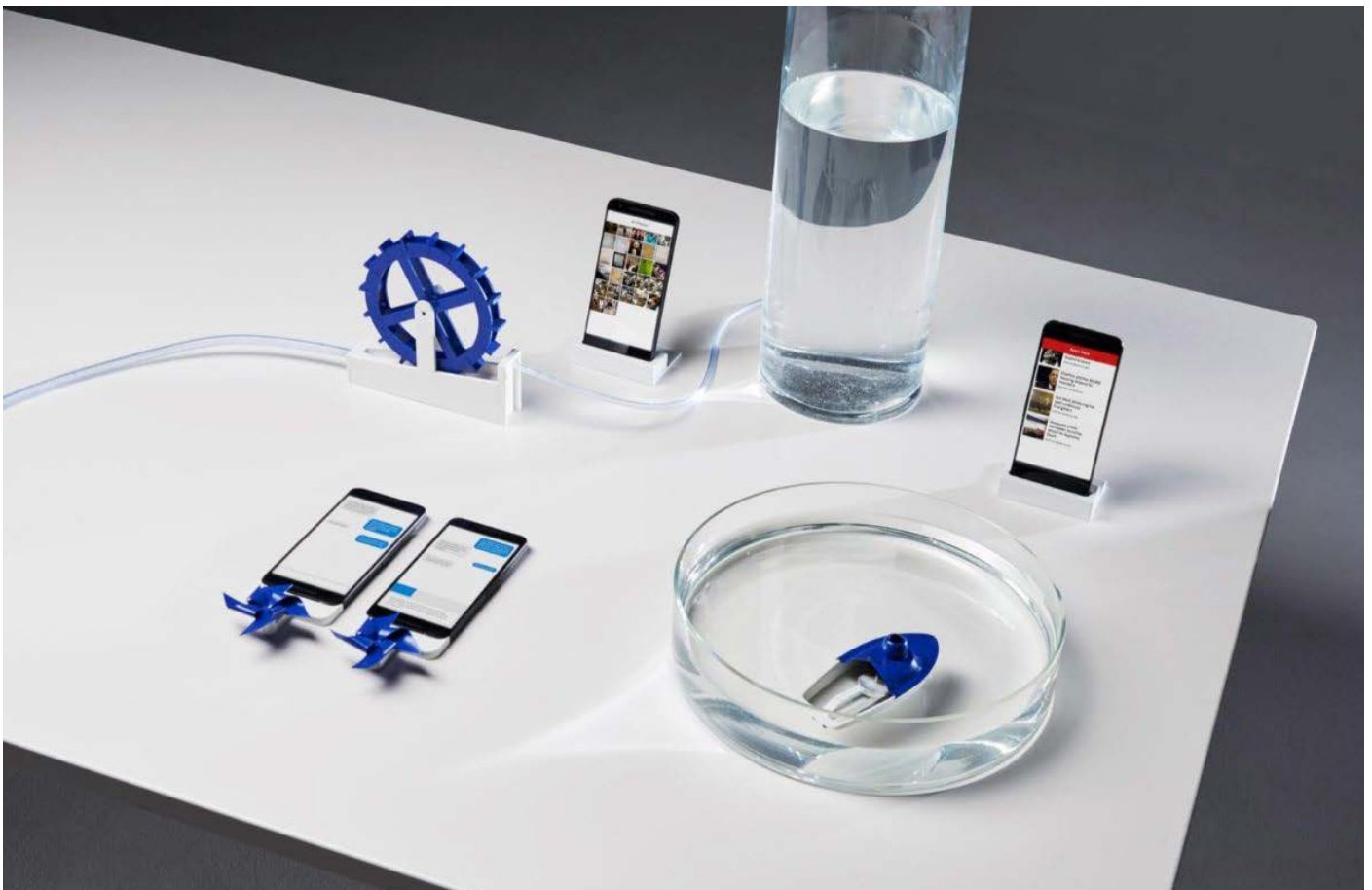




# 20°C – Devices for tangible interaction with data

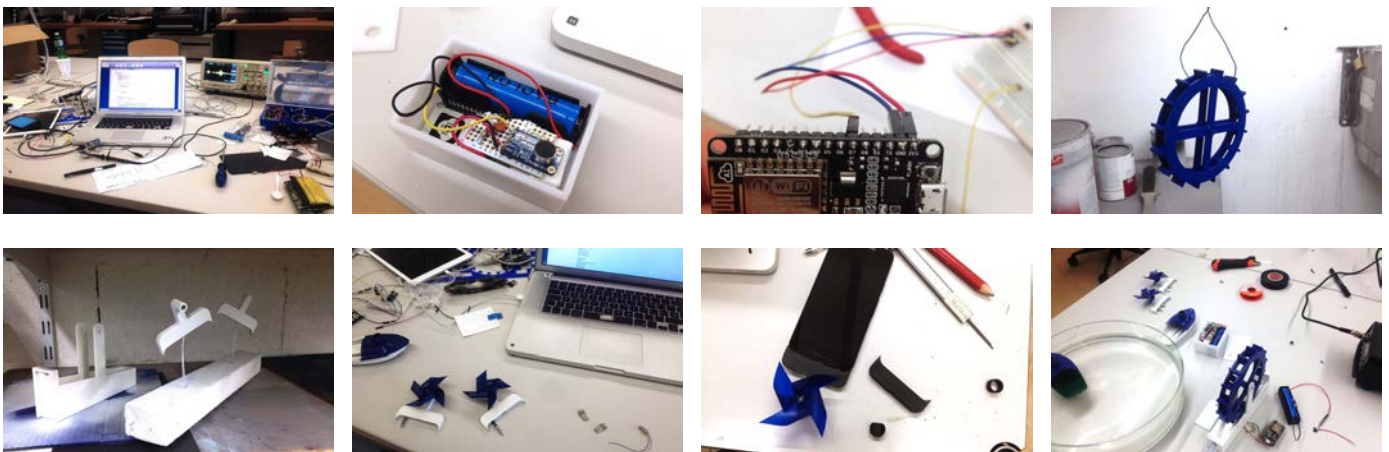
**Author** Filip Visnjic   **Category** Arduino Javascript Members   **People** ECAL, H  l  ne Portier  
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Created by H el ene Portier at **ECAL**, *20 C* is a collection of devices designed to question our relationship to data through a series of physical challenges that enable/disable access.

*“Information is accessible anywhere anytime. Through our daily actions, we use the network on an unlimited and unhindered basis. We store our data on the network immediately and without storage constraints. For most people, the Internet is elusive and invisible. For the Web giants, the network shall consist of huge data centers, submarine cables and coal mines.”*

