Centre for Learning Sciences and Technologies (CELSTEC)
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www.OpenU.nl
Centre for Learning Sciences and Technologies (CELSTEC)

- 100 employees (R. Koper)
- 3 R&D program’s
  - Learning and Cognition (P. Kirschner)
  - Learning Media (M. Specht, & W. Westera)
  - Learning Networks (P. Sloep)
- Master Active Learning (E. Boshuisen)
Whoami

• Assistant Professor at the Learning Networks Program

• Research topics: Learning Networks, Technology Enhanced Learning, Recommender Systems, Personalisation, Mash-Ups and widget technology, e-health
Learning Network Projects
Learning Network Projects

dataTEL

TEN Competence

Handover

idSpace

CEF cult

SC4L
Overview

• Introduction to Learning Networks
• Introduction to Digital Ecosystems
• Differences between Learning Networks and Digital Ecosystems
• A Future Research Agenda
Overview

• Introduction to Learning Networks
• Introduction to Digital Ecosystems
• Differences between Learning Networks and Digital Ecosystems
• A Future Research Agenda
Overview

But before we start...

- e-mail
  - effective internal and external communications
  - visibility in the global market
  - diffusion and gathering of information

- website
  - order and pay on-line
  - reduction of transaction costs
  - maximise accessibility to new markets

- e-commerce
  - integration supply chain
  - economy in the value chain integration

- e-business
  - new business models based on organisations' internetworking
  - virtual enterprises

- networked organisations
  - dynamic aggregation
  - sharing of knowledge
  - natural selection and evolution among services and solutions

- digital ecosystems
  - adaptation to local identity and values

Adapted from Cisco led Information Age Partnership study on e-commerce in small business

Extent of organisational change and sophistication
Twitter Ecosystem

Are there any Twitter users?
Twitter Ecosystem

Please use the following hashtag for the backchannel.
You can post your remarks and questions during the presentation and we get back to them later on.
Twitter Ecosystem

Please use the following hashtag for the backchannel.
You can post your remarks and questions during the presentation and we get back to them later on.
Twitter Ecosystem

HASHTAG: #LNDE

Please use the following hashtag for the backchannel. You can post your remarks and questions during the presentation and we get back to them later on.
Twitter Ecosystem

HASHTAG: #LNDE

If you are not a twitter users surf to:
http://backnoise.com/?LNDE

You just have to enter a user name and can contribute and discuss in the backchannel.
Learning Networks
We live in a decade of industrial change
The biggest challenge businesses face today is unlearning what was successful in the industrial age and learning how to prosper in the network era.”

Jay Cross (2006)
LOCALISATION

Graphic by Alex Guerten, 2008
GLOBALISATION

Graphic by Alex Guerten, 2008

CONSUMERS PRODUCERS
LOCALISATION

Graphic by Alex Guerten, 2008

PROSUMERS
The Glocalisation / Prosumers world

by Zohar Manor-Abel  http://flickr.com/photos/zoharma/97214235/sizes/l/
Learning Networks

• Explicitly address informal learning

• Users can publish, share, rate, tag and adjust knowledge resources in Learning Networks

• Open Corpus that emerges form the bottom upwards

(Koper & Sloep, 2002)
Learning Networks

• Explicitly address informal learning

• Users can publish, share, rate, tag and adjust knowledge resources in Learning Networks

• Open Corpus that emerges form the bottom upwards

(Koper & Sloep, 2002)
Use Cases for Learning Networks
Julie is a medical doctor at the Gannon University who wants to become specialized as cardiologist. She participates in the International Cardiology Qualification Network and shares her experiences on the medical cases with colleagues from hospitals worldwide. She also gets informed about new cases available in the network.
Julie is a medical doctor at the Gannon University who wants to become specialized as cardiologist. She participates in the International Cardiology Qualification Network and shares her experiences on the medical cases with colleagues from hospitals worldwide. She also gets informed about new cases available in the network.
Limbourgs Public Library in the Netherlands

Limbourgs public library in the Netherlands needs to rethink its role in society and retrain its personnel in the process.

