Design of Seamless Learning Spaces

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We invite you to the 13th World Conference on Mobile and Contextual Learning. This
#1 DIGITAL LEARNING SPACES
OPEN EDUCATIONAL RESOURCES > OOO...

iTunes U, Youtube EDU, …
Coursera, edX, OpenLearn, Futurlearn
GLOBE, Ariadne, ODS, MACE, Sharetec, MELT…
NEW INTERFACES

Augmented Reality
Tangibles, Sensor-Based Interfaces, Tabletops
Situated Displays, Ambient Displays, Public Displays
“The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.”

–MARC WEISER
#1 LINKING THE WORLDS

HOW TO CREATE LINKS BETWEEN DIGITAL AND PHYSICAL
SEAMS IN LEARNING SUPPORT
(WONG ET AL, 2011)

• Formal and informal learning;
• Personalized and social learning;
• Across time; locations, social contexts
• Combined use of multiple device types;
• Physical and digital worlds
• Multiple learning tasks knowledge synthesis

audio augmented spaces ...
mae

MACE | EVERYVILLE
interactive installation at the Venice Biennale '08

objects as controllers …
embedded trackers ...
personal records...
Sensor data

1. audio
   - a. volume analysis
   - b. frequency analysis
   - c. rhythm analysis

2. video
   - a. face recognition
   - b. lighting conditions
   - c. image and object recognition

3. accelerometer
   - a. vibration
   - b. movement
   - c. activity
   - d. agility

4. magnetometer
   - a. orientation
   - b. magnetic field
   - c. shaking
   - d. absolute orientation

5. GPS
   - a. location
   - b. environment
   - c. proximity

6. user input (ESM)
   - a. everything else

HTTP://WWW.LUMOBODYTECH.COM/LUMOBACK/

sensor data for...
MULTI-DEVICE OUTPUT

AGGREGATION AT SOCIAL SPOTS

personal and social views ...
Massive: Learning Networks

- Section I Social Interaction in Learning Networks
- Section II Navigation Services
- Section III Assessment and Placement Services
- Section IV Contextualized Learning Network Services
- Section V Learning Networks Integration
PSP EMMA: European Aggregator, Language and Instructional Designs

PSP ECO: Massive Mobile, Ubiquitous and Open Learning, Mobile Extensions of MOOCS

Open Content and Data
Social Computing, Ubiquitous Computing

Big Data
Linked Data
Learning Analytics

LACE
TOWARDS SEAMLESS E-LEARNING SUPPORT

computers changed and e-learning services are embedded in our daily interactions and environments, social contexts, they sense our activities and analyse the data, they visualise and integrate data in our personal space.
#2 LINKING TECHNOLOGY DESIGN TO HUMAN LEARNING
HUMANS DO NOT ALWAYS LIKE TO DO ... REFLECTION SO THEY NEED THE RIGHT FEEDBACK
context indicators ...
reflection amplifiers
LINK YOUR PERSONAL EXPERIENCES

CONTEXT SPECIFIC NOTIFICATIONS

Figure 8.2. Student reflective practice.

a. How many main learning channels today? c. How intense was your learning today? Rate it from 1 to 5.
WHAT MAKES IT PERSONAL IS ...

FEEDBACK ...

PRESENTATION TRAINER

BEST DEMO AWARD - ECTEL 2014
#6 AWARENESS
measuring power consumption on campus with standard facility management, plus sensors on workplaces and public devices, personal registration of power consuming activities.

Energy consumption ...
Notification Level: Make Aware
#SUMMARY
SO ...

• #1 There are seams between the different learning contexts, locations, times, social contexts, ...

• #2 There are opportunities with new technologies that are open, ubiquitous, context-aware, and personalized.

• #3 look at the aimed effects on awareness, curiosity, creativity, knowledge, latent variables, ...
DESIGNING SEAMLESS LEARNING ...

- ubiquitous open content access,
- flexible sensor data aggregation,
- synchronisation of channels (to context and person),
- and dynamic visualization and output indicators (ambient displays) of learner traces
THANK YOU!

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