

AROMNI

DIGITAL TRANSFORMATION AND THE INTERNET OF EVERYTHING

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Digital Transformation of the Real World and the Internet of Everything (IoE)

Societal Impacts of IoE

**IoE
will be the Internet of Everyone**

Digital Transformation of the Real World and IoE



THE REAL WORLD



Extreme Tech, 2012

<https://patents.google.com/patent/US20110066646A1/en?assignee=ydreams&oq=ydreams>

REAL AND DATA WORLDS

Bridging the Real and Data Worlds

People and
other living organisms

Places

Objects

Experiences

Real and Data Worlds
are bridged by

Computer Vision
Other Sensors
Natural Language

The Real World

The Data World

Real time data

System data

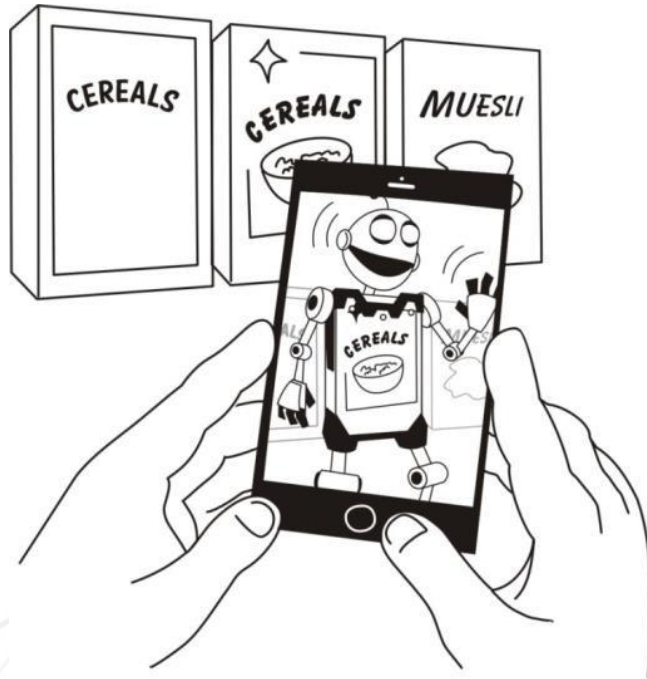
Online Behaviour

Data on the Real
World is
commonly
accessed using
WWW URLs

BRIDGING THE REAL AND DATA WORLDS

Augmented Reality (AR) has been mostly additive but...

<https://hbr.org/2017/11/a-managers-guide-to-augmented-reality>



BRIDGING THE REAL AND DATA WORLDS

**AR can help enrich and index the Real World in the Data World
based on Augmented Positioning System (APS) ***

It will complement GPS and IPS providing precision to the
users Field of View's point clouds

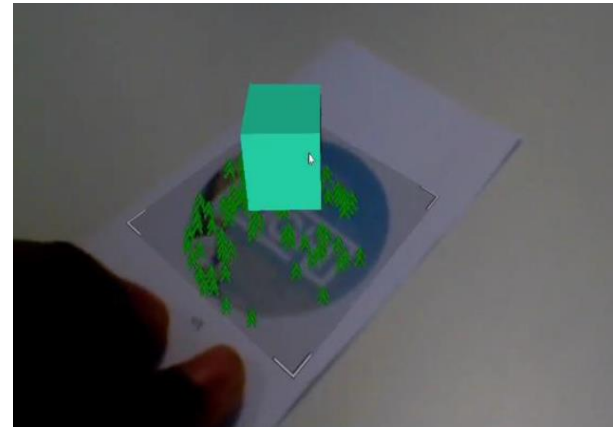
It will provide a canvas to enrich the Real World

It will provide the foundations for Smart Tags, the key bridges
between the Real and Data Worlds

*US Patent Pending

BRIDGING THE REAL AND DATA WORLDS

APS provides accurate estimates for coordinates of point clouds in the Field of View of users whose position is known via GPS or IPS. It may use a variety of depth perception analytical methods*. It may be used to infer virtual anchor points for the augmented World. It can be used in both long and short range situations



