WELCOME TO THE EUNIS 2003 CONFERENCE

BEYOND THE NETWORK - INNOVATIVE IT SERVICES

We would like to welcome you to the ninth EUNIS conference, this year in Amsterdam.

The general theme of EUNIS 2003 is
“Beyond the Network: Innovative IT Services”.
EUNIS 2003 is a multidisciplinary conference for managers, researchers, teachers and practitioners. At EUNIS 2003 we present and discuss the latest developments, applications and impact of Information and Communication Technologies (ICT) at colleges and universities. The conference offers a unique opportunity to meet participants from all over Europe.

We are looking forward to an outstanding programme with a wide variety of sessions from which you can choose.

The conference includes the following events:

- a pre-conference day with workshops and excursion
- keynote speeches at the start and the end of the conference
- invited speakers for the different tracks, every day
- more than 100 paper presentations
- four presentations from companies
- ten presentations with the highlights of the Netherlands
- a small exhibition
- social events around the conference programme

We are very pleased that you are here to participate in what we hope to be an inspiring and stimulating conference.

And, of course, we welcome you to the City of Amsterdam and hope you have a most pleasant visit and stay in our beautiful city.

Marij Veugelers
Organisation Committee Chair

Hans Dijkman
Programme Committee Chair

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CONFERENCE COMMITTEES

ORGANISATION COMMITTEE:

Marij Veugelers	Universiteit van Amsterdam, Information Technology Centre, Project manager ICT in Education (Chair)
Petra Smulders	Universiteit van Amsterdam, Programme manager ICT and Educational Innovation
Hans Dijkman	Universiteit van Amsterdam, Information Technology Centre, Director
Bas Cordewener	SURF Foundation, Assistant platform manager ICT and Education and international relations

PROGRAMME COMMITTEE:

Hans Dijkman	Universiteit van Amsterdam, Information Technology Centre, Director (Chair)
Petra Smulders	Universiteit van Amsterdam
Bas Cordewener	SURF Foundation
Kurt de Belder	Universiteit van Amsterdam, Chief, Division of Electronic Services, University Library

SCIENTIFIC COMMITTEE:

The paper proposals have been reviewed by an international panel of experts

Kurt de Belder (NL)
Desiree van den Bergh (NL)
Soren Berglund (SE)
Bas Cordewener (NL)
Gabriel David (PT)
Jean-Francois Desnos (FR)
Hans Dijkman (NL)
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Ivan Vrana (CZ)
Jos Willems (NL)
Gordon Young (IE)
Michael Zastrocky (USA)

CONFERENCE THEMES

Topics of interest at the EUNIS 2003 Conference

E-learning in higher education

- Course Management Tools: LCMS, Campus portals, Learning Communities, standards and interoperability, integration with administrative and library systems
- Support: 24 * 7 support, help desk costs and cost effectiveness, staff development, training, outsourcing
- Institutional Issues: institutional strategies for incorporation of new information and communication technologies, faculty support models,
- Assessment of teaching, E-portfolios, community of practice, Competency-based learning, CSCL
- Assessment and evaluation: CMS, online testing, assessment of learning and teaching, outcome assessment, learning outcomes and models

IT infrastructures, Grid and E-science

- Broadband networks
- Storage solutions, e.g. SAN's
- Grid technology
- Authentication methods e.g. LDAP
- Video streaming
- Dial-in, xDSL, cable infrastructure
- System and network monitoring
- E-services like mail and groupware

E-University: integrated information systems, design and middleware

- Concepts, architecture and aims of virtual, digital and net universities
- Sharing resources, content, modules and teachers online
- Coherency in approach and quality of e-university products
- Expansion to new markets
- Credibility, assessment, accreditation
- Shopping
- Students online: requirements and services
- Tailor-made supply meets heterogeneous demand
- Globalizsation of education
- Crossing cultural borders and/or translation issues

Information management and quality control

- Information architecture
- Virtual workplace or e-workplace
- Security
- Administrative organisation
- Campus management
- Cooperation on administrative processes

E-Library: media and content

- Integration issues of heterogeneous content and metadata
- Long-term preservation and access to digital content
- Multi-lingual content, thesauruses and subject access
- E-publishing: reshaping scholarly communication
- Discovery & retrieval of sound, (moving) images and data in e-libraries
- Personalisation of content and recommended systems

HOSTS

INFORMATION TECHNOLOGY CENTRE UVA

The Information Technology Centre at the UvA provides a wide range of services in the extremely varied field of Information and CommunicationTechnology. It's mission is "to provide modern and distinctive Information and Communication Technology services to UvA students, staff members and personnel". It can only fulfil this mission by entering into a dialogue with the users: students, university staff members and faculties and units.

In addition to the services commissioned by the Executive Board and faculties and units, services are requested by individual students and staff members. These services include Internet subscriptions (free dial-in, ADSL lines), the sale of software licenses for home use, the electronic learning environment for students (Blackboard) or cell phones for university staff members. The Information Technology Centre provides a total of eleven services for end users.

The other twenty-five services pertain to various aspects of Information and Communication Technology. In addition to the university-wide company information systems including systems for the personnel and student administration, there are data and telecommunication services (including the UvA network for data as well as speech), system and application services (the installation, maintenance and management of information technology facilities) and Internet and media services (the development of Web and other applications, recommendations on the use of ICT in education, audiovisual productions). The front office (counters at study centres, service desk, account management) plays a major role in the dialogue with the user. In order to continue offering modern and distinctive services, it is necessary to develop and apply new techniques in a useful way. The Information Technology Centre participates in meetings that concern ICT and has initialised several meetings with specific user groups itself. We provide services for people and we can optimise those services together with those people.

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UNIVERSITEIT VAN AMSTERDAM

In 1632, the Athenaeum Illustre was founded in Amsterdam to educate students in Trade and Philosophy. As the establishment was not yet a proper university, lessons were generally given in the professors homes. Until the nineteenth century, the Athenaeum remained a small institution with no more than 250 students and eight teachers. In 1877, the situation changed when the Athenaeum Illustre became the Universiteit van Amsterdam and was permitted to confer the highest educational degrees. Years of rapid growth lay ahead. In 1900, there were 900 students at the Universiteit van Amsterdam. This figure had risen to 2,500 by 1935, and to 7,500 by 1960. More fields of study and research were introduced, and new university departments were established.
Nowadays, over 22,000 students attend the Universiteit van Amsterdam. From Trade and Philosophy, the original Athenaeum Illustre has expanded into a comprehensive university featuring almost sixty disciplinary fields with the exception of the field of technology. The strong historical bond with the city has persisted; and most faculties are still located at historic sites throughout the city centre. Throughout history four scientist of the Universiteit van Amsterdam received the Nobel Prize:
Jacobus van 't Hoff (Chemistry), Pieter Zeeman (Physics), Johannes van der Waals (Physics) and Tobias Asser (Peace).

See for more information http://www.uva.nl

SURF FOUNDATION

The international lead currently held by Dutch institutions in higher education and research in the field of Information and Communications Technology (ICT) is mostly due to the fact that for many years they have been combining forces. The SURF Foundation, which co-ordinates ICT in higher education and research, has played a key role in this in co-operation with the subsidiaries SURFnet and SURFdiensten.
SURF was established in the mid nineteen eighties with the object of promoting co-operation in the field of ICT between the various Dutch institutions of higher education and research. Fifteen years later, SURF is adopting a new perspective. The 2003>6 Four Year Plan, dubbed 'The Crux of the Matter', sets out a new strategy for ICT policy in higher education and research. This strategy is a response to problems increasingly faced by institutions as a result of fast-pace ICT innovations.

ICT has penetrated deeply into the primary processes of those institutions. The rapid rise of ICT applications is evident in research, education, and even the institutions themselves. Thus, from the outset of the Four Year Plan, SURF will be adopting a three-pronged approach, specifically ICT and Research, ICT and Education, and ICT and Organisation, thereby focusing (even more) attention on the user and in so doing consolidating the supporting processes. This will enable the institutions involved to better define their own individual strengths. This is the crux of the matter: co-operation between systems and competition between applications and their content!
SURF believes this new programme will make a valuable contribution to supporting developments already underway within and between the organisations involved.

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EUNIS

EUNIS is the European University Information Systems association.
This association was founded with the following objectives:

- to encourage exchanges, cooperation and debates between the persons responsible for information systems in higher education or research institutes/organisations within Europe
- to discuss with the major suppliers of information systems and to present them with the University point of view
- to establish relationships with supervisory organisations in charge of information systems in higher education and in research institutes in each country as well as at the European level.

The association is directed by a Board of Directors, made up of 3 to 12 Members, elected for three years by the General Assembly. The board of directors meet regularly.

See for more information: http://www.eunis.org/

PRACTICAL INFORMATION

AMSTERDAM

Amsterdam, the capital of the Netherlands, possesses one of the largest historical inner cities in Europe, which is easily explored on foot. Museums, theatres, monuments and most other features of interest are generally within walking distance of one another. Amsterdam is also one of the leading cultural centers of Europe. Among its famous museums are the Rijksmuseum, the Stedelijk Museum, the Amsterdam Historical Museum and the Van Gogh Museum. In multicultural Amsterdam people can enjoy an authentic degree of personal freedom and ease.

CONFERENCE VENUES

The conference will be held in the historic atmosphere of several buildings of the Universiteit van Amsterdam. All venues mentioned below are pointed out on a map in this programme book.

PRE-CONFERENCE, JULY 2

The seminars will be held at the Faculty of Law from 09.00 h. till 12.00 h.;
address, Oudemanhuispoort 4-6.
The hands-on training with computers will be held from 13.00 h.-16.00 h. at the Faculty of Economics,
Address: Roetersstraat 11.
There will be a bus available to bring you to the hands-on training and bring you back to the conference venue afterwards.
Participants can gather at the registrations desk at the Faculty of Law at 12.30 h.

EXCURSION, JULY 2

There will be a bus available to bring all the participants for the excursion to the internationally renowned Science Park in Amsterdam and bring them back afterwards.
Participants can gather at the registration desk at the Faculty of Law at 12.30 h.

RECEPTION PRE-CONFERENCE/EXCURSION

After the pre-conference and the excursion there will be a reception for all the participants of the pre-conference and the excursion at the Atrium café (next to the Faculty of Law) from 17.30 h till 19.00 h.

CONFERENCE, JULY 3 & 4

Opening: Auditorium,
Universiteit van Amsterdam,
Singel 411, at 09.00 h.Sessions/workshops:
Faculty of Law, Universiteit van Amsterdam,
Oudemanhuispoort 4-6

REGISTRATION

Upon registration you receive a nametag for the conference. You are kindly requested to wear your nametag during all sessions and social events, since it will be your 'entrance ticket' to the lecture rooms, lunches, coffee points, reception, boat trip and conference dinner. Duplicates of nametags will not be handed out.

REGISTRATION-VENUE OVERVIEW:

REGISTRATION PRE-CONFERENCE , JULY 2

08:30-17:00 h. Faculty of Law, Universiteit van Amsterdam, Oudemanhuispoort 4-6

REGISTRATION, JULY 3

08:30 h. Auditorium,
Universiteit van Amsterdam, Singel 411
10:15-18:00 Faculty of Law, Universiteit van Amsterdam, Oudemanhuispoort 4-6

REGISTRATION, JULY 4

08.30-18.00 h. Faculty of Law, Universiteit van Amsterdam, Oudemanhuispoort 4-6

E-MAIL

In room A009 in the Faculty of Law it is possible to check your e-mail during the conference.

MESSAGE BOARD

Last-minute changes in the programme will be announced on the digital message board in the hall of the Faculty of Law; we kindly ask you to read the messages carefully.

COFFEE AND TEA

Coffee and tea are free of charge (upon presentation of your nametag) during the breaks.

TELEPHONE

In case of an emergency you can be reached during conference
lecture hours at the following
number: +31 20 525 4791 (telephone) or
+31 20 525 4799 (fax). For calls in Amsterdam, dial the last 7 digits only.

LANGUAGE

The official language of the Netherlands is Dutch. Many Dutch people speak fairly good English as well. The language at the conference is English.

CURRENCY

The currency in the Netherlands, like in most other European countries, is Euro. Currency can be exchanged at most banks, post offices, railway stations and at Schiphol Airport.
Banks are generally open on workingdays from 9:00 – 16:00 h.
The Grenswisselkantoor (GWK) at Central Station and Leidseplein are open every day till midnight. We warn you for the smaller exchange bureaus, which are generally located in the main shopping streets and which charge high commission rates. The conference registration /information desk will accept payment only in Euros and by credit card (Euro/MasterCard, VISA and American Express).

POST OFFICES

Post offices are generally open on working days from 9:00 – 17:00 hours. Letters can be mailed here, as well as in the big red boxes in the streets. Postage for a letter to foreign countries is approximately 75 eurocent. Stamps can be purchased at post offices and in some tobacco shops. The nearest post office is located at Singel 250.

LUGGAGE AND PERSONAL BELONGINGS

People in the Netherlands are generally friendly. However, we must warn you to be aware of pickpockets, especially in railway stations and at the airport. Please take care of your personal belongings. The conference organisation cannot be held responsible for any missing or damages in or outside the conference venues.

HOTEL

For questions about hotel accommodation please contact RAI Hotelservice
Tel: +31 (0)20 549 1927

LUNCH

The lunches during the pre-conference and conference are included in the conference fee. You can use your lunch at the university restaurant Atrium, which is near to the conference venues.
Address: University restaurant Atrium, Oudezijds Achterburgwal 237, which is pointed out on the map in this programme.
Participants who join the afternoon programme of the pre-conference receive their lunch at the registration desk.

CONFERENCE DINNER

The conference dinner on Friday July 4 will be held at one of the most reputable buildings in the center of Amsterdam, the West India House, which you can find on the map in this programme. The conference dinner is included in the conference fee.
Address: West India House, Herenmarkt 99.
After the last session of the conference, several canal boats will be ready to take you on a special tour to show you beautiful Amsterdam and finally take you to the West India House.
Since there are no other dinners included in the conference programme, a list of dinner suggestions will be available at the registration/information desk.

RECEPTIONS & SOCIAL PROGRAMME

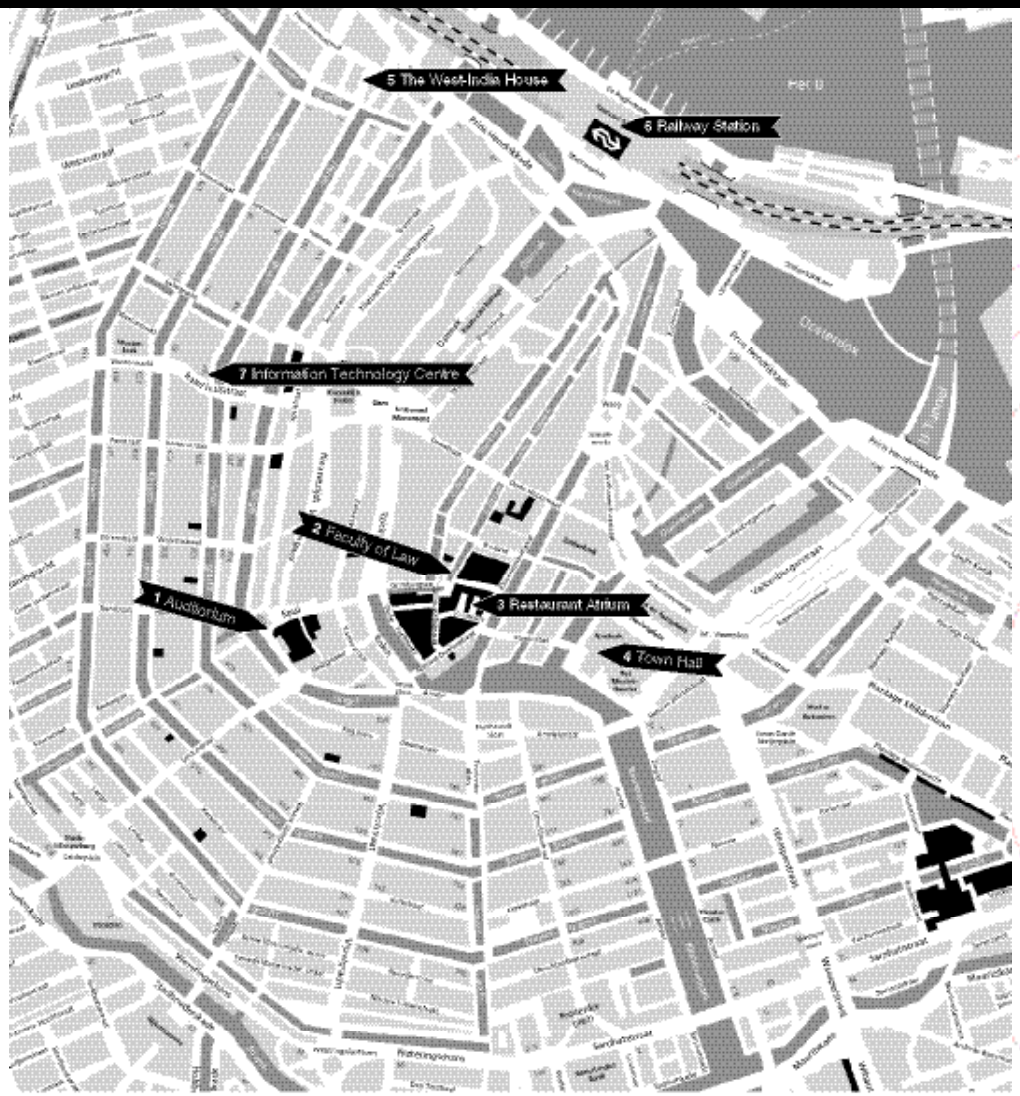
On Thursday July 3 a reception in the Town Hall is offered to the delegates of the conference by the Major and Councilmen of the city of Amsterdam.
Address: City Hall, Amstel 1
The City Hall is also pointed out at the map in this programme book.