In one example, to obtain news feed, H el ene designed a device that demands user to light a candle so they can activate the boat’s motor. As soon as the boat is in motion, the news will start to download. The sound of the boat is analysed by an frequency level so as to detect if the motor is on. The value is then use in an custom mobile app who display or hide news via News API. The device uses electret microphone amplifier, NodeMcu, **Arduino** and smartphone web application relies on News API and **Javascript/HTML/CSS**.



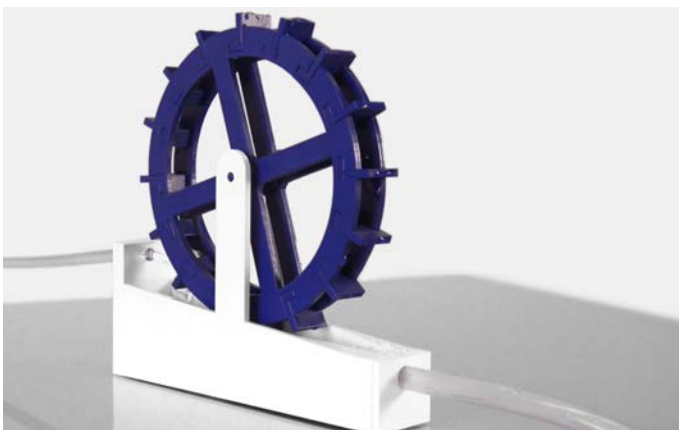
The “mill” object questions our maintenance and the archiving of our data. *How would our daily life be if we had to care for and feed continuously our data in order to preserve them?* The system requires the user to maintain a flow of water so that the wheel rotates continuously. When the mill stops rotating, the photos get deleted one by one, second to second. To be able to detect if the wheel is rotating, a hall sensor is used to detect the rotation frequency of 4 magnets arranged around the wheel. Then the custom mobile app delete photos stored on the cloud if the

