Mobiles Lernen im Kontext

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Activities of CELSTEC

• Three programmes, each with three themes:
  – Learning and Cognition
  – Learning Networks for Professional Development
  – Learning Media

• Each programme integrates three activities:
  – Research Activities
  – Laboratory Activities for Open Innovations
  – Providing Solutions and Services to the market

• Institute for Education & Training
  – MSc Learning Sciences
  – Commercial Training (provided by the staff of 3 programmes)

• Temporary Strategic Programmes
  – Lifelong Learning Services
  – OUNL related programmes (e.g. IPO)
  – Open Educational Resources
#1 Technology Invasion

#2 Learning in invaded land

#3 Ambient Information Channels

#4 Research roadmap
# 1: Invaded Land
computers become ubiquitous and adapt to their environment
body network sensors, rooms intelligent carpets, wall colour, or gesture tracking, building, architects already create completely new facades for buildings, public places and city planning new artefacts will enable dynamic routing and highlighting of space.

Enhanced Environments

Donnerstag, 19. November 2009
Fast Human Enhancements

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Magic Artefacts
No Phones.
No Internet.

Think about it!
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## World Internet Penetration Rates by Geographic Regions

### World Internet Usage and Population Statistics

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>991,002,342</td>
<td>4,514,400</td>
<td>65,903,900</td>
<td>6.7</td>
<td>1,359.9 %</td>
<td>3.9 %</td>
</tr>
<tr>
<td>Asia</td>
<td>3,808,070,503</td>
<td>114,304,000</td>
<td>704,213,930</td>
<td>18.5 %</td>
<td>516.1 %</td>
<td>42.2 %</td>
</tr>
<tr>
<td>Europe</td>
<td>803,850,858</td>
<td>105,096,093</td>
<td>402,380,474</td>
<td>50.1 %</td>
<td>282.9 %</td>
<td>24.2 %</td>
</tr>
<tr>
<td>Middle East</td>
<td>202,687,005</td>
<td>3,284,800</td>
<td>47,964,146</td>
<td>23.7 %</td>
<td>1,360.2 %</td>
<td>2.9 %</td>
</tr>
<tr>
<td>North America</td>
<td>340,831,831</td>
<td>108,096,800</td>
<td>251,735,500</td>
<td>73.9 %</td>
<td>132.9 %</td>
<td>15.1 %</td>
</tr>
<tr>
<td>Latin America/Caribbean</td>
<td>586,662,468</td>
<td>18,068,919</td>
<td>175,834,439</td>
<td>30.0 %</td>
<td>873.1 %</td>
<td>10.5 %</td>
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<tr>
<td>Oceania / Australia</td>
<td>34,700,201</td>
<td>7,620,480</td>
<td>20,838,019</td>
<td>60.1 %</td>
<td>173.4 %</td>
<td>1.2 %</td>
</tr>
<tr>
<td><strong>WORLD TOTAL</strong></td>
<td><strong>6,767,805,208</strong></td>
<td><strong>360,985,492</strong></td>
<td><strong>1,668,870,408</strong></td>
<td><strong>24.7 %</strong></td>
<td><strong>362.3 %</strong></td>
<td><strong>100.0 %</strong></td>
</tr>
</tbody>
</table>

NOTES: (1) Internet Usage and World Population Statistics are for June 30, 2009. (2) CLICK on each world region name for detailed regional usage information. (3) Demographic (Population) numbers are based on data from the US Census Bureau. (4) Internet usage information comes from data published by Nielsen Online, by the International Telecommunications Union, by GfK, local Regulators and other reliable sources. (5) For definitions, disclaimer, and navigation help, please refer to the Site Surfing Guide. (6) Information in this site may be cited, giving the due credit to [www.internetworldstats.com](http://www.internetworldstats.com). Copyright © 2001-2009, Miniwatts Marketing Group. All rights reserved worldwide.
consumers
prosumers
### Alexa Global Traffic Rankings

<table>
<thead>
<tr>
<th>Rank</th>
<th>2005 (1)</th>
<th>2008 (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>yahoo.com</td>
<td>yahoo.com</td>
</tr>
<tr>
<td>2</td>
<td>msn.com</td>
<td>youtube.com</td>
</tr>
<tr>
<td>3</td>
<td>google.com</td>
<td>live.com</td>
</tr>
<tr>
<td>4</td>
<td>ebay.com</td>
<td>google.com</td>
</tr>
<tr>
<td>5</td>
<td>amazon.com</td>
<td>myspace.com</td>
</tr>
<tr>
<td>6</td>
<td>microsoft.com</td>
<td>facebook.com</td>
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<tr>
<td>7</td>
<td>myspace.com</td>
<td>msn.com</td>
</tr>
<tr>
<td>8</td>
<td>google.co.uk</td>
<td>hi5.com</td>
</tr>
<tr>
<td>9</td>
<td>aol.com</td>
<td>wikipedia.org</td>
</tr>
<tr>
<td>10</td>
<td>go.com</td>
<td>orkut.com</td>
</tr>
</tbody>
</table>

Traffic rank is based on three months of aggregated historical traffic data from Alexa Toolbar users and is a combined measure of page views/users (geometric mean of the two quantities averaged over time).