PRESENTATIONS/LECTURES

We kindly ask all presenters to meet the attendant in the lecture room and to check the audiovisual equipment, a few minutes prior to the start of the sessions. Audiovisual help will be available for Power Point-, slide-, and VCR presentations. Session closing time may not be exceeded.

PROCEEDINGS BOOK

The proceedings of all sessions can be found in the Proceedings Book, which all delegates will receive upon registration. The Proceedings Book also includes a CD-rom with all the proceedings.



1. Auditorium, Singel 411
2. Faculty of Law, Oudemanhuispoort 2-6
3. Restaurant Atrium, Oudezijds Achterburgwal 237
4. Town Hall, Amstel 1
5. The West-India House, Herenmarkt 99
6. Railway Station, Stationsplein
7. Information Technology Centre, Herengracht 182

Pre-conference, Wednesday, July 2

Time	Programme	Location
08:30 - 17:00	Pre-registration	FACULTY OF LAW
09:00 - 12:00	Pre-conference seminars	
10:00 - 10:30	Coffee break	FACULTY OF LAW
12:00 - 13:00	Lunch break	ATRIUM
12:30	Gathering at registration desk for afternoon programme (lunch at the registration desk)	FACULTY OF LAW
13:00 - 16:00	Preconference seminars	ROETERSEILAND
14:00 - 14:30	Tea and Coffee break	
13:00 - 17:00	Excursion to the Science Park	WATERGRAAFSMEER
17:00 - 18:00	Reception at the Atrium café for participants pre-conference and excursion	ATRIUM
17:00 - 19:00	EUNIS General Assembly	INFORMATION TECHNOLOGY CENTRE HERENGRACHT 182

Conference, Thursday, July 3

Time	Programme	Location
08:30 - 09:30	Registration and coffee	AUDITORIUM
10:15 - 18:00	Registration and information desk	FACULTY OF LAW
09:00 - 09:30	Opening: UvA President Dr. S.J. Noorda EUNIS President Kristel Sarlin Programme Committee Chairman Dr. Hans Dijkman	AUDITORIUM
09:30 - 10:15	Keynote presenter John Gage (SUN Microsystems Inc.)	
10:15 - 10:45	Coffee break	
10:45 - 11:30	Keynote presenter Tony Hey (E-science Core programme UK)	
11:30 - 13:00	Lunch break	ATRIUM
12:30 - 18.00	Exhibition	FACULTY OF LAW
13:00 - 13:45	Invited speakers in 3 tracks	
13:45 - 14:00	Switch	
14:00 - 14:45	Session 1: Duo presentations of full papers Holl@nd e-xperience: highlights of the Netherlands	
14:45 - 15.15	Tea and Coffee break	
15:15 - 16:00	Session 2: Duo presentations of full papers Holl@nd e-xperience: highlights of the Netherlands	
16:00 - 16:15	Switch	
16:15 - 17:00	Session 3: Short paper presentations	
17:15 - 18:15	Poster session	
18:15 - 18:30	Walk to the Town Hall	
18:30 - 19:30	Reception at the Town Hall	

Conference, Friday, July 4

Time	Programme	Location
08:30 - 18:00	Registration and information desk	FACULTY OF LAW
09:00 - 09:45	Session 4: Short paper presentations Holl@nd e-xperience: highlights of the Netherlands	
09:45 - 10:15	Coffee break	
10:15 - 11:00	Invited speakers in 4 tracks	
11:00 - 11:30	Switch	
11:30 - 12:15	Session 5: Duo presentations of full papers Holl@nd e-xperience: highlights of the Netherlands	
12:15 - 14:00	Lunch break	ATRIUM
14:00 - 14:45	Companies track with 4 presentations	FACULTY OF LAW
14:45 - 15:00	Switch	
15:00 - 15:45	Session 6: Short paper presentations	
15:45 - 16:15	Tea and Coffee break	
16:15 - 17:00	Keynote presenter Michael R. Zastrocky (Gartner Inc.)	
17:00 - 17:30	Keynote presenter Brian Hawkins (Educause)	
17:30 - 18:00	End session: Paper and EUNIS Awards	
18:00 - 19:00	Canal trip (gathering at the information desk)	
19:00 - 22:00	Conference dinner	WEST INDIA HOUSE

PRE-CONFERENCE

At five seminars, delegates can spend a half-day being inspired in the field of:

SEMINAR 1

09:00 – 12:00 (Coffee break 10:00 – 10.30), Room D118c, Faculty of Law

Distributed learning: production of courses and documents. Avoiding pitfalls
Professor Y. Epelboin, University P. M. Curie, Paris France

Based on the ongoing process in our university we will describe the strategy to put courses on the Web and create electronic documents. This tutorial will present both the technical problems and the strategy. It will be an extension of the seminar presented last year and will take into account the demand of the participants of last year and the new developments of this year.
Proposed agenda:
Part 1: techniques

1. The different levels of sophistication: from simple PDF documents to rich media and video.
2. The difficult problem of standards: browsers, languages, teaching platforms.

Part 2: strategy

1. How to be successful: prerequisites to convince teachers to become electronic.
2. Organisational and legal aspects.

Yves Epelboin is Director of the Multimedia Production Centre at the University P.M. Curie, Paris, France. He has been working in the US at IBM Research in the beginning of the 80's for 2 1/2 years and has had different responsibilities in France and elsewhere:

- President of CSIESR (French University Information Systems Organisation)
- President of EUNIS
- Expert for OECD in IT Strategy for Higher Education
- Member of the commission for Electronic Publication of the International Union of Crystallography (more information: http://www.lmcp.jussieu.fr/~epelboin).

SEMINAR 2

09:00 – 12:00 (Coffee break 10:00 – 10:30), Room D118a, Faculty of Law

Information Systems Strategies - Getting it right at your University
Professor Robin McDonough

It is important for all universities to have a strategy that sets down aims and objectives for Information Systems to play their part in supporting the teaching, learning, research and administrative activities of the institution. This half-day workshop will provide advice and guidance about how to assemble such a Strategy.
The Strategy must be designed to meet the many challenges facing universities at the present. This will enable a vision for a university in 2005 to be set down and the part that information systems can play in realising that vision. As well as considering this vision, the workshop will describe the contents of the Information Systems Strategy of a particular university and consider the steps which must be taken to ensure that the Strategy is successfully implemented.

Professor Robin McDonough was Director of Information Systems at the University of Manchester from 1995 to 2001. During his time at Manchester he was responsible for the strategic development of the Europe's leading academic computing facilities supporting world-class research and teaching throughout the United Kingdom and beyond. The University of Manchester is the main national supercomputing centre for the UK. It also hosts the largest national data sets Centre.
Robin McDonough was the founding President of EUNIS and has served on many national and international computing committees. He is at present heavily involved into the UK's eUniversity project and is working with the Worldwide Universities' Network to develop research and teaching collaborations between the US and the UK.

SEMINAR 3

09:00 – 12:00 (Coffee break 10:00 – 10:30), Room D118d, Faculty of Law

Security : strategy and tools
François Morris, LMCP, CNRS and University P.M. Curie, Paris, France

Provisional agenda
Security: a strategic matter.
Security from the point of view of the organisation.
Without organisation there is no security.
The technical aspects: encryption, certificates...
Recovering from accidents and attacks
Examples of possible solutions: splitting the network
Controls: firewalls, certificates...

The aim is to give to the participants a review on the different aspects of security, the organisational ones as well as the technical ones. We will try to convince people that solutions exist at the level of small networks and do not always mean heavy financial investments. Security starts with the local organisation.

François Morris is responsible for the network of a large institute at the University P.M. Curie. He is a member of the security task force of the CNRS (Centre National de la Recherche Scientifique) a National Research Agency in France and represents this body in organisations for security. He is a well-known expert for security in the academic world in France. He participates to the teaching of the responsibles for security in the French universities and to the task force in charge of examining the weaknesses of the networks.

12:00 – 13:00 LUNCH

The lunches during the pre-conference are included in the pre-conference fee. You can use your lunch at the university restaurant Atrium, which is near to the conference venues.
Address: University restaurant Atrium,
Oudezijds Achterburgwal 237,
which is pointed out on the map in this programme.
Participants who join the afternoon programme of the pre-conference receive a lunch at the registration desk.
There will be a bus available to bring you to the hands-on training and to the excursion to the Science Park and bring you back to the conference venue afterwards. Participants can gather by the registration desk at the Faculty of Law at 12:30 h.

There are two hands-on trainings with computers in the fields of:

SEMINAR 4

13:00 – 16:00 (Tea break 14:00 – 14:30)
Room 4 in Study Centre Roeterseiland: Roetersstraat 11

17:00 Reception at the Atrium café with other pre-conference participants nearby the Faculty of Law

How to record - encode - edit and stream digital video for education and research communication
Dr. Jens Dørup

In this 1/2 day tutorial we will work very practically with digital video on a semi-professional level. You cannot learn all about this in half a day, but you can get an introduction and a first aid for starting to work in this bewildering and complex area. Each participant will get a CD with numerous video clips to work on, freeware and demo programs as well as links to many useful websites.

Topics covered:

How to select camera and computer for digital video
What are video file formats, codecs, and compression techniques
Tools used: QuickTime Pro
Virtual Dub and DivX
Windows Media
More advanced editing with Adobe Premiere
Preparing your video for viewing on PC Web
Preparing your video for VCD, SVCD, and DVD
Practical setup of a broadcast using Windows Media Encoder
Introduction to Windows media server and Darwin QT streaming server.

Who should attend: Educators, researchers or technicians who want to effectively start using digital video in teaching and research communication. Not for beginners and not for the experts.

Jens Dørup is Associate Professor,Section for Health Informatics
University of Aarhus, Denmark. More Information: http://www.hi.au.dk/jd

SEMINAR 5

13:00 – 16:00 (Tea break 14:00 – 14:30)
Room 3 in Study Centre Roeterseiland: Roetersstraat 11

17:00 Reception at the Atrium café with other pre-conference participants nearby the Faculty of Law

Training teachers to practise e-learning
G.J.A. Baars MA, Erasmus University Rotterdam
Dr. M.J.J.M. van de Ven, Erasmus University Rotterdam

This tutorial is based upon a Train the Trainer course on e-learning, which was offered by means of a combination of face-to-face and online learning activities. The course has been offered twice to teacher trainers from Higher Education institutes all over The Netherlands. During the course the participants exchange educational knowledge and experiences in using electronic learning environments and they reflect upon own experiences as learner in a digital learning environment.
In this tutorial the participants will learn how to train teachers to practice blended learning in their education. The intended audiences for this tutorial are educational consultants and teacher-trainers in Higher Education on the area of Information and Communication Technologies and Education (ICT&E).

The following activities are taking place in this seminar:

- Discussing the design of the Train the Trainer course and discussing the results and the evaluation of this Train the Trainer course.
- Experiencing one of the educational formats that is used in this Train the Trainer course.
- Reflecting upon the results of this experience.
- Discussing the possibilities of transferring this approach to their own institutes.

Desired outcomes:
The participants are getting practical and proven approaches that they can use to design and implement their own Train the Trainer course.

More information:
Both trainers work at OECR (Educational Expert Center Rotterdam) of Erasmus University Rotterdam
http://www.oecr.nl/ICTOexpertisecentrum/english/index.htm

- G.J.A. Baars MA, senior educational consultant, http://www.oecr.nl/Engels/atwork/gerard.html).
- Dr. M.J.J.M. van de Ven, senior educational consultant, http://www.oecr.nl/Engels/atwork/maarten.html).

13:00 17:00 Amsterdam Scientific excursion to the Science Park in the Watergraafsmeer

13:00 Departure from conference location
13:30 Arrival Kruislaan 413 (Z009)
13:30 13:45 Introduction Science park Amsterdam
13:45 14:00 Dividing in two groups

14:00 15:00 GROUP I
CAVE (virtual reality facility) at
SARA Computing and Networking Services
AMS-IX at NIKHEF (National Institute for Nuclear Physics and High Energy Physics)
Virtual Lab at Informatics Institute, Universiteit van Amsterdam

14:00 15:00 GROUP II
Studio Classroom, Synchronous Distance Learning,
Amstel Instituut, Amsterdam
Mathematics Science & Technology Education Laboratory,
Universiteit van Amsterdam

15:00 15:15 Transit groups

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CAVE (virtual reality facility) at
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Virtual Lab at Informatics Institute, Universiteit van Amsterdam

15:15 16:15 GROUP I
Studio Classroom, Synchronous Distance Learning,
Amstel Instituut, Amsterdam
Mathematics Science & Technology Education Laboratory,
Universiteit van Amsterdam

16:15 16:30 Transit groups (to transport)

16:30 Departure from Kruislaan 413
17:00 Reception at the Atrium café with other pre-conference participants nearby the Faculty of Law

Thursday, July 3

Auditorium Universiteit van Amsterdam, Singel 411

08:30 – 09:30 Registration and coffee

Plenary session

09:00 – 09:30 Opening session
Welcome to the Universiteit van Amsterdam
Dr. S.J. Noorda, President UvA,
Welcome to EUNIS
Kristel Sarlin, President Eunis
Welcome to EUNIS 2003
Dr. Hans Dijkman, Chair of Programme Committee

09:30 – 10:15 Keynote speech
Auditorium

The future trends in technology and their impact on Education.
John Gage, Chief researcher and director of the science office for Sun Microsystems Inc.

He is in charge of Sun's relations with world scientific and technical organisations, international public policy and governmental relations in the areas of scientific and technical policy, and alliances with the world's leading research institutions.
In 1995, Gage created NetDay, a volunteer project to bring the resources of world high technology companies to all the schools and libraries to connect them to the Internet. Since then, more than 500,000 volunteers have wired over 50,000 schools and libraries in the United States. More than 35 countries planned NetDays for 2001. Gage is on the board of NetDay and Schools Online, a non-profit organisation dedicated to connecting the world one school at a time.
In late 1999, President Clinton appointed Gage to his Web-Based Education Commission, which issued its report in December 2000. The Joan Shorenstein Center on the Press, Politics, and Public Policy at Harvard's Kennedy School of Government named Gage as one of the five distinguished journalists and scholars to be its 2000 Falls Fellows. In the fall semester of 2002, Gage taught a course on "Technology, Media, and Governance."

