The world as playground:
Mobile Serious Games with Augmented Reality

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Cologne, Germany
http://www.humance.de/

Image: KMK/BEHRENDT&RAUSCH

Have you ever watched little children learning? Or playing?
Discovered any difference?
“Fun is the original educational technology.”
– Chris Crawford
Image: Simon Blackley,
http://www.flickr.com/photos/sblackley/8130334415/sizes/h/in/photostream/

Education

- Industrialized
- Built for Scalability
- Suited for the creation of „comparable” people

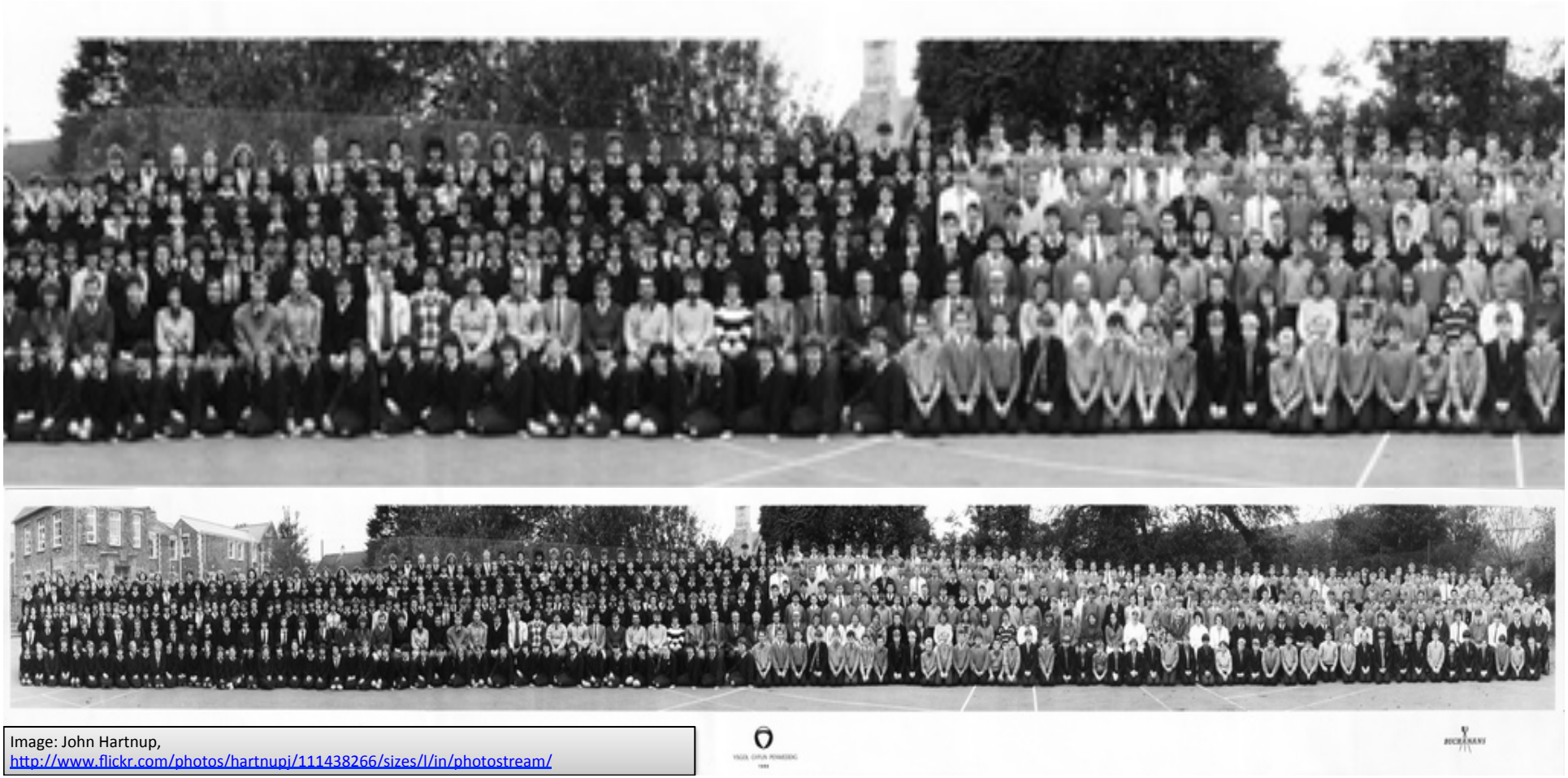