Therefore they want to create an Innovation Network with their employees and their target groups to innovate and train their personnel towards the network era.
Limbourgs Public Library in the Netherlands

Limbourgs public library in the Netherlands needs to rethink its role in society and retrain its personnel in the process.

Therefore they want to create an Innovation Network with their employees and their target groups to innovate and train their personnel towards the network era.
Technologies for Learning Networks
Technologies for Learning Networks

BUT BEFORE WE GO ON...
LET’S HAVE A LOOK AT OUR TWITTER EXPERIMENT
R&D for Learning Networks

• Mashups, Personal Environments
• Indicators on Learning Interactions
• Reflection Support on Social Learning
• Personalisation of Information
• Distributed Innovation
• Prior Knowledge Assessment
• Recommender Systems
• Network Analysis
Personal Environments
Personal Environments
Most-popular Web 2.0 Tools and Applications

- reddit
- zyb
- yelp
- AMI
- fine tune
- Page Flakes
- FeedBurner
- netvibes
- Zoomer
- Facebook
- YouTube
- Alexa
- Flickr
- Gmail
- Box
- eBay
- Amazon.com
- Orkut
- Myspace
- Skype
- Meebo
- del.icio.us
- Flock
- StumbleUpon
- Pandora
- Last.fm
- SmugMug
- Lijit
- Google Docs & Spreadsheets
- FoxyTunes
- Wufoo
- Twitter
- OpenID
- Piczo
- Picnik
- Joost
- footnote
- Digg
- Viddler
- Snap
- Wesabe
- Go2Web20
Personal Environments
Personal Environments

Social Bookmarking

Blog Reader

Various Communities

More Information Providers
Personal Environments

Developing Widgets

PLE

Middleware

Service A

Service C

Service B

Data

Database

External Data Source
Personal Environments

Topic outline

How A Moodle Can Be Like A Wave

This Moodle course is acting as a Wave Container (i.e. a context) for connecting to a Wookie Widget Engine.

A Moodle Block Plugin (a small php file used to configure bits of the course) tells Wookie to pass it a Widget, and sends it the current user (the Viewer).

Wookie renders the Wave Widget requested by the Moodle block; each Widget calls the Wave API (e.g. wave.getParticipants, wave.getState...) which is implemented as a JS wrapper that Wookie injects at runtime, and communicates with Wookie’s own Comet and AJAX services to update the Widget’s state in real time.

Unlike a regular Moodle course page, everything you see here updates live in real time - you never need to refresh the page.
Personal Environments

**Topic outline**

How A Moodle Can Be Like A Wave

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Unlike a regular Moodle course page, everything you see here updates live in real time - you never need to refresh the page.

Scott Wilson

Wave Test: Poetry

Content:

lol, I'm free, and I'm in my potter's wheel.

This is my little wave

and it's beautiful.

This is my little wave

and it's beautiful.
Personal Environments

![Image of a software interface with topics and a wave widget]

**Topic outline**

**How A Moodle Can Be Like A Wave**

This Moodle course is acting as a *Wave Container* (i.e. a context) for connecting to a Wookie Widget Engine.

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Unlike a regular Moodle course page, everything you see here updates live in real time - you never need to refresh the page.
Personal Environments

Interwidget communication

Julie
initiates shared update

```javascript
function send(var) {
    Widget.setSharedDataForKey("msg", var);
}
```

Bob

both participants are notified

Wookie

```javascript
function handleSharedUpdate(key) {
    // Handle shared update
}
```

function refreshPage(data) {
    update page with data
}
Emergence

Johnson, S. (2001)
Emergence

Johnson, S. (2001)
Emergence

Johnson, S. (2001)
Emergence

Johnson, S. (2001)
Emergence

Johnson, S. (2001)
Emergence

Johnson, S. (2001)
Emergence

“We are leaving the age of information and entering the age of recommendation”

Chris Anderson (2004)