recorded value is negative.

Finally, the user needs to blow on the wind spinner in order to create the necessary energy to send a phone message. The message is only sent when the user blow on the wind spinner. The longer is the message, the longer the user has to blow. The wind spinner is fixed on a small motor, so when the user blow on it the motor create power. This power is send through a jack plug directly connected to the smartphone. Thanks to the custom mobile app, the value of the audio level from de jack plug is get and used for the progress cursor and the send condition.

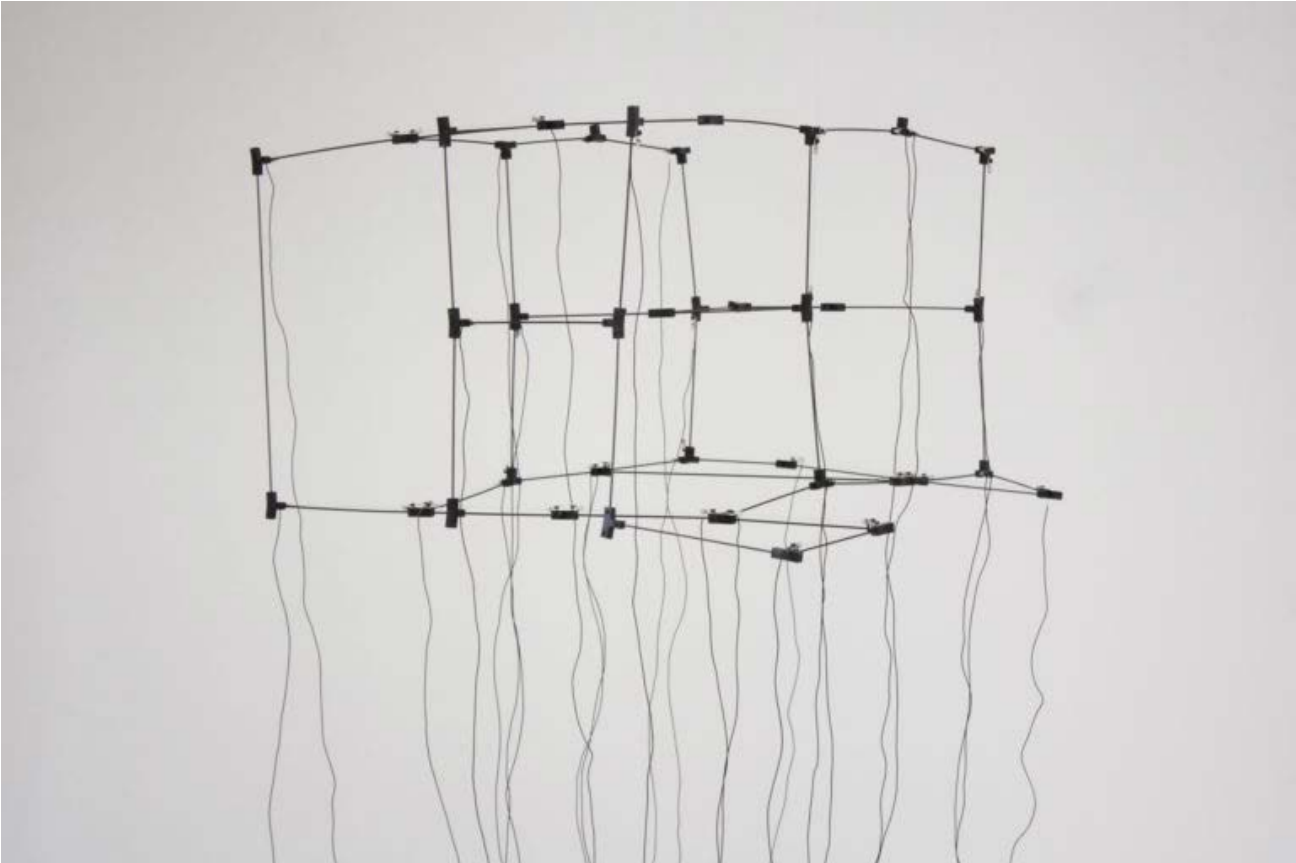
Project by ECAL/Hélène Portier and supported by Alain Bellet, Cyril Diagne, Gaël Hugo, Christophe Guignard, Cédric Duchêne (Tutors) and Laura Perrenoud, Tibor Udvari, Romain Cazier, Marc Dubois (Assistants). Filmed and edited by Hélène Portier.

