KnowledgeEngineering@Work

A triple win for businesses, universities and students

Frank Thuijsman & Ellen Narinx

For 3 min. introductory movie on Knowledge Engineering click here

Department of Data Science and Knowledge Engineering

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Why KE@Work?

- Increase student numbers
- Decrease drop out rate from clever students

Why KE@Work?

Why KE@Work?

Main features of KE@Work

- Special track in the Bachelor Knowledge Engineering
- For excellent and motivated students only
- Study/work program with local business/organizations
- Students work and study fifty-fifty during BSc years 2 and 3
- Quality control by academic and business supervisors
- 3-Party internship contract

Main features of KE@Work

- BY2: no classes scheduled on Wednesday and Thursday
- BY3: no classes scheduled on Tuesday and Wednesday
- Project weeks in period 3 and 6, students work full time
- Resit weeks, students work full time
- Holidays: students continue to work
- KE@Work replaces 3 projects
- Students also write their bachelor thesis at the company (about a topic that is relevant for the company)

Main features of KE@Work

2015 – 2016					Schedule 2.4 Bachelor programme						Version 07-03-2016	
1/2 – 1/4		**Monday**		**Tuesday**		**Wednesday**		**Thursday**		**Friday**		
Week	**Time**	**Course**	**Room**	**Course**	**Room**	**Course**	**Room**	**Course**	**Room**	**Course**	**Room**	
Week 1 Mo: 1/2	08:30 – 10:30			PS	Tapijn, building Z					MM	1.001 + 2.009	
	11:00 – 13:00			MM	Tapijn, building Z	PO *	0.015			HCI	Tapijn, building Z	
	13:30 – 15:30	TCS	Tapijn, building Z	TCS	Tapijn, building Z					Thesis info #	0.015	
	16:00 – 18:00	HCI	Tapijn, building Z									
Week 2 Mo: 15/2	08:30 – 10:30									MM	1.001 + 2.009	
	11:00 – 13:00			MM	Tapijn, building Z	P	0.001 SSK39			MM	Tapijn, building Z	
	13:30 – 15:30	TCS	Tapijn, building Z	HCI	Tapijn, building Z							
	16:00 – 18:00	HCI	Tapijn, building Z	TCS	Tapijn, building Z							
Week 3 Mo: 22/2	08:30 – 10:30			PS (group 1)	0.009	PS (group 2)	0.009			MM	1.001 + 2.009	
	11:00 – 13:00			MM	Tapijn, building Z	P ^^	0.001 SSK39			MM	Tapijn, building Z	
	13:30 – 15:30	TCS	Tapijn, building Z	HCI	Tapijn, building Z							
	16:00 – 18:00	HCI	Tapijn, building Z	TCS	Tapijn, building Z							
Week 4 Mo: 29/2	08:30 – 10:30									MM	1.001 + 2.009	
	11:00 – 13:00	TCS	Tapijn, building Z	MM	Tapijn, building Z	P	0.001 SSK39			MM	Tapijn, building Z	
	13:30 – 15:30	TCS	Tapijn, building Z	HCI	Tapijn, building Z							
	16:00 – 18:00	HCI	Tapijn, building Z	TCS	Tapijn, building Z							
Week 5 Mo: 07/3	08:30 – 10:30									MM	1.001 + 2.009	
	11:00 – 13:00	TCS	Tapijn, building Z	MM	Tapijn, building Z	Seminar	Tapijn, building Z			HCI	Tapijn, building Z	
	13:30 – 15:30	TCS	Tapijn, building Z	TCS	Tapijn, building Z	P	0.001 SSK39					
	16:00 – 18:00	HCI	Tapijn, building Z	HCI	Tapijn, building Z							
Week 6 Mo: 14/3	08:30 – 10:30			PSAR	Tapijn, building Z					MM	1.001 + 2.009	
	11:00 – 13:00	TCS	Tapijn, building Z	MM	Tapijn, building Z	P	0.001 SSK39			MM	Tapijn, building Z	
	13:30 – 15:30	TCS	Tapijn, building Z	HCI	Tapijn, building Z							
	16:00 – 18:00	HCI	Tapijn, building Z	TCS	Tapijn, building Z							
Week 7 Mo: 21/3	08:30 – 10:30											
	11:00 – 13:00	MM $$	Tapijn, building Z	MM	Tapijn, building Z			PFP ^	2.015	Good Friday		
	13:30 – 15:30	TCS	Tapijn, building Z	TCS	Tapijn, building Z							
	16:00 – 18:00	HCI	Tapijn, building Z									
Week 8 Mo: 28/3		Easter break (No exams)		Exams		Exams		Exams		Exams		