Johnson, S. (2001)
Recommender Systems
Recommender Systems

More to Explore

You looked at

Dynamics of Markets: Econophysics and... Hardcover by Joseph L. McCauley $77.92

Patterns of Speculation: A Study in... Paperback by Bertrand M. Roehner $29.99 $35.99

You might also consider

Origin of Wealth: Evolution... Paperback by Eric D. Beinhocker $16.00 $10.88

Introduction to Econophysics... Paperback by Rosario N. Mantegna, H... $32.99

The Volatility Surface: A Practitioner's Guide Hardcover by Jim Gatheral, Nassim... $60.00 $37.80
Recommender Systems

People who bought the same product also bought product B or C …
The Long Tail

The Long Tail of Learning

Emerging paths
Emerging paths

Main Road
Emerging paths

Main Road

Personalised paths
Recommender Systems for Learning Paths
Recommender System Research

Study 1: Theoretical Background

Study 2: Psychology Experiment

Study 3: Learning Networks Simulation

Prototype: Recommender System for Learning Networks

Theoretical

Practical

2006  2007  2008  2009
Recommender System Research

Overview of learning activities

<table>
<thead>
<tr>
<th>Activities you are enrolled into:</th>
<th>You still need to complete:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
<td>Behavior and health</td>
</tr>
<tr>
<td>Personality</td>
<td>Thinking</td>
</tr>
<tr>
<td>Awareness</td>
<td>Social Psychology</td>
</tr>
<tr>
<td>Changes during the lifetime</td>
<td>Conditioning and learning</td>
</tr>
<tr>
<td>Therapies</td>
<td>Abnormal psychology</td>
</tr>
<tr>
<td>Language</td>
<td>Recall and neglect</td>
</tr>
<tr>
<td></td>
<td>Intelligence</td>
</tr>
<tr>
<td></td>
<td>The biology of behavior</td>
</tr>
<tr>
<td></td>
<td>Motivation and emotions</td>
</tr>
<tr>
<td></td>
<td>Attention and awareness</td>
</tr>
<tr>
<td></td>
<td>Applied Psychology</td>
</tr>
</tbody>
</table>

Based on your study interest in "cognition" (mentioned in your personal profile), we suggest to further study the following learning activity:

<table>
<thead>
<tr>
<th>Title of the suggested learning activity</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking</td>
<td>description of the recommendation</td>
</tr>
</tbody>
</table>
Prototype: Recommender System for Learning Networks

- Study 1: Theoretical Background
- Study 2: Psychology Experiment
- Study 3: Learning Networks Simulation

Recommender System Research

Theoretical

Practical

2006 2007 2008 2009
Recommender System Research

2008

U = user-based filtering
I = item-based filtering
C = control group
Recommender System Research

Study 1: Theoretical Background

Study 2: Psychology Experiment

Study 3: Learning Networks Simulation

Prototype: Recommender System for Learning Networks

Timeline:
- 2006: Study 1 - Theoretical Background
- 2007: Study 2 - Psychology Experiment
- 2008: Study 3 - Learning Networks Simulation
- 2009: Prototype - Recommender System for Learning Networks

Practical

Theoretical
Recommender System Research

Study 1: Theoretical Background

Study 2: Psychology Experiment

Study 3: Learning Networks Simulation

Prototype: Recommender System for Learning Networks

Practical

Theoretical

2006 2007 2008 2009
Try your self ...
Try your self ...

Sign up at
remashed.ou.nl
Try your self ...

Sign up at
remashed.ou.nl

Enter your favorite
Web 2.0 potatoes.
Try your self ...

Sign up at
remashed.ou.nl

Enter your favorite
Web 2.0 potatoes.

Join the
Community.
Try your self ...

Sign up at remashed.ou.nl

Let ReMashed start mashing.

Enter your favorite Web 2.0 potatoes.

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Try your self ...

Sign up at remashed.ou.nl

Enter your favorite Web 2.0 potatoes.

Join the Community.

Let ReMashed start mashing.

