From written tests to e-examination

Organisational implications of computer based examinations



http://www.zmml.uni-bremen.de/exam

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Background

- appr. 5000 exams per semester in business science
- increasing number of exams due to the transformation to BA/MA
- increasing number of aptitude tests and placement tests
- decreasing manpower within the faculties

Pressure to rationalise examination procedures

- Since winter semester 2004/2005 seven e-exams in 4 courses
- Up to now 3241 registered candidates (100 854 per exam)
- This semester 3000 3400 registrations in 7 courses (business science, industrial engineering and educational science)



Objectives and Financing

- Financing by 2 funded projects
 - ICT in mass education quality improvement and rationalisation of higher education in business sciences
 - e-Examination in the educational network in Bremen

Objectives

- Evaluation of technical, organisational and didactical implications of computer based examinations
- Development of a campus-wide service for e-assessment



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Why e-Examinations? Advantages for Students

- enhanced management of the studies due to instant feedback on examination result
- higher grade of objectivity
- elaborated feedback
- transparency and effective preparation for exams



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Why e-Examinations? Advantages for teachers

- reduced work load
- elaborated feedback on teaching success
- e-assessments (self-assessments, mock exams, final exams) as part of the didactical concept
- build-up of re-usable question catalogues
- quality management of examinations and catalogues
- collaborative development of catalogues



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Argument: reduced work load Comparison of expenditure of human labour





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Why e-Examinations? Advantages for the university

- Rationalisation of selection of students and of placement tests
- Reduced costs
- Support of the administration by an effective and integrated management of examinations



Argument: support of administration Integration of e-examinations





Organisation of e-examinations

WP1: Development of catalogues

WP2: Organisation of registration

WP3: Technical preparation

WP4: Organisation of supervision

WP5: Examination

WP6: Postprocessing



WP development of question catalogues

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WPs Technology and Registration

Technical Preparation

Registration



WPs Supervision and Examination





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Example of an e-examination schedule

1			r –	1	1	1	1	1
day	Slot	BIBA1	BIBA2	MZH1	MZH2	MZH3	MIMI	GW2
16.02.05	08:00-10:00	•	•	•	•	•		
	10:30-12:30	•	•	•	•	•		
	13:00-15:00	•	•	٠	•	•		
	15:30-17:30	٠	٠	•	٠	٠		
18.02.05	09:00-10:30	•	•	•	•	•	•	•
	11:00-12:30	•	•	•	•	•	•	•
	13:00-14:30	•	•	•	•	•	•	•
	15:00-16:30	•	•	•	•	•	•	
	17:00-18:30	•	•	•	•	•	•	
	18:00-19:30				•	•		
21.02.05	08:00-10:00		٠		٠		•	٠
	10:30-12:30		٠		٠		•	٠
	13:00-15:00		٠	٠			٠	٠
	15:30-17:30		•	•			•	•
	18:00-20:00		•	•			•	•

day	Slot	BIBA1	BIBA2	MZH1	MZH2	MZH3	MIWI	GW2
22.02.05	08:00-10:00		•		•		•	•
	10:30-12:30		•		•		•	•
	13:00-15:00		•	•			•	•
	15:30-17:30		•	•			•	•
23.02.05	08:00-10:00		•		•			
	10:30-12:30		•		•			
	13:00-15:00		•	•				
	15:30-17:30		•	•				
24.02.05	15:00-16:30		•					

2 courses 1500 candidates 100 cycles



WP Postprocessing



Access to exam protocols

Statistical analysis



Conclusion and Future tasks

- We need a professional operated testcenter!
- Reduction of work load becomes true with
 - high numbers of candidates (> 400)
 - (otherwise) long duration for correction (≥ 20min.) and
 - duration of exams not longer than 2h
- Examination regulations have to be flexibilised and adapted to e-examination
- Quality of education can be enhanced by:
 - Integration of e-examinations in an e-learning concept and
 - High investment into complex questions





Thanks for your attention!

www.zmml.uni-bremen.de/tagung

Congress: Computergestützte Prüfungen: Praxisbeispiele und Konzepte (Computer based examinations: Examples and Strategies) 21.11.2005, ZMML - University of Bremen