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Main features of KE@Work

Year 2			
	Weeks/Block	Days/Week at Company	Days/Week at UM
Block 1	7	2	3
	1	0	5
Block 2	7	2	3
	1	0	5
Block 3	3	4	1
	1	0	5
Block 4	7	2	3
	1	0	5
Block 5	7	2	3
	1	0	5
Block 6	3	4	1
	1	0	5
Other	12	3,5	1,5
# Weeks	52	122	138

Year 3			
	Weeks/Block	Days/Week at Company	Days/Week at UM
Block 1	7	2	3
	1	0	5
Block 2	7	2	3
	1	0	5
Block 3	3	4	1
	1	0	5
Block 4	7	2	3
	1	0	5
Block 5/6	11	4	1
	1	0	5
Other	7	4	1
August	5	0	0
# Weeks	52	126	109

Balance in Days	
At Company	At UM
248	247
50%	50%

Main features of KE@Work

Calculation workload KE@Work as compared to the regular Bachelor Knowledge Engineering			
Bachelor year 2			
			workload in hours
KE@Work	122 work days - 12 holidays = 110 work days	(1 work day = 8 hours)	880
Regular KE	2 projects à 6 ECTS per project	(1 ECTS = 28 hours)	336 _
		difference	**544**
Bachelor year 3			
KE@Work	126 work days - 11 holidays = 115 work days	(1 work day = 8 hours)	920
Regular KE	1 project à 6 ECTS per project	(1 ECTS = 28 hours)	168
	thesis à 18 ECTS	(1 ECTS = 28 hours)	504 _
		difference	**248**
Total			
	additional hours compared to regular program		544
			248 +
			792
	equivalent to ECTS	(1 ECTS = 28 hours)	**28**

KE@Work advantages (universities)

- Higher student inflow by attractive and exceptional program
- Business feedback to maintain cutting edge study content
- Reimbursement of supervision costs (€ 200 per month)
- Contract research within reach

KE@Work advantages (students)

- Accquire relevant "work" experience

- On real-life science applications

- While enjoying expert supervision

- And being part of a professional team

- As a paid intern (€ 450 per month)