[*https://patents.google.com/patent/US20080192048A1/en?assignee=ydreams&oq=ydreams](https://patents.google.com/patent/US20080192048A1/en?assignee=ydreams&oq=ydreams) and
<https://patents.google.com/patent/US20100194863A1/en?assignee=ydreams&oq=ydreams>

BRIDGING THE REAL AND DATA WORLDS

APS providing the canvas to enrich the Real World

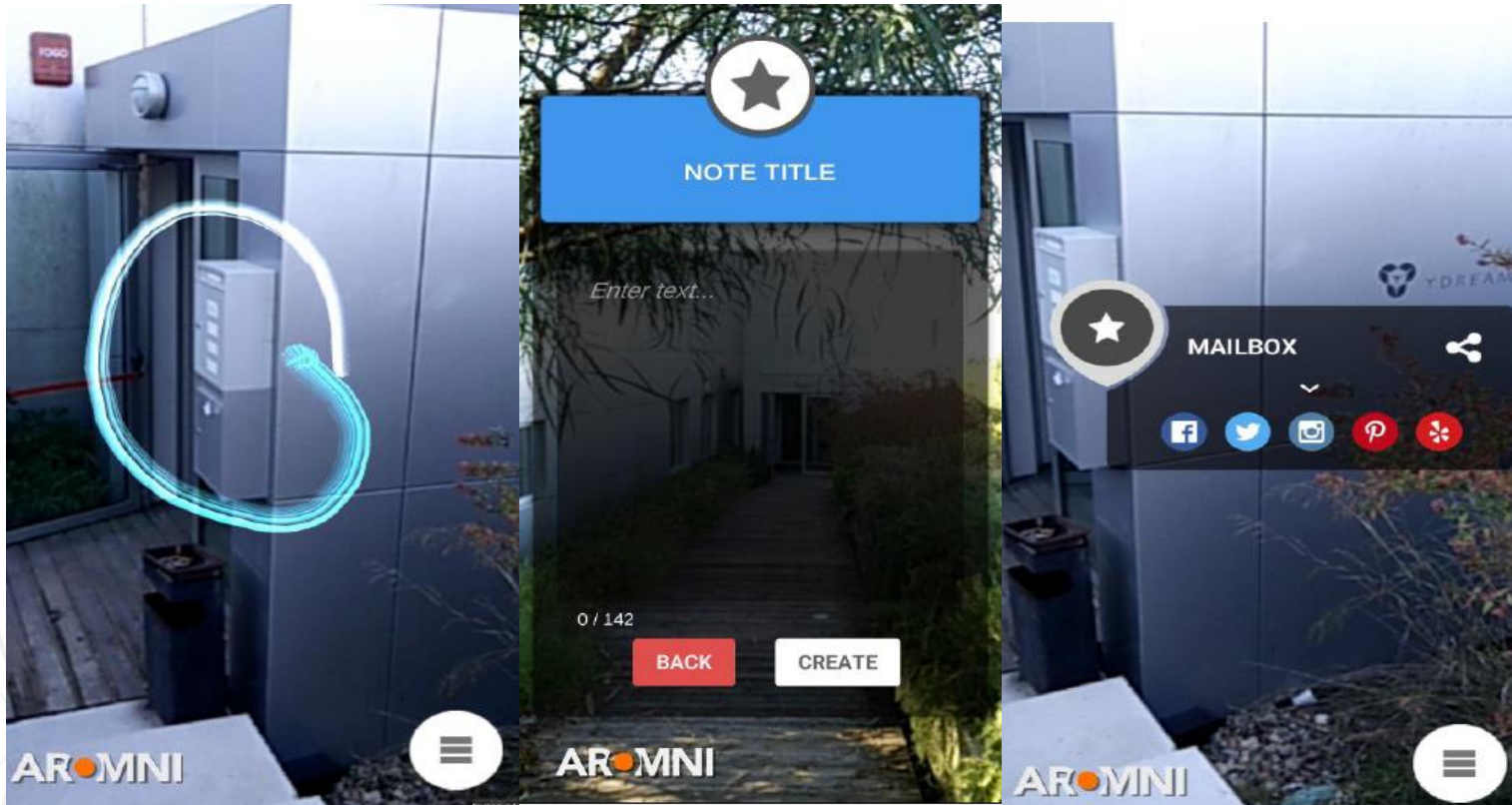
clockwise: 3D virtual drawing; large scale projections; inserting virtual elements in real scenes; Cloud Atlas' special effects