Taste your personal flavor of Web 2.0.
Networks are dead! Long live the Digital Ecosystems!
Learning Networks

“A Learning Network is an online, social network designed to support and facilitate lifelong learning (a learning ‘ecosystem’)”

(Peter Sloep, 2009)
Learning Networks

Learning Network = Digital Ecosystem ?
Digital Ecosystems
Digital Ecosystems

but before we go on...
let's have a look at our twitter experiment
“An ecosystem is generally an area within the natural environment in which physical factors of the environment, such as rocks and soil, function together along with interdependent organisms, such as plants and animals, within the same habitat.”

http://en.wikipedia.org/wiki/Ecosystem
What is a Digital Ecosystem?

“A Digital Ecosystem is any distributed adaptive open socio-technical system, with properties of self-organisation, scalability and sustainability, inspired by natural ecosystems.”

What is a Digital Ecosystem?

“Digital Ecosystems were made possible by the emergence of three networks: ICT networks, social networks, and knowledge networks.”

What is a Digital Ecosystem?

What is a Digital Ecosystem?

Another Definition

“... often a group of applications complementing a specific product or platform is considered to form a digital ecosystem; the ICT companies form a “digital ecosystem community.”

“But, in order to make sense in large scale concepts such as the Information Society they [the digital ecosystems] need to be useful to many facets of the economic life of the individual economic player."

Another Definition

Company Ecosystems
“... often a group of applications complementing a specific product or platform is considered to form a digital ecosystem; the ICT companies form a “digital ecosystem community.”

Digital Ecosystems
“But, in order to make sense in large scale concepts such as the Information Society they [the digital ecosystems] need to be useful to many facets of the economic life of the individual economic player.“

Examples of Digital Ecosystems
iPOD Ecosystem
Ecosystem

iPad
A magical and revolutionary product at an unbelievable price.
Coming April 3.
Facebook Ecosystem

Facebook helps you connect and share with the people in your life.
Facebook Ecosystem
Google’s Innovation Ecosystem

Media companies, individuals
- Create information
- Stimulate consumer interest; foster community
- Provide delivery mechanism for targeted ads

Over 1 million companies and individuals
- Deliver relevant ad content to search-identified users
- Generate vast revenue stream that supports Google
- Help monetize innovators’ new offerings

132 million unique visitors per day (as of 11/2007)
- Search for information and reveal interests
- Consume targeted advertising
- Validate appeal and test performance and marketing of innovations
- Contribute ideas for improvements
- Become new products’ commercial users

Mashup creators, independent software vendors, Google engineers, open source community
- Together, make up a diverse product-development network
- Develop new offerings that help keep consumers engaged and Google “sticky”
- Generate revenue for themselves and for Google
- Extend value of Google’s tools and technology

life symbiotic...
life symbiotic...
Ergo

Peter Sloep is partly right ...
A Learning Network can become a Digital Ecosystem when...

...it applies distributed tools, communities, or services from different providers whereby these sources interrelated in very specific ways by open API’s and standards in order to serve a greater overall purpose for its community.
Future Research Agenda
Future Research Agenda

But before we go on...
Let’s have a look at our Twitter experiment
MOBILE COMPUTING

Time-to-Adoption Horizon: One Year or Less

The available choices for staying connected while on the go are many — smart phones, netbooks, laptops, and a wide range of other devices access the Internet using cellular-based portable hotspots and mobile broadband cards, in addition to wi-fi that is increasingly available wherever people congregate. At the same time, the devices we carry are becoming ever more capable, and the boundaries between them more and more blurred. In the developed world, mobile computing has become an indispensable part of day-to-day life in the workforce, and a key driver is the increasing ease and speed with which it is possible to access the Internet from virtually anywhere in the world via the ever-expanding cellular network.
OPEN CONTENT