(1) Rankings as of 12/31/05, excludes Microsoft Passport; (2) Rankings as of 3/12/08

Source: Alexa Global Traffic Rankings, Morgan Stanley Research
Open Educational Content and Metadata: MACE Project
Each year 1.2 billion new phones, information can be accessed not only in city centres but much more important in rural areas, information will grow even more rapidly, mobile devices become more context-aware, new user interfaces.

Mobile Access

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mobiles as universal tools for reading, discussion, documentation, annotation, and others learning activities.
Mobile Phones are still considered as a toy or non-learning device in the classroom.
While a variety of senseful learning practices have already been described in 2002.
Sensors for learning
multi-method assessment measuring real world activities, long-term assessment, personal interaction logs, from formal to formative assessment

Displays for learning
embedded displays, reflection in and about action, anywhere anytime delivery, multimodal displays, personal and shared displays
# 2: Learning in invaded land
MOBILES

Time-to-Adoption Horizon: One Year or Less

The unprecedented evolution of mobiles continues to generate great interest. The idea of a single portable device that can make phone calls, take pictures, record audio and video, store data, music, and movies, and interact with the Internet — all of it — has become so interwoven into our lifestyles that it is now surprising to learn that someone does not carry one. As new devices continue to enter the market, new features and new capabilities are appearing at an accelerated pace. One recent feature — the ability to run third-party applications — represents a fundamental change in the way we regard mobiles and opens the door to myriad uses for education, entertainment, productivity, and social interaction.
Connecting the World and Digital Media
how do humans learn with augmented objects?
how can we unleash the power of context for the design of ubiquitous learning?
context gives meaning. The term context is used in different research disciplines. Linguistics makes two claims about context. Context is defined as the text in which a word or passage appears and which helps ascertain its meaning. The surroundings, circumstances, environment, background or settings which determine, specify, or clarify the meaning of an event.
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### Table 1: A reference model for mobile social software for learning

<table>
<thead>
<tr>
<th>Content</th>
<th>Context</th>
<th>Purpose</th>
<th>Information flow</th>
<th>Pedagogical model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Individuality context</td>
<td>Sharing content and knowledge</td>
<td>One-to-one</td>
<td>Behaviourist</td>
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<tr>
<td>Documents</td>
<td>Time context</td>
<td>Facilitate discussion and brainstorming</td>
<td>One-to-many</td>
<td>Cognitive</td>
</tr>
<tr>
<td>Messages</td>
<td>Locations context</td>
<td>Social awareness</td>
<td>Many-to-one</td>
<td>Constructivist</td>
</tr>
<tr>
<td>Notifications</td>
<td>Environment or activity context</td>
<td>Guide communication</td>
<td>Many-to-many</td>
<td>Social constructivist</td>
</tr>
<tr>
<td></td>
<td>Relations context</td>
<td>Engagement and immersion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SenseCam in Context

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# three: A Model for all of this

Ambient Information Channels

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Contextualised TV

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Content in Context
contextualised delivery, media creation in learning situations, synchronisation of learning activities, ubiquitous learning environments, mixed reality mash-ups

Reflection in Context
framing of learning activities, visualisation of contextual information, context indicators, multi-channel synchronisation

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Object Tagging/Augmentation
Location Filtering:
Mobile Language Learning

Figure 1 One variation of the language learning software using a room-based search to filter the learning content
Team Awareness *team.sPod*

*News/Death ratio hype!*

This is a very nice analysis reporting about current anti-catastrophes which calculates ration for swine flu and the social media.

**Collection: Design Patterns**

posted By Jeroen Storm, on 2009-06-16 07:32:44

<table>
<thead>
<tr>
<th>Tag</th>
<th>count</th>
<th>shared</th>
</tr>
</thead>
<tbody>
<tr>
<td>web2.0</td>
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<td>11</td>
</tr>
<tr>
<td>tools</td>
<td>243</td>
<td>10</td>
</tr>
<tr>
<td>research</td>
<td>196</td>
<td>11</td>
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<tr>
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<td>11</td>
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<tr>
<td>design</td>
<td>154</td>
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<tr>
<td>software</td>
<td>120</td>
<td>11</td>
</tr>
<tr>
<td>education</td>
<td>119</td>
<td>11</td>
</tr>
</tbody>
</table>

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Notifications in Mob. Learning Activities: Mooble

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Matching RW and AR: Locatory
thank you!

marcuspecht.de