

# Sustainability and the Internet of Everything

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# Sustainability and Computation

GASA, FCT-UNL 1992-2005

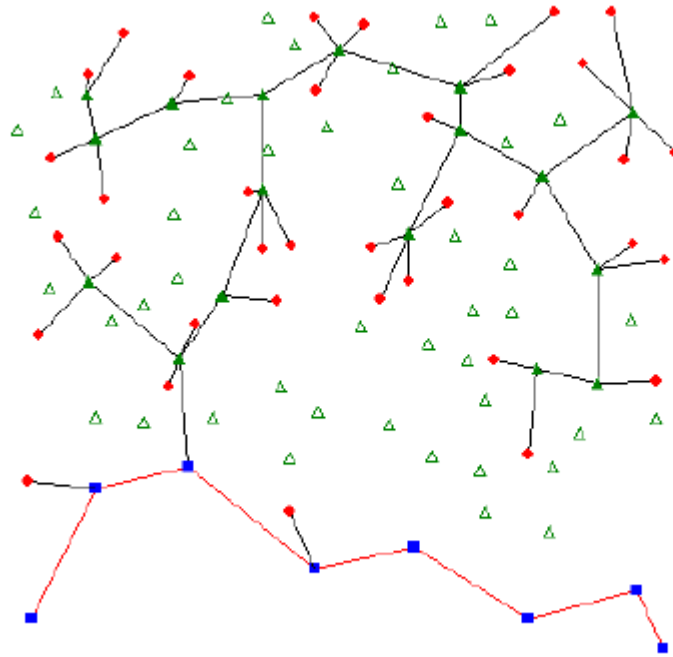


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# Sustainability and Computation

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G. Harik, F. Lobo, D. Golberg.

The Compact Genetic Algorithm.

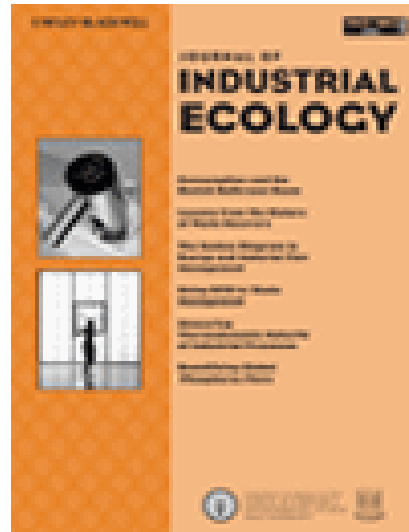
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Optimal location of electrical networks, EDP and  
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# Sustainability and Computation