Image: John Hartnup,
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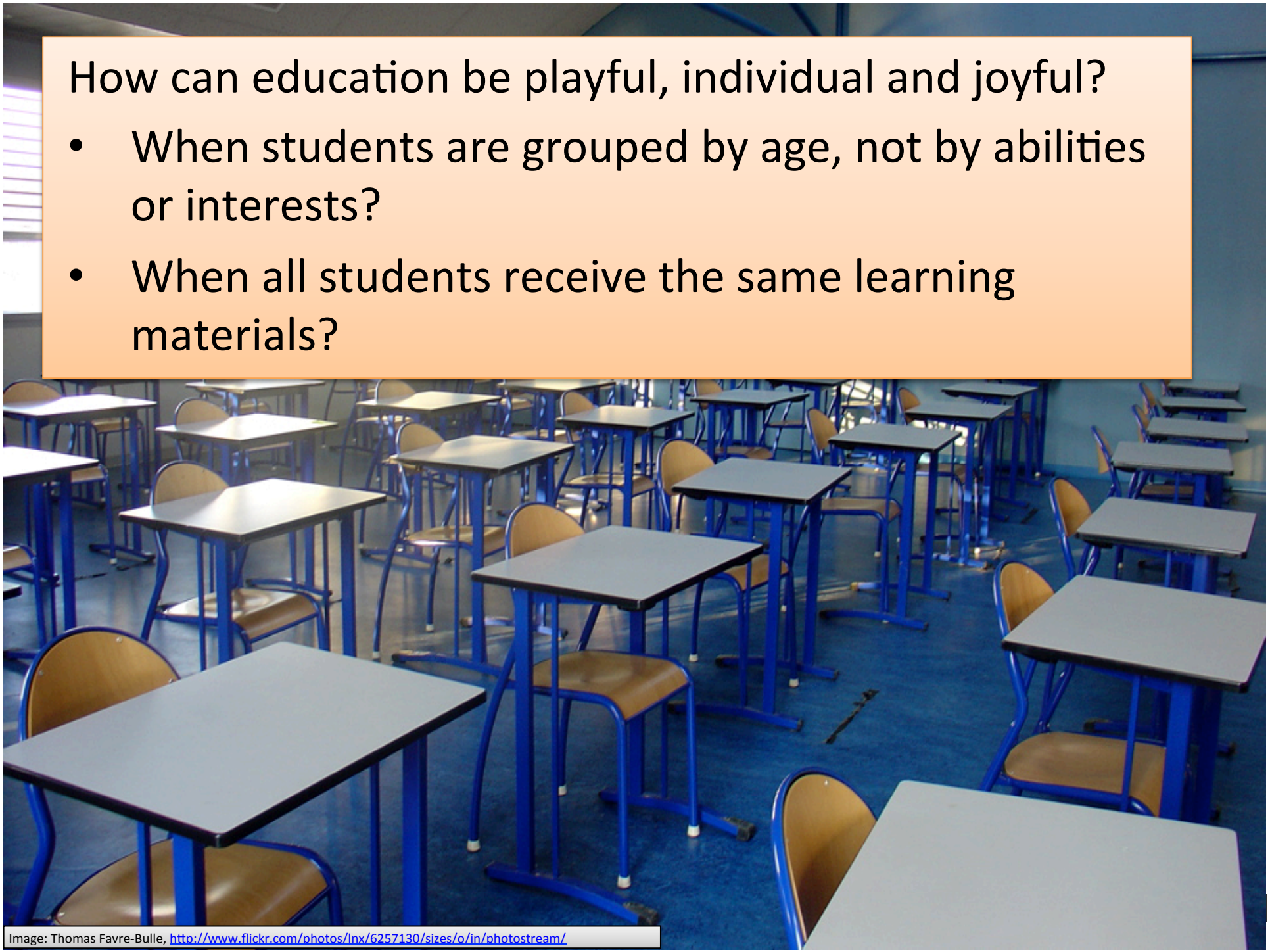
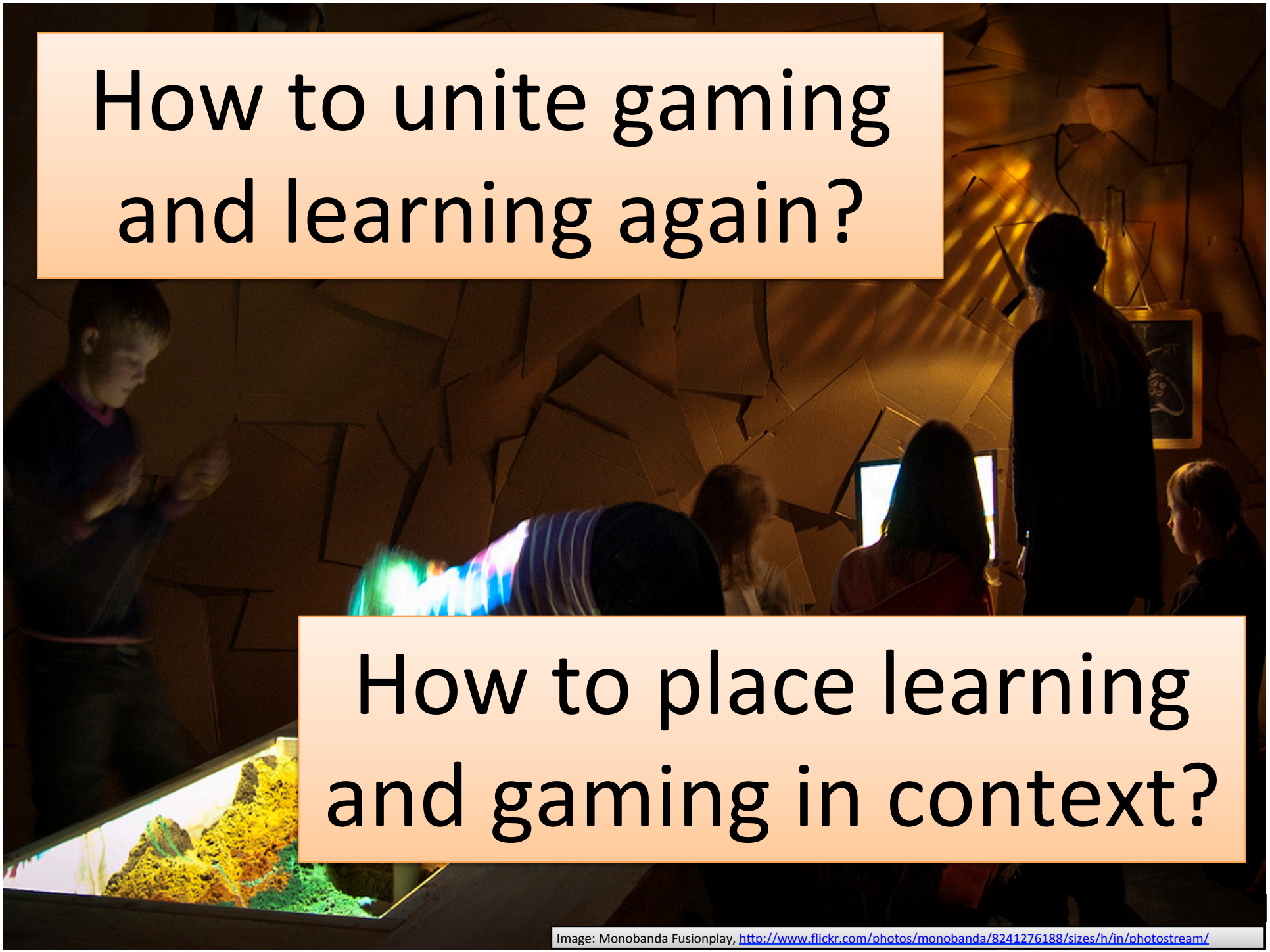


How can education be playful, individual and joyful?

- When students are grouped by age, not by abilities or interests?
- When all students receive the same learning materials?

Image: Thomas Favre-Bulle, http://www.flickr.com/photos/lnx/6257130/sizes/o/in/photostream/

How to unite gaming and learning again?



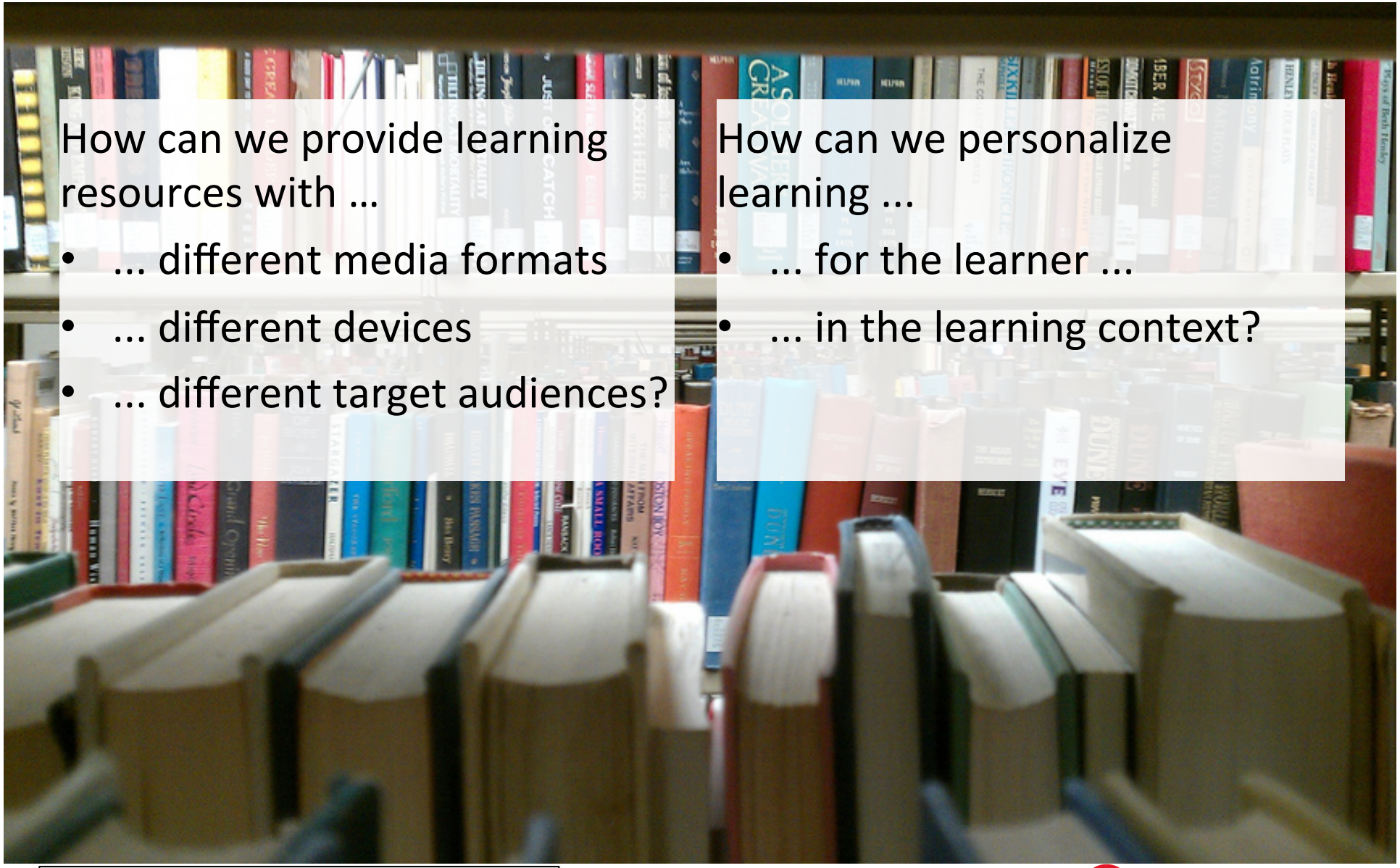
How to place learning and gaming in context?