10:15 – 10:45 Coffee break

10:45 – 11:30 Keynote speech

EU e-Science and the Grid
Tony Hey, Director E-science Core programme UK

After defining what is meant by the term 'e-Science', this talk will survey the activity on e-Science and Grids in Europe. The two largest initiatives in Europe are the European Commission's portfolio of Grid projects and the UK e-Science program. The EU under its R&D Framework Program are funding nearly twenty Grid projects in a wide variety of application areas. These projects are in varying stages of maturity and this talk will focus on a subset that have most significant progress. These include the EU DataGrid project led by CERN and two projects -EuroGrid and Grip - that evolved from the German national Unicore project. A summary of the other EU Grid projects will be included. The talk will conclude with a survey of other Grid initiatives across Europe and look at possible future European projects.

11:30 – 13:00 Lunch break
Walk to the restaurant of the Universiteit van Amsterdam, the Atrium, Oudezijds Achterburgwal 237
(see on the map in this programme)

12:30 – 18:00 Exhibition central hall Faculty of Law

13:00 – 13:45 Three invited speakers at the Faculty of Law

E-LEARNING IN HIGHER EDUCATION | room D009

Can we support CCSL?
Educational, social and technological affordances for learning
Paul A. Kirschner, Professor Open University, The Netherlands

Computer-mediated worldwide networks have enabled a shift from contiguous learning groups to asynchronous distributed learning groups utilising computer-supported collaborative learning environments. Although these environments can support communication and collaboration, research and field observation report findings that are not always positive about their working. This address focuses on the factors causing the disappointing results, centring on the educational, social and technical affordances that could/should be provided. The desired social interaction and educational activities do not occur simply because the environment makes it possible. Neglecting the social, educational and technical affordances dooms CSCL to a marginal role in education. The first part of the address will deal with what affordances are and expands the concept to include the social, educational, and technological affordances of CSCL environments and the role they play in achieving collaboration and learning. The second part will deal with three factors that influence the educational affordances of collaborative learning and the way in which OTEC is attempting to study them.

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | room F001

Next generation virtual community applications - adressing the pedagogical and collaborative agenda in learning network services
Kennet Lindquist, CEO, Swedish TelePedagogic Knowledge Centre, Sweden

This presentation will address some key issues relating to community of practices, community of professionals and/or virtual communities. It will focus on the mental and organisational readiness to invest in virtual community initiatives and propose potential methods and means to address the required readiness development on individual and organisational levels. The presentation will in particular elaborate on means of addressing different stages of involvement in a community and highlight the level of functionality needed to satisfy and stimulate this involvement. It will also propose how to build up to full engagement in the community on an organisational and community levels. Examples and illustrations will be drawn from a range of European-wide virtual communities as well as draw from conclusions and proposals developed for the planned Swedish national net-university network services. Proposals on models for provision of innovative IT services for virtual communities and community of practices will be made that potentially will take the conventional online community services, pedagogically and collaboratively, beyond the networking as practiced today. These models will also will be exemplified with pilot applications from different virtual communities. The presentation will be concluded with an evaluative reflections on the practices of building of communities of professionals, with highlights on some do's and don'ts when aspiring to provide virtual community services that in contrast to the prevailing modality of 'learning as a way of doing' has the ambition to facilitate a Learning Society oriented modality of 'learning as a way of being'.

INFORMATION MANAGEMENT AND QUALITY CONTROL | room D109

Outsourcing the university computing centre: the Utrecht experience
Peter Schelleman, Chief Information Officer Utrecht University, Utrecht, The Netherlands

Major corporations are outsourcing IT. At university level such deals are still relatively scarce. Utrecht University, the largest research university in the Netherlands, decided to outsource its computing centre in 1999. The contract is in its fourth year and considered a success. IT services have improved while customer satisfaction has risen and total costs are less.
The presentation will cover the reasons for outsourcing, the advantages and pitfalls. Any outsourcing deal will have to fit strategic goals of the university, but implies organisational changes to optimise benefits and lower costs. A switch from managing hardware and software to providing services requires strong IT governance at board level. The Utrecht IT public-private experience provides valuable lessons for universities now considering outsourcing or being faced with rising customer demands the IT centre has difficulty in meeting.

13:45 – 14:00 Switch

14:00 – 14:45 SESSION 1
FULL PAPERS (two presentations in 45 minutes)

E-LEARNING IN HIGHER EDUCATION | room D009

Student information skills training in the e-learning age
Andrew Rothery, Anne Hannaford,
University College Worcester, United Kingdom

Students have always been provided with training and support for fundamental skills in information technology, computing and information literacy. This presentation reviews the ways in which fundamental skills training has changed in the UK in response to the increasing e-learning dimension within university courses. To illustrate the general principles, the presentation describes the particular course recently developed jointly by the IT Service and Library Service at University College Worcester indicating the reasons for change and looking into the future for us all.
Keywords: Information literacy, e-learning, student skills

Concourse: The design of an online Collaborated Writing Center
Dr. Sjoerd de Vries, Communication Studies, University of Twente, The Netherlands

The project presented here is Concourse. The project is aiming at the development of an online writing community as a study support environment for students in Higher Education. Concourse is the name of an online collaborated writing center and is intended as a virtual space for online interaction, a place for collaborated writing in a knowledge rich environment. It offers services required for professional development of students and for the development and exploitation of knowledge about scientific writing. Examples of services provided by the system are services for information access, information dissemination, communication, study rooms, research, support, coaching, training and study, and knowledge management. In this presentation, we present our design research approach that we applied in the Concourse project. After that, we elaborate on the design guidelines and the online collaborated writing center Concourse based on these guidelines, as a part of this approach.
Keywords: Online knowledge communities, design research, collaborated writing

E-LIBRARY: MEDIA AND CONTENT | room F001

e-Quality in the library

R. Dekker, C.A.G. Konings,
Library of Delft University of Technology, The Netherlands

The past years discussions in academic libraries concentrated on de design of digital libraries. Up until now this resulted in the implementation of so called hybrid libraries, a transitional form between the traditional library and the digital library. At this moment in time the library stands on the brink of the termination of this hybrid era, shaking of the hybrid element of it' s past and presenting a strategic focus on it' s digital future. In this presentation the authors analyse the components of the current Delft digital library environment in terms of functionality and interoperability. For this a method is suggested by which the library assesses its own systems. From this assessment the complexity of the current implementation becomes clear and can be characterised in terms of functionality, interoperability and "e-quality" , the rate in which the systems support a true digital library and are able to replace the hybrid remains of it' s past. The word e-Quality in the title of the presentation refers on the on hand to the intrinsic quality of the e-products the library is providing to its customers, on the other hand, the equal (=) or equality in the title refers to the rate the current systems of the e-Library are able to replace their traditional ancestors without loss of quality. The outcome of the analysis is matched (again) with the strategic goals of the library and from this the authors develop several scenario's for the future design and development of the Delft digital library.
Keywords: e-Publishing, e-Learning, e-Archiving

Developing a quality culture for digital library programmes

Brian Kelly, Marieke Guy,
UKOLN, University of Bath, United Kingdom
Hamish James, AHDS, Kings College London, United Kingdom

In this presentation the authors describe approaches for the development of quality assurance (QA) procedures for a digital library programme. The authors argue that QA procedures are needed in order to ensure that deliverables from digital library programmes will be interoperable and give be easily deployed and repurposed. The adoption of open standards is acknowledged as essential in digital library programmes but in a distributed development environment it can be difficult to ensure that programme deliverables actually implement appropriate standards and best practices. The authors describe the approaches to the development of a quality culture based on encouragement of use of QA by project holders in one digital library programme which is funded by the JISC in the UK. Keywords: quality assurance, QA

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | room D109

Searching dynamic web pages with semi structured contents

Filipe Silva, Armando Oliveira, Ligia M. Ribeiro, Gabriel David,
Faculdade de Engenharia da Universidade do Porto, Portugal

At present, information systems (IS) in higher education are usually supported by databases (DB) and accessed through a Web interface. So happens with SiFEUP, the IS of the Engineering Faculty of the Porto University (FEUP). The typical SiFEUP user sees the system as a collection of Web pages and is not aware of the fact that most of them do not exist in the sense of being an actual HTML file stored in a server but corresponds to HTML code generated on the fly by a designated program that accesses the DB and brings the most up-to-date information to the user desktop. Typical search engines do not index dynamically generated Web pages or just do that for those that are specifically mentioned in a static page and do not follow on the links the dynamic page may contain. In this presentation we describe the development of a search facility for SiFEUP, how the limitations put to indexing dynamic Web pages were circumvented, and an evaluation of the results obtained. The solution involves using a locally developed crawler, the Oracle Text full text indexer [Oracle Text, 2002], plus meta-information [Lawrence, 2000] automatically drawn from the DB [Baeza-Yazes, 1999] or manually added to improve the relevance factor calculation. Keywords: University information systems, web search

Central authentication service Universiteit van Amsterdam

Juliette van Zuijlen, Marijke Vandecappelle,
Information Technology Centre, Universiteit van Amsterdam, The Netherlands

The Central Authentication Service has been set up to provide electronic services for students. It offers a single log on service. A combined LDAP/AD Directory Service System is the heart of the infrastructure and contains directory servers, synchronisation software, interface software and gateways for administrators and end users. When the system was set up, a number of starting points were formulated. However, it proved unfeasible to adhere to all the starting points. Manual data input and account management continue to be required for a number of target groups. The collaboration with professional universities (hogescholen) is a new challenge for this infrastructure, and the development of the student portal will also influence the infrastructure. There will be a single sign on for Web applications in the portal.
Keywords: authentication, directory services, e-services

INFORMATION MANAGEMENT AND QUALITY CONTROL | room A008

Connecting the components – one solution to the problem of interfacing corporate information systems

Stuart Bolton, Leeds Metropolitan University, England
Robert Morgan Vane, Raven Consulting Ltd., England

As organisations increasingly move to buying applications rather than developing systems in-house, interfacing between applications is becoming increasingly difficult. When replacing it's key corporate systems Leeds Metropolitan University took the strategic decision not to pursue an ERP solution but to purchase 'best of breed' applications. In order to maintain data consistency it was decided to implement a generic interface solution which provided a single mechanism for sharing strategic and operational information across multiple disparate applications. The major requirement was that information should have a single source and be shared among applications in order to present a consistent data set to the whole user population in a timely manner. Keywords: Interface, consistent information

ICE – a web-based information system to support higher education policy decisions

Peter Müßig-Trapp, Hans Dicken, Helena Kopp,
HIS Hochschul-Informations-System, Hannover, Germany

ICE stands for Information, Controlling, Entscheidung (in English: Information, Controlling, Decision) and is an information system developed to support higher education policy decision-making which has proven itself in practice. The system is currently in use at the German Ministry of Education and Research, at science and research ministries in ten German federal states and at other organisations active in the field of higher education policy. The debate on protecting personal data which arose in the 1980s led to increasing sensitivity in the population regarding data protection questions and to stricter data protection rules. Both resulted in fewer possibilities of statistical data analysis being allowed: In many fields, statistical analyses can only make use of so-called aggregated datasets. With its ICE information system, the HIS now provides a solution which is capable of extracting a maximum of information from fundamentally limited aggregated datasets.

At the same time - subject to their appropriate availability - the system also allows the analysis of individual case data records.
The main characteristics of the system in key-words: - ICE is a web application, Java based, platform independant (on the backend runnable on Windows, Linux, SUN OS), database independent (e.g. Oracle, Informix, MySQL), - very high flexibility with regard to the data import and data analysis, - because of the usage of XML technology and the Apache-Cocoon-based ICE publishing framework many output formats (XML, HTML, XHTML, Excel, Gnumeric, PDF etc.), simple data exchange with third party applications, able to handle with future technology. - further development in the direction of data expansion, international data, handsheld version (ICEmobil) is planned. Keywords: information system, statistical data, political assistance

HOLL@ND E-XPERIENCE | room C217

A scalable portal system at the Universiteit van Amsterdam
Erik van der Velde, Information Technology Centre,
Universiteit van Amsterdam, The Netherlands

One title, two questions: what is scalable? And what is a portal system?
The word “portal” is the most misused term in the IT sector in the last year. People started to call their new website a portal, because it sounded “sexy”. Even on the homepage of the UvA there are four links to portals that are not really portals.
An important part of a portal system is that the portal is personalized. Everybody who logs on to the portal systems gets their personal environment, with information they wish. The information is displayed in channels, which look like table cells in your browser.
What we have learned from the UvA Content Management System, is that it is not easy to build a personalized system. And that is where the other question kicks in; a personalized system needs to be highly scalable.
This presentation delivers an overview of the UvATOP project. The UvATOP project was a technical investigation into what is possible with “portal technology”. During the last half-year we have investigated the following topics:

- How to make a scalable portal system
- How to connect a portal to other applications
- How to make a portal channels
- How to achieve single sign on to applications

Towards procesoriented IT servicemanagement with ITIL
Marien de Clercq, University Centre for Information (UCI),
University of Nijmegen, The Netherlands

ITIL is the becoming the de-facto standard in IT Service Management. But for what reason? ITIL defines Service Management as opposed to Systems Management andprocesses instead of systems, networks, databases and applications. ITIL makes you think in terms of the service that you as an IT department deliver to your customers: the end-users in the University, instead of keeping up the system, preventing the network from going down, backing up databases en repairing errors in an application. All these things have to be done, of course. But they only have to be done because together they deliver an IT Service that helps the end-user to get his or hers daily job done. These end-to-end IT services have to be maintained, just like the systems and applications they consist off. In ITIL several processes are described, to get this done. Because ITIL is not a theoretical model or a method, but "only" an extensive set of best practices, these processes can be made fit for every (IT) organisation.
Why did the UCI choose for ITIL? Improvement of quality! ITIL helped us to standardise our service management in controllable way, as a result of which we can track where in the process of service delivery things go wrong and need improvement, or where things can be optimised to better meet the needs of or customers.

What was the consequence? An organisational change! Because we no longer see the components that make up an IT Service as the products we deliver, but the IT service as the entire functionality needed by our customers, we had to redesign our organisation to reflect the changed responsibilities. How we achieved this and how it works in our organisation will be the main topic of this presentation.

HOLL@ND EXPERIENCE | room C317

Backup and storage consolidation at Eindhoven University
Henk van de Langenberg, ICTS Eindhoven University, The Netherlands

At the end of 1992 the Unix group of the Computing Centre started offering a central backup solution for Unix servers on the campus of Eindhoven University. This solution became a big success and today data on more than 300 Unix and WindowsNT/2000 servers is saved every night.
The presentation will give an overview of this success story and will also focus on storage consolidation as a method to face the big growth of data on the campus.

WURnet as the new basic infrastructure for the Wageningen University and Research Centre (UR).
Richard Rhemrev, Wageningen University, The Netherlands

Wageningen UR is a combination of Wageningen University (WU) and the Stichting Landbouwkundig Onderzoek (DLO), a Dutch association for agricultural research. Both entities had their own, very different, ICT infrastructure. For that reason the WURnet project was set up with the following objectives: - the complete integration of the WU and DLO networks with a single e-mail environment, based on Windows 2000 and Exchange 2000;

- the application of an integral security concept, among other things aimed at the need for more mobility without harming security;
- the dismantling of the Banyan Vines environment of the University, which had not been supported for several years and had grown increasingly unstable;
- the compulsory unweaving of DLO from the network of the Ministry of Agriculture;
- to make proprietary information available at all workstations.

The project is all but rounded off and Wageningen UR now has a very modern, fully integrated and heavily secured network. The purpose of the presentation is to sketch the various starting points and to illustrate the approach and method of working, which is characterised by an intensive co-operation with different suppliers within a defined project structure.
The presentation illustrates the great differences as regards infrastructure and culture, discusses the opposition that was encountered and indicates what went wrong and how the project was eventually rounded off with success.

