

What can we learn from play?

A person with dark hair tied in a bun, wearing a dark jacket, is leaning over a table. They are interacting with a large, white, grid-based interactive device. The device has a 6x6 grid of small, square, illuminated buttons in various colors (red, green, blue, yellow, and white). A yellow cube is placed on the left side of the grid. The person's hand is near the cube, and they appear to be looking at the device with interest. The background is a plain, light-colored wall.

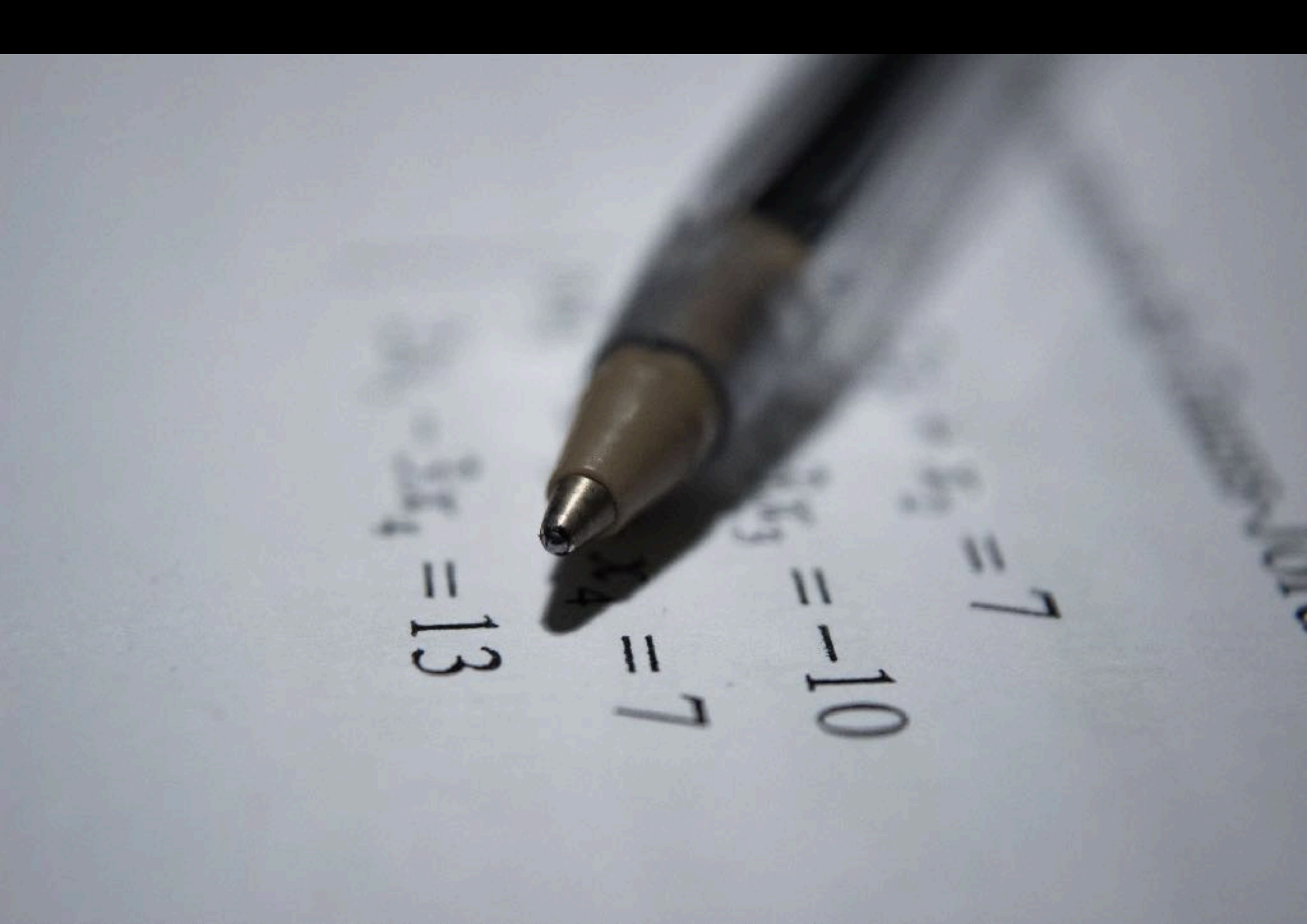
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International Conference on Evaluation of Novel Approaches to Software Engineering**

