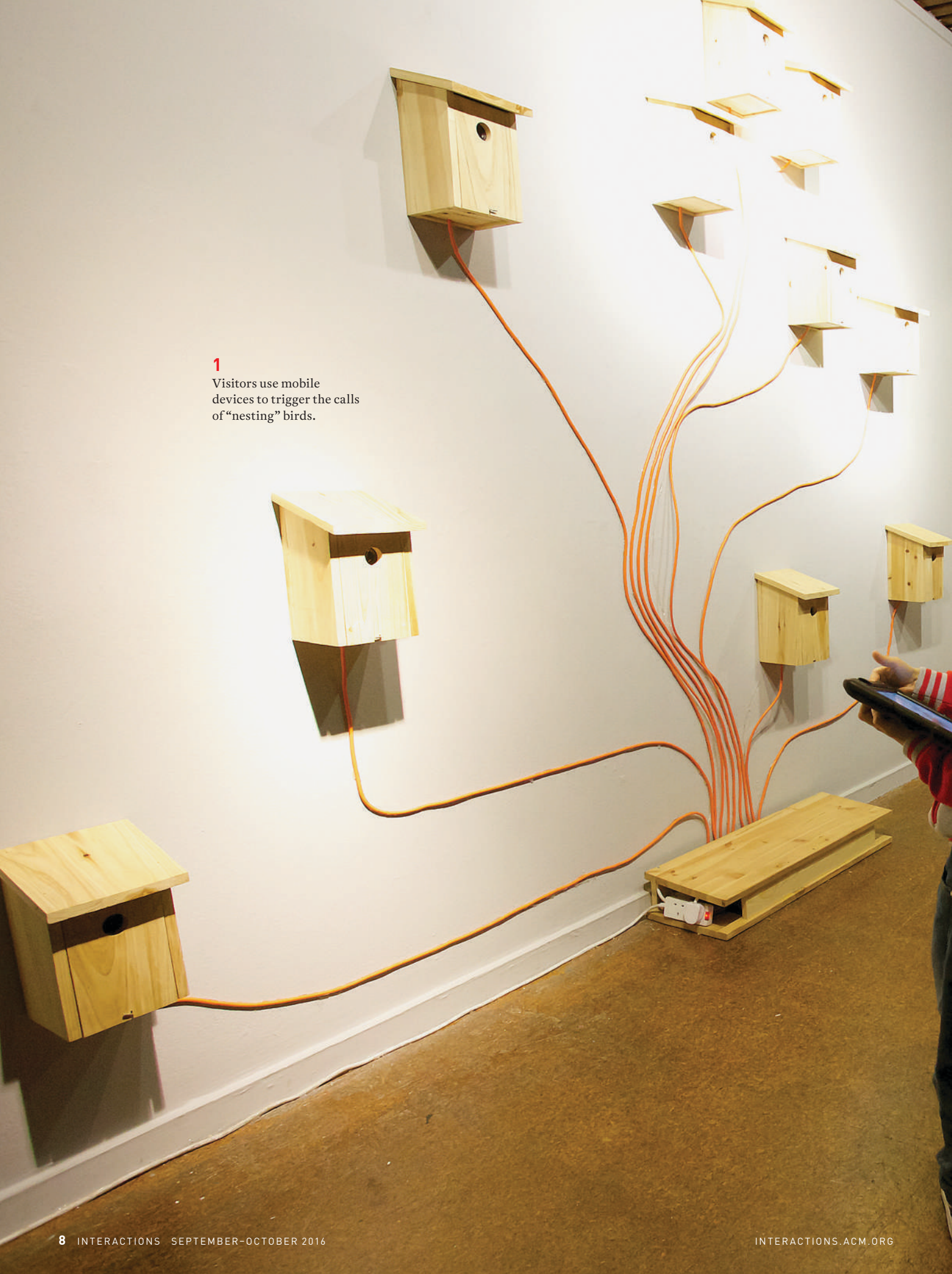


**1**
Visitors use mobile devices to trigger the calls of "nesting" birds.

ENTER

DEMO HOUR

# 1. Pollinators

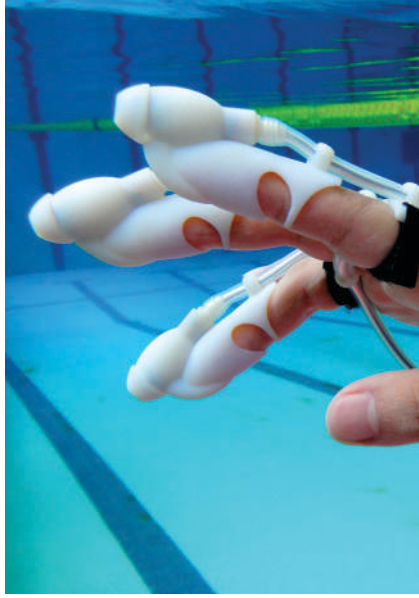
Pollinators is an interactive sound installation aimed at increasing public awareness of pollinators' decline. Ten interactive birdhouses attached to tree branches made of electric cables are "nesting" different birds; visitors are invited to trigger their calls using a smartphone or tablet. The wooden birdhouses incorporate speakers and amplifiers; the control system includes an Arduino, a Rasperry Pi as a DHCP and Web server, a wireless access point, and bespoke software to allow real-time interactions. This installation reminds us that nature needs our help and invites people to take simple, practical actions to reverse this negative trend.