14:45 – 15:15 Tea and Coffee break

15:15 – 16:00 SESSION 2
FULL PAPERS (two presentations in 45 minutes)

E-LEARNING IN HIGHER EDUCATION | room D009

Practice related E-Learning - the VIP framework

Mang Li, Claudia Linnhoff-Popien, Department of Informatics, Ludwig-Maximilians-Universtät München, Germany
Silvia E. Matalik, Institute for Educational Science, Rheinisch-Westfälische Technische Hochschule Aachen, Germany
Tim Seipold, Carsten Pils, Frank Imhoff, Department of Computer Science IV, Rheinisch-Westfälische Technische Hochschule Aachen, Germany

Practice is an indispensable aspect in learning. In pedagogic, constructivist learning methods, which promote situated learning in authentic context, are widely used. In an interdisciplinary project, we have been working on a framework (named VIP) for practice-related e-learning. In particular, practical courses in computer science are considered. The framework is guided by general principles for constructivist learning environment. Pedagogical concepts for a representative virtual practical course have been developed, which are supported by three technical building blocks in the framework: an e-learning platform, a video-conferencing system and an interactive simulation environment. While for the first two blocks available tools can be reused, new concepts must be developed for the interactive simulation environment, whereas well-proven event-driven and real-time simulation approaches are adopted. In addition, to facilitate situated learning in virtual groups, the session concept and a client-server architecture with CORBA as communication infrastructure are applied. Major design and implementation concepts are presented in the presentation. The representative virtual practical course is performed at our universities to evaluate and to improve the concepts and techniques of the framework.
Keywords: Constructivist learning environment, interactive simulation, distributed systems

Cascade, an example of case based learning

Albert Visser, Faculty of Social Professions, Utrecht Professional University, The Netherlands

Social work clients come to social workers with very complex problem situations. For social work students it is not easy learning rules to solve these problems. Because client cases are unique, much of the learning takes place in learning form case studies. Although there are some methods for learning with case studies like problem-based learning and community-based learning, we had a strong urge to develop a model with broad flexibility, depending on the character of the client-case. Furthermore there was a wish to collect and retain many case histories, because until now resolved cased were put on paper and left in a drawer. Many good cases form a body of knowledge for students and professional workers. We feel that IT can help us developing a tool for learning how to work in a structured way with case histories in Social Work. Communication technology offers the opportunity to communicate with other students and then putting the casesolutions in a knowledge base that can be shared in education and with professionals. The Cascade project developed the tools and encouraged teachers and students to work with it. Although the project aims on social work education the software has a much larger impact: the software consists of a powerfull toolkit that enables the teacher (or graduate student) to develop a case-specific workflow diagram. It can easily be applied for other disciplines like nursing, medicine, and business education. The application with the toolkit is domain independent, only the casebase is domain-specific.

E-LIBRARY: MEDIA AND CONTENT | Room F001

Virtual knowledge centres: the support of live-long information-based networks in higher education

Jan Kooistra, Library Delft University of Technology, Delft, The Netherlands / Faculty Social Sciences Utrecht University, The Netherlands
Kees Hopstaken, Library Utrecht University, The Netherlands
Maurits Ertsen, Civil Engineering and Geosciences, Delft University of Technology, The Netherlands
Briget Lander, Library Delft University of Technology, Delft, The Netherlands
Nijs Lagerweij, Faculty Social Sciences Utrecht University, The Netherlands

The introduction of E-platforms in higher education offers opportunities for university libraries to develop new interactive systems to search, communicate, distribute, create and save information. The package of library functions should be compatible with work with and on an E-platform, and to this end the library will need to develop new forms of service and interactive systems to be-@ the E-library. The library of Utrecht University and Delft University of Technology developed an interactive program for the search and exchange of information called Ommat / DelftSpecial. Three versions are being developed, namely a training version to help users/students become familiar with working in an information environment, a support version which pertains to the open Internet version intended for everyday use and a portal version to store and exchange information on the theme students are working on with others. Other aspects of portal version consists of technical and social procedures to transfer student products from the E-platform environment (Blackboard) into open Internet environments supported by the library. This kind of environment is called a Virtual Knowledge Center (VKC). This presentation discusses the pragmatic consequences of the use of the program. The key elements are: uncovering your professional network, didactics of sharing information and developing a virtual knowledge center. Some testing results of research by means of the Subjective Computer Experience Scale (SCES) and the Subjective E-platform Experience Scale (SEES) are presented. The scales were used to monitor student working at the VKC on the project Integrated River Basin Management.
Keywords: Virtual knowledge centre, E-learning, life long learning

Integrating VLE and library systems: opportunities and challenges

Clare Uhomoibhi, Dr Alan Masson,
University of Ulster, United Kingdom
Lyn Norris, eduserve, United Kingdom

This presentation describes the potential benefits of VLE - Library system integration to learners, libraries and content providers and examines the role of emerging authentication technologies in facilitating the practical realisation of such integration. It reports on the activities of the 4i Project (Interoperable Institutional, Integrated Implementation) led by the University of Ulster in collaboration with WebCT, Talis and Athens. This project is funded by the Joint Information Systems Committee (JISC) under the Linking Digital Libraries and Virtual Learning Environments (DiVLE) programme which aims to explore the technical, pedagogical and organisational issues of linking digital library systems and virtual learning.
Keywords: e-learning, integration, authentication

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | room D109

How to organise a digital learning environment; from technology to use
Jos Tolboom, University of Groningen, The Netherlands

This presentation presents a proposal for an organisational model for working with a digital learning environment based on a hierarchical decomposition. The purpose of this decomposition is to draw a natural distinction between the technical, the design and the pedagogical aspects of a webbased learning environment. The decomposition resembles the way a standalone computer is usually decomposed or the protocol layers of the TCP/IP stack together to form a communication system. Each layer in the presented decomposition corresponds with a typical function in the organisation, or with a function that is not very hard to describe and thus can be performed by a professional. Of course it is possible to set up Service Level Agreements between the layers in the decomposition model. In other words, the model represents a way of distributing tasks and responsibilities in the educational organisation that will use the environment. The success of each information system depends largely on the acceptance of the end-users of the system, in this case teachers and students. The organisation is responsible for the right content in the environment and the right pedagogical way of presenting and using the content.
Keywords: digital learning environment, information system, organisational modeling

The European Union and US Mid-Atlantic eXchange (EUMAX): bridging cultural and technical boundaries through high performance E-learning
Jennifer MacDougall, Gregory D. Palmer
MAGPI, University of Pennsylvania, USA
Jean-Francois Desnos, CICG, Université Joseph Fourier, Grenoble, France

In this presentation we present the concept, rationale and methodology for a Consortia Implementation Project currently being considered for joint funding by the European Commission's Directorate General for Education and Culture and the US Department of Education's Fund for the Improvement of Post Secondary Education. The planned EUMAX (European Union & US Mid-Atlantic Exchange) project aims to prepare European and US students for an increasingly global business environment through intensive foreign language study and cultural exchange combined with an international business and technology curriculum that uses both virtual and physical learning environments.
Keywords: Distributed learning, high performance networks, global curriculum

INFORMATION MANAGEMENT AND QUALITY CONTROL | room A008

Data warehouse: a tool for analysing study process as a value chain
Viljan Mahnic, Faculty of Computer and Information Science,
University of Ljubljana, Slovenia

We describe the development strategy, architecture, and logical design of a data warehouse, that can be built gradually, exploiting the benefits of the bottom-up, data mart approach. Connections between individual data marts are planned in advance with the aim of building a sequence of data marts that makes it possible to analyse the educational process as a value chain. Queries can be made across different subject areas (viz. enrolment applications, enrolment, examination, and degree records) in order to obtain a snapshot or a slice of the entire value chain that shows how far a subset of students has moved from the enrolment application to their final degree. Keywords: data warehouse, data mart, star schema data model.

Groundhog Day is over – delivering strategic change
John Townsend, Lynn Stanton,
Liverpool John Moores University, United Kingdom

In the film 'Groundhog Day' the main character is trapped in the same day over and over again, and can't break out of it until he modifies his behaviour in the right way. Universities experience the same phenomenon when trying to manage ICT-supported change; they concentrate on delivering new capability, when equal emphasis should be placed on developing the changes in behaviour needed to exploit it. At Liverpool John Moores University, programme management has been adopted as a means to coordinate capability and behaviour. The presentation will describe the method and evaluate its success in delivering strategic change.
Keywords: Change; project; management.

IT INFRASTRUCTURES, GRID AND E-SCIENCE | room C017

Towards cross-organisational user administration
Mikael Linden, CSC, the Finnish IT Center for Science, Finland

The increase of personal services on the web and the co-operation between universities have made it necessary to find ways to identify network users regardless of which university they are from. New middleware technologies for user authentication and authorisation are being developed and deployed in the academic world. This presentation outlines the problem of cross-organisational user administration and presents related new technologies and activities in higher education.
Keywords: User administration, cross-organisational services

Securing nomadic users access with certificates and PKI
Francois Morris, Universite P. et M. Curie, France

Nomadic people, laptop computers, wireless connections, providing access to Internet to guests are very big security challenges. After analysing the risks, we shall show how cryptography and particularly asymmetrical one (public, private keys) may help to address these issues. But a PKI is a prerequisite. We shall shortly describe the deployment of a PKI in our organisation. Then we shall present a review of solutions we have experimented to increase the security for nomadic people: secure protocols (https, smtps, imaps), captive portal, IPSec, 802.1x. All these solutions use certificates and PKI for authenticating users. We shall conclude with the benefits and drawbacks or the different methods. Keywords: Authentication, PKI, nomadic users

HOLL@ND E-XPERIENCE | room C217

Security-awareness
Bart van den Heuvel, Security Officer, ICT Service Centre,
Universiteit Maastricht. The Netherlands

The presentation on Security Awareness at Universiteit Maastricht (UM) will start with a short introduction on UM and it's Security Project. This will provide the context for the implementation of Security Awareness.
Security Awareness has to be implemented and embedded in the whole University organisation; within all kinds of operational processes as well as in research and development projects, within in- and external contacts and board-room meetings. UM chooses for a top-down approach to get the awareness at individual employee level. We use a train-the-trainer program to train line-managers to be able to hold a Security Awareness session within their workgroup. This session will have an interactive character and is supported by a video-presentation, customised to UM's situation and accomplished by UM's golden rules. As a result of this session the workgroup has to present an action plan.

The program will be completed by a computer-based course; witch can also be used to train new employees. Eventually it's the intention to incorporate the computer-based course in every student's curriculum too.

Wireless LAN
Gert Meijerink, Head ICT Infrastructure, Universiteit Twente, The Netherlands

The University of Twente invested, supported with government subsidy, in a campus-wide Wireless LAN. Since April 2003 we thus have the largest WLAN-site in Europe: 650 access points that make it possible to have a wireless connection to our network in all the buildings and around them. We use this 'Wireless Campus' among others to implement new educational methods, in which studentdirected and studentactive learning are central. By using laptop's the students can connect to the educational environments and applications that are available for them on our university-wide network UTnet, at any place on the campus. We also offer this 'Wireless Testbed' to third institutions to do research on applications and services in the context of a large-scale WLAN-site with many users.
We will report on our experiences in the project 'WLAN@UT' with the tenderprocedure and out-roll.
In the project we also effected a pilot on a secure access for a closed-user-group to our WLAN, together with SURFnet. The focus was to implement a authentication method with which it is possible for all the students and staff of all the Dutch universities and colleges to have easy authenticated access to all the networks of each institution and thus via SURFnet to the network of the own institution. We used for that the IEEE protocol 802.1x. We will also report on our proof that it works.

16:00 – 16:15 Switch

16:15 – 17:00 SESSION 3
SHORT PAPERS (three presentations in 45 minutes)

E-LEARNING IN HIGHER EDUCATION | room D009

Implementing a university-wide electronic learning environment, technology communication and didactics
P.H.G. Fisser, P.J. Dekker,
Department of ICT in Education, Information Technology Centre,
Universiteit van Amsterdam, The Netherlands

The University of Amsterdam has been implementing and supporting Blackboard as the electronic learning environment for the whole university. The implementation of this environment focused on three pillars: technology, communication and didactics. These three pillars have proven to be important in this large-scale project in which both the faculties and a central support unit of the university were (and still are) involved. This presentation focuses primarily on the didactics of the project and describes several products and methods which have been used at the university to realise practical support for useful application of an electronic learning environment in education and an effective strategy to accomplish this.
Keywords: ICT in education, implementation, strategy

E-learning as a part of the university information system
Hana Netrefová, Milan Sorm, Arnost Motycka,
Institute of Informatics, Faculty of Business and Economics, Mendel University of Agriculture and Forestry, Brno, Czech Republic

Expansion of e-learning especially in a distance education is very successful at a number of universities, although most e-learning systems are very little integrated into contemporary university information systems. Our university (Mendel University of Agriculture and Forestry in Brno) approached this problem from the other side and searched its own way that would combine full integration of well-known and often-used tool (study administration) with perspective and advantageous technology (e-learning). Most of all this presentation presents integration and possibilities brought by this unusual approach to the university and also to the academic community. Our university searched general solution which would enable to combine different approaches of creation of distance education props (purchase, sharing with another university, data preparation by a structured language, data preparation by a graphics tool) with different presentation techniques of thus prepared materials (on-line browsing, off-line browsing, printed output). Application of structured markup language XML and outputs formatted by XSLT/FO technology appeared as an appropriate solution. Keywords: E-learning, distance education, university information system.

Secondary and higher education connected: the university as provider of a virtual learning environment
Jan F. Deinum, Jos Tolboom, University of Groningen, The Netherlands

In the summer of 2002, the University of Groningen started a project providing learning management systems to schools for secondary education. This presentation presents the results of the evaluation of the implementation of this learning management system. The reasons behind this project will also be discussed, as well as its implementation methodology, the problems that were encountered and what effect this project had on the relationship between the university and the schools for secondary education in the region.
Keywords: virtual learning environment, secondary education, teacher training.

E-LIBRARY: MEDIA AND CONTENT | room F001

Bibliopolis – the electronic national history of the printed book in the Netherlands: a successful example of co-operation and integration of information systems
Marieke van Delft, Marco de Niet, Koninklijke Bibliotheek, The Netherlands

From 1998-2002, the Koninklijke Bibliotheek, (KB) the National Library of the Netherlands at The Hague, has been engaged in a project to create an electronic information system on the history of the printed book in the Netherlands. The project resulted in Bibliopolis (www.kb.nl/bibliopolis), a system based on World Wide Web technology and launched in November 2002. Bibliopolis is a scholarly, interactive information system, through which a researcher can gain insight into the state of affairs in the history of the book as well as retrieve a wealth of documentation. It is characterised by the use of state of the art web technology to open up documentation systems and research results that have been around for decades, as well as recent ones. This presentation will provide information on the development of Bibliopolis. Four aspects will be addressed: content, functionality, technology and use. Special attention will be given to the necessity of collaboration and promotion of innovative systems. Furthermore it will be discussed how Bibliopolis fits into the general ambition of the KB to develop and maintain Internet based systems on Dutch history, culture and language.
Keywords: Book history, scholarly information systems, Koninklijke Bibliotheek (The Hague)

Embedding and promoting electronic books as a virtual learning resource
Leo Appleton, Edge Hill College of Higher Education, United Kingdom

This presentation describes and evaluates how Information and Media Services (IMS) at Edge Hill College of Higher Education, in collaboration with academic staff have successfully introduced e-books into teaching and learning support. The presentation provides details of an initial project, which saw the development of a core e-book collection, and how subsequent initiatives have enabled IMS to effectively embed e-books into online learning, through courses delivered via Virtual Learning Environments (VLEs) Keywords: electronic books, virtual learning environments

Information literacy and digital learning
M.J.J.M. van de Ven, G. Goris, Erasmus University Rotterdam, The Netherlands

Information literacy is a crucial factor in renewing our educational programmes. Gradually, the educational process is changing from prescribed learning paths and materials to situations that appeal to the creativity of students. We have developed an online Information Literacy training for students. This presentation presents the first results of this training. Keywords: Information literacy, online learning, educational innovation

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | room D109

J2EE and legacy applications: joining information and people
C. Alonso, M. Ramirez, J.C. Ruiz de Gauna, M. Aguado, J.R. Bastarrica, B. Macicior,
Public University of Navarre, Spain Computing Services, Pamplona, Spain

Like many others our organisation depends on legacy systems. The information system is seen as a whole, while actually it is made of several and independent pieces. Legacy applications come from several providers and technologies. At computing services, some expertise for each technology was needed to keep these systems running. In some way, we had a lack of knowledge sharing within our staff. Experts on some technology could neither help nor use their skill on other areas. In this presentation we will show our efforts and experience to improve this situation. We will try to show that new technologies like J2EE can fill the gap between information systems and staff members at computing services as well.
Keywords: J2EE, legacy applications, systems integration