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Take tedium away from repetition

Celebrate achievement

Monitoring and feedback on performance

Personalised goal setting

Enriching social interaction

Learning by making

Understanding people through play

Supporting therapy for children with cerebral palsy



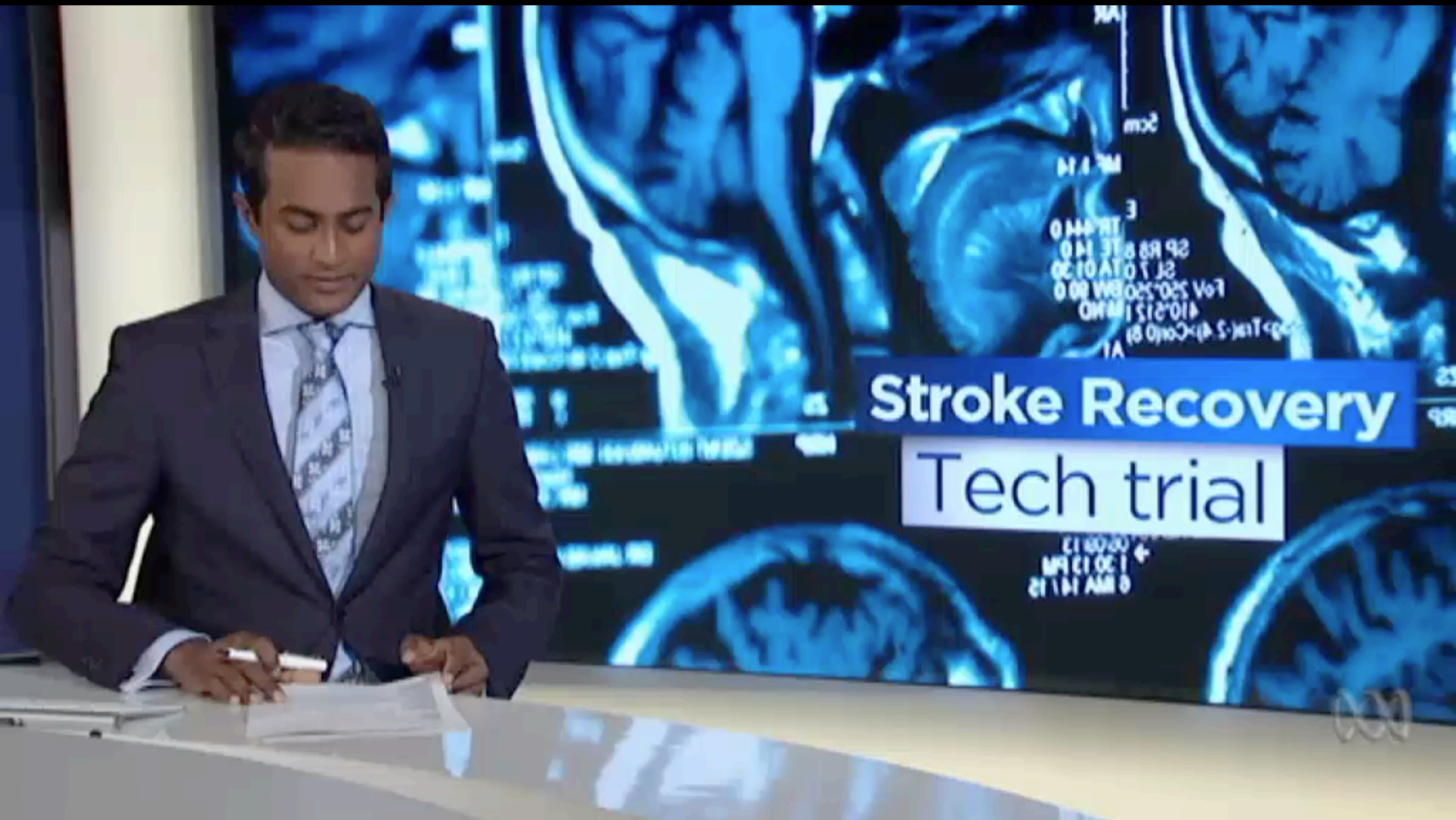
3. Play the Drum

Blue and yellow tags are attached to the palm and to the back of patient's hand.