**Project Page | [ecal.ch](http://ecal.ch) | ECAL – Bachelor Media&Interaction Design**



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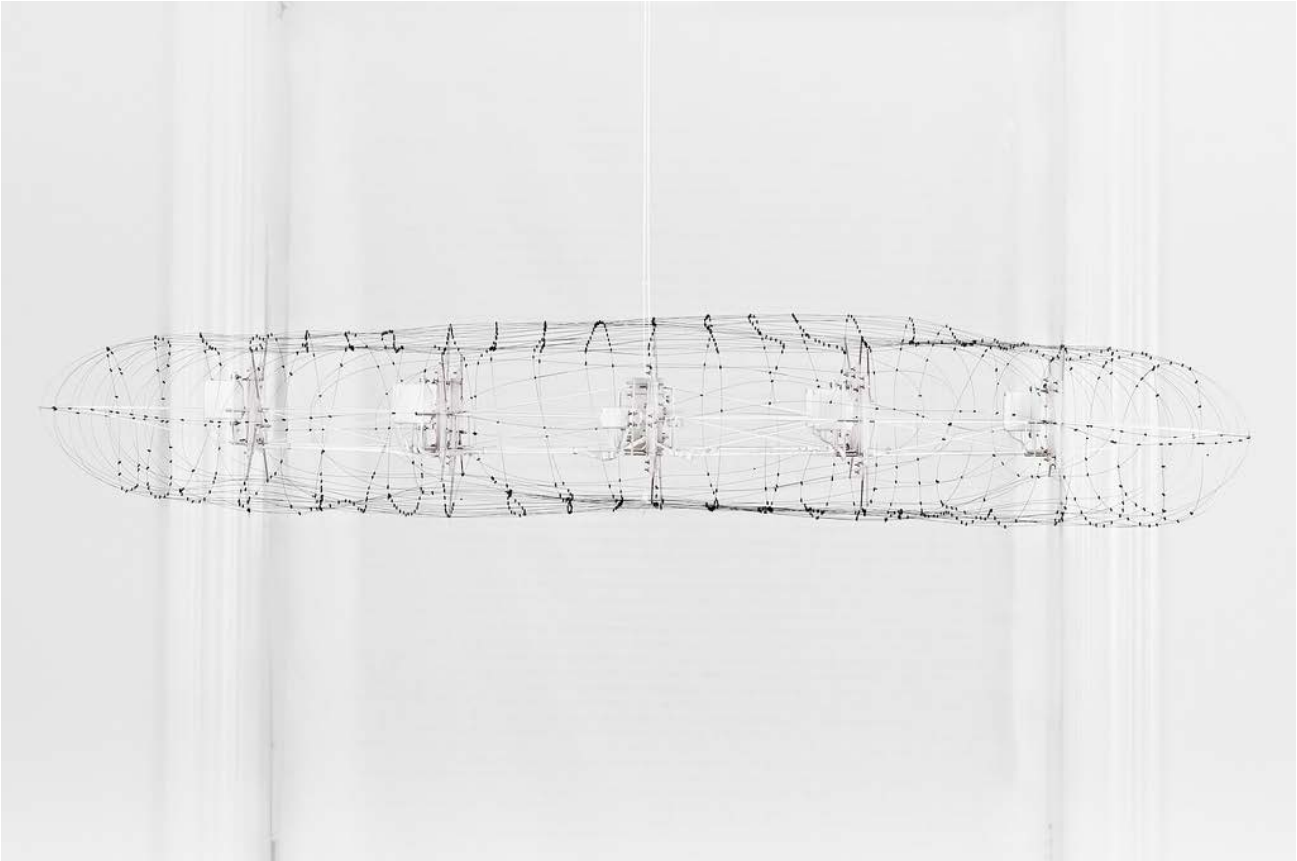
### **Mutiertes L-System – Physically grown L-System**