Paperwork on the Fly
José Luís Faria, António Pedro Aragão, Carlos Baquero, Luís Soares Barbosa,
Pedro Rangel Henriques,
Departamento de Informática, Universidade do Minho, Portugal

A particularly boring duty of every university lecturer is the filling up several academic management forms like: course: program, objectives, bibliographic lists;lecture notes, exercises; class: timetables, summaries; etc – some of them on a daily basis. He/she must refill these forms again and again, every semester and every year, sometimes with replication in different forms and comply with various requirements. This type of work require time borrowed from research and teaching. With this in mind, we developed an web application to carry on such bureaucratic jobs in a quick and more effective way. This presentation introduces ADIS-Academic Department Information System, a web-based application currently under testing and implementation on the Departamento de Informática of Universidade do Minho. It also describes in more technical detail, the Fly component and the lessons learned after its use along one academic semester. This on-line web application allows the lecturer to register summaries, programs, list its own timetable and print them. Summaries can also be filled using an email message. The server which promotes this application is a usual PC with Linux, MySQL, PHP and a web server Apache. Keywords: Web application, e-University, academic information management

Hypermedia interfaces to relational data structures
(a way to presentation integration)
Jana Kohoutkova, Institute of Computer Science, Masaryk University,
Brno, Czech Republic

The presentation overviews main features of a language called HMDL (data, document & transformation description language) and concentrates on its document description part specifically designed to present relational data structures in a hypertext (hypermedia) form typically, as sets of mutually cross-linked web pages.
Keywords: presentation integration, relational data modelling, hypertext modelling

E-LEARNING IN HIGHER EDUCATION | room A008

Improving bioinformatics education through mobile technology
Dieter W. Lorenz, Jan Kix,
Department of Bioinformatics, University of Bielefeld, Germany

The Bioinformatics/Medical Informatics Department of Bielefeld University has started a project called Mediabolics to investigate the benefits of mobile technology in computer science education in general and especially in Bioinformatics education. The main target group of this effort are computer science students, who are concerned with IT fundamentals such as object oriented or functional programming techniques and basic biochemistry concepts. During this one year evaluation study students are trained in relational database systems and Bioinformatics software management in an industry relevant way - theoretically and practically. This presentation is about the Mediabolics curricular concept and our first experiences of its use. Keywords: Notebook university, mobile learning concepts; bioinformatics education

How to make the evaluation of ICT rich courses and its teaching material useful for the lecturer?
Hans van Bemmel, Wolter Kaper, Natasa Brouwer,
AMSTEL Institute, Universiteit van Amsterdam, The Netherlands.
Marjon Engelbarts, Julius Institute, Utrecht University, The Netherlands

A joint project of the University of Amsterdam and Utrecht University, “Interactive Science Learning Environment” (IBL), has the aim to develop and evaluate a complete learning environment, a virtual as well as a real one, for science teaching at university level. Integrated teaching methods are being developed based on an active-learning approach, with intensive use of computers. In the project the needed ICT-components such as Mathematica notebooks, Applets and Physlets are also being developed or collected. In order to follow the progress of the courses that take part in this project, a tailor-made evaluation protocol is used. A special part of the evaluation protocol can be used to evaluate the ICT-components and the quality of the content management database in which they are collected.
Keywords: e-learning, university courses, evaluation

Flexible, competency based learning supported by ICT-tools
Drs. J.H. van Veen, SOMI, Department of Strategy, Education, Marketing and Internationalisation, Rotterdam University of professional education,
The Netherlands

More and more training programmes define their vocational and training profiles in terms of competencies. The student is seen as someone training to become a starting professional with a professional attitude. More and more students are held responsible for the process of their training programme and its progress.
In order to support flexible demand based and competence oriented training and for the students to enable them to follow this, the “Learning Management System” (LMS) and the Digital Portfolio” (DPF) have been developed.
In the session in the conference program an example is presented.
Keywords: Competencies, E-portfolio, assessment.

IT INFRASTRUCTURES, GRID AND E-SCIENCE | room C017

Linux-based Firewall with redundant Internet Access: a solution for small to medium organisations

Antonio Ocón-Carreras, Manuel Galán-Moreno,Luis Alvarez-Alvarez,
Enrique Rubio-Royo,
CICEI - University of Las Palmas de Gran Canaria, Spain

Information Society upcoming is affecting every aspect of human activity. In this article, we will focus in the study of the advantages that the Small or Medium Size Enterprises (SMEs) can achieve towards the use of Open Systems as Internet Connectivity Mediums. Until not much time, one organisation had to spent an important amount of money and effort in order to achieve high levels of Network integration by using Firewalls, Application Proxies, etc.. More specifically, we will centre our attention in the possibilities of employing a Linux RedHat Server (with some software enhancements, always developed under the “open source” concept) as Internet Access Element in a Small to Medium Enterprise (SME). Issues as configuration of distributed connectivity services (when a organisation is having more than one Internet Service Provider), Firewall basic services (Packet Filtering and Network Addresses Translation), establishment of User-transparent Proxies and Monitoring and Management Services, etc..

Keywords: Internet security and connectivity, internet Firewalls, Linux and open source applications

Smartcard interoperability testing in a technology confused Market

Alan Berg, Jaap van Ginkel,
Information Technology Centre, Universiteit van Amsterdam, The Netherlands

This presentation describes the outcome of a smartcard project that was funded by the Gigaport initiative and occurred over an extended period of time at the Information Technology Centre (Informatiseringscentrum) of the University of Amsterdam. The technologies involved have the potential to secure communication and authorisation for web based applications and therefore can be considered a major component in a telecommuting or distant learning infrastructure. The emphasis of this presentaion is knowledge sharing of potential pitfalls of applying these types of technology and is designed for providing interested innovators and potential decision makers with communication over baseline terminology/technology. The project plan was to examine the feasibility of building authorization for an electronic shop for the whole student population of Holland and in specific Amsterdam University via standard Microsoft tm technologies placed under the conventional PKI infrastructure of SURFNET. This project thus reflected our perception of how the commercial market place could potentially evolve within a discrete and relatively short time frame. The project was split into a number of sections:

(1) Technology Feasibility testing, named trial one.
(2) Communication of limitation via the documentation of limitations.
(3) Reorientation of the project focus to achieve a realistic and more limited system specification, named trial two.

The project can be considered a success as number important conclusions were made. Chief among these conclusions being that administration issues and complex details in the certificate structure makes the use of this particular instance of PKI not immediately relevant for us for large scale deployment outside the campus boundaries e.g. the Internet. Keywords: PKI, smartcard, interoperability.

A distributed authentication infrastructure for Western Australian Universities

Peter Green, Curtin University of Technology, Australia
Alex Reid, The University of Western Australia, Australia

The Western Australian Group of University Librarians (WAGUL) had identified the increasing diversity and cost of scholarly resources as having a major impact on the ability of university libraries to deliver those resources. Various avenues for the sharing of these resources were pursued as strategic objectives. One major impediment to this sharing was the need for reliable, automated inter-institutional authentication. WAGUL were successful in 2000 in obtaining a substantial grant from the Commonwealth Development Pool (CDP) to fund a major authentication project to address this strategic objective. The aim of the authentication project was a distributed authentication infrastructure for the five Western Australian Universities. The main components of the solution have now been implemented, and the technical feasibility demonstrated. It remains to populate the directories with live data, which it is expected will have be completed during 2003, and to begin using the distributed authentication infrastructure. This presentation describes the following aspects of the project:

1. The motivation behind the project
2. The specifications describing the functionality required of the solution
3. The stages of the solution implementation
4. Technical aspects of the solution
5. Issues of a technical and political nature that had to be overcome
6. Possible uses to which the infrastructure will be put.

Keywords: authentication, directory, schema

E-LEARNING IN HIGHER EDUCATION | room C217

A co-operative information systems framework for knowledge management in higher education institutions: ISCTE case study

Ana J. Mendes, Information Systems Department, Escola Superior de Ciências Empresariais, Instituto Politécnico de Setúbal, Setúbal, Portugal
Mário Romão, Science and Information Technology Department
Instituto Superior de Ciências do Trabalho e da Empresa, Lisboa, Portugal

This presentation addresses the concept and process of using cooperative information systems between Higher Education Institutions and external Organisations that enhances sharing knowledge that is in their actors’ possession. In Portugal, Higher Education Institutions (HEI) has been waking up for this new global world. The great challenge they face is the management of informal network of competencies, which allows them to rapidly adapt to the market requirements of great competencies diversification. Considering the fact that most of the time informal nets are out of the scope of a single Institution, this management has to be carried out in collaboration schemes with other institutions. In this way, the adoption of Intra and Interorganisational information systems facilitates these HEI partnerships and constitutes an enormous challenge for these institutions management. The main purpose of this paper is to identify, describe and formalise the current co-operation initiatives and models between HEI and organisations in their environment. In order to ascertain the proposed co-operation framework, we introduce and explore a case study research, based on a co-operation scheme between a Portuguese University and some external co-operative organisations. Additionally, we compare the recommendations of Malcatas’ co-operation framework against the co-operation instances taken from ISCTE case study. We conclude on the relevance and realism of the above-mentioned framework. Keywords: Co-operation in higher education institutions, inter-organisation information systems, higher education co-operative information systems framework

Conceptual model of theoretical knowledge representation for distance learning
Emma Kushtina, Oleg Zaikine, Przemyslaw Rozewski,
Technical University of Szczecin, Faculty of Computer Science and Information Technology, Poland
Ryszard Tadeusiewicz, University of Mining and Metallurgy, Cracow, Poland

The authors discuss the method of designing the distance learning didactic materials for the asynchronous mode. The approach is based on the modular structure of the fundamental knowledge. The new role of the teacher is being discussed as well as its impact on the didactic materials' structure and content. The presentation introduces the knowledge representation model designed to meet the requirements of theoretical knowledge presentation in a selected domain using the Learning Object concept. Keywords: Distance learning, knowledge representation model, didactic materials

17:15-18:15 POSTERPRESENTATIONS in central hall

E-LEARNING IN HIGHER EDUCATION

Large scale programming contest system
Krzysztof Ciebiera, Tomasz Walen, Institute of Informatics Warsaw University, Poland

The poster presents a new system for conducting programming contests. The system has already shown its functionality and efficiency (Polish Olympiad in Informatics - 1000 contestants every year, Central European Regional ACM Programming Contest - 60 teams, Polish Open Annual Programming Contest - up to 3000 contestants). The main features of the system are: ability to run many contests at the same time, efficiency (up to 5000 contestants, 50000 submissions), flexibility (different type of tasks, scoring, etc.), customisable layout, quality of service, security. Keywords: contest management, automatic judging, web application

A scheme for locating partners in providing a Follow-the-Sun 24x7 help desk
Alex Reid, The University of Western Australia, Australia

This poster describes a proposed scheme to establish a brokering system to enable universities around the world to find others to partner with them in providing a 24x7 helpdesk service, by employing a "follow-the-sun" strategy. There is at least one (possibly still only one) case of several universities establishing a "follow-the-sun" strategy to extend the hours of their helpdesks. One of the most difficult aspects in that case was finding suitable partners in other time zones around the world. This "brokering service" is designed to address this problem, by encouraging "offering" universities to make entries in a Web-based directory that can then be searched by "seeking" universities. Keywords: 24x7 helpdesk, follow the sun, partner brokering

Integration of WEB technologies in the evaluation of learning:
A study of implementations using Open Source tools.
Manuel J. Galán-Moreno, Antonio Ocón-Carreras,Luis A. Álvarez-Álvarez,
Enrique Rubio-Royo,
CICEI-Universidad de Las Palmas de Gran Canaria, Spain

This poster describes the experience developed in the CICEIULPGC laboratory done by some members of the PH.D. Course on "Information Technologies and Applications", period 2002-2004, about the issues and pitfalls of the implementation of a web based environment for e-learning using open source software tools.
Keywords: Open source, php, sql

Distance learning network organisation in Georgia higher education
Alexandre Ediberidze, Kacha Kushashvili,
Georgian Technical University, Tbilisi, Georgia

A possible way of Distance Education Network Development in Georgian universities is discussed. The creation a network of Georgian higher educational institutions and other consortium members, which will promote Open and Distance Education in Georgia and contribute to aspects of its development, is discussed.
Keywords: Distance learning, network

Experiences with the innovation of an Autonomous Systems course
Arnoud Visser, Toto van Inge, Frans Groen,
Computer Science department, University of Amsterdam, The Netherlands

The course on the Organisation and Design of Autonomous Systems is given at the University of Amsterdam since 1995. Every year there were innovations, which could be on the content, the pedagogic approach, or the on-line support. This year we had two novelties: the migration of the on-line support to the Blackboard environment and the introduction of a project assignment instead of a practicum and a writing assignment. In this poster we will summarise our experiences.
Keywords: Practical experience, project assignment, web-support

The course "New Technologies in Education" a Case Study of Faculty Support, Universidade do Porto
Rita Falco de Berredo, Alfredo Soeiro, Universidade do Porto, Portugal
Sebastian Foti, University of Florida, USA

The Faculty Support Office for e-learning of Universidade do Porto was created to disseminate the use of the learning technologies in the educational process. One of the activities of this Office was the delivery of a training course for Faculty that focused both on the pedagogy issues of e-learning and the technologies involved. This poster talks about the course "New Technologies in Education", describing each step from the creation process, the delivery and evaluation of the event. The paper has also some important considerations about the impact that this course had in the strategy of the Office. Keywords: e-learning, faculty support

Internet teaching aid
Jitka Bartosová, University of Economics, Czech Republic

While preparing lessons and in the whole teaching process, nowadays it's possible to use highly developed and user friendly IT. Both to develop teaching and to increase motivation of students. The poster is concerned with the solution of problem of integration of IT into the teaching and the presentation of internet didactic aid that was formed to support full-time and external forms of study of several mathematically oriented subjects at the University of Economics, the Faculty of Management in Jindrichuv Hradec. The tool has a form of a web page, which includes solved problems in microeconomics, macroeconomics, mathematics, statistics and econometrics. Those problems are solved through user-friendly mathematical program Derive5.
Keywords: Full-time and part-time forms of studies, internet teaching aid, mathematical program

Scholarly communication in the digital age
Jurgen Burchardt, Nyt om arbejdsliv, Ringe, Denmark

This is a model for communication for transferring scientific results between professionals within small and middle-sized subject areas. The portal on the Internet is an important element together with the peer reviewed scientific journal and the learned society in step with the constantly growing content on the Internet and its complexity. The portal will be the turning point for a personalised delivery of information

according the need for each single user. The model involves not only exchange of information between researchers on universities but also between researchers and professionals “practicians” on institutions outside the narrow academic world. Here the portal will be a place for a virtual community. The experiences behind the model are collected from the Danish portal ‘Nyt om arbejdsliv’ (News around working life) that are working with the learned society ‘Center for studier i Arbejdsliv’ and ‘Tidsskrift for arbejdsliv’, that “thanks to the portal” is the mostly read scientific paper in Denmark. Keywords: portal, scholarly communication, virtual communities

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE

Our experiences with developing software systems for doctoral study
Dagmar Brechlerová, Vojtech Merunka, Department of Information Engineering, Czech University of Agriculture in Prague, Czech Republic

In this poster we inform about project intended to provide ICT support for operational and support processes of doctoral study at our faculty via using intranet and internet software technology, electronic documenting and e-signatures use. The major issue here was to appropriately analyse and design business processes within target faculty environment, because the system requirements were constrained by large set of miscellaneous rules, constraints and law limitations. We experienced this process-modelling phase as the most complicated phase of the whole system development lifecycle.
Keywords: Business process analysis, management information system, intranet

Analysis and specification of information systems requirements based on the Actor-Network Theory
Paulo Veloso Gomes, Escola Superior de Tecnologia da Saúde do Porto, Portugal
António Lucas Soares, Faculdade de Engenharia da Universidade do Porto, Portugal

This poster intends to exploit the possibility of application of the Actor-Network theory (ANT) as a theoretic and/or methodological framework for analysis and design of socio-technological systems, particularly web based innovation systems.
Keywords: Actor-Network Theory, socio-technical approach, IS research methodology