http://www.aether-hemera.com/Work/Detail/Pollinators
https://vimeo.com/166010733

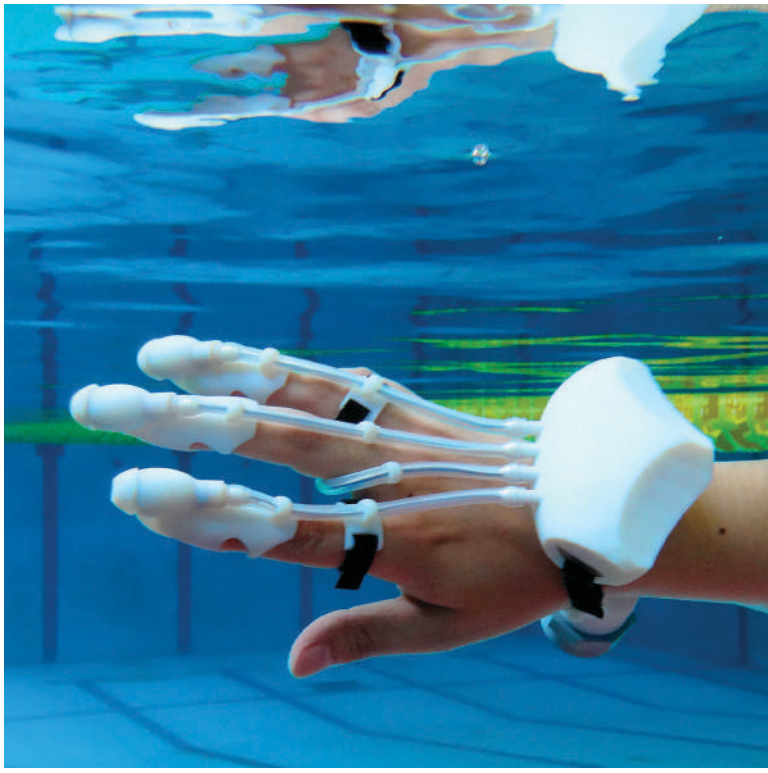
Gloria Ronchi, Aether & Hemera
→ Hemera@aether-hemera.com
Claudio Benghi, Northumbria University
→ claudio.benghi@northumbria.ac.uk



**2**
idMirror questions how identity is perceived in the age of social media and mobile devices.



**3**
An underwater glove with haptic feedback inspired by dolphin echolocation.



## 2. idMirror

**idMirror is an art project that investigates how social networks and emerging mobile technologies have forever changed the perception of human identity. Our research is about how human beings are constructed—how they perceive things in the world, how they interact with the world, and how they are part of the larger whole. The installation consists of two components: the idMirror devices and the idMirror projection. The idMirror devices are tablets embedded in a handle-mirror shell. The idMirror projection is a processing application running on a PC. idMirror was shown at Ars Electronica 2015 and CHI 2016.**

http://www.masajazbec.si/?p=408
https://www.youtube.com/watch?v=mo1oXyKlGkM

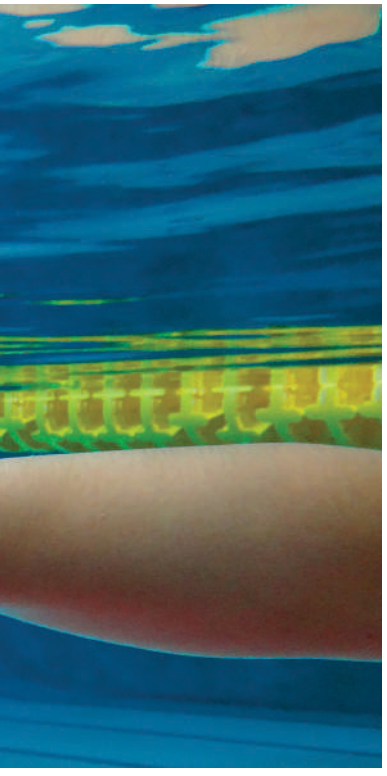
Jazbec, M. and Erich, F. Investigating human identity using the idMirror interactive installation. *Proc. of the 34th Annual ACM Conference on Human Factors in Computer Systems.* ACM, New York, 2016.