Time-to-Adoption Horizon: One Year or Less

The movement toward open content reflects a growing shift in the way academics in many parts of the world are conceptualizing education to a view that is more about the process of learning than the information conveyed in their courses. Information is everywhere; the challenge is to make effective use of it. Part of the appeal of open content is that it is also a response to both the rising costs of traditionally published resources and the lack of educational resources in some regions, and a cost-effective alternative to textbooks and other materials. As customizable educational content is made increasingly available for free over the Internet, students are learning not only the material, but also skills related to finding, evaluating, interpreting, and repurposing the resources they are studying in partnership with their teachers.
SIMPLE AUGMENTED REALITY
Time-to-Adoption Horizon: Two to Three Years

While the capability to deliver augmented reality experiences has been around for decades, it is only very recently that those experiences have become easy and portable. Advances in mobile devices as well as in the different technologies that combine the real world with virtual information have led to augmented reality applications that are as near to hand as any other application on a laptop or a smart phone. New uses for augmented reality are being explored and new experiments undertaken now that it is easy to do so. Emerging augmented reality tools to date have been mainly designed for marketing, social purposes, amusement, or location-based information, but new ones continue to appear as the technology becomes more popular. Augmented reality has become simple, and is now poised to enter the mainstream in the consumer sector.
VISUAL DATA ANALYSIS

Time-to-Adoption Horizon: Four to Five Years

Visual data analysis blends highly advanced computational methods with sophisticated graphics engines to tap the extraordinary ability of humans to see patterns and structure in even the most complex visual presentations. Currently applied to massive, heterogeneous, and dynamic datasets, such as those generated in studies of astrophysical, fluidic, biological, and other complex processes, the techniques have become sophisticated enough to allow the interactive manipulation of variables in real time. Ultra high-resolution displays allow teams of researchers to zoom in to examine specific aspects of the renderings, or to navigate along interesting visual pathways, following their intuitions and even hunches to see where they may lead. New research is now beginning to apply these sorts of tools to the social sciences and humanities as well, and the techniques offer considerable promise in helping us understand complex social processes like learning, political and organizational change, and the diffusion of knowledge.
Beyond the Beyond the
MASHUP TECHNOLOGY

MASHUP TECHNOLOGY

THE HORIZON REPORT
2010 EDITION

The NEW MEDIA CONSORTIUM
EDUCE Learning Initiative
An EDUCAUSE Program
Beyond the RECOMMENDER SYSTEMS
Free the data

by Tom Raftery  http://www.flickr.com/photos/traftery/4773457853/sizes/l
Why?
Because we will get new insides
Open data example

Community generated
An entity graph of people, places and things, built by a community that loves open data.

Freebase is joining Google! Learn more »

<table>
<thead>
<tr>
<th>Feature</th>
<th>Data</th>
<th>Schema</th>
<th>Apps</th>
<th>Docs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

### Featured Data

- **Organization**: 19 members
  - Chart: 20K last week
  - Facts: 3M
  - Topics: 780K

- **People**: 63 members
  - Chart: 6K last week
  - Facts: 7M
  - Topics: 2M

- **Education**: 36 members
  - Chart: 5K last week
  - Facts: 1M
  - Topics: 223K

### Arts & Entertainment

- **People**: 63 members
  - Chart: 6K last week
  - Facts: 7M
  - Topics: 2M

### Products & Services

- **Education**: 36 members
  - Chart: 5K last week
  - Facts: 1M
  - Topics: 223K

### Science & Technology

- **Education**: 36 members
  - Chart: 5K last week
  - Facts: 1M
  - Topics: 223K

### Society

#### Awards

- **Awards**: 6 members
  - Chart: 3K last week
  - Facts: 945K
  - Topics: 113K

#### Special Interests

- **Government**: 35 members
  - Chart: 2K last week
  - Facts: 540K
  - Topics: 117K

- **Royalty and Nobility**: 4 members
  - Chart: 97 last week
  - Facts: 114K
  - Topics: 24K

#### Sports

- **Language**: 24 members
  - Chart: 56 last week
  - Facts: 83K
  - Topics: 12K

- **Royalty and Nobility**: 4 members
  - Chart: 97 last week
  - Facts: 114K
  - Topics: 24K

