

Show me the way: proximity layered feedback services in smart cities

Workshop: Smart City Learning. Opportunities and challenges

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European Conference on Technology Enhanced Learning 2014

16th September, Graz (Austria)



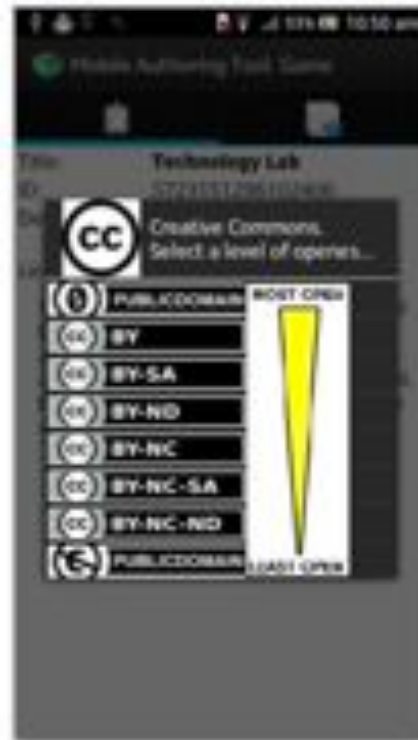
Lifelong learning in smart cities

“Lifelong learning is like a never ending personal revolution.” ~ [@BryantMcGill](#) , Voice of Reason

Latour: “We have developed and shaped technology, but now, technology is shaping us.”

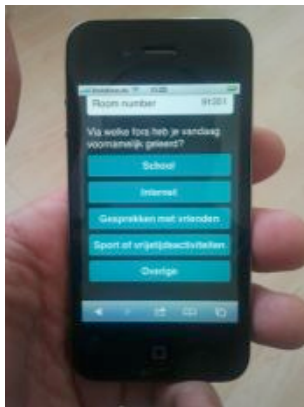
Mobile authoring

Tabuenca, B., Kalz, M., Ternier, S., Specht, M.: Mobile authoring of open educational resources for authentic learning scenarios. *Univers. Access Inf. Soc.* [Special Issue] *The Use of Mobile Technology and Ubiquitous Computing for Universal Access in Online Education* (2014).



Notifications on-action

Tabuenca, B., Verpoorten, D., Ternier, S., Westera, W., & Specht, M. (2012). Fostering reflective practice with mobile technologies. Proceedings of the 2nd Workshop on Awareness and Reflection in Technology Enhanced Learning. (pp. 87-100). ECTEL 2012



- **Reflective practice is accepted** by the majority of the students.
- It is possible to **use smartphones to stimulate meta-learning**
- There is **no habit** in students to see themselves as learners
- School's monopoly is challenged by **Internet.**

Near Field Communication

Tabuenca, B., Kalz, M., Specht, M. (2014), "Tap it again, Sam": harmonizing the frontiers between digital and real worlds in education, In IEEE Proceedings of Frontiers in Education Conference, Madrid. (Accepted) October 2014