Image: Monobanda Fusionplay, http://www.flickr.com/photos/monobanda/8241276188/sizes/h/in/photostream/

LOOKING AT THE LEARNER

Image: chelsea (:, https://secure.flickr.com/photos/chelseasmile/3144504064

Learners are individual and mobile



How can we provide learning resources with …

- … different media formats
- … different devices
- … different target audiences?

How can we personalize learning …

- … for the learner …
- … in the learning context?

Image: Steven Harris, https://secure.flickr.com/photos/srharris/6979776901

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LOGI ASSIST

humance

Verlag GÜNTER HENDRISCH GmbH & Co. KG

CLS Mensch & Büro

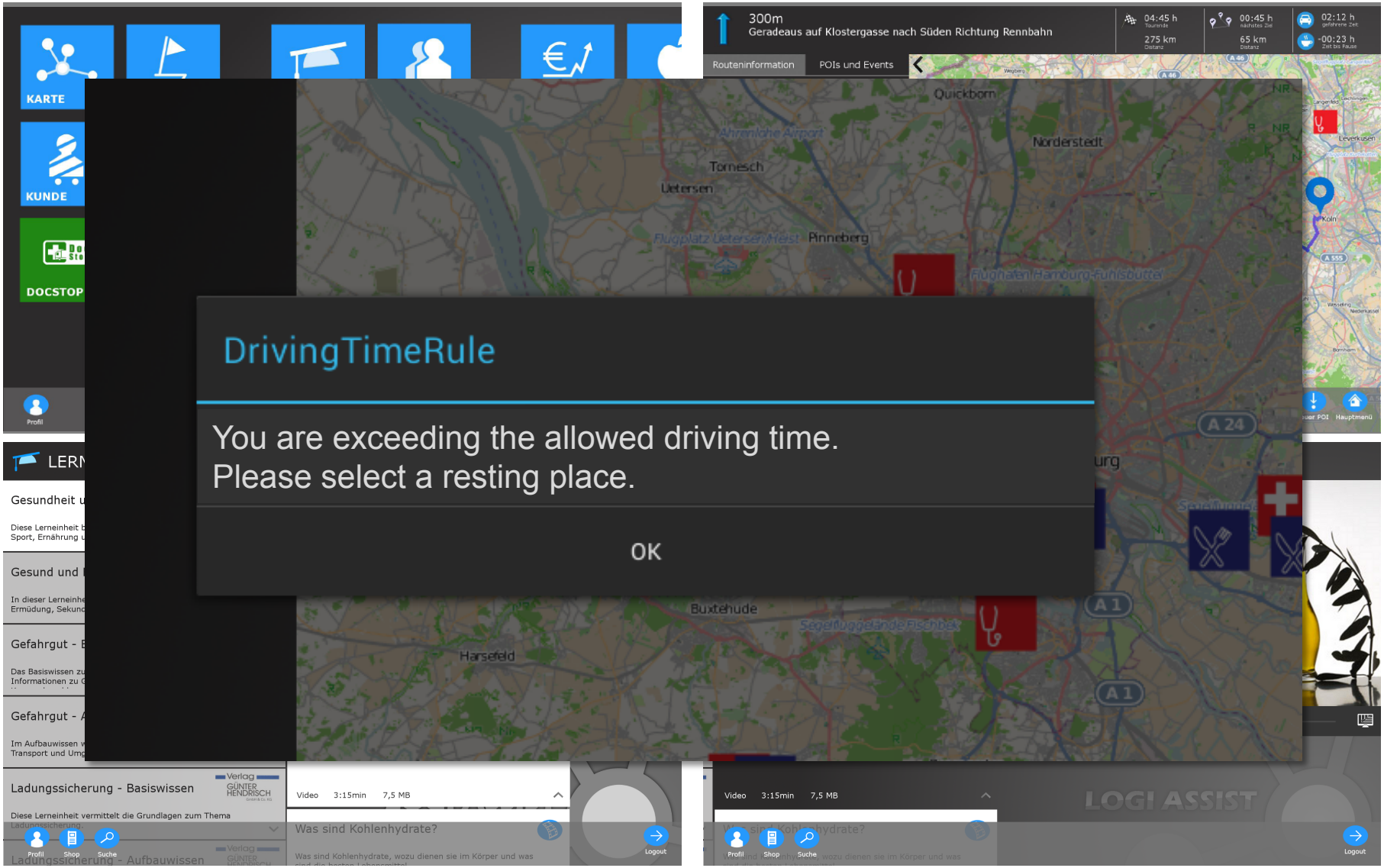
Squarell technology

VERKEHRSVERLAG FISCHER

Fraunhofer FIT

BVWL Nordrhein-Westfalen e.V.