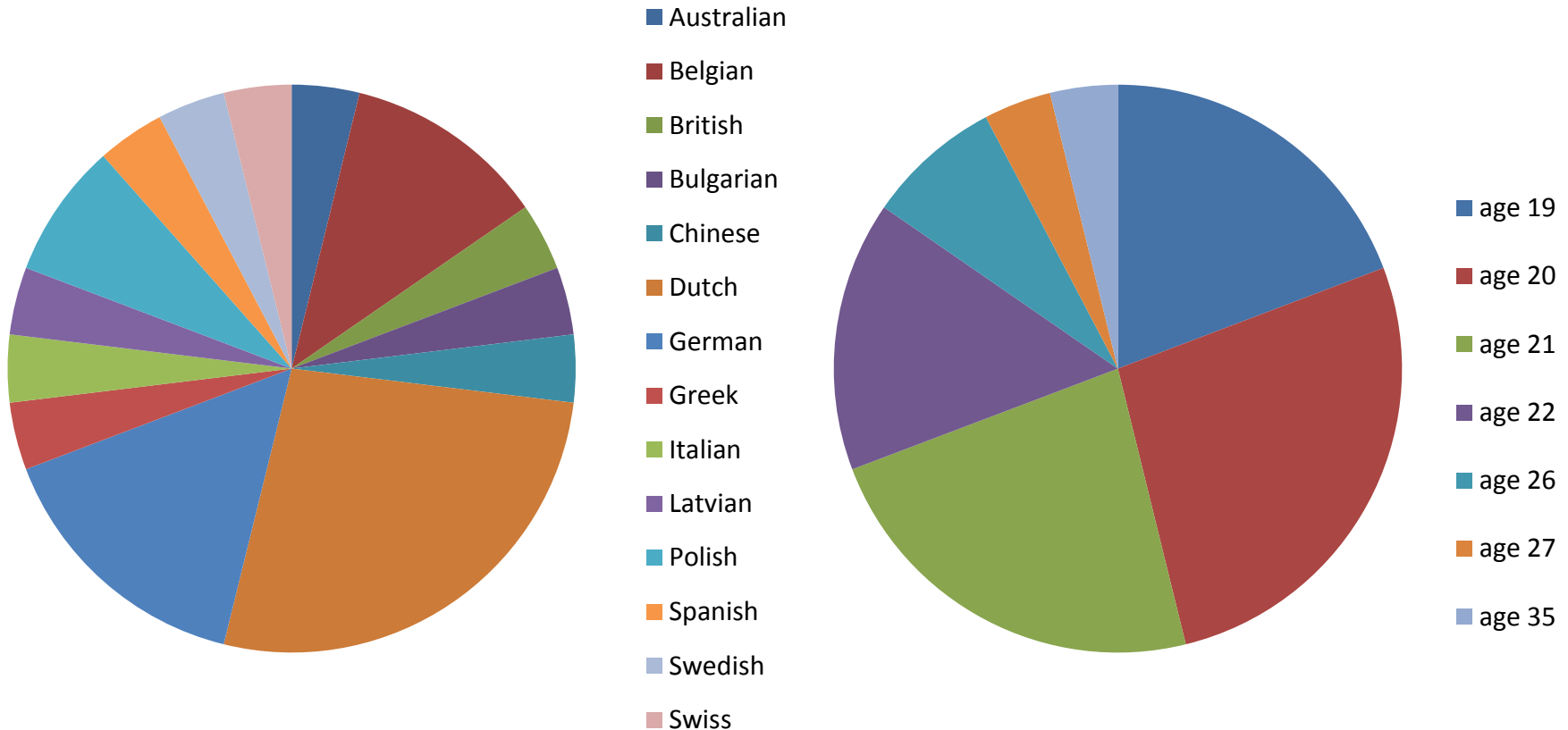- Whose work is also awarded in ECTS

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KE@Work advantages (businesses)

- Access to talented and scientifically trained new potentials
- Smart, young, flexible, relatively inexpensive student workers
- University supervisors for quality control and scientific advice
- Connecting to newest techniques available

KE@Work student nationalities & ages

Nationalities legend:
- Australian
- Belgian
- British
- Bulgarian
- Chinese
- Dutch
- German
- Greek
- Italian
- Latvian
- Polish
- Spanish
- Swedish
- Swiss

Ages legend:
- age 19
- age 20
- age 21
- age 22
- age 26
- age 27
- age 35

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KE@Work a student impression

For 2 min. student view on Knowledge Engineering click here

KE@Work feedback - students

"I have found that developing software in a non-academic context is fundamentally different than my experience so far, with a much greater focus placed on the architectural and structural considerations, rather than the technical aspects of solving individual problems."

Dimitris Gounaras – KE@Work at BIGear

"Acquired knowledge at the university has been applied in a demanding self-driven project in the area of Data Mining which will give me a good foundation for a future professional career in that field. Moreover there has been an improvement in university grades, which proves that work in a professional corporation has inspired me to study harder and more efficiently."

Mateusz Garbacz – KE@Work at Mercedes Benz CAC

"As a student for some courses you work to get a mere 6, just to get it over and done with. In a company it doesn't work that way, you have to deliver the full 100%, every time, all of the time."

Tomas Cremers – KE@Work at PNA group

KE@Work feedback - companies

- Impressed by smart students

- Companies integrate students as 'real' colleagues

- One company has started to integrate KE@Work students in their HR cycle

- First student has been offered a job (in a flexible format that will allow him to pursue his Master's degree here at the same time)

KE@Work feedback – University

Supervisors:

- Very interesting to see concepts tested in practice
- Sometimes hard to plan meetings with busy managers
- Students seem to work harder (to qualify for KE@Work)

KE@Work organizers:

- Students require close monitoring on quality on study and work to keep things balanced. Sometimes, after several warnings, it leads to termination of the contract.
- Tailored soft skills needed for KE@Work for students as well as for supervisors.

KE@Work future outlook

- 26 ready for Sept. 2016 (40%♀, 14 different nationalities)
- Improved preparation track for this group
- Approx. 30 project proposals
- Several companies 2nd or 3rd time; also many new partners
- KE@Work proposed as part of DKE Honours program
- Roll out internationally: Belgium - Germany

Any questions?