### System

- **Language**: 24 members
  - Chart: 56 last week
  - Facts: 83K
  - Topics: 12K

- **Royalty and Nobility**: 4 members
  - Chart: 97 last week
  - Facts: 114K
  - Topics: 24K

### Time & Space

- **Language**: 24 members
  - Chart: 56 last week
  - Facts: 83K
  - Topics: 12K

### Transportation

- **Royalty and Nobility**: 4 members
  - Chart: 97 last week
  - Facts: 114K
  - Topics: 24K

### All

- **Conferences and Conventions**: 5 members
  - Chart: 10 last week
  - Facts: 4K
  - Topics: 1K

- **Celebrities**: 14 members
  - Chart: 13 last week
  - Facts: 13K
  - Topics: 2K

### What is Freebase?
Learn what an entity graph is, what kind of information it contains, and why you should add your data!

Learn More »

### Freebase for Developers

- Powerful queryable API
- JavaScript-based hosting framework
- Libraries for other languages
Open Innovation

Log in to your account.

Not registered? Register here.
Username: (This is your email address)
Password:

Log in
Forgot your password?

User Home
Submit Your Innovation
Browse P&G Needs
Browse P&G Assets
FAQ

Also Visit:
P&G FutureWorks
P&G Academia Initiative—Russia

Open to ideas

P&G’s Connect + Develop open innovation strategy has established more than 1,000 active agreements with innovation partners. Connect + Develop enables us to share our R&D, commercialization and brand strength with partners worldwide, bringing great ideas to market—and into the lives of consumers—faster.

HOW SWIFFER DUSTERS GOT THEIR START

Could your INNOVATION be the next GAME-CHANGING DEAL?

Did you know that more than 50 percent of product initiatives at Procter & Gamble involve significant collaboration with...
Open Innovation

Open to ideas

R&D -> C&D

commercialization and brand strength with partners worldwide, bringing great ideas to market—and into the lives of consumers—faster.

HOW SWIFFER DUSTERS GOT THEIR START

Could your INNOVATION be the next GAME-CHANGING DEAL?

Did you know that more than 50 percent of product initiatives at Procter & Gamble involve significant collaboration with...
Open Innovation

Gulf of Mexico response

Response in numbers:
- 22,000 personnel deployed
- 1,100 vessels on site
- 2.5 million feet of boom deployed
- 243,000 barrels of oil-water mix recovered
- 17 staging areas set up to protect shoreline
- 23,000 claims filed, 9,000 already paid

24 May 2010

GAME-CHANGING DEAL?

Did you know that more than 50 percent of product initiatives at Procter & Gamble involve significant collaboration with external partners?
Mashups and Widgets

GEO VIEWER
We are pleased to announce the availability of the Data.gov GEO Viewer, an interactive mapping tool designed to let users preview geospatial data available through the Data.gov catalogs.

Most Popular Datasets
1. Food and Drug Administration—Recalls
2. Worldwide M1+ Earthquakes, Past 7 Days
3. AVAILABLE TECHNOLOGIES
4. Travel Alerts
5. TSCA Inventory

SEARCH OUR CATALOGS
Search our catalogs...

APPS
COMMUNITY
SEMANTIC WEB

Data.gov is leading the way in democratizing public sector data and driving innovation. The data is being surfaced from many locations making the Government data stores available to researchers to perform their own analysis. Developers are finding good uses for the datasets, providing interesting and useful applications that allow for new views and public analysis. This is a work in progress but this

As the Web of linked documents evolves to include the Web of linked data, we’re working to maximize the potential of Semantic Web technologies to realize the promise of linked open data.
Mashups and Widgets

EveryBlock: A news feed for your block

- Atlanta
- Boston
- Charlotte
- Chicago
- Dallas
- Detroit
- Houston
- Los Angeles
- Miami
- New York
- Philadelphia
- Portland
- San Francisco
- San Jose
- Seattle
- Washington, DC

Restaurant inspections

- 2,573 restaurant inspections
Recommender Systems

SIRTEL 2007
Workshop on Social Information Retrieval for Technology-Enhanced Learning