GASA, FCT-UNL 1992-2005

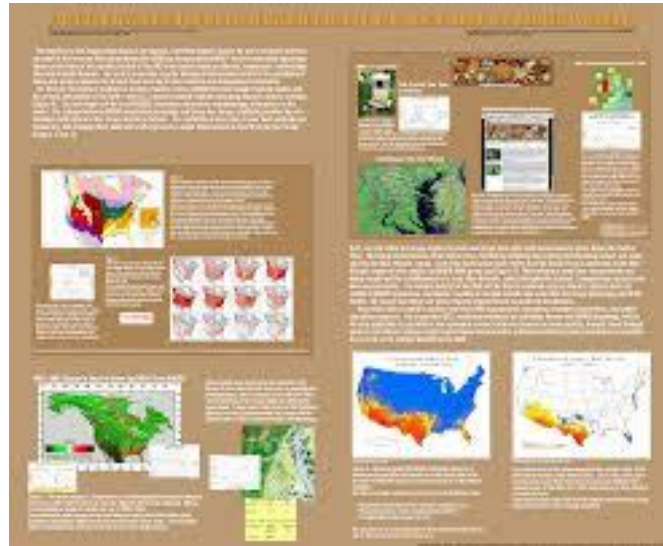


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Approximate Life-Cycle Assessment of  
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Artificial Neural Networks for life-cycle  
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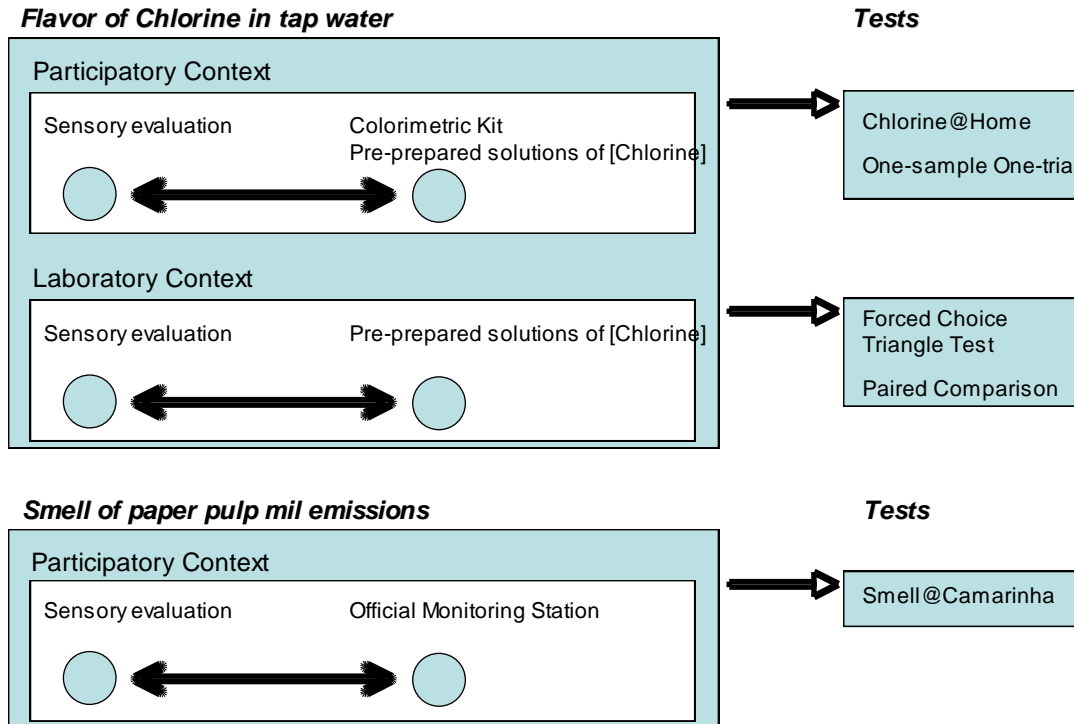
Directional Effects in a Daily AVHRR Land Surface Temperature Dataset...

IEEE Transactions on Geosciences Remote Sensing, 42, 9, 941, 2004

Remote sensing and climate change, NASA

# Sustainability and Computation

GASA, FCT-UNL 1992-2005



C. Gouveia, A. Fonseca, A. Câmara, F. Ferreira.

Promoting the Use of Environmental Data by Concerned Citizens Using ICT.

Journal of Environmental Management,

71, 2, 135, 2005

# Sustainability and Computation

YDreams, 2006-2016

Rock In Rio

<http://tinyurl.com/gqgxrd>

Amazon by Natura

<https://tinyurl.com/y7tmpxjp>

Interactive Facade

<https://tinyurl.com/yb9v2obf>

Hear the City

<https://tinyurl.com/yah2gsbj>

Collective Urban Game

<https://vimeo.com/98552951>





# Sustainability and Computation

YDreams, 2006-2016

## REAL WORLD REAL TIME GAMING



### Realsim

A virtual car (remotely controlled by a user) introduced inside a real time broadcasted scene. The virtual car will not affect the real ones but can be affected by them. If a real car "collides" with the virtual one it will be projected out of the track.



### Flapy — Augmented Playground for childrens

Virtual characters real-time interaction with humans and physical spaces in a new seamless dimension



# Sustainability and the Internet of Everything

Aromni, 2017

## BRIDGING THE REAL AND DATA WORLDS — A COMMON VIEW



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## ADDING AND "TAGGING" INTELLIGENCE IN OBJECTS



### ● Augmented reality

**By image recognition:**  
"It is a bottle"

**By reading the bar code:**  
the cost is 50c

**By using a QR CODE:**  
extended descriptions, images, videos

### ● Sensorization

RFID: may provide detailed product information including the possibility of positioning

Additional sensors: may provide quality related information such as Ph and temperature

