration (registry of Mobility nodes)

Mobility Client

- Information
 - Introduction
- Web Service Methods
 - OrganizationData
 - sendOrganizationData
 - getOrganizationData
 - AgreementData
 - sendAgreementData
 - getAgreementData
 - NominatedStudents
 - sendNominatedStudents
 - getNominatedStudents
 - ArrivalDate
 - sendArrivalDate
 - getArrivalDate
 - DepartureDate
 - sendDepartureDate
 - getDepartureDate
 - CourseData
 - getCourseData
 - LearningAgreement
 - sendLearningAgreement
 - getLearningAgreement
 - TranscriptOfRecords
 - sendTranscriptOfRecords
 - getTranscriptOfRecords
 - Other
 - validateNationalPersonalId
- UDDI Registry
 - Edit
- Help
 - WSDL

UDDI Registry

	Id	Name	WSDL URL
<input type="radio"/>	unipr.it	it:Universita degli Studi di Parma	http://usosphp.7878/mobility-server-transport/webservices/mobility-service?wsdl
<input checked="" type="radio"/>	uw.edu.pl	pl:Uniwersytet Warszawski	http://usosphp.7979/mobility-server-transport/webservices/mobility-service?wsdl

Details

Id * 246 left / 255

Name *

Language

Localized Name

WSDL URL *

Contact

Person Name

Phone Number

Service Name

Service Description

* - required



Web client (client= WARSAW, server= PARMA)

<http://usosphp.mimuw.edu.pl:7979/mobility-client-web/index.jsp>

Mobility Client

Information

- Introduction
- Web Service Methods**
 - OrganizationData
 - sendOrganizationData
 - getOrganizationData
 - AgreementData
 - sendAgreementData
 - getAgreementData
 - NominatedStudents
 - sendNominatedStudents**
 - getNominatedStudents
 - ArrivalDate
 - sendArrivalDate
 - getArrivalDate
 - DepartureDate
 - sendDepartureDate
 - getDepartureDate
 - CourseData
 - getCourseData
 - LearningAgreement
 - sendLearningAgreement
 - getLearningAgreement
 - TranscriptOfRecords
 - sendTranscriptOfRecords
 - getTranscriptOfRecords
 - Other
 - validateNationalPersonalId
- UDDI Registry
 - Edit
- Help
 - WSDL

Client

Id:

Name: pl:Uniwersytet Warszawski

WSDL URL: <http://usosphp.7979/mobility-server-transport/webservices/mobility-service?wsdl>

Server

Id:

Name: it:Universita degli Studi di Parma

WSDL URL: <http://usosphp.7878/mobility-server-transport/webservices/mobility-service?wsdl>

Request

Resource: xml/client=uw.edu.pl

Path: /server=unipr.it

Sample Data File: Upload a file

```
1 <?xml version="1.0" encoding="UTF-8"?><tns:sendNominatedStudentsRequest
2 xmlns:tns="http://mobility.usos.edu.pl" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3 xsi:schemaLocation="http://mobility.usos.edu.pl MobilitySchema.xsd">
4   <tns:agreementId>
5     <tns:homeId>
6       <tns:organizationId>uw.edu.pl</tns:organizationId>
7       <tns:value>962/E/II08</tns:value>
8     </tns:homeId>
9     <tns:partnerId>
10      <tns:organizationId>unipr.it</tns:organizationId>
11      <tns:value>1207/E/XI08</tns:value>
12    </tns:partnerId>
13  </tns:agreementId>
14  <tns:academicYear>2008</tns:academicYear>
15  <tns:nominatedStudentsWithPersonalData>
16    <tns:uniquePersonalData>
17      <tns:student>
18        <tns:nationalPersonalId>PL:85 </tns:nationalPersonalId>
19        <tns:givenName1>Michał</tns:givenName1>
20        <tns:givenName2>Marek</tns:givenName2>
21        <tns:surname1>Kurzydłowski</tns:surname1>
22        <tns:gender>1</tns:gender>
23      </tns:studentId>uw.edu.pl:8001</tns:studentId>
```

Data successfully sent.