1. Literature Review on NFC technology for learning
2. 3LHub Digital Media Player (chromecast)

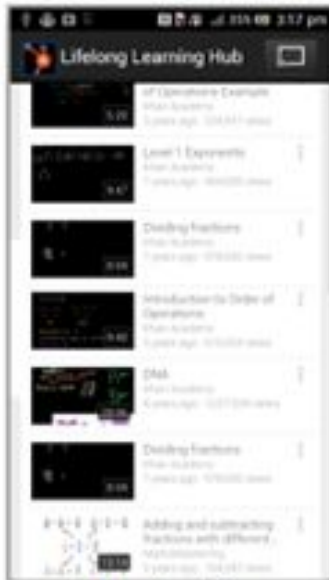


Figure 3. 3LHub Digital Media Player. Video playlist broadcasting

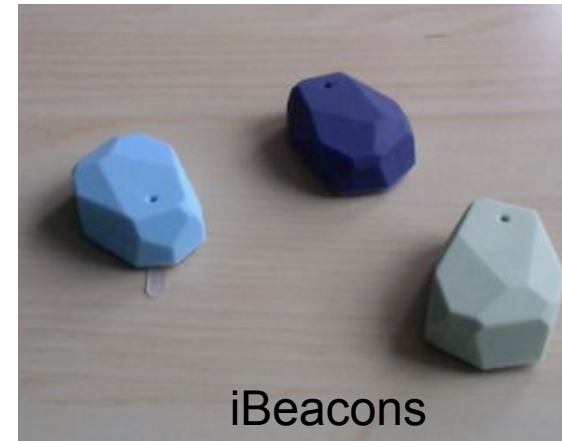
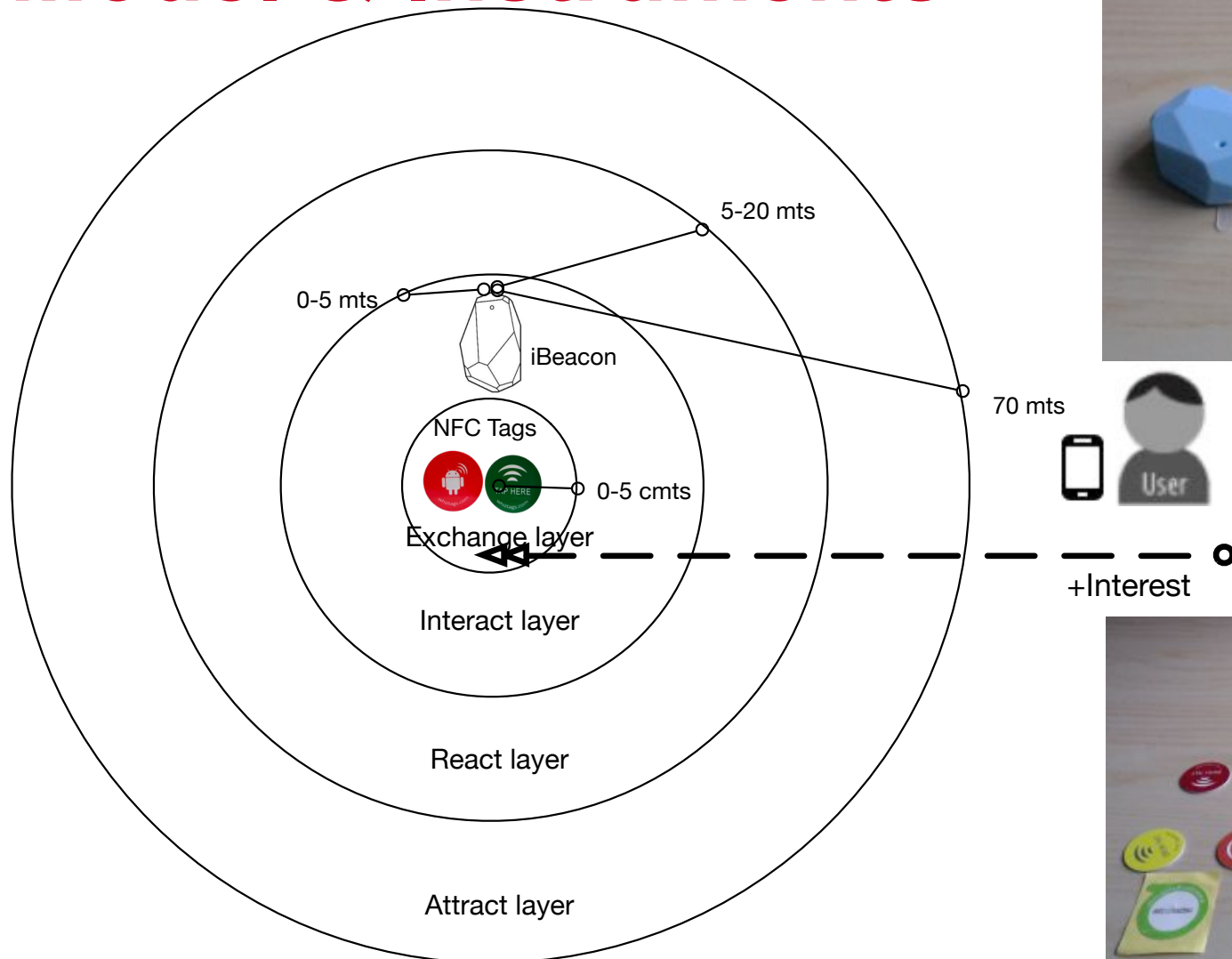
Measure learning time

Tabuenca, B., Kalz, M., Specht, M. (2014), Seamless support for lifelong learners with mobile and sensor technology, In Journal of Immersive Education (Accepted) November 2014

Video: <https://www.youtube.com/watch?v=RI-jAll4IN8>



Proximity Layered Feedback Model & Instruments



Exchange layer

Interact layer

Come in now and enjoy:
"Show me the way: proximity layered feedback services in smart cities"



React layer

The ECTEL program today is full of interesting workshops. Look for your topic and visit the one that better fits you

The screenshot displays a mobile application interface for the ECTEL program. It is divided into two columns for Tuesday, 16.09.2014 and Wednesday, 17.09.2014. Each column shows a registration time of 9:00-9:30. Below the registration times, there are lists of workshops. The Tuesday column lists 'ICT 2014 Workshops', 'Bio-Inspired Collaboration', and 'Landscape Workshops'. The Wednesday column lists 'ECTEL Workshops', 'Group of Accessibility', 'Landscape Workshops', 'The City - A Smart City', and 'Smart City - A Smart City'. At the bottom, there are buttons for 'Workshop Wrap-up & Coffee Break', 'Opening', and '9:30-10:30 Opening Keynote: Thomas Wanger „Open Learning & Teaching“'.