BRIDGING THE REAL AND DATA WORLDS

AROMNI

APS the foundation for Smart Tags*

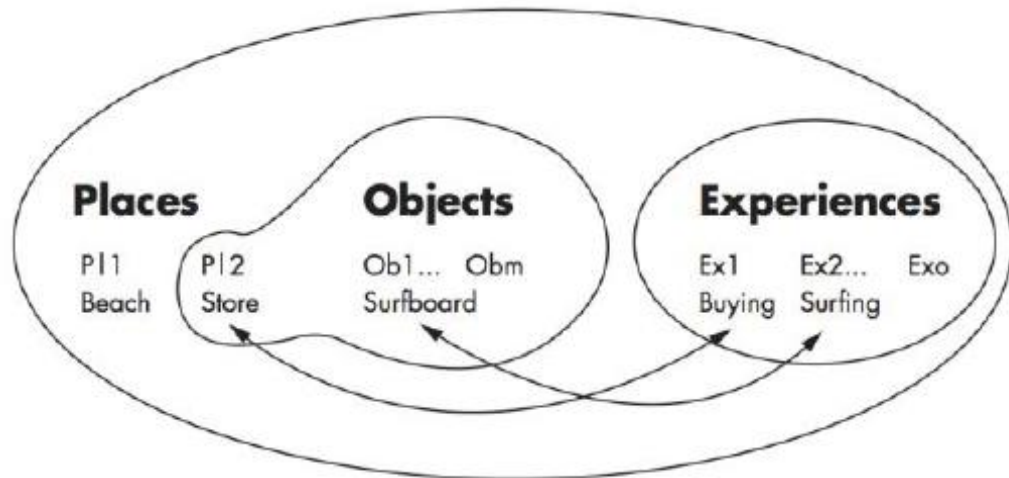


Tagging to bridge the Real and Data Worlds: APS positioning, labelling, two way communication, sharing, machine learning and other computer programs

* US Patent Pending

BRIDGING THE REAL AND DATA WORLDS

BRIDGING THE REAL AND DATA WORLDS — A HYPERGRAPH BASED VIEW



The Real World

The Data World

URLs related to the "Beach", "Store", and "Surfboard" provide access to Websites with too broad information

In the Hypergraph based approach, nodes and arcs are "tagged"

