1
The spheres on the floor portray characters from the storybook with light and localized sound.

8 DEMO HOUR

12 WHAT ARE YOU READING?

14 HOW WAS IT MADE?

16 DAY IN THE LAB

ENTER

DEMO
HOUR

1. Atmo

Atmo is an interactive environment developed for an oncology hospital. It gives children the experience of physically entering the fantastic world of bedtime stories. Children can collect a book from the hospital library and place it on a scanning table. Then, the environment transforms specific to the story. Footsteps are registered and trigger story-specific ambient sounds. Story characters begin talking to them from within the light spheres on the floor. Bedtime stories come to life, making the hospital a friendly and exciting place, encouraging children to move around and explore, make new friends, and exchange stories with each other.

<http://www.interactive-environments.nl>

<https://vimeo.com/120943293>

Ellis Bots, Karst Brummelhuis, Marcel Gleeson,
Noëlle Lugtenburg, Joëll Magr, Michael Probyn, Nigel Smink,
Rosa Storm, and Eva Zillen, Delft University of Technology

*Aadjan van der Helm (a.j.c.vanderhelm@tudelft.nl) and
Tomasz Jaskiewicz of Delft University of Technology, and
Sara Ferrari of Sara Ferrari Design served
as coaches for the Atmo project.*

2

Experiencing the interaction design of the environment.

2. Vika

Vika is an interactive environment developed for an oncology hospital. Its lounge area is connected to an interactive wall containing 78 rotating flaps, which start spinning when people pass in front of the wall. The number of flaps spinning depends on the person's height and can be increased by making arm gestures. In all cases, the shorter the people, the stronger the overall reaction they provoke. As a result, children are able to create the most spectacular reactions. This makes them feel strong and empowered, which not only improves their self-confidence

but also diminishes their parents' overprotectiveness.

<http://www.interactive-environments.nl>
<https://vimeo.com/121011727>

Priska van Binsbergen, Ziran Chin-On, Mortiz Fieback, Sharon Koomen, Oukje van Merle, Daan Middendorp, Debbie Rouw, Iris Tol, and Josine Vos, Delft University of Technology.

Aadjan van der Helm (a.j.c.vanderhelm@tudelft.nl) and Tomasz Jaskiewicz of Delft University of Technology, and Sara Ferrari of Sara Ferrari Design served as coaches for the Vika project.

3. Lichtsuchende

Lichtsuchende is an interactive installation built using a society of biologically inspired robotic creatures who exchange light as a source of energy and a means of communication. Based on simple cybernetics combined with human and animal psychology, they sleep, dance, and seek others to play with. Visitors are invited to engage with the installation using flashlights to influence and interact with the phototropic robots. The embodied algorithms give rise to emergent behaviors with communicative

and emotional resonance, allowing a duet between the humans and the cybernetic beings.

<http://www.mo-seph.com/projects/lichtsuchende>
<https://vimeo.com/90584275>
 Murray-Rust, D. and von Jungenfeld, R. Lichtsuchende: Exploring the emergence of a cybernetic society. In *Evolutionary and Biologically Inspired Music, Sound, Art and Design, Proc. of 4th International Conference, EvoMUSART 2015 (LNCS 9027)*. C. Johnson, A. Carballal, and J. Correia, eds. Springer International

3
Detail of a flower head. Still from video documentation during the Hidden Door Festival 2014, Edinburgh, U.K.

3
Visitors interacting with Lichtsuchende during the Hidden Door Festival 2014, Edinburgh, U.K.

4
Bending\Arches (top) and Tilting\Plate (bottom) are two interactive steel prototypes that explore the expressive richness of shape-changing interfaces.

Publishing, Copenhagen, 2015. DOI:10.1007/978-3-319-16498-4
 ■ Murray-Rust, D. and von Jungenfeld, R. Lichtsuchende: A Society of Cybernetic, Phototropic Sunflowers. *Proc. of Creativity & Cognition 2015*. ACM, New York, 2015. DOI: 10.1145/2757226.2757381

Dave Murray-Rust, University of Edinburgh
 → d.murray-rust@ed.ac.uk
 Rocio von Jungenfeld, University of Edinburgh
 → rocio.von-jungenfeld@ed.ac.uk

4. Shape-Changing Steel Interfaces

Tilting\Plate and Bending\Arches are two exploratory prototypes that exploit the properties of both a traditional material (steel) and computational technology (stepper and servo motors). The project investigates the aesthetic potential of shape-changing interfaces as well as how designers can embrace the expressional diversity and richness of physical actuation. People can engage in playful

and curious interaction with the prototypes through various bodily actions. **Tilting\Plate** responds to abstract gestures in the space immediately above it, which is being monitored by a Kinect. **Bending\Arches** reacts to loud noises (such as clapping) by halting and briefly suspending its movements.

■ <http://mortenwinther.dk/behaving-expressions/>
 ■ <https://vimeo.com/mwinther/steel>

■ Winther, M. Tilting\Plate and Bending\Arches: Shape-changing interfaces as expressive forms. *Proc. of the 5th Decennial Aarhus Conference: Critical Alternatives*. 2015.

Morten Winther, IT University of Copenhagen
 → mwla@itu.dk