Blue and yellow cells randomly appear on the board and the patient should hit them with a tag of corresponding color.

Trains: wrist pronation and supination, elbow and shoulder extension

Dhillon., Goulati., Politis, Raczewska,, Markopoulos, (2011). A set of customizable games supporting therapy of children with cerebral palsy. Proceedings INTERACT 2011



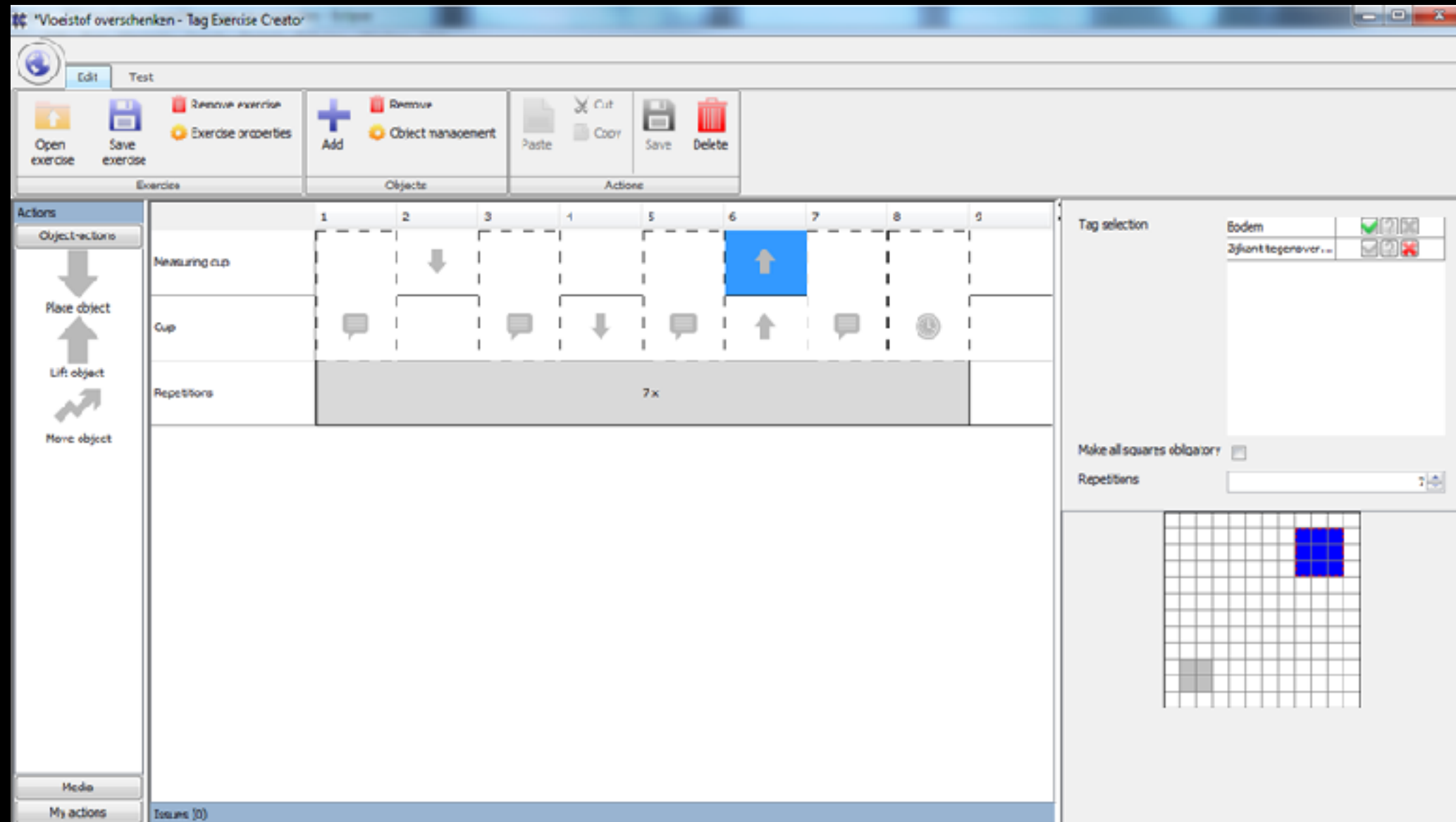
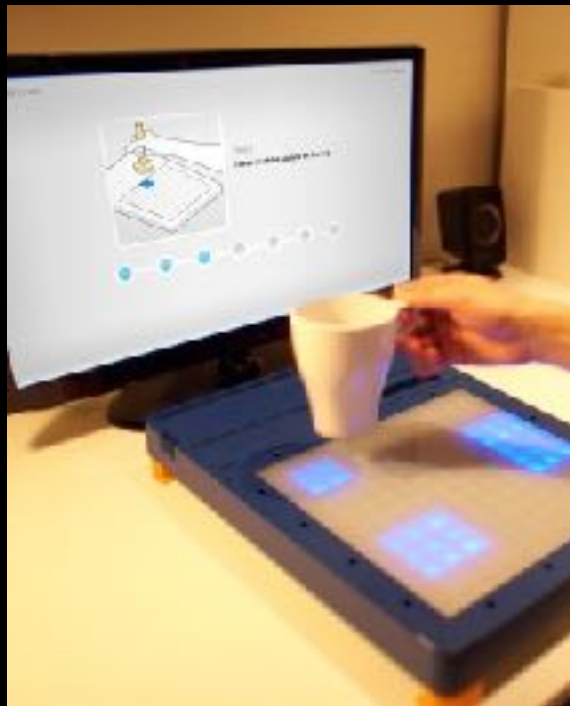
“Interactivated Rehabilitation”, Bert Bongers, UTS, featured on ABC 23.5.2015
Donker , Markopoulos, Bongers (2015) REHAP Balance Tiles: a modular system supporting balance rehabilitation.
Pervasive Health 2015.