In conjunction with
2nd European Conference on Technology Enhanced Learning (EC-TEL’07)
Crete, Greece, September 17-20, 2007

Full Day Workshop on
Social Information Retrieval for Technology-Enhanced Learning (SIRTEL 2007)

Took place on Tuesday, 18th of September 2007

Program included:

- 7 full paper presentations & 1 system demonstration
- 1 video keynote by Jim Shur (Chief Architect) & Rick Hangartner (Chief Scientist), MyStrands
- 1 open discussion session chaired by Erik Duval, Katholieke Universiteit Leuven & ARIADNE Foundation
There is a growing interest in providing technology-mediated lifelong learning services (LLL) for ALL. Although an increasing number of the users interested in these services are adult learners and people with disabilities, most available settings do not consider functional diversity requirements. Moreover, it is a hot research issue how to acquire, update and manage user models that consider the functional diversity of users so that their accessibility needs are met.

On the one hand, user modelling is supposed to provide the appropriate content transformations and adapted resources to users' needs when available. On the other hand, contents are supposed to follow Web Content Accessibility Guidelines (WCAG 1.0), which version 2.0 of these guidelines is near completion. Moreover, users access contents and services with a variety of devices and with different interaction modes that should consider personal characteristics (including disabilities) and the context of usage.

In addition, to make this framework interoperable, flexible and extensible, contents, user models and device descriptions should be standardized. In this respect, available specifications, such as IMS AccessForAll Specifications are currently being adopted within an ISO standard under development in that organisation's committee known as JTC1 SC34. There has also been work towards profiling the AccessForAll metadata to the IEEE LOM - Learning Object Metadata standard and the Dublin Core (DCMI) metadata set.
Recommender Systems

Organised jointly by
4th ACM Conference on Recommender Systems (RecSys 2010)
5th European Conference on Technology Enhanced Learning (EC-TEL 2010)

Barcelona, Spain, 29-30 September 2010

Notifications to authors already sent.
Camera-ready versions have to be received by August 15, 2010

Submission for DataTEL challenge: August 31st, 2010 ***EXTENDED***

1st Workshop on Recommender Systems for Technology Enhanced Learning (RecSysTEL 2010)

In conjunction with

4th ACM Conference on Recommender Systems (RecSys 2010)
5th European Conference on Technology Enhanced Learning (EC-TEL 2010)

Barcelona, Spain, 29-30 September 2010

Keynote Speakers:
Joseph Konstan, GroupLens Research, University of Minnesota (USA)
Protection Rights

Listing all those empty homes out there
Also follow our twitter feed @pleaserobme

Filter
Location
Twitter username
Show everything
Go!

More Info
Home
Why
About

Made Possible By
Foursquare
Twitter
@boyvanamstel
Protection Rights

Recent Empty Homes

@wgirarde left home and checked in less than a minute ago:

@TennesseeTimHill left home and checked in less than a minute ago:
Feeding my addiction (@ Starbucks's) http://4sq.com/72m9vj
Protection Rights

OVERSHARING
Technology-Enhanced Learning

Application Areas
Application Areas

Technology-Enhanced Learning

Science 2.0

by Ivan Plata, flickr
Application Areas

Technology-Enhanced Learning

Science 2.0

e-health

by Ivan Plata, flickr
Application Areas

Science 2.0

Technology-Enhanced Learning

e-democracy / e-participation

by Ivan Plata, flickr

e-health
Grow new niche services
Grow new niche services

Consequently use services from the biosphere and intertwine student projects with these services

- Google ecosystem (forms, database, Google API)
- Yahoo ecosystem (Yahoo pipes, and web services)
- Reuters Open Calais and Semantic Enrichment
- Open data from twitter and other ecosystems
- Open API’s, Protocols, Standards -> Interoperability
- Empower the users to connect, enrich and combine
Many Thanks for your interests
Many Thanks for your interests

Your questions are welcome and what is happening in the #LNDE backchannel?
References


This slide is available at:
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