"Tags" provide focused information and can be easily developed and used locally

THE INTERNET OF THINGS

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

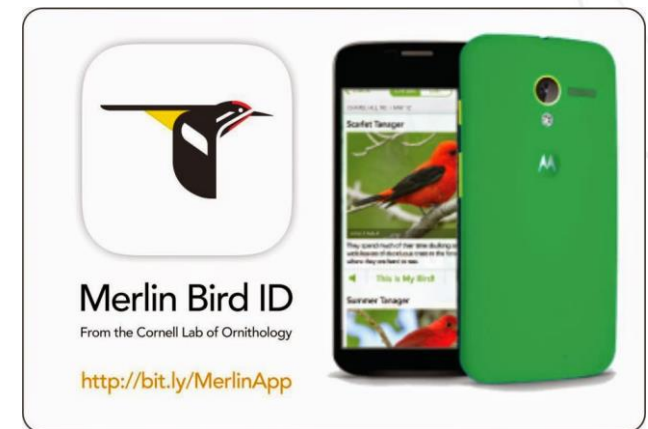


THE INTERNET OF BIOLOGICAL THINGS

Macroscopic level

Identify and “tag” animals and plants

<https://www.youtube.com/watch?v=OkH11ZiIL9E>



Microscopic level

“Tag” molecular biology

<https://tinyurl.com/y7gns634>



IOE

POWERED BY



ARIATM



Web



Mobile



Glasses

For other forward looking displays see <http://www.bbc.co.uk/rd/about/vision>

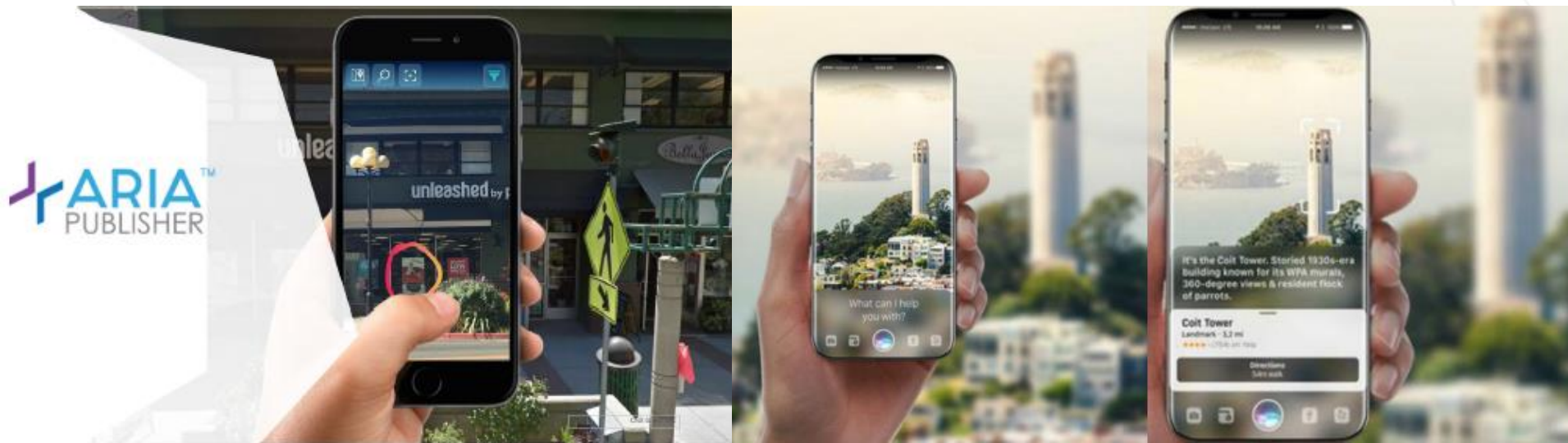
*US Patent Pending



IOE

AROMNI

ARIA's unique user experience



<https://youtu.be/TSWZLUv-vhk>

ARIA's unique user experience



Object Capture

as it did when the artist recorded it, but better. Headphones designed to play full songs in today's digital audio tracks. The man who knows: Grammy® Award-winning artist, producer, and sonic perfectionist Dr. Dre. In search of headphones that truly reveal what's in the mix, Dre joined forces with the audio experts at Monster.® Together, they've built headphones for the ultimate high definition listening experience—for sound so real it's like you're right in the room with the artist.

With advanced speaker design and powered isolation™ technology, Beats delivers all the power, clarity, and deep bass today's top artist and producers want you to hear. Step into the studio—presenting Beats™ by Dr. Dre.™

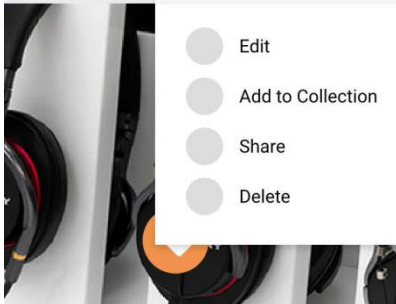


studio.
High Definition Powered Isolation™ Headphones

MONSTER

← Son Tag Options ×

- Edit
- Add to Collection
- Share
- Delete



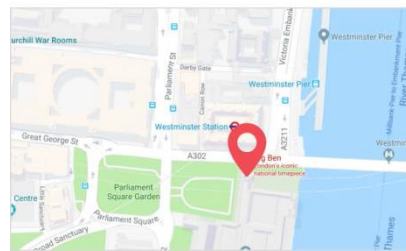
Description text goes here and can include voice recording, links, photos, and videos

[voice recording]

[video]