LogiAssist – Mobile Assistance in Logistics

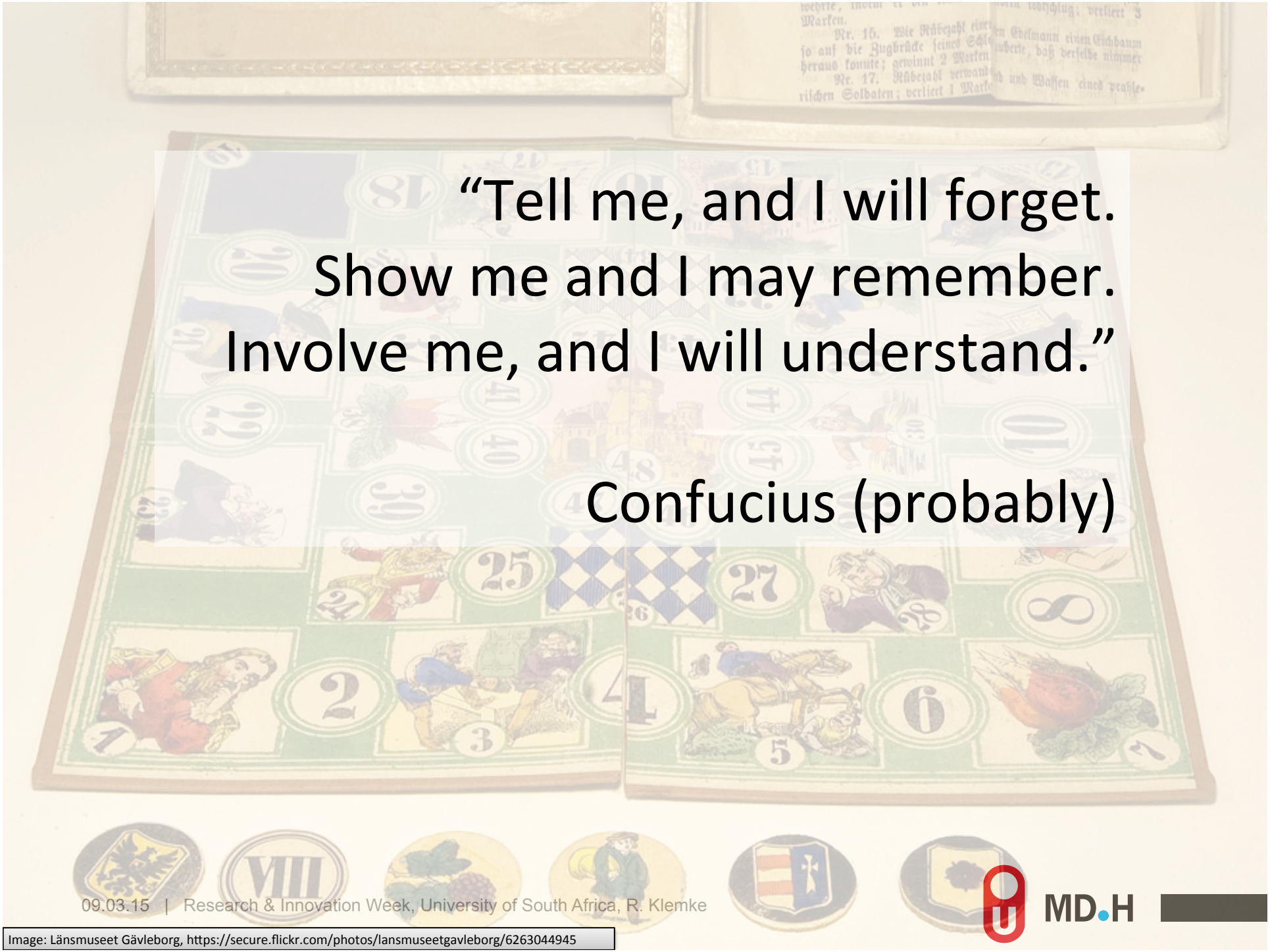


Klemke, R. (2012, 26 March). Mobile Learning in Logistics. Workshop on Learning in Context LIC12, Brussels, Belgium. http://www.logiassist.de/

Scheffel, M., Kirschenmann, U., Taske, A., Adloff, K., Kiesel, M., Klemke, R., and Wolpers, M. (2013). Exploring LogiAssist – the mobile learning and assistance platform for truck drivers. In D. Hernández-Leo et al. (Eds.), Scaling up Learning for Sustained Impact. Proceedings of European Conference on Technology Enhanced Learning (EC-TEL), LNCS 8095 (pp. 357–370). Berlin Heidelberg, Germany: Springer-Verlag

GIVING ACCESS IS ONE THING …
… MAKING IT FUN ANOTHER

Image: Ian Dick, http://www.flickr.com/photos/ian_d/30859899/sizes/o/in/photostream/



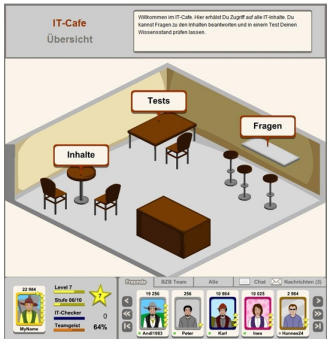
"Tell me, and I will forget.
Show me and I may remember.
Involve me, and I will understand."

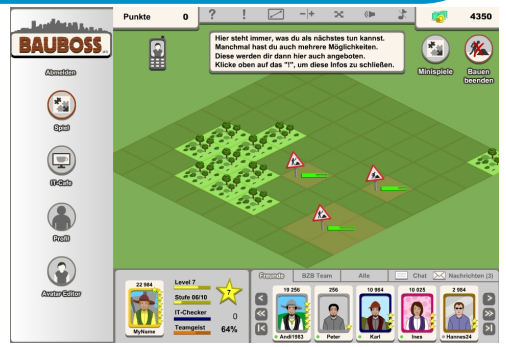
Confucius (probably)

Image: Länsmuseet Gävleborg, https://secure.flickr.com/photos/lansmuseetgavleborg/6263044945

SpITKom

Gaming, Learning, and Communities for IT Knowledge





Schmitz, B., Klemke, R., Totschnig, M., Czauderna, A., & Specht, M. (2011, 23 September). Transferring an outcome-oriented learning architecture to an IT learning game. Presented at the 6th European conference on Technology enhanced learning: towards ubiquitous learning (EC-TEL 2011), Palermo, Italy.

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STREETLEARN

Is it possible to create a 3D learning game with freely available technologies / contents at low modelling cost?

Klemke, R. (2012). StreetLearn - Community-based immersive 3D-video learning games in Streetview. Innovatie door Inspiratie, Maarssen, The Netherlands.