Attract layer

Are you interested in
Technology
Enhanced
Learning?

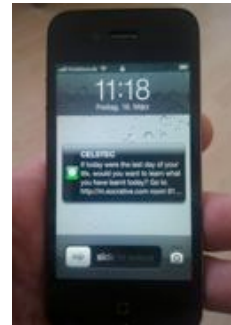


Proximity Layered Feedback Channels

Ambient displays



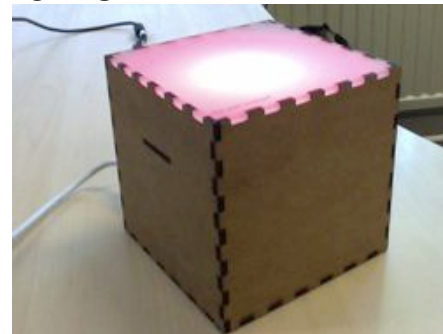
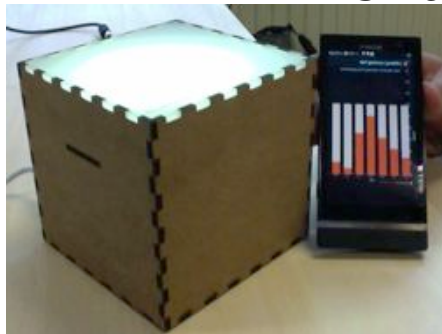
Notifications



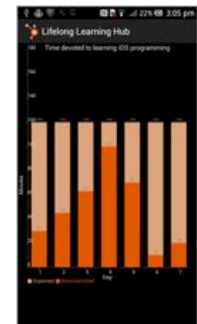
Background / Foreground



Smart home



Analytics



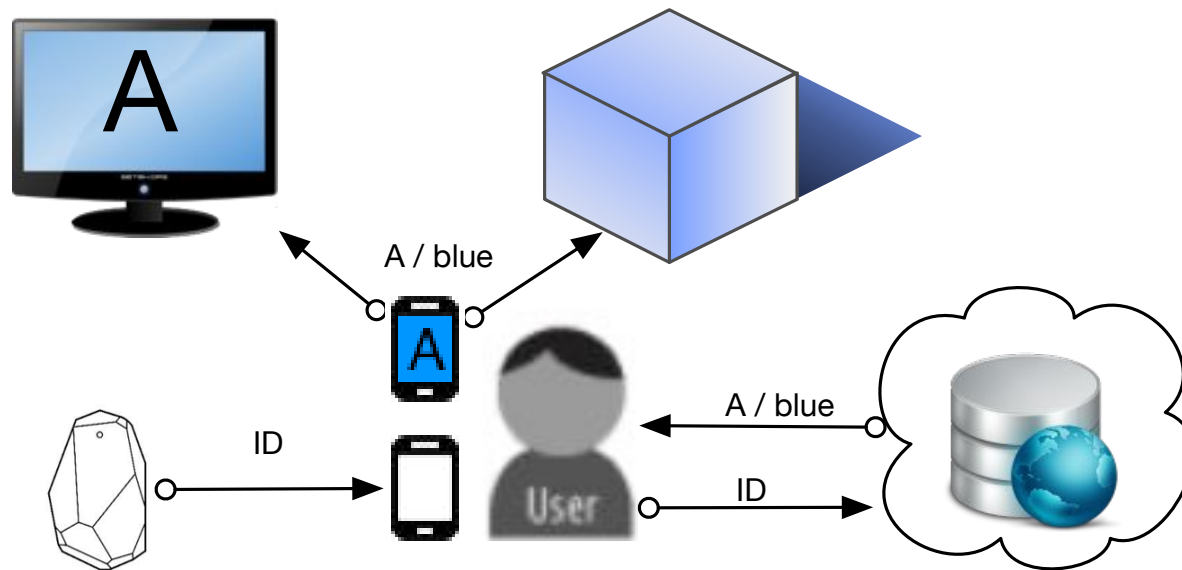
Exchange layer



Examples:

- Register
- Take the proceedings.
- Exchange card ID.
- Vote the poster that you like most.

Scaffold learning ecologies



Questions?



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