Created by Lotta Stöver at HfK Bremen, Mutiertes L-System is the physically grown L-System-Algorithm. From a software origin, it migrates into the physical world. By mutating and developing architectural structures it adapts to its new spatial environment.



### **School for Poetic Computation – Fall 2016 Final Showcase**

In the final week of the last year's fall 10-week program at the School for Poetic Computation (SFPC), students presented their work in progress and its underlying ideas in a public showcase. Here is a selection of projects that were presented.



### **'Point Cloud' – Arduino structure by James Leng breathes weather data**

Created by James Leng, Point Cloud is an attempt to re-imagine our daily interaction with weather data. Even with the modern scientific and technological developments related to weather and when we can deploy sophisticated monitoring devices to document and observe weather, our analysis and understanding of meteorology is still largely approximate. Weather continues to surprise us and...



### **Internet of Shrimps – Ironic and playful look at the IoT**

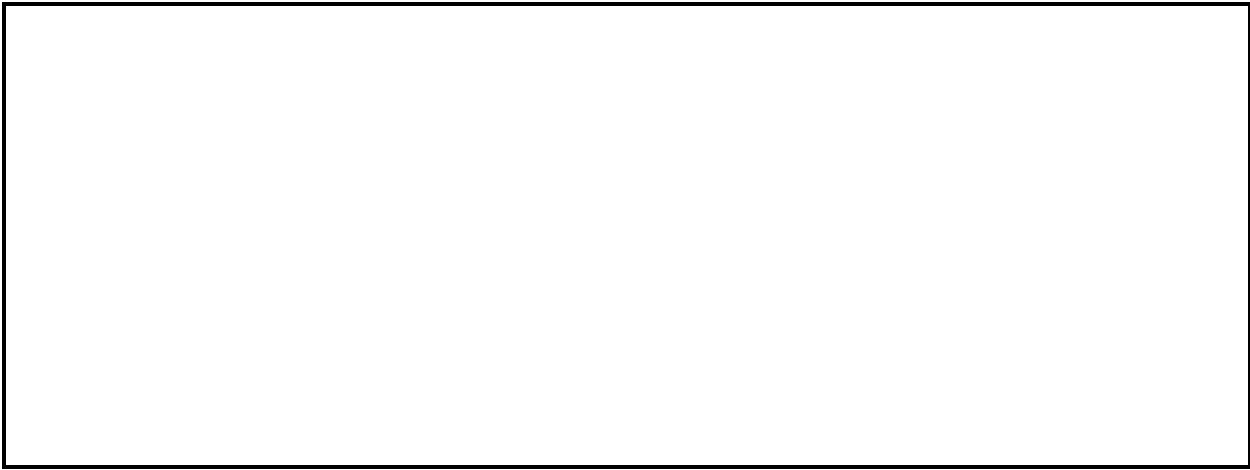
Created by Ralph Kistler, 'Internet of Shrimps' examines in an ironic and playful way the industries' promises for an enhanced experience in a completely interconnected smart home, often be acclaimed as the next big technological revolution: the Internet of Things.

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