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THE WORLD AS PLAYGROUND …
… IS NOT A TOTALLY NEW IDEA

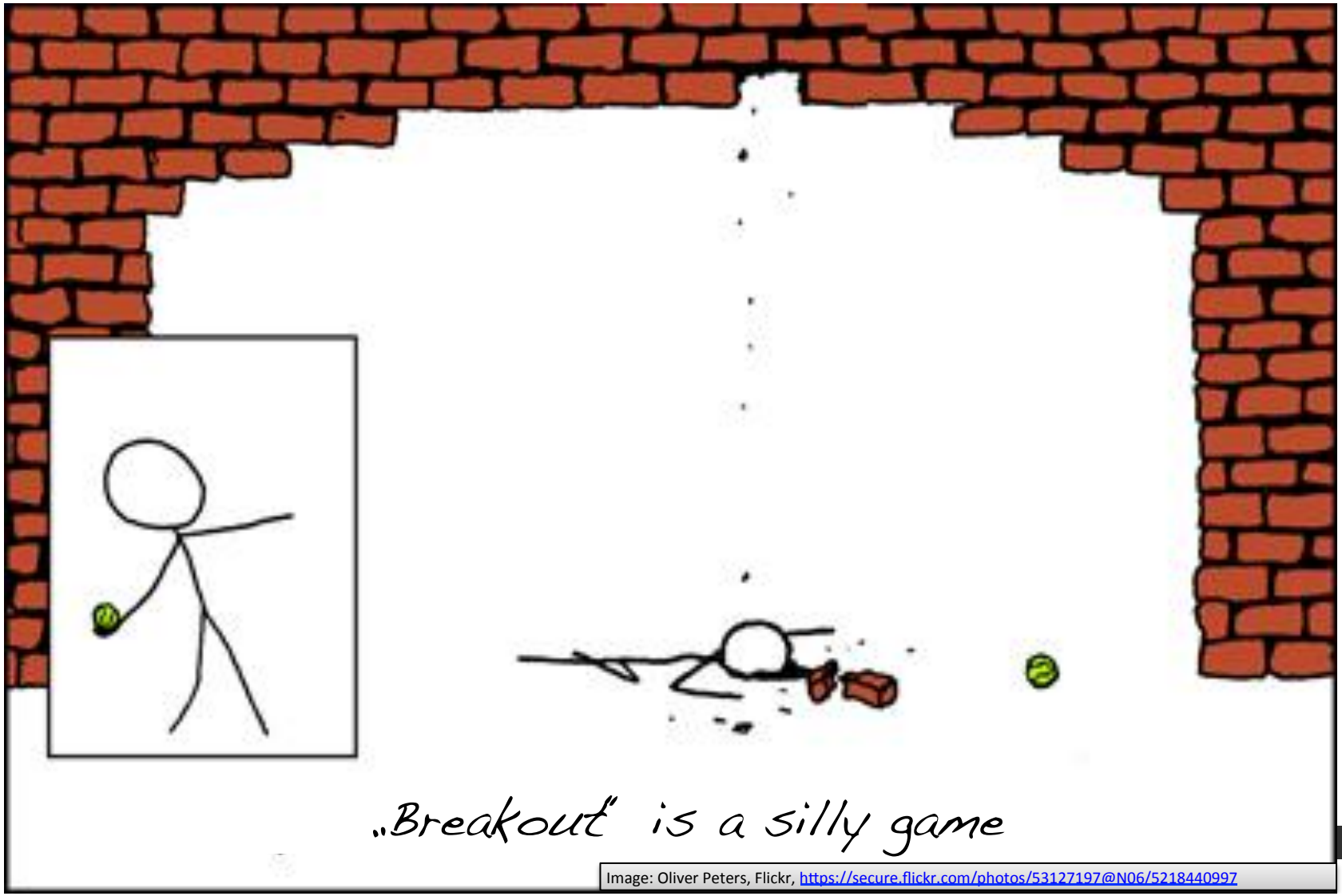
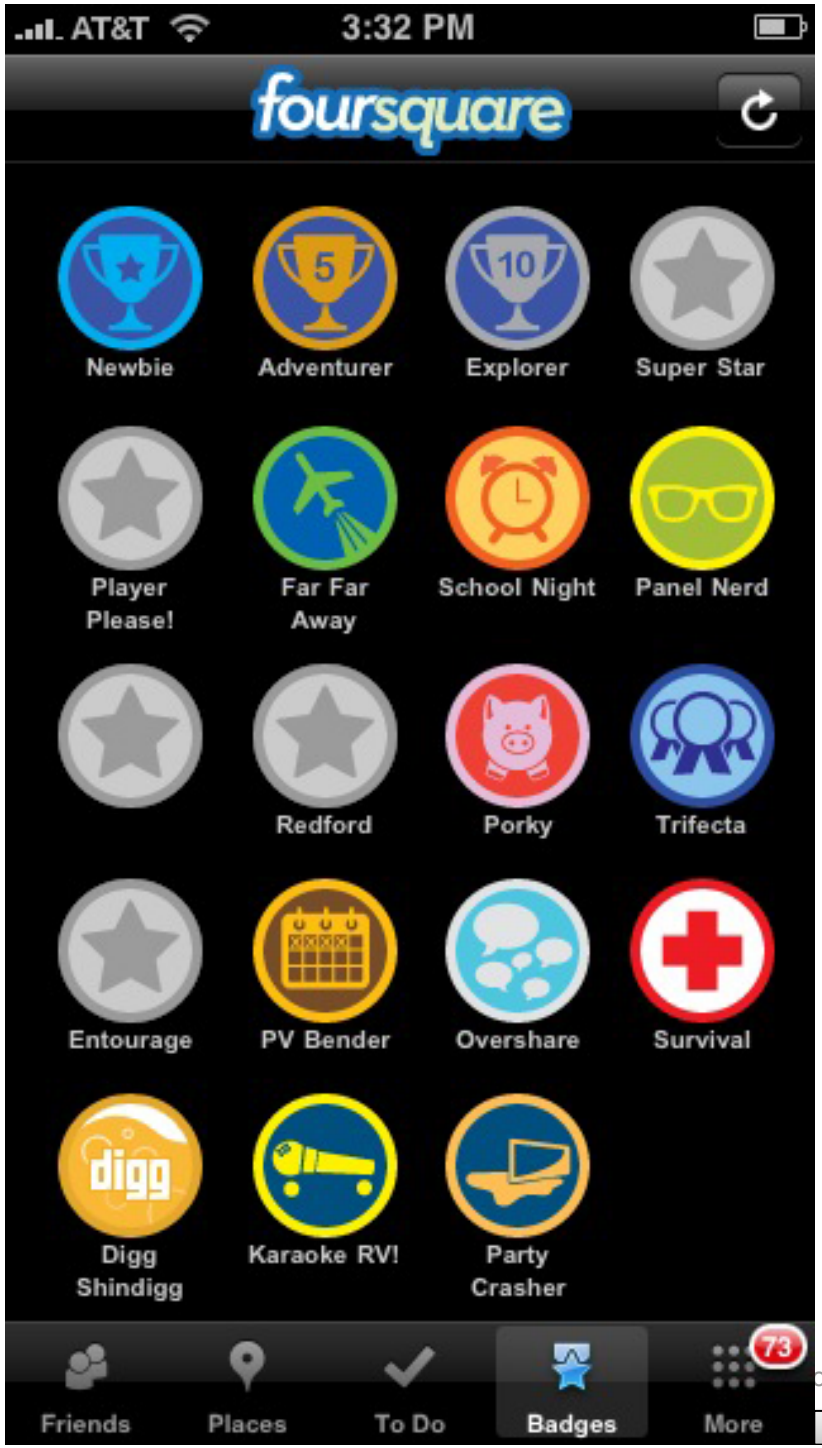


Image: Oliver Peters, Flickr, https://secure.flickr.com/photos/53127197@N06/5218440997