Posture correction during rehabilitation training



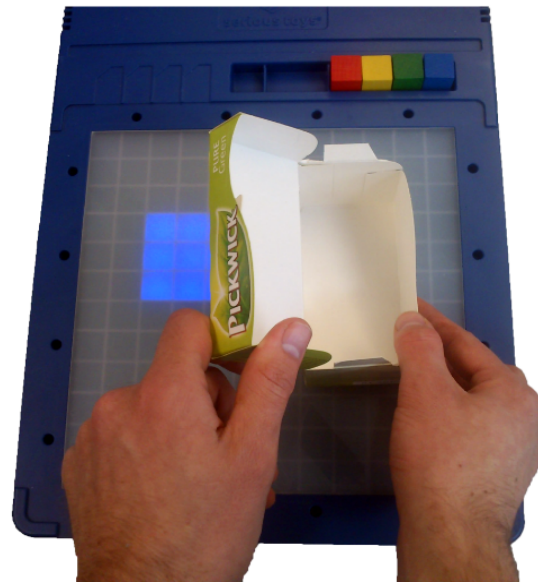
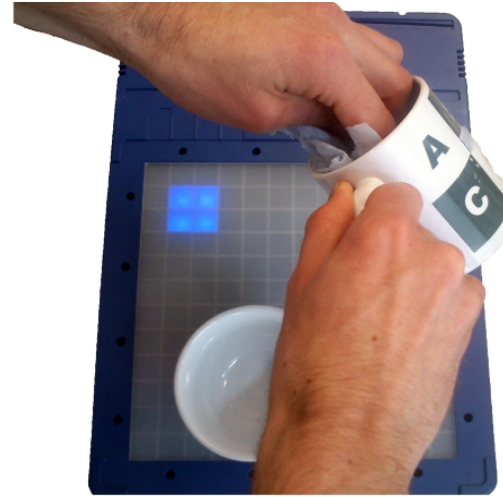
Delbressine, Timmermans, Beursgens, de Jong, van Dam, Verweij, & Markopoulos (2012). Motivating arm-hand use for stroke patients by serious games. Proc.IEEE EBMC.