Website to learn more info: sony.com/headphones

DOWNLOAD APP

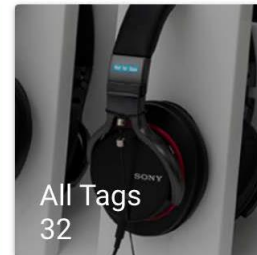


Add to Collection



Sony headphones

New
Collection



All Tags
32



headphones
1



name
8



name
5

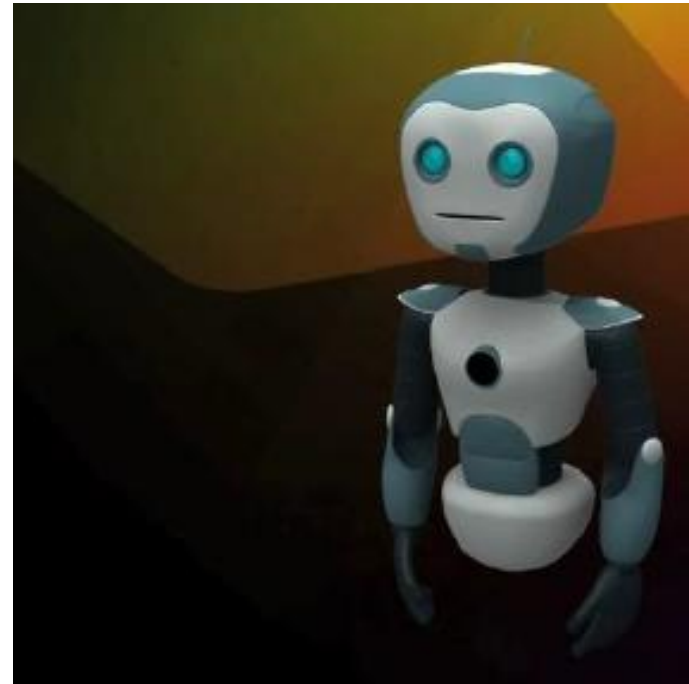


name
1

IOE

ARIA's unique user experience**Innovative AI agents**

<https://www.youtube.com/watch?v=AmlKYMD08x8>



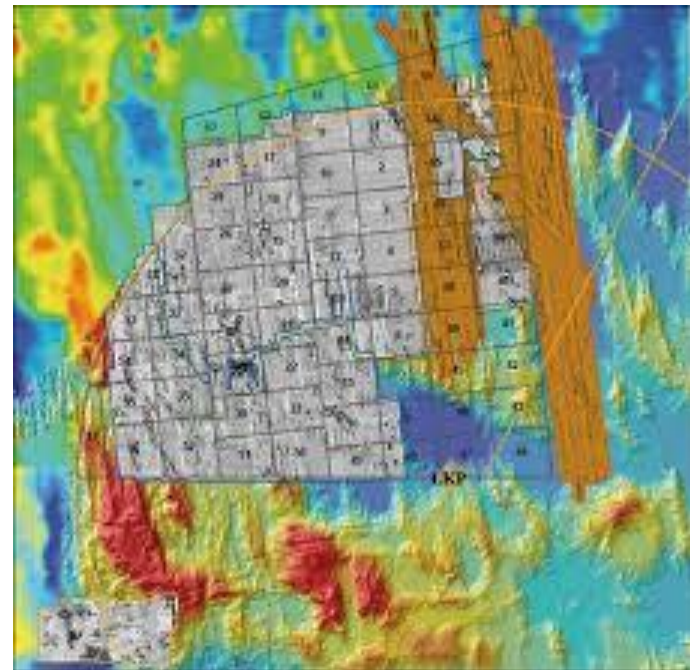
ARIA's improved search*

Hypergraph based
network algorithms

Bayesian search
missing objects

Generative search
knowledge discovery