Type	Line	Column	Report
------	------	--------	--------

Response

```
1 <?xml version="1.0" encoding="UTF-8"?><tns:sendArrivalDateResponse xmlns:tns="http://mobility.usos.edu.pl"
2 xsi:schemaLocation="http://mobility.usos.edu.pl MobilitySchema.xsd" xmlns:soap="http://schemas.xmlsoap.org
3 /soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"/>
```

Web server (server=PARMA)

http://usosphp.mimuw.edu.pl:7878/mobility-server-web/

Mobility Server

⏪ ⏩ ⏴ 1 2 3 4 ⏵ ⏶ ⏷
 Items: Page 15 Count 51 Id unipr.it

2009-11-13 14:28	getOrganizationDataRequest
2009-11-13 14:29	getOrganizationDataRequest
2009-11-13 14:31	getOrganizationDataRequest
2009-11-13 14:32	getOrganizationDataRequest
2009-11-13 17:04	sendAgreementDataRequest
2009-11-14 21:05	sendNominatedStudentsRequest

```

<tns:sendNominatedStudentsRequest xmlns:tns="http://mobility.usos.edu.pl" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://mobility.usos.edu.pl MobilitySchema.xsd">
  <tns:agreementId>
    <tns:homeId>
      <tns:organizationId>uw.edu.pl</tns:organizationId>
      <tns:value>982/E/108</tns:value>
    </tns:homeId>
    <tns:partnerId>
      <tns:organizationId>unipr.it</tns:organizationId>
      <tns:value>1207/E/108</tns:value>
    </tns:partnerId>
  </tns:agreementId>
  <tns:academicYear>2008</tns:academicYear>
  <tns:nominatedStudentsWithPersonalData>
    <tns:uniquePersonalData>
      <tns:student>
        <tns:nationalPersonalId>PL:85      </tns:nationalPersonalId>
      </tns:student>
    </tns:uniquePersonalData>
  </tns:nominatedStudentsWithPersonalData>
</tns:sendNominatedStudentsRequest>
  
```



Web client (client= PARMA, server= WARSAW)

http://usosphp.mimuw.edu.pl:7979/mobility-client-web/index.jsp

Mobility Client

Information

- Introduction
- Web Service Methods**
- OrganizationData
 - sendOrganizationData
 - getOrganizationData
- AgreementData
 - sendAgreementData
 - getAgreementData
- NominatedStudents
 - sendNominatedStudents
 - getNominatedStudents
- ArrivalDate
 - sendArrivalDate
 - getArrivalDate
- DepartureDate
 - sendDepartureDate
 - getDepartureDate
- CourseData
 - getCourseData
- LearningAgreement
 - sendLearningAgreement
 - getLearningAgreement
- TranscriptOfRecords
 - sendTranscriptOfRecords
 - getTranscriptOfRecords
- Other
 - validateNationalPersonnelId
- UDDI Registry**
- Edit
- Help**
- WSDL

Client

Id: unipr.it

Name: it:Universita degli Studi di Parma

WSDL URL: http://usosphp:7878/mobility-server-transport/webservices/mobility-service?wsdl

Server

Id: uw.edu.pl

Name: pl:Uniwersytet Warszawski

WSDL URL: http://usosphp:7979/mobility-server-transport/webservices/mobility-service?wsdl

Request

Resource: xml/client=unipr.it

Path: /server=uw.edu.pl

Sample Data File: sendOrganizationDataRequest.xml

Upload a file:

```

1 <?xml version="1.0" encoding="UTF-8"?><tns:sendOrganizationDataRequest
2 xmlns:tns="http://mobility.usos.edu.pl" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3 xsi:schemaLocation="http://mobility.usos.edu.pl MobilitySchema.xsd">
4 <tns:organizationDataWithPersonalData>
5 <tns:uniquePersonalData>
6 <tns:employee>
7 <tns:nationalPersonalId>IT:CRDTZN </tns:nationalPersonalId>
8 <tns:givenName1>Tiziana</tns:givenName1>
9 <tns:surname1>Cord </tns:surname1>
10 <tns:gender>2</tns:gender>
11 <tns:employeeId>unipr.it:2323</tns:employeeId>
12 </tns:employee>
13 <tns:employee>
14 <tns:nationalPersonalId>IT:CCRSL </tns:nationalPersonalId>
15 <tns:givenName1>Silvia</tns:givenName1>
16 <tns:surname1>Iacc </tns:surname1>
17 <tns:gender>2</tns:gender>
18 <tns:employeeId>unipr.it:2424</tns:employeeId>
19 <tns:title>Prof.</tns:title>
20 <tns:personalPosition>Rector delegate international student mobility</tns:personalPosition>
21 <tns:phone>+390521905359</tns:phone>
22 <tns:fax>+390521905305</tns:fax>
23 <tns:email>silvia.iacc @unipr.it</tns:email>

```

Data successfully sent.