TagTrainer



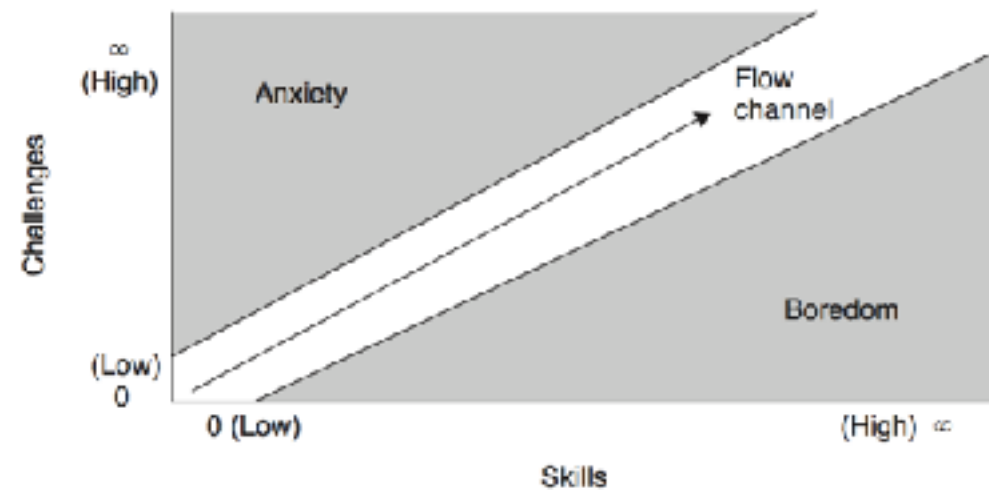
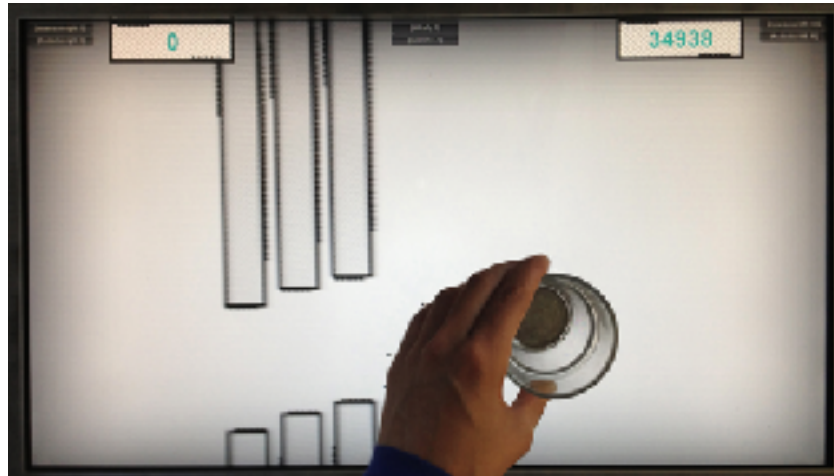
Tetteroo (2013). TagTrainer: a meta-design approach to interactive rehabilitation technology. In End-User Development (pp. 289-292). Springer Berlin Heidelberg.

Gamify your own training exercise



Tetteroo, Timmermans, Seelen, Markopoulos (2014) TagTrainer: supporting exercise variability and tailoring in technology supported upper limb training. JNER 11, 1: 140.

CONTRAST: Adapting challenge in arm-hand training for stroke Survivors



Jacobs, Timmermans, Michielsen, Vander Plaetse, & Markopoulos. (2013) CONTRAST: Gamification of arm-hand training for stroke survivors. ACM CHI'13 Extended Abstracts