Scavenger Hunt is now called Geocaching

Image: cachemania, https://secure.flickr.com/photos/mycachemania/3988147164



We don‘t collect stamps any more

Image: dpstyles, https://secure.flickr.com/photos/dpstyles/3367761841

MOBILE SERIOUS GAMES

Situation Awareness

Augmented Reality

Serious Gaming

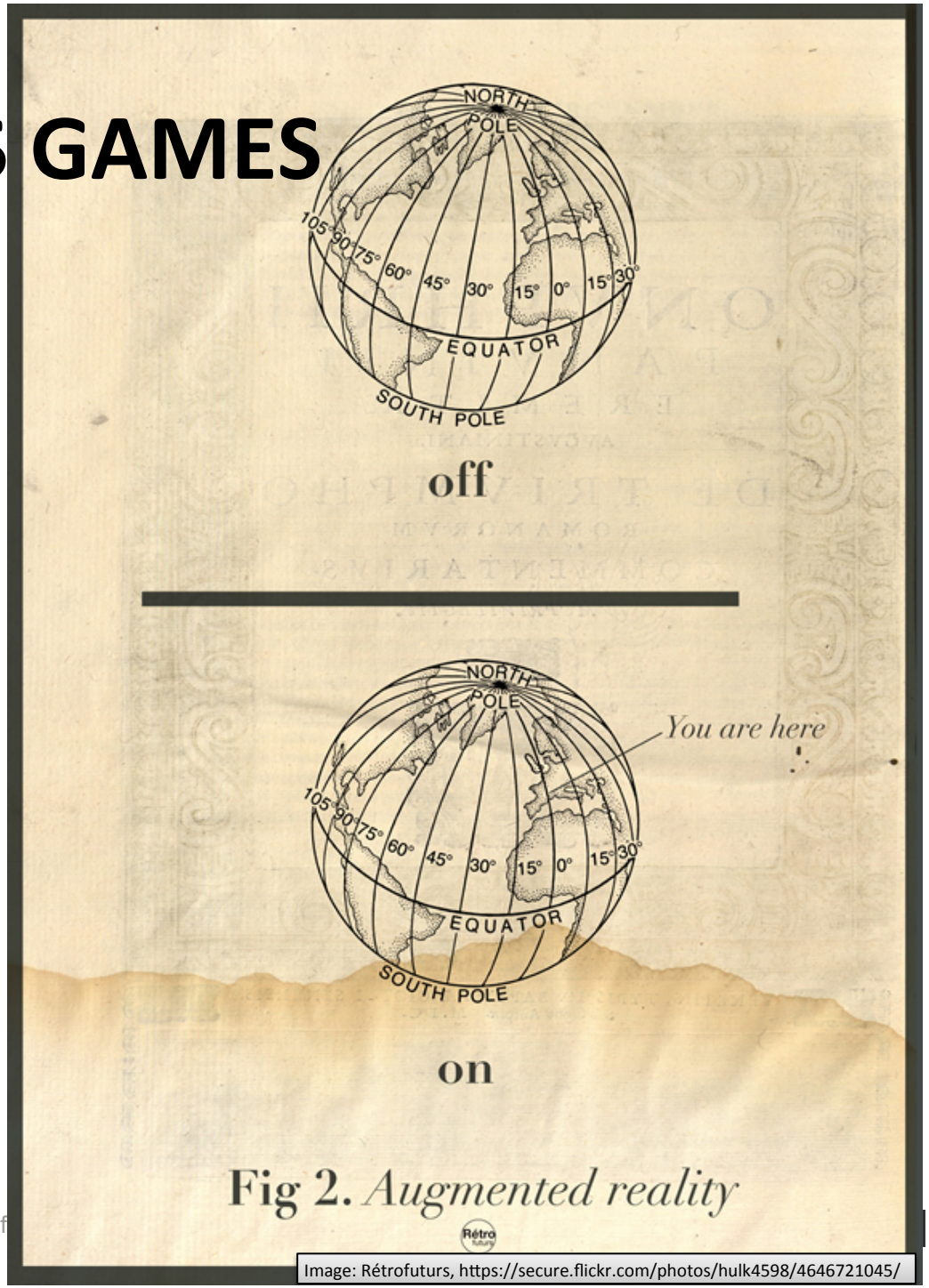


Image: Rétrofuturs, https://secure.flickr.com/photos/hulk4598/4646721045/

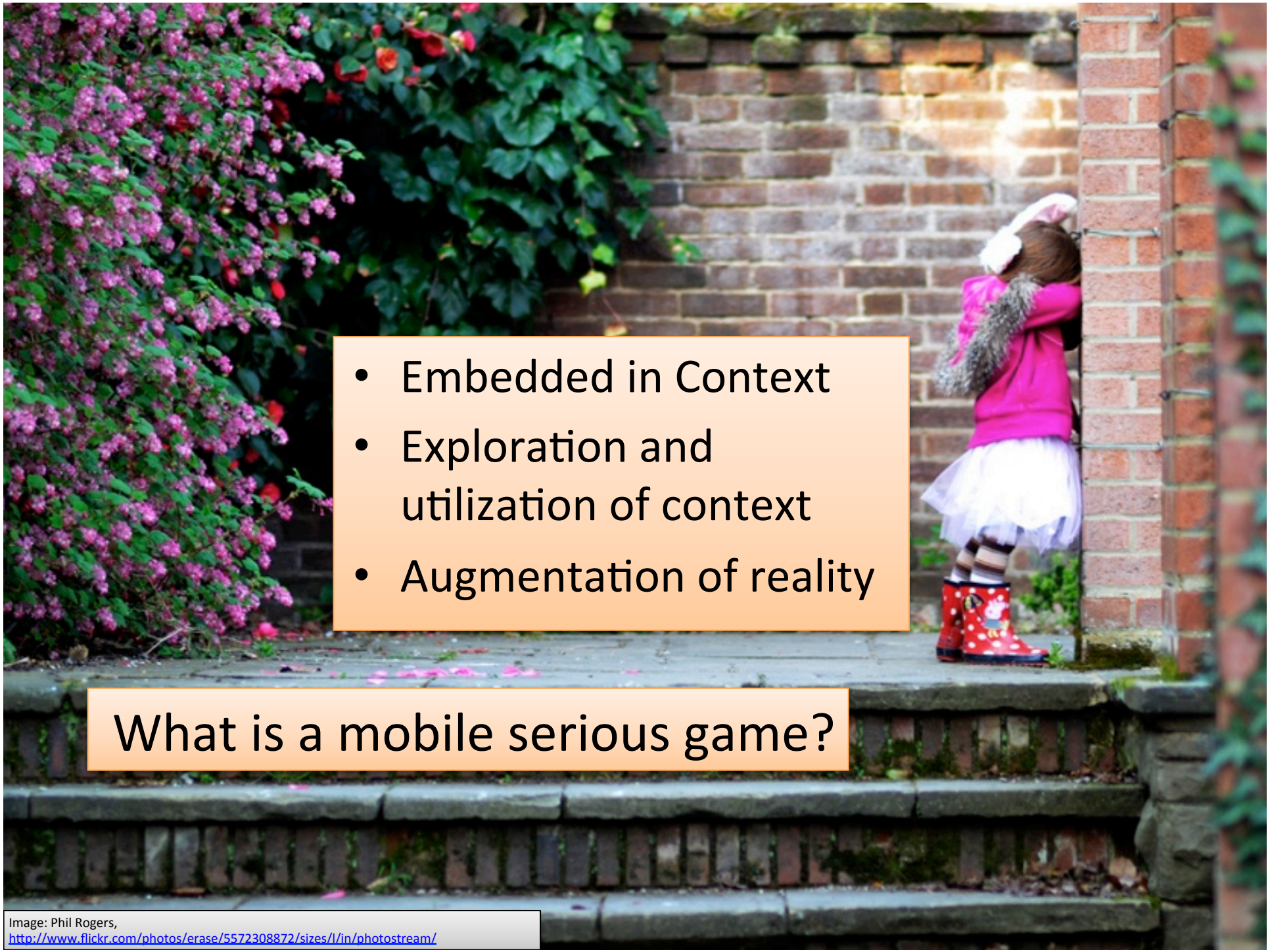


Image: Phil Rogers,
http://www.flickr.com/photos/erase/5572308872/sizes/l/in/photostream/

Gamification for LogiAssist – The TEGA Project

A learning game that encourages to drive economic and safe.

Klemke, R., Kravcik, M., and Bohuschke, F. (2013). Energy-efficient and safe driving using a situation-aware gamification approach in logistics. Proceedings of the Games and Learning Alliance Conference (GALA 2013), 23-25 October 2013, Paris, France.