Opmitised web monitoring for an university energy building network
Jorge A. Del Río, Jose A. Taboada, Pedro Saco, Juan E. Arias,
Laboratorio de Sistemas, Insituto de Investigaciones Tecnológicas
Universidad de Santiago de Compostela, A Coruña, Spain

One of the main points of the energetic politic of University of Santiago de Compostela (USC) has been develop a complex system of monitoring which aim is to optimise energy consume. This was called Project of Energetic Optimisation or POE by its Spanish initials. As a complement of POE, a system orientated to manage the maintenance tasks associated with POE, or other external sources, has been implemented. Interface design technologies have not given waited results due to the difficulty in the characterisation of the users. This poster presents the evolution of the system to obtain a completely satisfactory interface for the user.
Keywords: Web design, university information system

INFORMATION MANAGEMENT AND QUALITY CONTROL

New information technologies and education quality control in Georgian Technical University
R. Khurodze, Sh. Nachkebia, A. Ediberidze,
Georgian Technical University, Tbilisi, Georgia

This poster presents the way of development of New Information Technologies and Quality Control in Georgian Technical University.
Keywords: Information technologies, quality control

IT INFRASTRUCTURES, GRID AND E-SCIENCE

University information system cluster at Mendel University of Agriculture and Forestry in Brno
Milan Sorm, Hana Netrefová, Institute of Informatics, Faculty of Business and Economics, Mendel University of Agriculture and Forestry in Brno, Czech Republic

During in-house development of the University information system at the Mendel University of Agriculture and Forestry in Brno, pretensions to responses of this web information system increased along with requirements of guarantee of a high availability of the system in a mode 24/7. Creating of a cluster of the University information system (UIS) proved to be the only price-acceptable solution offering high-level performance, scalability and high availability while keeping all attributes of one-server solution. This cluster includes nowadays 14 application servers, a high performance firewall, a development and backup server, an e-mail server, two database servers on the Sun platform, a Gigabit fibre optics backbone and a complete infrastructure guarantying high availability. This poster presents a solution that enables scaling and a decomposition of the performance according to the number of undetermined criteria. Keywords: Cluster, IT infrastructure, high availability

Gigabit for students and campus of Lithuanian University of Agriculture
Stasys Martisius, Head of informatics department,
Lithuanian University of Agriculture, Lithuania
Dr. Linas Stabingis, Chair of Accounting and Finances,
Lithuanian University of Agriculture (LUA), Lithuania

Rate of Internet usage as far as Information and Communication Technologies (ICT) increases very rapidly. Very important role for this process in Universities of Lithuania have project “Information Technologies for Science and Studies” (ITMS) and other projects.
To make information technology services available for each student of LUA, Network renovation project was developed. According to this project all hostels would be connected to the university LAN and to Internet using 1 Gb lines. Renovation project have been developed according student’s demands, new abilities of network technologies and parameters of the network already installed. 1 Gb. connections are based on 9µ single mode fibre cables and HP procurve switch 5304xl in centre and HP procurve switch 2512 switches in the hostels.
Keywords: network, LAN, Internet.

18:15 – 18:30 Walk to the Town Hall

18:30 – 19:30 Reception at the Town Hall

Friday, July 4

09:00 – 09:45 SESSION 4
SHORT PAPERS (three presentations in 45 minutes)

E-LEARNING IN HIGHER EDUCATION | **Room D009**

Using web-technologies to change from a traditional classroom to a blended learning environment, a case study from the University of Applied Sciences Furtwangen/Germany analysing acceptance and strength/weaknesses through student surveys
Bernd Heesen, Director Executive MBA, University of Applied Sciences Furtwangen, Germany

This presentation presents the experiences made at the Department of International Business at the University of Applied Sciences Furtwangen when introducing e-Learning. The research question to be answered by the student survey was, "What is the students' acceptance-level for e-Learning tools when used in a blended learning environment". The purpose of the research was to understand if e-Learning tools can have a positive impact on learning and to understand which of the e-Learning tools are best accepted by the students. For the purpose of this research graduate students from 12 different countries were asked a set of questions related to their recent experience with e-Learning. The results provide feedback as to whether students perceived the tools to improve learning versus at whether it was perceived as an additional complexity and barrier.
Keywords: E-learning, blended learning, quality management

Evaluation of inter-physician communication training using the Dynamic Patient Simulator®
E.M. Schoonderwaldt, P.M. Bloemendaal,
Leiden University Medical Center, The Netherlands
J.D. Donnison-Speijer, R. Sijstermans,
Academic Medical Center at the University of Amsterdam, The Netherlands

This presentation discusses a project for training medical students in inter-physician communication skills. For this purpose a special module was integrated in the Dynamic Patient Simulator® and twenty dedicated cases were developed. Emphasis was put on the adequate transfer of patient's records, treatment planning and consultation of fellow physicians. Within this project a virtual patient is treated by two students asynchronously during a week and at different institutions. In the evaluation study 134 students participated, self assessing their skills before and after the training. Results show significant progression in their perception and justify incorporating this form of training in the curriculum.
Keywords: Communication training, patient simulations, computer based training

Use of virtual project rooms for supporting group-work in higher education
Hans Scheltinga, Rick de Graaff, Albert Pilot, Utrecht University, The Netherlands
Monika Roeling, Ruud van Vliet, Eindhoven University of Technology, The Netherlands

In 2001, Eindhoven University and Utrecht University started a two-year project on the development and implementation of Virtual Project Rooms (VPRs). The aim of this project is to gain expertise on VPRs, which becomes visible by a series of educational activities within both universities, as well as in products related to the development and evaluation of these activities. The VPRs in this project use standard groupware (MS Outlook/Exchange) for design-oriented or research-oriented tasks, in all cases additional and supportive to face-to-face class meetings. In this presentation the technical and the educational requirements for such VPRs and their use by groups of students and tutors is described. Some examples of VPR-structures, tasks, methods, and educational strategy are given. The evaluation procedure and the results from the pilot VPRs are presented and discussed. The experiments show that VPRs in MS Outlook/Exchange are useful tool for supporting documentation and project management in group work, provided that he VPR can be easily accessed and synchronised.
Keywords: computer supported collaborative learning (CSCL), groupware, project-based learning

E-LEARNING IN HIGHER EDUCATION AND IT INFRASTRUCTURES, GRID AND E-SCIENCE | **Room F001**

Davideon - How to interact with streaming media?
André Rosendaal, University of Groningen, The Netherlands

Audio-visual media are becoming more and more important in everyday life. As a consequence, studying their impact on society has greatly increased in significance. Furthermore, audio-visual collections provide an enormous wealth of information that can be integrated in various forms of education. Streaming technology makes it possible to deliver large amounts of high quality audio-visual content through the Internet to both students and teaching staff. The Davideon project develops and evaluates a didactic framework for integrating this material in an educational context. Courses will be (re-)designed at the three partners in this project, the University of Groningen, the University of Amsterdam and Windesheim University. During the project, 1100 hours of audio-visual content, selected from the archives of the Netherlands Institute for Sound and Vision, will be made available online.
This presentation describes a number of the issues involved in the Davideon project. One of the challenges of the project is to avoid the pitfall of simply substituting what is already done in the current curriculum with new technology. A key role in this respect is the ability to interact with the online material; to select portions of streaming files and to playback these selections in papers, presentations, or websites. To enable this sort of interaction, a web application called 'The Virtual Cutter' is used. This application is described in the current paper.
Keywords: streaming media, audiovisual archives

Streaming media at the University of Amsterdam
Mariëlle van Staalen, Information Technology Centre,
Universiteit van Amsterdam. The Netherlands

The University of Amsterdam (UvA) has many buildings widely distributed around the city and beyond the current city boundaries. It is therefore different from a campus university with a more compact and easy to characterise ground plan. Since the introduction of the Internet, the difference between a workplace or study place at home or at the university is converging. Students have a built in demand for adequate and up-to-date- ICT-facilities, comparable to that which is delivered by the Internet or will be in the foreseeable future. To keep pace with this tendency there is laid out an E-campus program focused towards learning independently of time or place, the so-called enabling principle. Video streaming has in general been recognised as part and parcel of a modern-day E-campus. The Information Technology Centre (IC) at the University of Amsterdam, not being blind to this trend, has started a research project squally centred on streaming video. This presentation defines the set-up, the goals and the chosen streaming infrastructure of this project.
Keywords: Streaming video, project, infrastructure

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | Room D109

The role of mobile applications in university information systems

Rok Rupnik Marko Bajec, Marjan Krisper
Faculty of Computer and Information Science, University of Ljubljana, Slovenia

Information Society is the society of ongoing progress and the technological development with convergence between telecommunications and information technology as one of representative characteristics. The convergence between several technology sectors offers the opportunity for the emergence and development of new services. Mobile applications are the consequence of convergence between telecommunications and information technology. They are probably the most known service representing the result of the convergence. Despite the fact that mobile applications are becoming a buzzword there are hardly any articles introducing them as distinctive application model with distinct characteristics. The first part of the presentation introduces the role of mobile applications in the information society. In the second part classical mobile application model and context-aware application model are presented. The final part introduces the role of mobile applications and examples of mobile applications in university information system.
Keywords: mobile applications, context-aware mobile applications, mobile business

The theory of web information systems

Milan Sorm, Hana Netrefová, Institute of Informatics, Faculty of Business and Economics, Mendel University of Agriculture and Forestry in Brno, Czech Republic

The difference between Web information systems and classical client/server type of systems requires different way of application's design, different implementation techniques as well as different data representation. The team of employees of the Department of Informatics at the Mendel University of Agriculture and Forestry in Brno, participating in development of the University information system, works on formal specification of the Theory of Web Information System. The team seeks an exact definition of these systems, standardisation of used method, and also works on elaboration of methodology of preparation, design, prototyping, implementation, documentation and running of systems developed by this theory. This presentation presents results that have been achieved so far. It especially explains a new data representation – user data templates and also assets for development of large information systems built without specific requirements plan. In the last part the presentation discusses new possibilities of development of this theory mainly in the area of searching automated generators of information systems that are created on the basis of this given theory.
Keywords: The theory of web information systems, the web information system, user data templates

An open source website development success story

Alex Reid, Grant Malcolm, The University of Western Australia, Australia

This presentation describes the development of the Website at the University of Western Australia, moving it from a site that was complex, diverse, difficult to navigate and maintain and with support arrangements that were almost totally uncoordinated, to one that is far more navigable, maintainable, consistent and standards-compliant. This change was brought about through an initial needs analysis, the creation of a small central team of keen and committed staff, and the deployment of an OpenSource Content Management System. It looks at the benefits of using a CMS, at the features of this particular system, at the consequences of introducing it, and the very substantial achievements in a short time frame with modest resources – users have been beating a path to the door of this system.

INFORMATION MANAGEMENT AND QUALITY CONTROL | Room A008

UNIMOB: A system for mobile access to university database

Veaceslav Sidorenco, Technical University of Moldova and RENAM, Chisinau, Republic of Moldova

Presentation discusses details of the UNIMOB system: a project of mobile gateway to university management system databases.
Keywords: university database, mobile access

Migration to Blackboard 6.0

dr. Aletta Smits, Iclon, Leiden University, The Netherlands
drs. Patrick Klaassen, Bestuursbureau (Central Administration), Leiden University, The Netherlands
drs. Jeanine Klinkenberg, Faculty of Social and Behavioral Sciences, Leiden University, The Netherlands

This presentation will describe the migration process of Blackboard 5.5 to Blackboard 6.0 at Leiden University during January- August 2003. At the time this contribution is being prepared we are only halfway through the process. By the time the conference will take place, however, we will be nearing the end of it. Besides a description of the process, and examples of test books, test reports, job aids and other relevant documents, our presentation will therefore include a process evaluation amounting in the identification of pitfalls and learning points. This list may help those that still face the migration from Blackboard 5.5 to Blackboard 6.0. Furthermore, we hope that these learning points will also be helpful next time a migration announces itself.
Keywords: Migration, Blackboard 6.0., software upgrading

Support process patterns in higher education

Alexandre Coimbra, GIPSI/Catholic University of Portugal, Lisbon, Portugal
António Rito Silva, INESC-ID/Technical University of Lisbon, Lisbon, Portugal

Higher Education Institutions are complex organisations where certain level of autonomy permits diverse units to execute their work independently. In most occasions there is no general idea of how a unit's work reflects in the others unit's work, neither the reasons that took certain units to organise their work in a certain way. The goal of this work is to provide to the units directors, and the institutions directors, a tool, which will provide a more integrated vision of how their Higher Education Institution works, and also to provide an explanation why units execute their work in certain ways under certain conditions.
Keywords: Process, patterns

IT INFRASTRUCTURES, GRID AND E-SCIENCE | Room C017

The building of a successful zero administration homepage system for students and its relation to the wider campus infrastructure

Alan Berg, Léon Raijmann, Information Technology Centre, Universiteit van Amsterdam, The Netherlands

The homepage system for students, at the University of Amsterdam, has run stably and successfully for the last three years. At present over 3200 student homepages exist and the number is growing. The administration of the student sites is delegated to the students themselves and is integrated with the campus directory service. This implies virtually zero administration costs. The system is light weight as it is only comprised of only a few Perl scripts and some clever system configuration and a few extra services. Judging by the popularity of the system and its history of stability, the technologies involved may have a wider relevance. This presentation describes the cocktail of simple components that allow this service to function and says a little over the students that use the system.
Keywords: Website, integration, management

A mass storage solution for Grid environments
Jules Wolfrat, Pieter de Boer, Walter de Jong, Ron Trompert,
SARA, Computing and Networking Services, The Netherlands

In several scientific areas the use of large datasets is growing fast, e.g. data from High Energy experiments, Earth Observation, Astronomical Observation, and Biological databases. This requires the use of mass storage systems for managing these data. In grid environments user applications are not tied anymore to a particular system, but can run on a group of geographically distributed hosts. We will describe the integration and use of a mass storage system in the grid environment of the European Datagrid project, where data is transparently accessible for the end user. In conclusion we will discuss the role of network performance.
Keywords: GRID, data storage, HPC

HOLL@ND E-XPERIENCE | Room C217

Electronic portfolios at Utrecht University
Martin Cadée, Hans van Dijk, Jan van Tartwijk, Utrecht University, The Netherlands

When introducing the Bachelor-Master structure in September 2002, Utrecht University decided to focus on broad academic development in the bachelor phase, whereas the master phase would be devoted to specialization. For the students in the bachelor phase, this implied more freedom of choice regarding the content of their studies and a focus on academic skills.
Electronic portfolios were introduced with the aim to monitor student academic growth and to stimulate the students to reflect on their development. At the end of the bachelor phase, portfolios should display the students' academic profile and the level of academic skills the students accomplished.
A tailor made electronic portfolio system was designed using standard technology as much as possible. Students work on their portfolio using HTML, giving them the opportunity to work on their portfolio in various educational and technical environments in and outside Utrecht University. This HTML-based portfolio can be published on a web-server called the portfolio-server. Students, being the owner of the portfolio, can decide who they give access to their portfolio. In our contribution we will introduce this portfolio system and provide background information on its use.

The SPIN networkinnovation project
Fons Ullings, coordinator networkinfrastructure,de Vrije Universiteit, The Netherlands

Within the SPIN (Strategic Project Innovation Network infrastructure) project the complete network infrastructure of the Vrije Universiteit, Amsterdam as been restructured. The starting point of the project was a very fragmented, most of the time out-of-date, decentralised managed network infrastructure. Within the SPIN project 26.000 CAT5E wall outlets connected to more then 280 networkswitches at 140 locations, 8 core routers within a Gigabit Ethernet fiber backbone infrastructure are realized. Also a centralised administrative and control organisation using advanced networkmanagementtools is put in place. This new network infrastructure does trigger all kinds of ICT innovations facilitating both student and staff like multicasting, streaming video, integration of voice and data services, wireless services, VPN and 802.1x authorisation and authentication services, etc.. This presentation gives a detailed insight of the SPIN project itself and its innovative ICT SPIN-offs within the organisation of the Vrije Universiteit.