CONTRAST: Gamification of Arm-Hand Training for Stroke



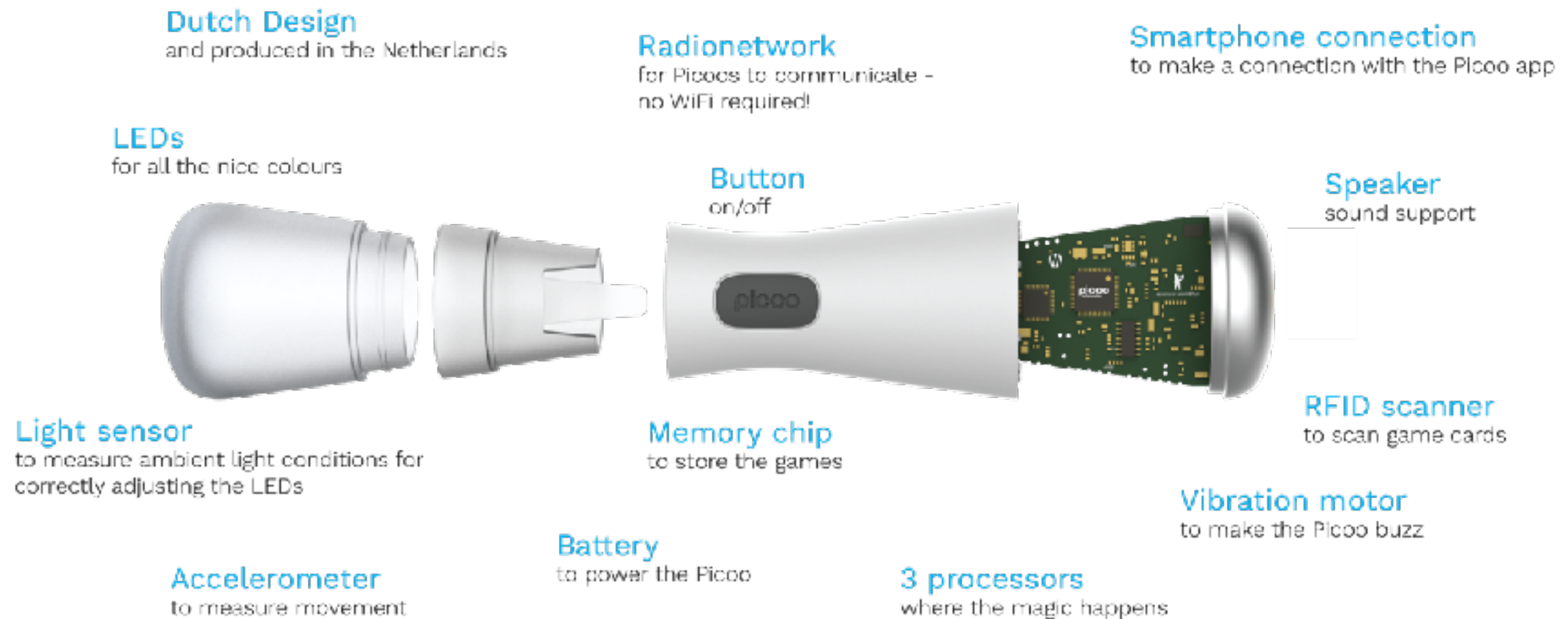
Jacobs, Timmermans, Michielsen, Vander Plaetse, & Markopoulos. (2013) CONTRAST: Gamification of arm-hand training for stroke survivors. ACM CHI'13 Extended Abstracts

Head Up Games: the games of the future will be more like the games of the past!