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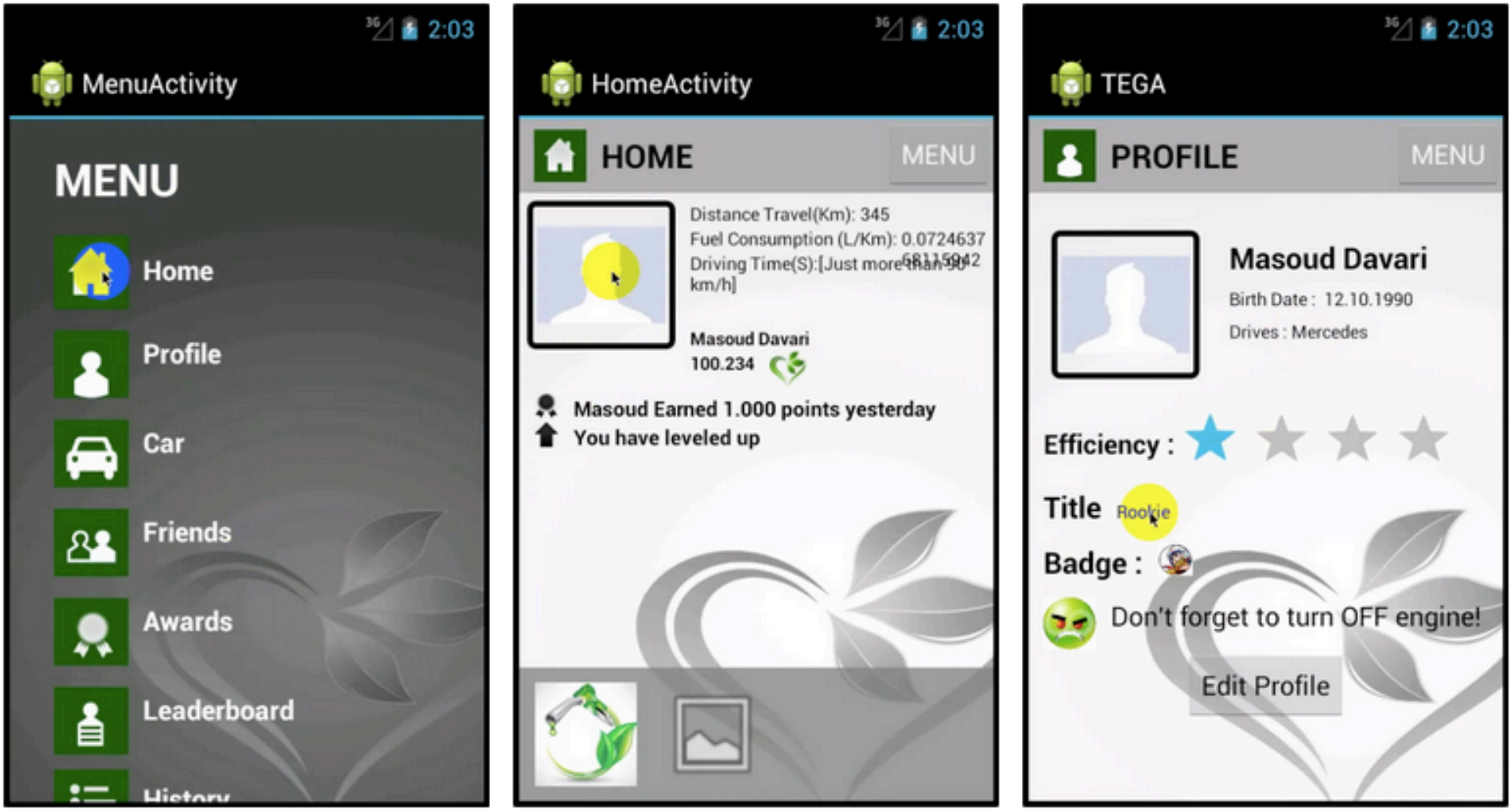
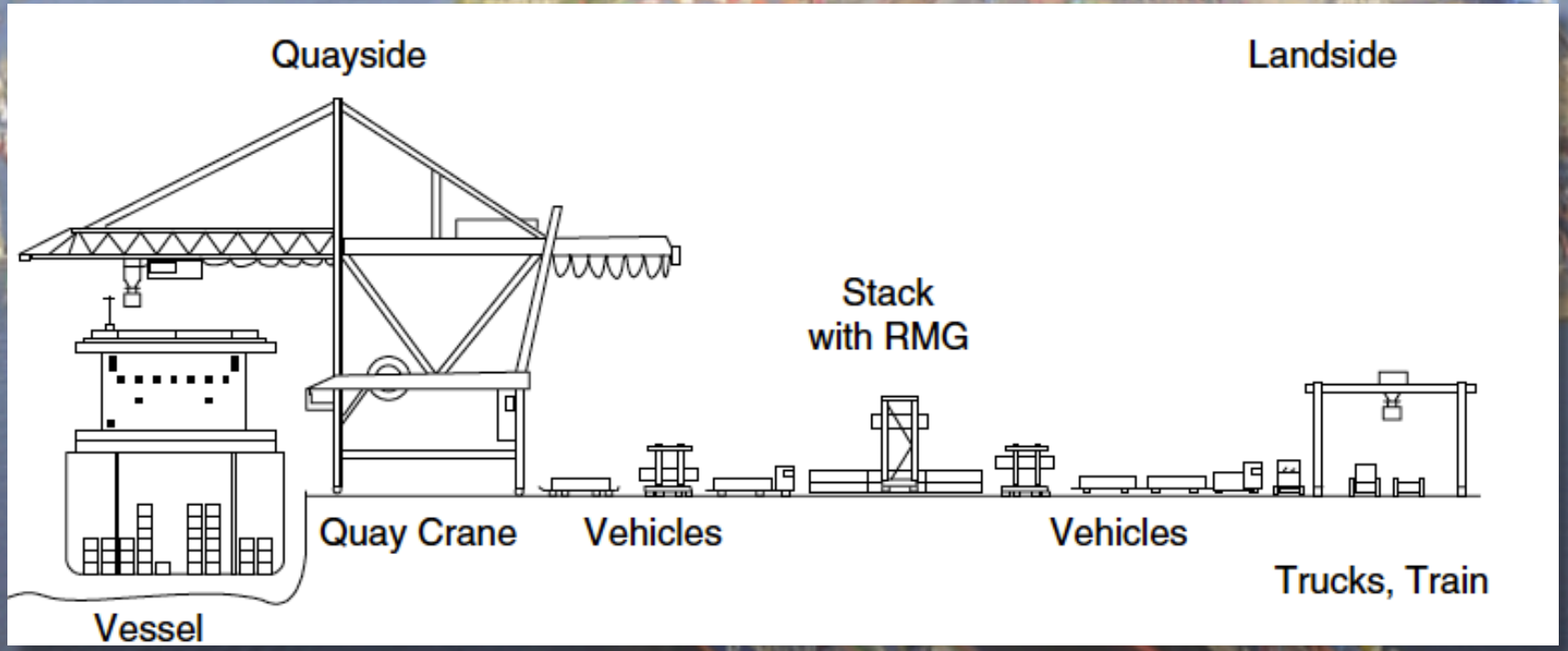
TEGA App



Klemke, R., Kravcik, M., and Bohuschke, F. (2013). Energy-efficient and safe driving using a situation-aware gamification approach in logistics. Proceedings of the Games and Learning Alliance Conference (GALA 2013), 23-25 October 2013, Paris, France.

SALOMO
Decision training for disruption handling in logistics



Klemke, R., Kurapati, S., & Kolfschoten, G. (2013). Transferring an educational board game to a multi-user mobile learning game to increase shared situational awareness. Presentation at the 3rd Irish Symposium on Game Based Learning, Dublin, Ireland.

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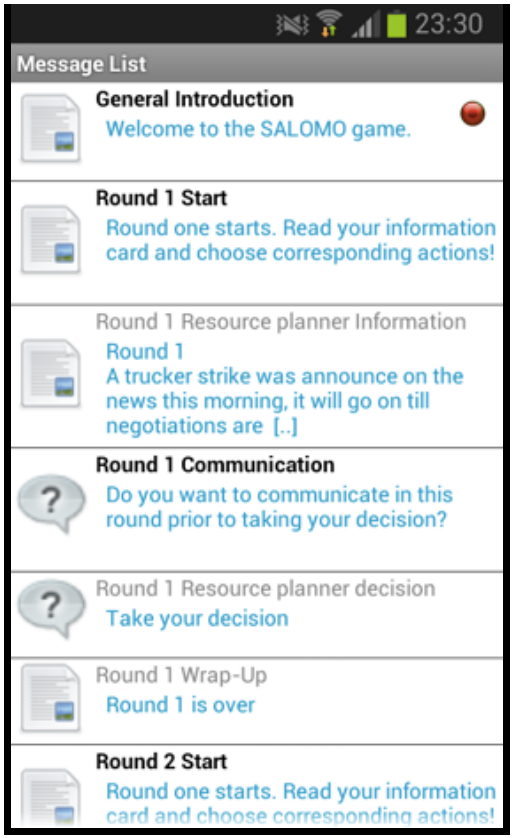
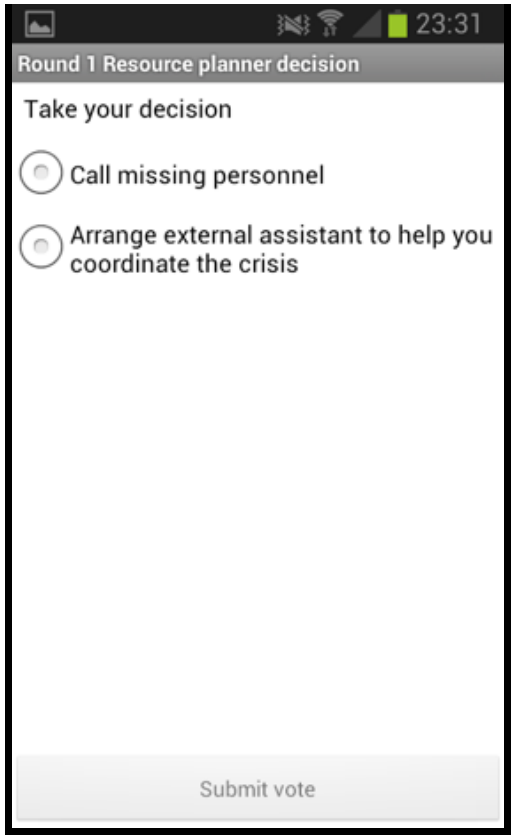
Image: hhla.de

Mobile learning game based on team processes simulate disruption situations





From board game to multi-user mobile learning game

Klemke, R., Kurapati, S., & Kolfschoten, G. (2013). Transferring an educational board game to a multi-user mobile learning game to increase shared situational awareness. Presentation at the 3rd Irish Symposium on Game Based Learning, Dublin, Ireland.

