Technology-Enhanced Learning World

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OU.NL 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
2005 OPEN UNIVERSITEIT, LEARNING MEDIA LAB, DEVELOPMENTS, MOBILE, IMMERSIVE, SOCIAL MEDIA

Donnerstag, 11. November 2010
#A Technology Enhanced World

#B ... for Learning ?

#1 Less is more : Personalisation

#2 Who cares? : Engagement

#3 Does it sound? : Orchestration

#4 Can I touch it? : Authenticity

#5 What does it mean? : Reflection

Donnerstag, 11. November 2010
## World Internet Penetration Rates by Geographic Regions

<table>
<thead>
<tr>
<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>5.5%</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>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>
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<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.
Alexa Global Traffic Rankings

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

2010

1 Google
2 Facebook
3 Youtube
4 Yahoo
5 Windows Live
6 Baidu
7 Wikipedia
8 Blogger.com
9 Blogspot
10 Twitter

Donnerstag, 11. November 2010
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.”

250.000 apps and growing.
people change by their tools
the dangling string
body network sensors, rooms
ingelligent 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
SHAPING THINGS

This book is about created objects and the environment, which is to say, it's a book about everything. Seen from sufficient distance, this is a small topic. The ideal readers for this book are those ambitious young souls (of any age) who want to constructively intervene in the process of technological transformation. That is to say, this book is for designers and thinkers, engineers and scientists, entrepreneurs and financiers, and anyone else who might care to understand why things were once as they were, why things are as they are, and what things seem to be becoming.

by BRUCE STERLING

Fast Human Enhancements

Donnerstag, 11. November 2010
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
beware of the context
#A Technology Enhanced World

#B for Learning?

#1 Less is more: Personalisation

#2 Who cares?: Engagement

#3 Does it sound?: Orchestration

#4 Can I touch it?: Authenticity

#5 What does it mean?: Reflection

Donnerstag, 11. November 2010

Donnerstag, 11. November 2010
human communication is the best example, user centered design enables control, pace and lead, peer groups, motivation, accommodation and adaptation
user acceptance (PaperClip, vs CF),
user control, guidance, design
Alert:
Recent robbery: 173 Montrose Court

Date: Jul 1
#1.1 give identity
Enable Identity

- Welcome
  - Pay attention to people
  - Flickr, MySpace
- Anonymity can be a death sentence
  - Lack of accountability & reputation
- Personal Branding
  - Nickname
  - About/URL
  - Images
- Accomplishments
  - Stuff I’ve Done
  - Rewards
- Social Incentive
  - “You’ve got mail!”

Social

Core Principles
- Talk Like a Person
- Your vs. My

People
- Engagement
  - Invite
  - You’re Invited
- Sign-in Continuity
- Terms of Service
- Identity
  - Reflector
  - User Card
- Presence
  - Availability
  - Updates
- Reputation
  - The Competitive Spectrum
  - Collectible Achievements
  - Identifying Labels
  - Named Levels
  - Numbered Levels

IXDA
INTERACTION DESIGN ASSOCIATION

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#1.2 identity develops via achievements and challenges
Virtual identities in MMORPGs

• Coloring
• Adaptive Feedback
• Adaptive Rewarding, dependent on team activities
Adaptive Leveling, Engagement, Personal Investment, Reputation

Here is the plot of the average accumulated play time by level.


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CHECK-IN
FIND YOUR FRIENDS
UNLOCK YOUR CITY

Foursquare on your phone gives you & your friends new ways of exploring your city. Earn points & unlock badges for discovering new things.

RECENT ACTIVITY

Ricky A. in Tasikmalaya, Indonesia: unlocked the 'Adventurer' badge.

Joanna M. in Abu Dhabi, UAE: unlocked the 'Super User' badge.

Sabrina O. in San Diego, CA: became the mayor of Helen Keller.

Tadej M. in 平遥县, 山西省: unlocked the 'Super Mayor' badge.

GET IT NOW

iPhone

BlackBerry

Android

palm

OTHER DEVICES
#1.3 personalisation gives freedom to explore and guidance when necessary
learning paths, exploration in adaptive systems, flexible content and systems
how much guidance?
<table>
<thead>
<tr>
<th>Competence Matrix</th>
<th>Urban Design</th>
<th>Landscape Architecture</th>
<th>Engineering Competency Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of History</td>
<td>165</td>
<td>165</td>
<td>168</td>
</tr>
<tr>
<td>Ability to Create Architectural Design</td>
<td>561</td>
<td>565</td>
<td>572</td>
</tr>
<tr>
<td>Ability to match requirements and cost factors in</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Knowledge of Urban Design</td>
<td>126</td>
<td>130</td>
<td>134</td>
</tr>
<tr>
<td>Underst. people/building relations</td>
<td>523</td>
<td>524</td>
<td>532</td>
</tr>
<tr>
<td>Underst. of architectural profession</td>
<td>302</td>
<td>303</td>
<td>303</td>
</tr>
</tbody>
</table>

*Results*

2189 results for: Architecture

**Bonnefantenmuseum**
Bonnefantenmuseum: The Netherlands, Maastricht
Open Educational Content and Metadata: MACE Project

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competition, gaming, communities, high scores, MMORPG, role models

Donnerstag, 11. November 2010
Free: The Future of a Radical Price by Chris Anderson. On page 32 he tells of a gym in Denmark that offers free membership, so long as you show up at least once a week. Fail to turn up and you are charged full price for that month.
how can we use powerful game patterns in designing educational artefacts?
Game patterns in basic -life support scenarios, time-limit, high-score
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Project AUTC

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Templates for Educators

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Environments for learning activities build from widgets

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Orchestration in PLEs

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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
A Technology Enhanced World

B for Learning?
1. Less is more: Personalisation
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Donnerstag, 11. November 2010
SenseCam in Context
LISTEN: 3D Audio

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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>
<thead>
<tr>
<th>Content</th>
<th>Context</th>
<th>Purpose</th>
<th>Information flow</th>
<th>Pedagogical model</th>
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</thead>
<tbody>
<tr>
<td>Annotations</td>
<td>Individuality context</td>
<td>Sharing content and knowledge</td>
<td>One-to-one</td>
<td>Behaviourist</td>
</tr>
<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>
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</tr>
</tbody>
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Context Indicators
Reflection Amplifiers
reflection about informal learning goals

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#C a model for all of this ...

Ambient Information Channels
AICHE Processes
AICHE Processes

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AICHE Processes
AICHE Processes

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AICHE used for
- system analysis
- innovation and engineering
- instructional design
Contextualised TV
Donnerstag, 11. November 2010
Technology Enhanced World for Learning?

1. Less is more: Personalisation
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4. Can I touch it?: Authenticity
5. What does it mean?: Reflection

Ambient Information Channels
thank you!

marcuspecht.de