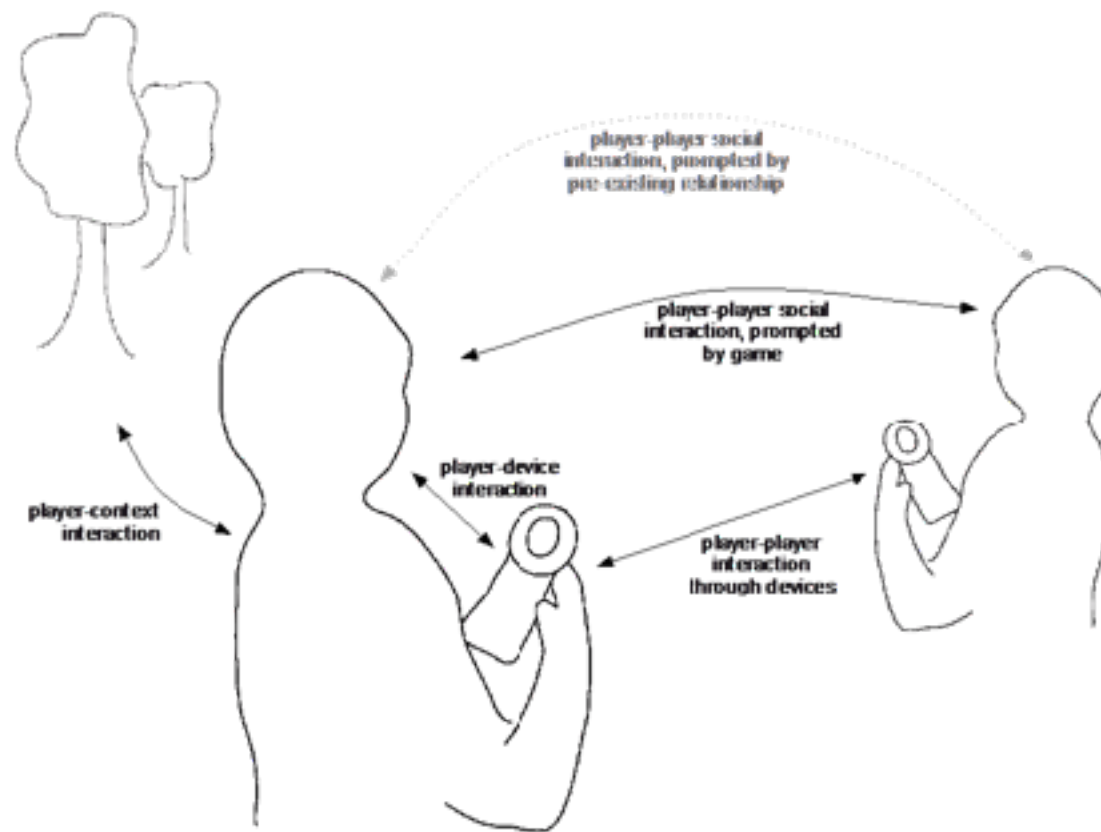


Soute, Markopoulos, Magielse, (2010). Head Up Games: combining the best of both worlds by merging traditional and digital play. *Personal and Ubiquitous Computing*, 14(5).

picoo.nl



Interaction patterns in HUGs



Soute, Markopoulos (2014). Designing Interactive Outdoor Games for Children. In Playful User Interfaces, Springer.