genetic programming

*US Patent Pending



Source: www.informs.org, 2018

IOE

ARIA's blockchain integration

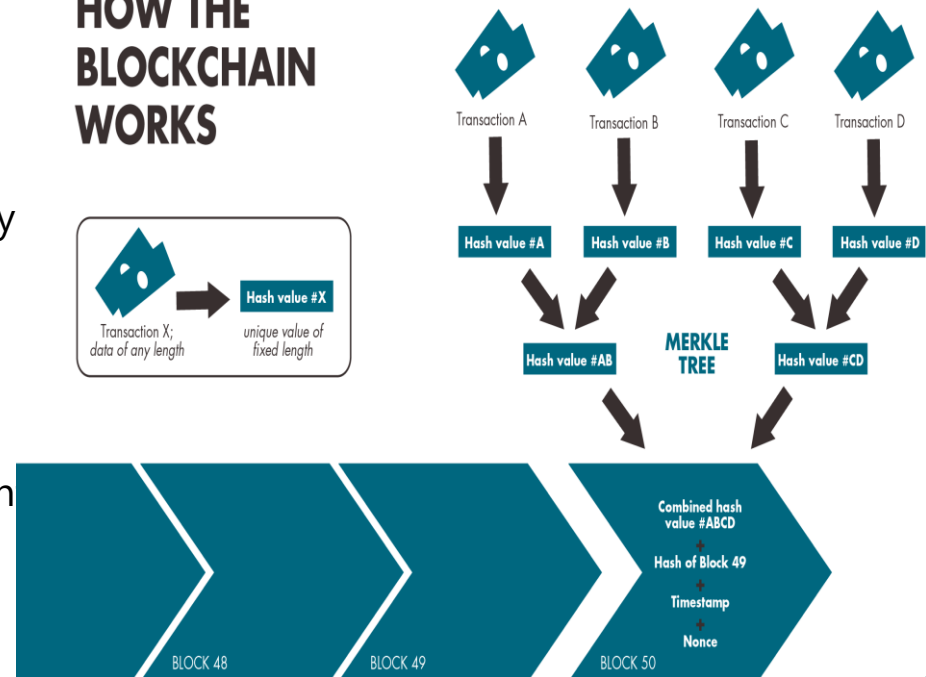
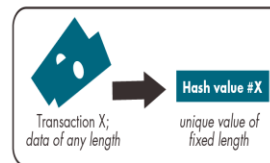
Selected smart tags may be registered using hyperledgers

Integration of tagged objects in mediated blockchain services (i.e., Universal Sharing System by slock.it; e-commerce and other transactions)

Smart contracts to manage global collaborative development efforts

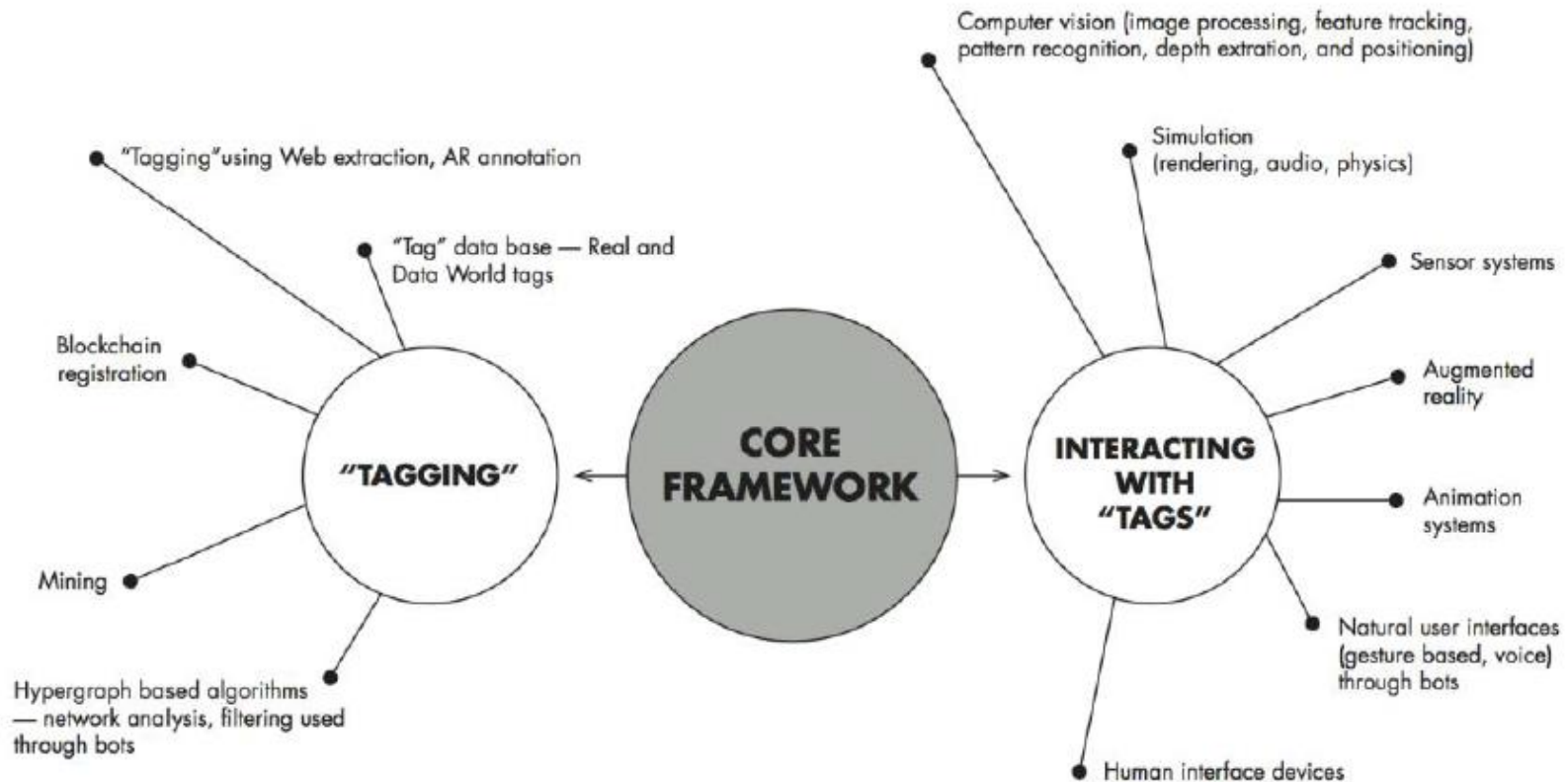
ARIA's may foster the use of tokens to draw adoption