Type	Line	Column	Report
------	------	--------	--------

Response

```

1 <?xml version="1.0" encoding="UTF-8"?><tns:sendArrivalDateResponse xmlns:tns="http://mobility.usos.edu.pl"
2 xsi:schemaLocation="http://mobility.usos.edu.pl MobilitySchema.xsd" xmlns:soap="http://schemas.xmlsoap.org
3 /soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"/>
4
5
6
7

```


Web server (server=WARSAW)

http://usosphp.mimuw.edu.pl:7979/mobility-server-web/

Mobility Server


 1 2 3 > >> >| Items/Page 10 Count 22 Id uw.edu.pl

2009-11-13 19:33 sendOrganizationDataRequest

2009-11-14 22:39 sendOrganizationDataRequest

```

<tns:sendOrganizationDataRequest xmlns:tns="http://mobility.usos.edu.pl" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://mobility.usos.edu.pl MobilitySchema.xsd">
  <tns:organizationDataWithPersonalData>
    <tns:uniquePersonalData>
      <tns:employee>
        <tns:nationalPersonalId>IT:CRDTZN </tns:nationalPersonalId>
        <tns:givenName1>Tiziana</tns:givenName1>
        <tns:surname1>Cord </tns:surname1>
        <tns:gender>2</tns:gender>
        <tns:employeeId>unipr.it:2323</tns:employeeId>
      </tns:employee>
      <tns:employee>
        <tns:nationalPersonalId>IT:CCRS� </tns:nationalPersonalId>
        <tns:givenName1>Silvia</tns:givenName1>
        <tns:surname1>Iacc </tns:surname1>
        <tns:gender>2</tns:gender>
        <tns:employeeId>unipr.it:2424</tns:employeeId>
      </tns:employee>
    </tns:uniquePersonalData>
  </tns:organizationDataWithPersonalData>
</tns:sendOrganizationDataRequest>
  
```

The Mobility Project – History 1

- **June 2008, EUNIS 2008** (Aarchus)
 - Presentation of the USOS Mobility module for IRO
 - **MUCI** (Polish consortium) and **CINECA** (Italian consortium) decide to start the project
- **June 2009, EUNIS 2009** (Santiago de Compostela)
 - First version of the mobility network (with two nodes) is presented
 - First workshop of **RS3G** standardization body gathers other interested groups

The Mobility Project – History 2

- **November 2009, RS3G Workshop** (Uppsala)
 - Brings together consortia and companies willing to take an active part in the project
 - Main problem domains identified
- **March 2010, RS3G Workshop** (Bologna)
 - Brings together the Mobility Group and **TERENA TF-EMC2** to discuss the aspects of security and of identity and access management
 - Possible solutions outlined

The Mobility Project – History 3

- **June 2010, EUNIS 2010** (Warsaw)
 - RS3G workhop - some important plans made on how to speed up the project
- **December 2010, RS3G workhop** (Malaga)
 - Joint meeting with **TERENA TF-EMC2**, technical security details discussed and approved
- **March 2011, RS3G Coding Camp** (Barcelona)
 - Meeting IRO people, discussing technical issues, extending network of mobility nodes
 - Decision on developing the platform for **exchange of organization data** (so called infosheets or business cards)
- **September 2011**
 - Deadline for the platform

Exchange of Organization Data

- First (necessary) step in any cooperation – each institution every year sends/gets hundreds of organization **Business Cards**
- **Easy to develop and easy to use:**
 - Business cards stored in XML format as flat files on disk (or obtained on the fly from the data stored in local database)
 - **sendOrganizationData()** sends the data to server
 - Server automatically posts it on the web (INSERT or UPDATE)
- Every institution can join with minimal effort (preparing XML file with the data and installing the mobility node)

Registry

- Services **sendOrganizationData()/getOrganizationData()** delivered by the mobility nodes of participating universities are published in the commonly available **Registry**
- Service interfaces are described by WSDL/WADL
- We use registry developed as part of core middleware of **GEANT3 DJ3.3.2 GEMBus** Deliverable (by Roland Hedberg)
- **TERENA certificates** are used by the mobility nodes and the registry

Mobility Client

The screenshot displays the Mobility Client interface. On the left is a sidebar with a tree view of service methods, including 'sendOrganizationData'. The main area is divided into sections for Client, Server, and Request.