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ARLearn: Platform for mobile serious games

- Sensor enabled (location, camera, QR)
- Multi-user, multi-role game play
- Clients for Android and iOS
- Open Source
- http://ou.nl/arlearn
- https://code.google.com/p/arlearn/

Ternier, S., & Klemke, R. (2011). ARLearn and StreetLearn software for virtual reality and augmented reality multi user learning games (Version 1.0) [Computer software]. Heerlen, The Netherlands: Open Universiteit in the Netherlands.

New Project launch in serious games:
RAGE – Realising an applied Game Eco-system
Towards reusable, advanced serious gaming technologies
Contact: Wim.Westera@ou.nl

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WHAT NEXT?

Sensorama: http://www.augmented-reality.fr/wp-content/uploads/2014/08/sensorama.jpg

Quantified self & Gamification

Measure, and share!

DEEP FOCUS

SUNDAY TIMES OF INDIA, NEW DELHI
NOVEMBER 10, 2013

Know thyself—the new mantra for lifeloggers

Wearable tech devices now track every move you make — from heart rate and footsteps to calories burnt. Even the number of times you slouch in the office chair is recorded by a sensor. An always-on society is busy converting life into bytes of data

Padmaparna Ghosh | TNN

British TV show 'Black Mirror' is about a dystopian future, one that illustrates the dark side of technology and where it can take us if we don't. One of the episodes is set in which an

He is eagerly awaiting Scanadu Scout that can measure all body vitals just by resting on the forehead.

The fascination with what has been described as "turning warm flesh into cold arithmetic" is now a movement — the quantified self move-

GO PRO CAMERA
Head-mounted high definition personal camera

GOOGLE GLASSES | Android-powered computer built into spectacle frame a display in your field of vision, it take pictures, search and translat

OMSIGNAL T-SHIRT
Apparel continuously tr your biometri through sen

NARRATIVE CLIP, PARASHOOT
Tiny camera and GPS for automatic life logging

FITBIT FLEX, NIKEFUEL BAND, JAWBONE UP | Wrist-based devices and apps that track how you eat, sleep and move

LUMOBACK
Sensor and smartphone app improve posture

BASIS WATCHES
Wrist-based health measure

Image: The waving cat.: https://secure.flickr.com/photos/thewavingcat/11031755653

Augmented Reality Glasses: Hands free interaction

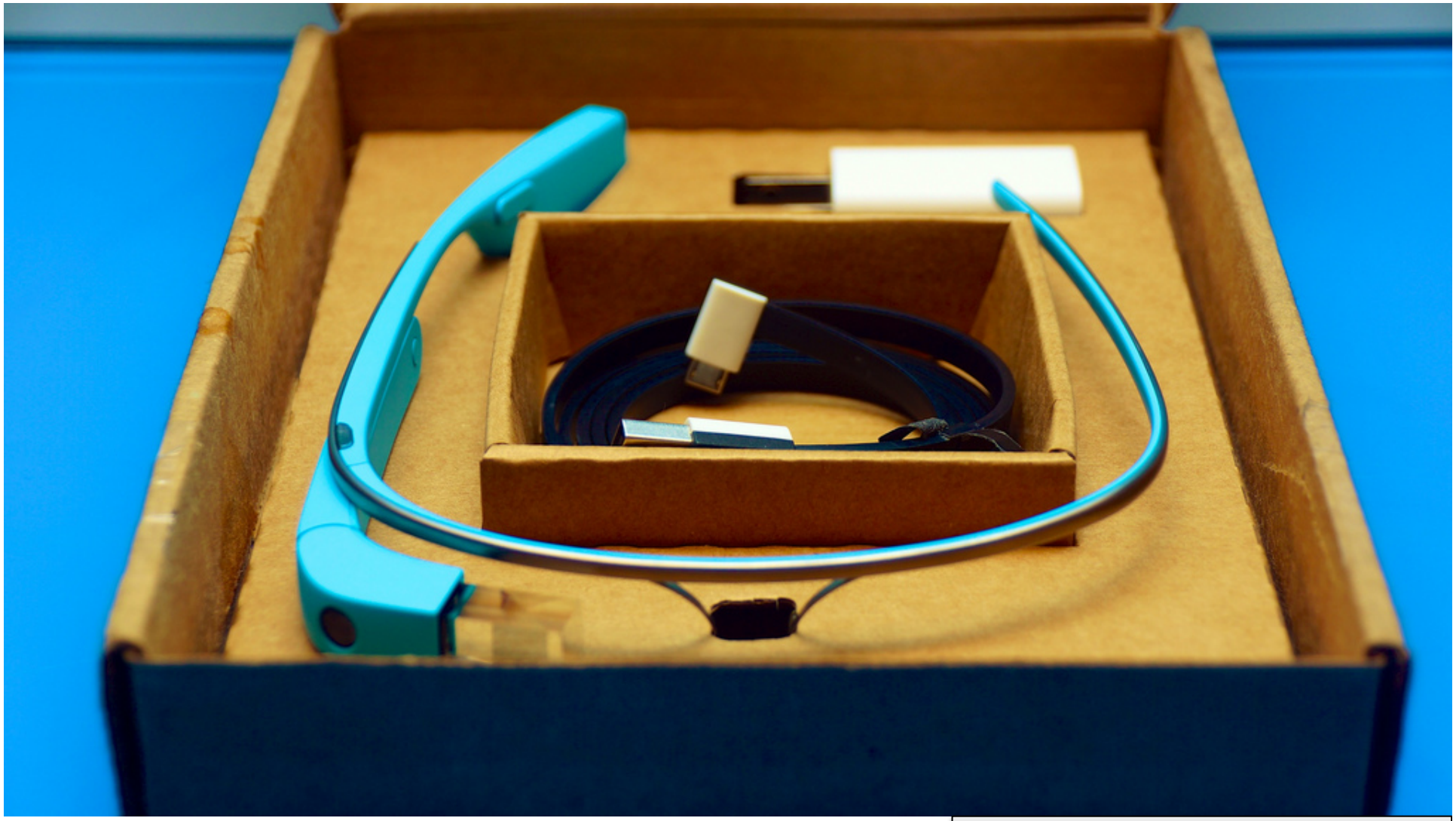

Image: Ted Eytan, https://secure.flickr.com/photos/taedc/11966163406

3D holographic glasses (announced by Microsoft) for full immersive interaction

Image: StatesChronicle, http://stateschronicle.com/wp-content/uploads/2015/01/hololens.jpg

Virtual Reality? Augmented Reality? Reality?

Images: Parrot

Full immersion gaming: VR glasses, VR motion system

Image: Virtuix, http://www.virtuix.com/how-do-you-move-in-virtual-reality-with-a-treadmill-like-this-one-i-just-tried/

Image: Ars Electronica: https://secure.flickr.com/photos/arselectronica/7682581006

Image: Krissy Venosdale: https://www.flickr.com/photos/venosdale/7051065819

Image: KMK/BEHRENDT&RAUSCH

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Image: Rockman of Zymurgy, http://www.flickr.com/photos/rockmanzym/4422834765/sizes/o/in/photostream/