09:45 – 10:15 Coffee Break

10:15 – 11:00 Invited speakers

E-LEARNING IN HIGHER EDUCATION | Room D009

Learning Objects: the ARIADNE experience
Erik Duval, Professor on hypermedia and databases,
Katholieke Universiteit Leuven, Belgium

ICT in Education has been 'oversold and underused'. One of the reasons is that we do not seem to be able to 'stand on the shoulders of giants' (or other midgets...). The learning object approach promises to break through this state of affairs, and may help us to finally realise a real and meaningful impact on learning. However, most of the current projects and implementations are somewhat naive and misguided. This presentation will try to explain what some of the real issues are, and illustrate how the ARIADNE Foundation is developing promising, practical ways to deal with those issues.

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | Room D109

Collaboration for success: e-learning strategies that work
Jonathan Darby, Chief Architect, UK eUniversities,

All universities and colleges face the challenge of how to manage e-learning and how to invest wisely in it. There is no shortage of vendors prepared to offer a product or service as the solution but are these capable of working? There is a tendency with technology applied to education to identify a solution first and then create the problem to fit the solution. The starting point for achieving a strategy that works is to be clear about the problem or need that e-learning must address.
One such need that UK eUniversities is addressing is increasing the UK share of the global HE e-learning market. Succeeding in this area will increase the return to UK HEIs from their academic capital. Failure to act will hit the core business of HEIs as potential students will increasingly check out an HEI by taking one or two online courses from it before committing to full or part-time campus based study.
e-Learning does not enjoy a good reputation worldwide. Too many providers have slavishly copied existing elements of traditional courses, both campus based and distance learning, to an Internet deliverable format. This has resulted in offerings that fail to support all aspects of learning and provide very limited opportunities for students to engage with each other or develop their higher order cognitive skills.
UK eUniversities is working in partnership with a broad cross section of HEIs to develop and apply a pedagogically derived precept-driven design methodology that supports all aspects of learning and recognises the diversity of learning preferences, cultures and prior educational experiences of an international student body. Central to the success of these partnerships is a team-based approach to course specification and development, and the establishment of a community of e-learning developers striving to achieve the highest possible standards.

INFORMATION MANAGEMENT AND QUALITY CONTROL | Room F001

SURFnet
Kees Neggers, Managing Director SURFnet bv

SURFnet's mission is to develop and operate an advanced networking infrastructure for the research and higher education community in the Netherlands. SURFnet has always tried to fulfill its mission in a framework of international cooperation. To remain in the lead SURFnet puts in a sustained effort to improve the infrastructure and to develop new applications to give users faster and better access to new Internet services. Currently over 60% of the customer base is connected to SURFnet via gigabit Ethernet interfaces. SURFnet is a partner in GigaPort, a project

of the Dutch government to give the Netherlands a lead in the development and use of advanced and innovative Internet technology. One of the GigaPort spin-offs is NetherLight, the new optical exchange point in Amsterdam in the emerging global lambda network for e-science.
In his presentation Kees Neggers will present the SURFnet organisational structure, its current activities and the future plans.

E-library: Media and Content | Room A008

Economics of e-Services in Libraries
Arja-Riitta Haarala, Director of Library and Information Services,
University of Tampere, Finland

This presentation concentrates on the costs and other economic issues associated with providing library and information services in the networked environment. What economic and business models will emerge for networked information and e-services? Libraries have for some time been active in adopting digital resources into the collections and in developing other e-services, as well. This transition from print to digital has been a success story in many countries. At the same time, libraries are under increasing pressure to justify their expenditure. An answer to the crucial question is needed: Does it in terms of costs and benefits justify the services delivered? Publishers have encouraged this trend by offering resources in digital format at little or no additional cost to the print subscription. However, the management of these resources and services cannot yet be considered straightforward and trouble-free. Better information on costs is needed. A costing structure for print and digital services differs considerably. This is illustrated with a case study carried out at Tampere University of Technology.

11:00 – 11:30 Switch

11:30 – 12:15 SESSION 5
FULL PAPERS (two presentations in 45 minutes)

E-LEARNING IN HIGHER EDUCATION | **Room D109**

Toledo, a university wide implementation of a VLE: impact beyond education
Herman Buelens, Leen Van Rentergem, K.U.Leuven, Belgium

Aiming at educational innovation and optimalisation, the university of Leuven (K.U.Leuven) introduced a Virtual Learning Environment (VLE) in the summer of 2001. Completely in line with this objective, educational benefits at the micro-level (i.e. course level) are reported by both faculty and students in nearly all disciplines at the university. Beyond 'intended' outcomes at the micro-level however, a great deal of 'unintended' consequences at both the meso-level (i.e.within the university) and the macro level (i.e. between institutions of higher education) can be observed. The presentation documents the effect at all three levels. Keywords: e-Learning

Challenges and opportunities facing the library profession in developing use of electronic resources in teaching and learning – illustrations from JUBILEE
Kathryn Ray, Graham Coulson, Linda Banwell,
Northumbria University, United Kingdom

This presentation reports on JUBILEE findings relating to the higher education sector, and will discuss some of the challenges, and opportunities, faced by library staff in the provision of EIS to support e-learning. JUBILEE has identified three main areas of challenge faced by the library profession in the present HE climate: educational, operational/ technical and organisational. In the course of this presentation these inextricably linked areas will be outlined, drawing on the research findings to suggest areas of opportunity for library professionals, and where possible present examples of good practice as evidenced by JUBILEE case study sites.
Keywords: Electronic information services; higher education; e-learning

E-LIBRARY: MEDIA AND CONTENT | **Room F001**

Not just a portal: managing access in a complex information environment
Christine Cooper, Information Technology Infrastructure Manager;
John Paschoud, Information Systems Engineer and Projects Manager;
Jean Sykes, Librarian and Director of Information Services;
London School of Economics & Political Science, United Kingdom

Work is in progress by LSE staff to create a Managed Information and Knowledge Environment, simple and managed access to a wide range of appropriate and permitted content for a broad range of users. The portal is only one small part. More difficult tasks are identifying information content (internal and external) for different user types, and developing suitable middleware for managing access, in an institutional, national and international context. Two projects will be highlighted: SECURe, working on the access management middleware, and UK Computing Plus, offering electronic information access to certain library visitors.
Keywords: access management; integration; authorisation

Digital preservation and the e-Depot @ the National Library of the Netherlands
Chris Bellekom, Digital Preservation Officer, National Library of the Netherlands

The National Library of the Netherlands is a mayor player in the digital preservation field, when it comes to actually implement digital long-term preservation solutions. This presentation will focus on the progress that the National Library of the Netherlands has made since they joined forces with IBM to actually build a deposit system based on the as the OAIS-model (reference model for an Open Archival Information System - ISO14721:2002).
We need to be able to track file-formats and operating systems that are in danger of becoming obsolete or even extinct. The National Library of the Netherlands is currently developing a system that will be able to track these dangers through so-called "Preservation Layer Models" and "Viewpaths". This preservation subsystem can be summarised by the following three objectives: Identifying the objects, Implementing activities associated with technical preservation, supplying the metadata to generate the environment needed to render the objects.
Keywords: Long-term preservation, depot for publications, accessibility

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | **Room D009**

Information and communication technologies and information systems planning in higher education
Jacques Bulchand, Jorge Rodríguez, Departamento de Economia y Direccion de Empresas, Universidad de Las Palmas de Gran Canaria, Spain

In this presentation, we propose a methodology for the development of strategic information system (IS) and information and communication technology (ICT) plans in higher education. The methodology we propose is composed of nine steps and involves the whole of the university community, not just IS/ICT technicians. These nine phases, derived from strategic planning procedures, are preplanning, external environment assessment, internal evaluation, strategic interest themes identification, mission and vision statements declaration, strategic axes identification, goals and strategies definition, project and specific actions definition and implementation and evaluation. Presentation ends showing application of this planning procedure to the Universidad de Las Palmas de Gran Canaria.
Keywords: Information systems, information and communication technology, strategic planning

"ICT isn't everything – hybrid solutions are key":
A case study on the LSE's postgraduate admissions project
Chris Cobb, Simon Beattie, London School of Economics, United Kingdom

Through use of a case study, the presentation examines the human, business and IT aspects of re-engineering the processes of a university admissions office. The presentation recognises the importance of culture and leadership as well as innovation, while ensuring that there are the correct level of trained staff on the ground to do the work. The changes have been categorised as technological, cultural and organisational.
This case study examines the changes that were introduced and the transformation that the office has undergone in the last few years. It also covers the resourcing issues for the changes and the contentions between time-saving innovations versus increased staff on the ground. Keywords: Integration, customer relationship management (CRM), business process re-engineering (BPR)

E-LIBRARY: MEDIA AND CONTENT AND E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | Room A008

Developing IPR solutions for academic author self-archiving
Charles Oppenheim, Elizabeth Gadd, Steve Probets, Department of Information Science, Loughborough University, United Kingdom

This presentation describes the work of the UK JISC-funded RoMEO (Rights Metadata for Open archiving) project. It reports on a survey of 542 academic authors and an analysis of 80 journal publishers' copyright transfer agreements, and how they have informed the development of some simple rights metadata by which academics can protect their research papers in an open access environment. It also reports on a survey of 22 OAI Data Providers and 13 OAI Service Providers, and how the results have informed the development of a "metadata protection solution" that describes the conditions of use of freely available metadata.
Keywords: Intellectual property rights, self-archiving, metadata

A decision support system for IST academic information
Elsa Cardoso, Helena Galhardas, Rito Silva,
Instituto Superior Técnico, INESC-ID, Portugal
Maria José Trigueiros,
Instituto Superior de Ciências do Trabalho e da Empresa, Portugal

This presentation describes the Decision Support System (DSS) for Academic Information being developed at Instituto Superior Técnico, the Engineering School of the Technical University of Lisbon. In Portuguese, this project has been given the acronym SADIA (Sistema de Apoio à Decisão da Informação Académica).
This presentation focuses on the early phases of the DSS development process, i.e., the business requirements definition and the dimensional modelling. First, we show how the business requirements of the School drive the definition of the DSS dimensional model. Second, we detail the logical dimensional model for a selected business process, the IST Student Admission process. Third, the corresponding physical design decisions are reported. The results obtained from the three phases were successfully validated by business users.
Keywords: Decision support systems, data warehouse, information systems

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE AND IT INFRASTRUCTURES, GRID AND E-SCIENCE Room 317

Universities, information systems and the spread of infomanic depression
Bernard Paton, Dr Gill Ferrell, JISCinfoNet, United Kingdom

Many Universities and Higher Education organisations are implementing large scale systems. Many of these implementations are problematic. It is significant that in most cases the problems are not concerned with technical issues but derive from lack of strategic focus, lack of attention to the need for pro-active change management, lack of integration and not least, lack of senior level leadership and support.

Providing quality of service in wide area networks
Ursula Hilgers, Peter Holleczek,
Regionales Rechenzentrum der FAU Erlangen-Nürnberg, Germany
Richard Hofmann, Universität Erlangen-Nürnberg, Germany

IP networks are more and more used for transporting distributed applications. Examples are teleconferences or high quality video and audio transmission. Adding such services to IP networks continuously raises the quality of service requirements. As the "best effort" service of the IP protocol is not able to fulfill these demands, new mechanisms must be provided in network components. In particular, they must allow data transport with different transmission characteristics. We have investigated these mechanisms by measurements on current network devices like routers and switches in order to find out, what quality of service can be expected in existing networks. Based on the results of theses measurements, we developed a network architecture that is able to fulfil the quality of service demands of all except the most demanding applications on current IP network technology.
Keywords: IP networks, quality of service, multimedia applications

HOLL@ND E-XPERIENCE Room C217

Organising middleware in university context
Douwe J. Fokkinga, Manager Network Services, University of Groningen, The Netherlands

This presentation focuses on problems and opportunities regarding the full scale implementation of middleware in a medium sized university. What sort of organisational effects appear due to the positioning of middleware and identification management as the next wave of ICT infrastructure. Which ICT organisation model will the university choose.

The University Virtual Workplace
Paul van Daalen, Managing Director Informatiseringsgroep, Leiden University

This session will show what the evolving university requires to create a flexible infrastructure and more flexible access to the information resources and how that can be accomplished.
The changing environment of a traditional university is presented with the example of the new Bachelor / Masters program. In the new environment students and staff ask for flexibility in the access to information services anywhere, anytime. New products and services are required to create this more flexible infrastructure, like university directory services and standard desktops. The changing environment will lead to more central organized services and systems. For this transformation process a clear and solid management opinion is necessary to extend local support to web support.
The most common errors and difficulties in this transformation process will show that new technology is required but not the solution to the transformation process.

12:15 – 14:00 Lunch Break in the the restaurant of the Universiteit van Amsterdam, the Atrium, Oudezijds Achterburgwal 237 (see the map in this programme)

14:00 – 14.45 COMPANIES TRACK

D009
The new knowledge enterprise
Art Pasquinelli, Sun Microsystems

The new Knowledge Enterprise addresses how to assimilate, develop, manage, and deliver new types of content using technologically enhanced educational methodologies and curricula. It more closely integrates the various academic, library, and administrative functions of the campus, maintains and transfers institutional knowledge assets within the campus, and delivers customized student services to new, expanded user communities. The Knowledge Enterprise addresses the increasingly interconnected functions of libraries, digital libraries, e-learning, content management, portals, administrative computing, and network infrastructure. Beyond the demands entailed in the making of a digital campus IT architecture, the true Knowledge Enterprise will have to address organisational, teaching, community development, and enterprise-wide knowledge management issues..

F001
Selecting the right e-Education platform. Delivering value to students, academics and administrators
Denelise l'Ecluse, Regional Manager, Blackboard International

Collaboration. Assessment. Communication. Integration. There are many words often recited when discussing the emerging role of technology in today's academic environment. How do you know that your institution is going to get the most value from introducing online supplements to your traditional teaching and learning. This session will provide an in-depth view of the Blackboard Learning System™ - including insights from a leading academic institution that has adopted the system to:

- Enhance the learning experience for students
- Expand the communication powers for the academics
- Streamline administrative resources for the institutional technology managers
- Support the "business case" for senior administrators

D109
SCT Luminis: An Enterprise Portal Solution for Higher Education
Matthew Boice, SCT

Come experience the power of SCT's Luminis Product family and see how hundreds of universities are making personalised delivery of information and services a reality. Luminis Enterprise Content Management, Luminis Integration, and Luminis Portal bring together information, systems, and people into a cohesive network for collaboration and achievement. SCT Luminis is based on open standards, utilises IMS enterprise specifications, and incorporates JA-SIG's open-source uPortal framework, Sun ONE, and Documentum.

A008
LMS and LCMS – But where is the pedagogy!
Mr Ola Badersten, Business Director, LUVIT AB

Much focus in net based learning and by technology vendors of today is on Learning Management (Learning Management Systems) and Learning Content Management (Learning Content Management Systems). However, there is little focus by tradition on the learning environment and the tools supporting the actual learning process thus allowing the educators a high degree of flexibility in pedagogic approach, structure, collaboration and communication. The LUVIT presentation will focus on this issues and how LUVIT meet this demands today and in the future generations of our products.