### ● Robotics

Sensors/actuators/processors  
— A bottle may have a robotic exo-skeleton



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## AUGMENTED REALITY

Additive

<https://tinyurl.com/y7slgvid>



<https://tinyurl.com/ybgkxly2>

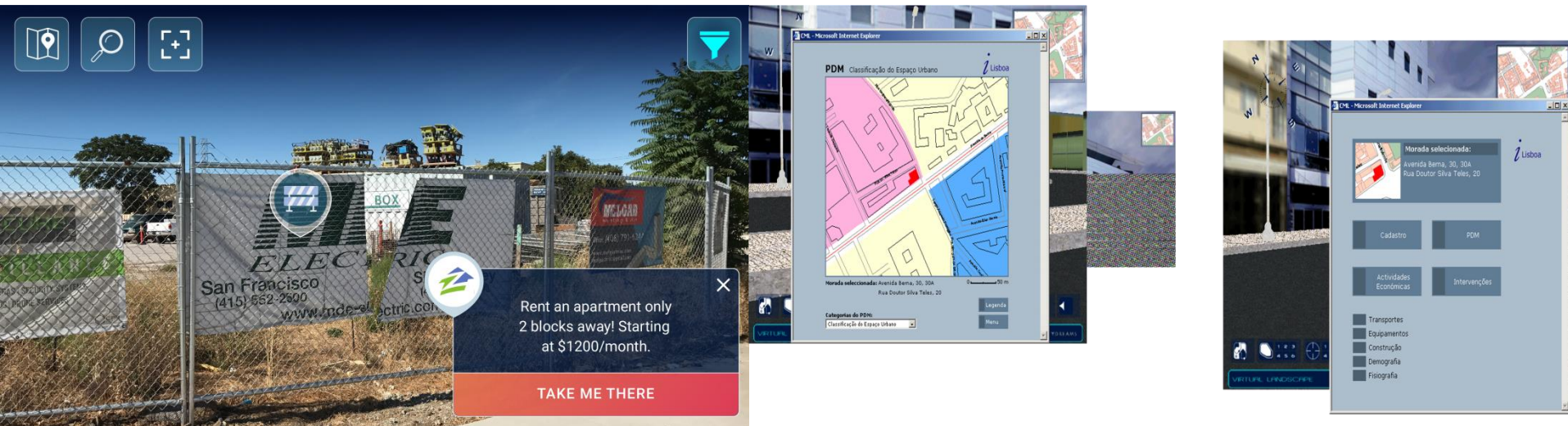


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## AUGMENTED REALITY

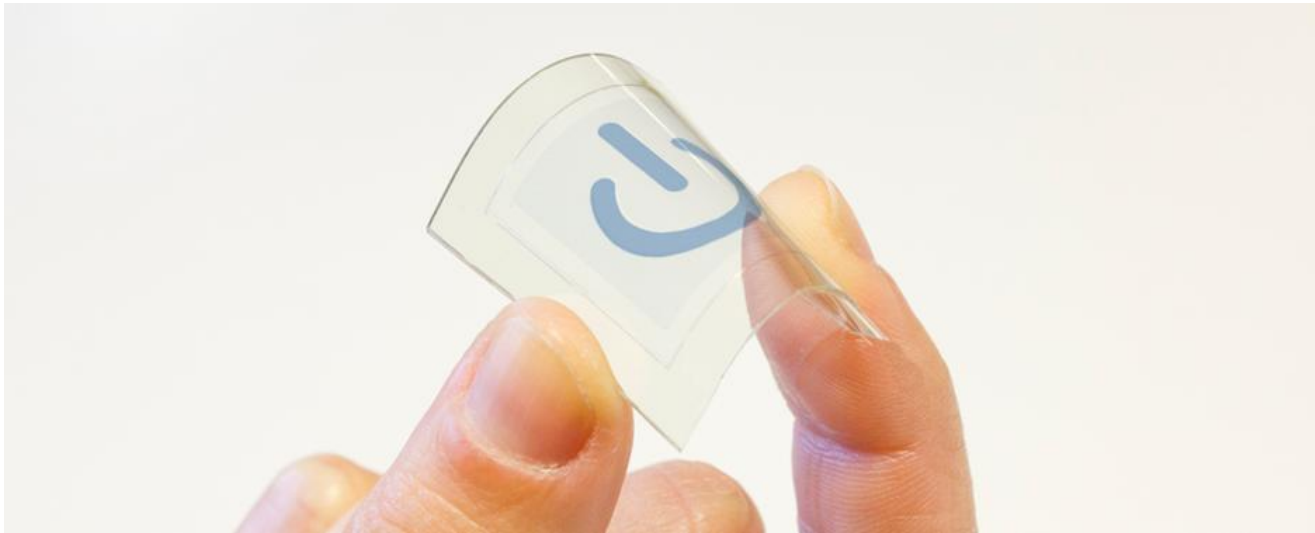
As a new computing platform



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Aromni and Ynvisible, 2017

## PRINTED ELECTRONICS

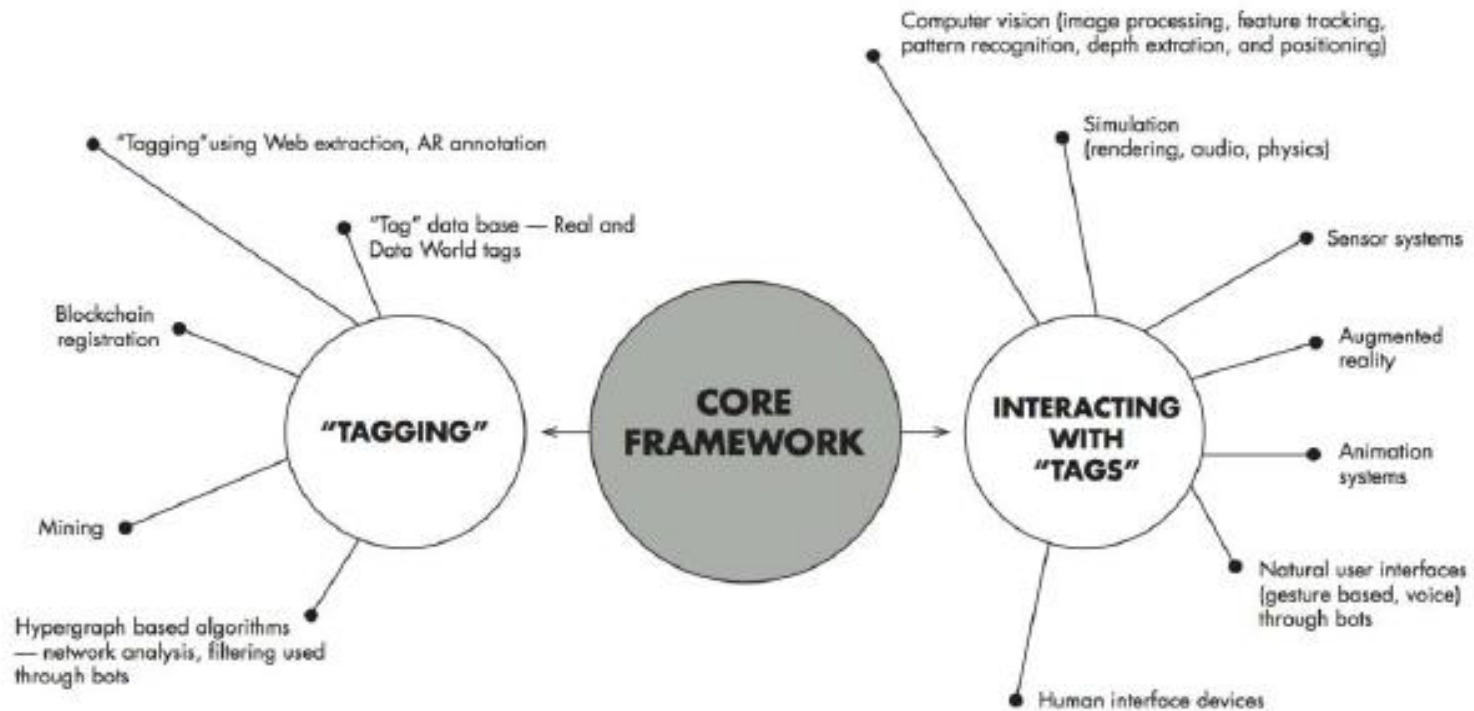


<https://tinyurl.com/y8y6md4h>

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## ARIA — COORDENATING CORE BASED PLATFORM





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## ARIA

World as a browser  
Micro-geography  
Improved search  
Improved privacy issues  
Universal sharing system  
Distributed versus broadcast\*  
Hyperlocal economies

### USN: Universal Sharing Network

**Trustless Trust: Trust without Trust**



**A radically simplified user journey**  
**Open the app > Find object > Pay for it > Use it**

Source: [slock.it](http://slock.it)

KOZAZA

\* Catarina Mota. Bits, Atoms, and Information Sharing: new opportunities for participation.  
<http://hdl.handle.net/10362/14505>, 2015

[asc@fct.unl.pt](mailto:asc@fct.unl.pt)

<https://www.cense.fct.unl.pt/>

[www.aromni.com](http://www.aromni.com)

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<http://ygroup.eu>

<http://explora.live>