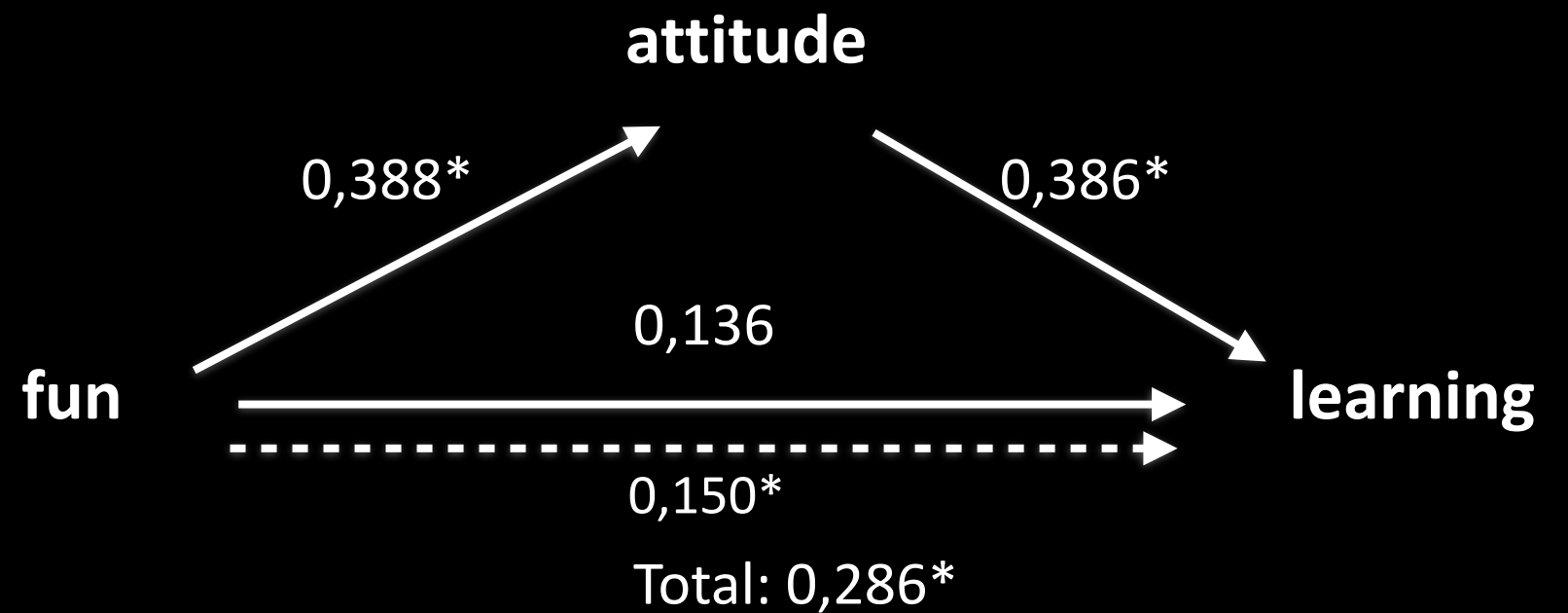
Making their own head-up games



Avontuur, De Jong, Brink, Florack, Soute, Markopoulos. Play it our way: customization of game rules in children's interactive outdoor games. Proc. IDC 2014.

The role of fun in learning

Com n' Play Science project



Tisza, Markopoulos, Bekker (2021) Understanding the role of fun in learning. Elsevier, *IJCCI*, 28.

Tisza, Markopoulos (2021) FunQ: Measuring the fun experience of a learning activity with adolescents. Springer, *Current Psychology*, 1-21.

Nanobots: Inferring Need for Cognition from Hints

<http://imi.nhtv.nl/nanobots/>



Measuring Self-Esteem with Games



Moral Philosophy & Ethical Norms

- Moral Equity (justice)
- Contractualism (deontology)
- Relativism
- Utilitarianism
- Egoism

Moral Philosophy & Ethical Norms

'Now that I brought you here, our work just started'

You stated: 'We need to:'

Establish a energy link between the aircraft and Dr. Wilson base.

- Inform Earth about the mission status and Dr. Wilson's findings,
- Give Dr. Wilson some of the best meals we have, he deserves it.

Our first priority should be:

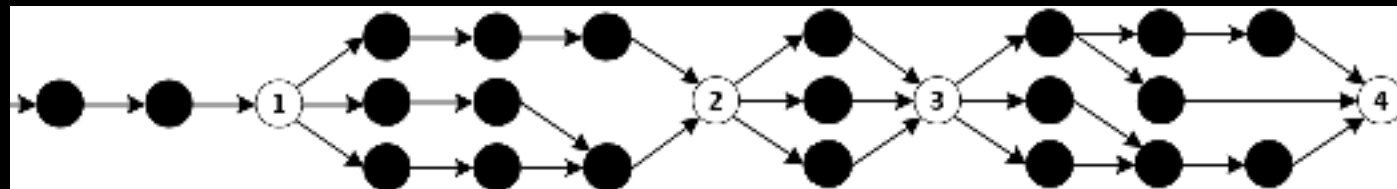
Decision:

'Dr. Wilson base is running on fumes and we might lose crucial information'

'The mission is crucial, lets report back to the command center.'

'It is only fair that Dr. Wilson regains some strength '

Choose



Challenges

Are these games for good?

Efficacy and effectiveness

Ethics of player modelling

Are these games good?

Gap in relation to pure entertainment games

Gap to market

A yellow and black pen is positioned diagonally across the frame, pointing towards the bottom left. The background is a piece of paper with several mathematical equations written in blue ink, including $x_1 = 7$, $x_2 = -10$, and $x_3 = 7$. The text is overlaid on the left side of the image.

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