14:45 – 15:00 Switch

15:00 – 15:45 SESSION 6
SHORT PAPERS (three presentations in 45 minutes)

E-LEARNING IN HIGHER EDUCATION | **Room D009**

The use of digital video case studies in teacher training
Jan F. Deinum, University of Groningen, The Netherlands

We started a project to produce digital video case studies for teacher training with the aim of making teacher training more flexible for students. For these videos, a student teacher was asked to relate a problem he or she experienced while teaching a class or while working in a school. The situation in the classroom was filmed, as well as interviews with pupils and experienced teachers. New students were encouraged to study the digital video case studies in the virtual learning environment so as to be better prepared for their own practical training and be able to prepare themselves in their own time and at their own pace.
Keywords: streaming video, problem-based learning, teacher training

Project-based learning: online teamwork and peer assessment tools
Carlos Cardoso Oliveira Faculdade de Engenharia da Universidade do Porto, Portugal

In our master course in multimedia, students come from a technical, artistic or educational background. Given the nature of multimedia and the diversity of the profiles of the students we decided to use a project-based learning approach. Project teams are very heterogeneous in nature and prior knowledge, so we also decided to support the course using an e-Learning tool and to promote the active learning of soft skills, as these are determinant for the success in the course. Self and peer assessment tools are also used to help evaluate students' performance. The results of the use of these methodologies are a strong motivation of students to cooperate with team-mates and to acquire and apply new knowledge during their course and in their professional lives. Keywords: active learning, soft skills, peer assessment

Making effective use of streaming media in higher education -
The Dutch Webstroom community
Natascha Lubberding, Onderwijscentrum VU, Vrije Universiteit, Amsterdam, The Netherlands
Maaike van Leijen, Institute for Interdisciplinary Studies, Universiteit van Amsterdam, The Netherlands
Johan Oomen, Institute for Sound and Vision, Media Park, Audiocentrum, ICT, Hilversum, The Netherlands

In the Netherlands, institutes of Higher Education work closely together to gain professional experience and knowledge in the field of educational technology. Webstroom is a working group and a community within Higher Education that deals with streaming media and videoconferencing in particular. This presentation explains how Webstroom is a facilitated knowledge sharing community, which instruments are deployed and supported by the community, what kind of lessons have been learnt, and how new knowledge is being disseminated. In the future, Webstroom would like to participate in international projects. An example of this participation might be the creation of a database of streaming media examples leading to a good practise portal. At EUNIS 2003 we would like to exchange ideas concerning global collaboration on this subject.
Keywords: streaming media, knowledge sharing community, learning projects

E-LIBRARY: MEDIA AND CONTENT | Room F001

DARE: a new age in academic information provision in the Netherlands
Lilian van der Vaart, programme manager DARE, SURF-foundation, Utrecht, The Netherlands

Since the beginning of 2003, a new and innovative programme in academic information provision is on its way in Holland: DARE. DARE (Digital Academic Repositories) aims to modernise the management of Dutch academic information by putting an infrastructure system in place and providing advanced services for the digital recording, accessing, storage and distribution of the Dutch academic output. DARE follows open, international standards to ensure interoperability, nationally and internationally. Digital availability, based on open, international standards, simplifies the further use of the information for various purposes. Examples are overviews of ongoing research, publication in traditional or new journals (including electronic ones), long-term storage and incorporation in digital learning environments. DARE is a joint effort of all Dutch universities and three major academic institutes, and is coordinated by SURF.
Keywords: repositories, academic information chain, knowledge exchange

Setting up an institutional archive: principles and practice
Henk Ellermann, Hanna de Vries,
University Library, Erasmus University Rotterdam, The Netherlands

The Erasmus University of Rotterdam (EUR) started with a new infrastructure for an Institutional Repository (IR) to store and display the publications written under the responsibility of EUR researchers. We have set up an IR based on the principle that each document is stored and preserved locally, but that access to it is open and free for all. Two further principles have guided the work done. The first is that, along with setting up an IR, services need to be developed that are relevant especially, but not only, for our own researchers. The second is that all information exchange about documents in our IR follows the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). This includes the information exchange needed to build local (EUR) services.
The overall architecture of the system is explained, as well as the services we have developed, or are developing, based on OAI-PMH.
Keywords: Institutional repository, DSpace, ARNO, OAI, OAI-PMH

E-learning content discovery using library search tools
Dan Noyes, University of Wales College, Newport, United Kingdom

A growing set of acronyms (IMS, LOM, AICC, SCORM, OAI…) bears witness to the emergence of a suite of technology-driven standards for e-learning content delivery; and Virtual Learning Environment (VLE) vendors are increasingly keen to declare their products to be 'compliant,' 'conformant,' or less optimistically, 'compatible' with these new standards and specifications.
But what do these standards mean in practice for our students and academics? In this presentation we explore this question in the context of a ten-month project led by the University of Wales College, Newport called Talking Systems.
The project was born from two premises or questions. Firstly, we wanted to explore the use of a specification for sequenced, non-collaborative 'tutorials' called the Shareable Content Object Reference Model (the SCORM) - in the context of higher education.
Secondly, we wanted to make these tutorials easy to find and portable (capable of being used in any conformant VLE). So we decided to try and house them in our library catalogue, where students and academics are used to searching for bibliographic and multimedia resources.
Whilst drawing up our project specifications, we found that we had a Z39.50 server attached to our library catalogue. Having had little previous knowledge of Z39.50, we did our research, and found that we had what appeared to be a very promising means of making our future SCORM resources available for search and retrieval. Despite being a 'much-maligned' standard, Z39.50 promised: broadcast searching (searching several sources simultaneously); a mature transport protocol (reliable - or out of date?); multiple format support; plus security configuration that would allow us to control access to our systems.
So given this starting point, would we be able to create SCORM content, store and use it in an VLE, reference it from our library catalogue, and make it available for search and retrieval by Z39.50? Keywords: Z39.50, SCORM, search

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | Room D109

Universidade de Évora's integrated information system: an application
Joaquim Godinho, Luis Quintano,
Serviço de Computação, Universidade de Évora, Portugal
Salvador Abreu, Departamento de Informática, Universidade de Évora, Portugal

Universidade de Évora's Information System (SIIUE) intends to represent all concepts necessary for Universidade de Évora (UE) management and day-to-day operations. SIIUE was built within a logic-based approach using the ISCO development tool. One of the mostly developed SIIUE applications resides in the Institutional Evaluation area, concerning the evaluation of lectured courses. SIIUE's support is essential to overcome this area's needs, aiming to improve the University courses quality. Keywords: Logic programming, organisational information systems, practical application, ISCO

Issues in the use of open source software
Alex Reid, David Glance, University of Western Australia, Australia

This presentation examines the role of Open Source Software (OSS) in Higher Education Institutions (HEIs). It covers what OSS is, how it is currently being used in HEIs and where it can potentially be used in future. It is hypothesised that the increased use of OSS will benefit the institutions in the form of cost savings as well as promoting software which is in tune with the role of these institutions in terms of disseminating knowledge, benefiting the wider community and promoting useful, reliable and robust software. Keywords: open source software

The development and implementation of unified information system for universities in Latvia – a retrospective view and conclusions
Laila Niedrite, Aivars Niedritis, University of Latvia, Latvia

The objectives of the work are to discuss the problems concerning the cooperation between universities in the development of unified Information System for universities in Latvia. This Information System is developed as Web application on Oracle database platform. Keywords: Management information system, cooperation

E-LIBRARY: MEDIA AND CONTENT AND INFORMATION MANAGEMENT AND QUALITY CONTROL AND IT INFRASTRUCTURES, GRID AND E-SCIENCE | Room A008

Electronic publishing facilities for Moldovan researchers
G. Youngen, University of Illinois at Urbana, Champaign; Urbana, IL, USA
A. Altuhov, P. Bogatencov, L.Kozlenco, V. Sibirsky,
Academy of Sciences of Moldova, Chisinau, Moldova
G. Secrieru, RENAM Association, Chisinau, Moldova

The problem of operative presentation and publication of recent results for a long time was a very actual problem for scientific community. Electronic publishing sys-

tems implementation is the main direction, which allows satisfying operative publishing needs. In Moldova since 2001 original electronic publishing technology started developing that covers the ability of existing scientific journals presentation in global network environment and providing urgent publishing of obtained results in a form of electronic magazine. The appropriate structure and technical realisation of the publishing system is outlined.
Keywords: Electronic publishing, scientific databases, electronic journal

A higher education web portal for scientific community knowledge management: Universitas On-line Portal
António Serrano, Paulo F. Silva,
Management Department, Universidade de Évora, Portugal
Leonilde Reis, Ana Mendes,
Information Systems Department, Escola Superior de Ciências Empresariais, Instituto Politécnico de Setúbal, Portugal

The presentation aims to present a Portuguese Higher Education Portal for Scientific Community Knowledge Management – “Universitas On-line”. Is very important that Knowledge acquired, possessed and used by their actors (teachers, researchers, etc.) could be shared to promote teaching and research quality. Higher Education Institutions should be encouraged to participating in research projects with others partners in a way to prosecute their learning process and research with innovation. Information and Communication Technologies aren't any more tools that improve the process efficiency, they are tools that create innovation possibilities and new organisational strategies development. Through the technological infrastructure, the links between entities that have information and knowledge will facilitate the end-users access to the contents into the different areas of known.Keywords: Higher education web portals, knowledge sharing, knowledge management

A web based conference tool developed with SeSAMe
Sven Stefani, Wolfgang Adamczak, University of Kassel, Germany

An internet conference portal was created. This portal includes information on the conference, organises the call for papers and the registration and facilitates processes of organisation as decentralised evaluation of received proposals, creation of the conference schedule, creation of mailing and participant lists and linking of persons, programme and s. This tool combines automated features, such as the return flow of the call for papers and the registration, with static information in a standardised layout. SeSAMe (Server based Style and Authoring Management) is the basis for this layout concept. It allows the creation of static web contents, but also the implementation of dynamic database queries.
Keywords: conference tool, conference organisation, master tool

E-LEARNING IN HIGHER EDUCATION | Room C017

The multimedia support centre for teachers and researchers (MLZ) at Humboldt University Berlin
Sabine Helmers, Multimedia Lehr- und Lernzentrum, Computer- und Medienservice (Rechenzentrum), Humboldt-Universität, Berlin, Germany

The Multimedia Support Centre for Teachers and Researchers (MLZ) is part of the Multimedia Initiative of the Humboldt University and has been established in 2002 as a special task unit. The goal of the MLZ is to qualitatively and quantitatively improve the deployment of new media and e-learning technology among the teachers and researchers of the university. Although the network infrastructure and general availability of computers and software is quite good, often only a small minority of faculty members is interested in actually using the various possibilities that technology has to offer. Also often, the great potential is still reduced to presenting power point sheets. In this state of techno-social development, it seems to be important to shift the focus and to put more emphasis on supporting the people instead of putting the emphasis on further technological improvements.
Keywords: development, support, multimedia

What help? what desk?
the K.U.Leuven Help Desk case in the E-everything revolution
Frank Van Puyvelde, Anne-Marie De Meyer, Leuvens Universitair Dienstencentrum voor Informatica en Telematica, Katholieke Universiteit Leuven, Belgium

This presentation describes the case of the LUDIT Help Desk in supporting students and staff in their E-learning environment. In order to understand the operation of the LUDIT Help Desk, the E-learning environment is situated together with the related ICT services provided by the K.U.Leuven. The specific conditions of a university help desk are given, since they are quite different from a “commercial” help desk. The structure of the LUDIT Help Desk is given together with its operation. The experiences of running the LUDIT Help Desk are drawn in the framework of the e-environment. Finally the challenges are mentioned that we have to expect in the near future. Keywords: Help desk, operations, e-learning

ICTs university students’ use and attitudes. An exploratory study starting from real.
Luc Wilkin, Research Group in Informatics and Human Sciences and Centre de l’Economie de l’Education, Université Libre de Bruxelles, Belgium
Ilaria Faccin, Research Group in Informatics and Human Sciences, Université Libre de Bruxelles, Belgium

The purpose of this study was to elicit usages and attitudes of university students towards IT technologies. The exploratory nature of the survey limited the analysis to a specific section grouping students belonging to four different disciplines. As students are increasingly expected to integrate and use information and communication technologies, this study investigates the different kinds and levels of use, feelings and attitudes towards various issues concerning these tools. The focus is on the present and “actual” use of technologies, rather than on the potential one. Results of this research study shows a sample, drawn from the Faculty of Social, Political, Economic Sciences and Business school of the Brussels Free University, that can be defined as a traditional moderate kind of user, with a communication preferred approach and rather “cyber-tech” fashion resistant. The amount of quantitative data gathered might be taken into account by the university authorities in order to develop a coherent and respondent campus IT policy, based on the “real” needs of the students (according with their use) and on their demands (according with their campus infrastructure and equipments evaluation).
Keywords: ICTs use and attitude, ICTs access, IT university policy

E-UNIVERSITY: INTEGRATED INFORMATION SYSTEMS, DESIGN AND MIDDLEWARE | Room C217

Natural language querying over information systems
Irene Rodrigues, Informatic Department, Universidade de Evora, Portugal
Luis Quintano, Computational Service, Universidade de Evora, Portugal

Spurred by the development of Universidade de Evora's Integrated Information System (SIIUE) and on the authors' present research interests came the idea of a Natural Language Querying System, which would provide a simple interface for getting access to existent information. This presentation intends to present a Natural Language Querying application over Information Systems (NL-SIIUE), focusing on it's relevance for user interaction and information availability. The system was built using a Logic Programming based approach as an application of the Logic programming development tool ISCO.
Keywords: Natural language, logic programming, information systems

Deploying university study-oriented system at Polish Universities
Janina Mincer-Daszkiewicz, Faculty of Mathematics, Computer Science, and Mechanics, Warsaw University, Poland

University Study-Oriented System (USOS) is an integrated student management information system for academic structures and student affairs at Polish universities. The system has been produced in-house at the Faculty of Mathematics, Computer Science and Mechanics of Warsaw University for 17 Polish universities—participants of the New Educational Tools Tempus JEP project. The results of the project had been reported at Eunis 2002. The purpose of this presentation is to describe further activities involved in development and deployment of USOS. The most positive aspect of the story is that the Tempus project helped to initiate a cooperation of Polish high education institutions which established a consortium for coordinating, supporting and conducting common IT tasks.
Keywords: Student management information system; USOS — University Study-Oriented System; UCI — Consortium of Polish high education institutions

User-friendly web information systems
Hana Netrefová, Milan Sorm, Institute of Informatics, Faculty of Business and Economics, Mendel University of Agriculture and Forestry, Brno, Czech Republic

While developing Web information systems, ergonomic aspects of their usage are often neglected. Adaptation of these systems to their users' needs is usually carried out through a few options such as background colour or font size. This presentation presents in great detail principles, methods, possible implementation of different approach to the design and development of information system where the main goals are not only detailed elaboration of the system but most of all the efficiency from users' view. Behind the idea of user-friendly information system we can imagine not only a system which enables adaptation of its functions to the users' needs but also ideas searching and exploring users' expectations and requests. It is necessary to look for general principles and methods for practical building and development of large web information systems. Achieved results are available on the University information system of the Mendel University of Agriculture and Forestry in Brno, Czech Republic.
Keywords: User-friendly information system, personalization, design.

16:15 – 17:00 Keynote speech | **Room D008**

Higher education: the state of the technology
Michael R. Zastrocky, VP & Research Director/Academic Strategies Gartner Inc.

Dr. Zastrocky has more than 30 years of diverse experience in higher education. Before joining GartnerGroup, he was a faculty member at several universities, assistant dean, chief information officer, and served as vice president of CAUSE, the international association for managing and using information resources in higher education from 1989-1995. He has served as a consultant for a number of colleges and universities and was a vice president of the Kaludis Consulting Group. He has delivered many keynote addresses around the globe and has served as a faculty member at numerous institutes and seminars. He has been widely published on a variety of technology planning and management topics. Bachelor's degree from Regis University, Master's degree from the University of Denver, and a Doctor of Education degree from the University of Northern Colorado.

17:00 – 17:30 Keynote speech | **Room D008**

ICT and higher education, Europe versus US, a comparison
Brian L. Hawkins, President EDUCAUSE

Dr. Brian L. Hawkins is currently President of EDUCAUSE, a professional association of more than 1850 colleges and universities, dedicated to transforming higher education through information technologies. This organisation was formed in 1998 as a result of the consolidation of Educom and CAUSE, the two premier technology associations in higher education. Prior to accepting this position, he was Senior Vice President for Academic Planning and Administrative Affairs at Brown University. In this capacity, he was in charge of academic planning, management of the instructional budget, campus computing, enrollment management, institutional research, summer programs, admission, financial aid, and student registration. Hawkins went to Brown in 1986 as Vice President for Computing and Information Services. In 1989 he filled in as Senior Vice President for Finance and Administration, and then was appointed Special Assistant to the President for Academic Planning while he spearheaded Brown's strategic planning processes. In 1997 he served as part of a three-person team filling in for the President of Brown University.

17:30 – 18:00 End session:
Paper and EUNIS Awards
Room D008

18:00 – 19:00 Canal trip

19:00 – 22:00 Conference dinner
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Address: West India House, Herenmarkt 99.

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