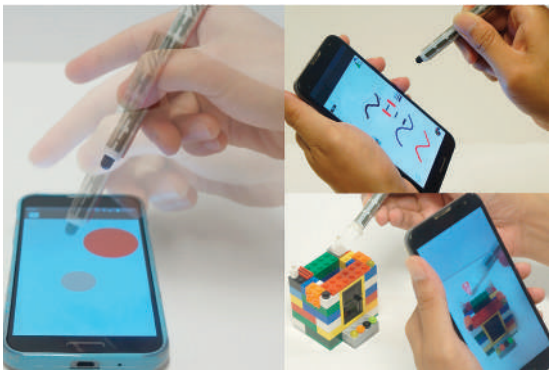
Floris Erich, University of Tsukuba
→ erich@ai.iit.tsukuba.ac.jp
Maša Jazbec, University of Tsukuba
→ masamikkel@gmail.com

## 3. IrukaTact

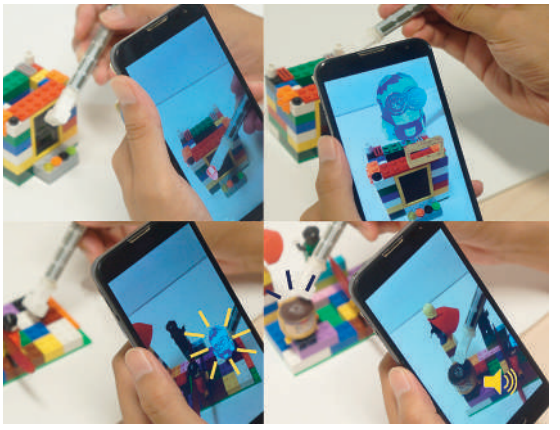
**IrukaTact is an open source underwater glove that translates ultrasonic range-finding data into haptic feedback. Inspired by dolphin (*iruka* in Japanese) echolocation, this system detects underwater topographies, assisting in the location of sunken objects in flooded areas. Micro-pumps on the glove send haptic signals to the wearer's fingertips by propelling water of varying pressures. Our feedback method extends current haptic technologies by providing hybrid actuation, including pressure and vibration underwater, while preserving the wearer's natural ability to grasp objects. IrukaTact has many potential applications beyond underwater echo-haptic location, such as in new interfaces for virtual object simulation in aqueous environments.**

ID MIRROR TOP: MAŠA JAZBEC; BOTTOM: FLORIAN VOGGENEDER OF ARS ELECTRONICA

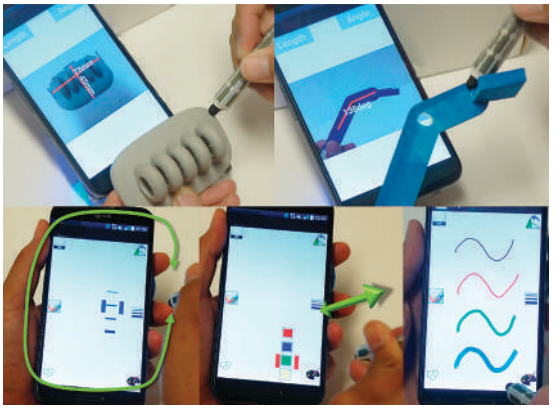




**4**
TMotion enables real-time 3D position tracking with an existing mobile device. It supports both discrete and continuous interactions in expanded interaction volume.



A mobile AR environment is a good fit for utilizing 3D mobile interaction behind the device.



Spatial tangible interaction and mid-air menu control provide above-the-device interaction capability with 3D mobile input.


http://aisencaro.com/iruka.html
https://youtu.be/RDm-yDW1qxw
Chacin, A.C., Oozu, T., and Iwata, H. IrukaTact: Submersible haptic search glove. *Proc. of the 10th International Conference on Tangible, Embedded, and Embodied Interaction.* ACM, New York, 2016, 392–397.



Aisen C. Chacin,
University of Tsukuba
→ aisencc@gmail.com
Takeshi Oozu,
University of Tsukuba
→ ozuaomushi.mjkt@gmail.com


## 4. TMotion

**TMotion is a self-contained 3D input device that enables spatial interactions around a mobile device using an enhanced magnetic-sensing technique. Moving the stylus around the mobile device produces continuous 3D position tracking data in real time. Example applications that highlight TMotion's interaction capabilities include spatial tangible measurement, mid-air menu control, and mobile AR input. As 3D mobile interfaces develop, there is an increasing need for better methods to handle and exploit richer user inputs. We envision that a real-time 3D mobile input device like TMotion will fulfill these requirements.**


https://engineering.purdue.edu/cdesign/wp/tmotion-embedded-3d-mobile-input-using-magnetic-sensing-technique/
https://www.youtube.com/watch?v=pWuq5H5kyAg
Yoon, S-H. Huo, K., and Ramani, K. TMotion: Embedded 3D mobile input using magnetic sensing technique. *Proc. of the 10th International Conference on Tangible, Embedded, and Embodied Interaction* ACM, New York, 2016, 21–29.



Sang Ho Yoon, Purdue University
→ Yoon87@purdue.edu
Ke Huo, Purdue University
Karthik Ramani, Purdue University



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