Client

- Id: unipr.it
- Name: en:University of Parma
- WSDL URL: https://michalk.mimuw.edu.pl:8443/mobility-server-transport/webservices/mobility-service?wsdl

Server

- Id: uw.edu.pl
- Name: pl:Uniwersytet Warszawski
- WSDL URL: https://michalk.mimuw.edu.pl:8443/mobility-server-transport/webservices/mobility-service?wsdl

Request

- Resource Path: xml/client=unipr.it/server=any
- Sample Data File: sendOrganizationDataRequest.xml
- Buttons: Load, Upload a File, Przeglądaj..., Send

The Request section contains an XML snippet:

```
1 <?xml version="1.0" encoding="UTF-8"?><tns:sendLearningAgreementRequest
2 xmlns:tns="http://mobility.usos.edu.pl" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3 xsi:schemaLocation="http://mobility.usos.edu.pl MobilitySchema.xsd">
4   <tns:agreementId>
5     <tns:homeId>
6       <tns:organizationId>unipr.it</tns:organizationId>
7       <tns:value>1207/E/XI08</tns:value>
8     </tns:homeId>
9     <tns:partnerId>
10      <tns:organizationId>uw.edu.pl</tns:organizationId>
11      <tns:value>982/E/II08</tns:value>
12    </tns:partnerId>
13  </tns:agreementId>
14  <tns:cooperationConditionsId>1</tns:cooperationConditionsId>
15  <tns:subjectAreaCode>
16    <tns:value classification="eu">11.3</tns:value>
17  </tns:subjectAreaCode>
18  <tns:studyLevel>1</tns:studyLevel>
19  <tns:stayPeriod>
20    <tns:academicYear>2008</tns:academicYear>
21    <tns:academicPeriod>S1</tns:academicPeriod>
22  </tns:stayPeriod>
```

Invocation of sendOrganizationData() on the mobility client
(example)

List of organizations

List of organizations

- uab.cat - [show business card](#)

List of organizations

- uab.cat - [show business card](#)
- unipr.it - [show business card](#)

List of organizations

- uab.cat - [show business card](#)
- unipr.it - [show business card](#)
- uw.edu.pl - [show business card](#)

Subsequent invocations of `sendOrganizationData()` as observed on the mobility server (example)

UNIVERSIDAD AUTONOMA DE BARCELONA

Official website	www.uab.es
INTERNATIONAL RELATIONS OFFICE	
International Relations Website	
Fax	+ 34 91 624 95 52
Address	Plaça de la Vila 08290 ?Cerdanyola del Vallès, ES
CONTACT FOR INCOMING STUDENTS	
Klementyna Kielak	+ 34 91 624 95 50 clopez@uab.cat
ALVARO ESCRIBANO	+ 34 91 624 95 55 vrrii@uab.cat
CONTACT FOR OUTGOING STUDENTS	
Klementyna Kielak	+ 34 91 624 95 50 clopez@uab.cat
ALVARO ESCRIBANO	+ 34 91 624 95 55 vrrii@uab.cat

Organization data of uab.cat (example)

UNIVERSITY OF PARMA

Official website	www.unipr.it
INTERNATIONAL RELATIONS OFFICE	
International Relations Website	
Fax	+39 052 1905305
Address	Via Università 13 43100 Parma, IT
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Tiziana Cordana	
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Tiziana Cordana	
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Organization data of unipr.it (example)

Problems to solve, steps to make

- Recognize real life scenarios of various universities, describe business cases, test business model - processes are similar but local requirements and procedures need not (IRO staff)
- Agree on the amount and format of exchanged data (IRO staff)
- Develop software – involve software vendors from various European countries (IT people)
- Deploy software in cooperation with partner institutions (IRO staff and IT people)
- Make a first (easy) step – install software for exchange of organization data

Join the Mobility Project ...

<http://usos.edu.pl/Mobility>

Enjoy mobility without paper
(it is possible!)