Mobile Media in Context

prof. dr. Marcus M. Specht
Centre for Learning Sciences and Technology
@ The Open University of the Netherlands
dspace.ou.nl
OUNL and CELSTEC.org
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
AROUND THE WORLD

MADE ON EARTH BY INVADER

http://www.space-invaders.com/
#1 Media invasion

#2 Learning in invaded land

#3 Ambient Information Channels

#4 What do we do with this?
computer became ubiquitous and adapt to their environment
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
people change by their tools
Fast Human Enhancements
## WORLD INTERNET USAGE AND POPULATION STATISTICS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>991,002,342</td>
<td>4,514,400</td>
<td>55,903,900</td>
<td>6.2%</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>42.2%</td>
<td></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>536,662,468</td>
<td>18,068,919</td>
<td>175,834,439</td>
<td>30.0%</td>
<td>873.1%</td>
<td>10.5%</td>
</tr>
<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>6,757,805,208</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>352.3%</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. Copyright © 2001 - 2009, Miniwatts Marketing Group. All rights reserved worldwide.
Producer

consumers
prosumers
## Alexa Global Traffic Rankings

<table>
<thead>
<tr>
<th>Rank</th>
<th>2005</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Web site</td>
<td>Web site</td>
</tr>
<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>
</tr>
<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
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
No Phones.
No Internet.

Think about it!
# 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.
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.
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.
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.

Context Dimensions

- Relation
- Environment (Env.)
- Time
- Location
- ID
SenseCam in Context
Context Indicators
# 3: A Model for all of this Ambient Information Channels
AICHE Processes
AICHE Processes
Contextualised TV
# 4: CELSTEC Research
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
Contextualised Learning Apps

• Mobile Learning Content (iTunes U)

• Web-Based Apps with limited sensor access (TeamsPod, ContextBlogger, Mooble)

• Local Contextualised Apps with Sensors and Scanners (Language Learning)

• Map exploration of POI channels (Aloqua)

• Augmented Reality Browsers (Locatory)
Mobile Learning Content (iTunes U)
Object Annotation: ContextBlogger
Team Awareness team.sPod
Notifications in Mob. Learning Activities: Mooble
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.
POI Channels
Matching RW and AR: Locatory
# 5: use the invasion ...
thank you!

marcuspecht.de