HOW THE BLOCKCHAIN WORKS



Reproduction of an original figure in "The Great Chain of Being Sure About Things" by the Economist

IOE

**ARIA — COORDENATING
CORE BASED PLATFORM ***

ARIA's infrastructure will rely on IPFS, <https://ipfs.io/>

*US Patent Pending

Societal Impacts of IoE

The Inventors Space

DIA 1 - Jogo da Operação

the **inventors** ()



DIA 3 - Scratch e Design 3D

the **inventors** ()



SOCIETAL IMPACTS

The Citizen's Internet

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

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

SOCIETAL IMPACTS

The Citizen's Internet

Local democracy

Local media*

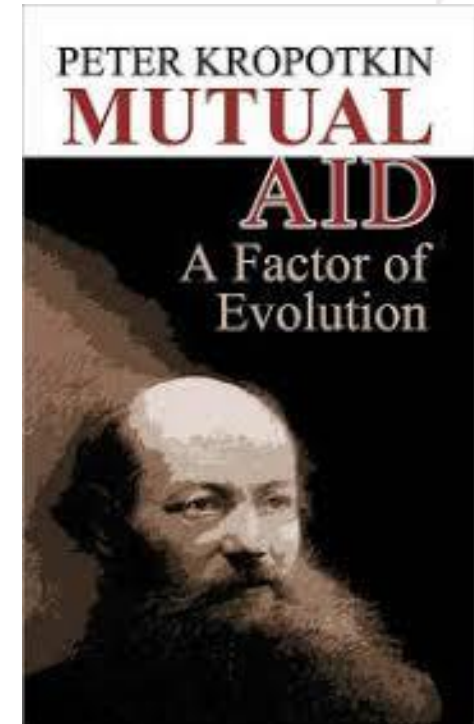
Local arts & crafts

Energy and water saving

Reduction, reuse and recycling

Sanctuaries for the poor

Peter Kropotkin and Abbie Hoffman's
utopian dreams may come alive**



<https://www.coindesk.com/insightful-ico-telecom-giant-telenor-wants-to-disrupt-media-with-tokens/>

<http://www.ephemerajournal.org/contribution/peter-kropotkin%E2%80%99s-anarchist-vision-organization>

SOCIETAL IMPACTS

Smart cities

ARIA's platform
will facilitate driving
and sharing electrical cars

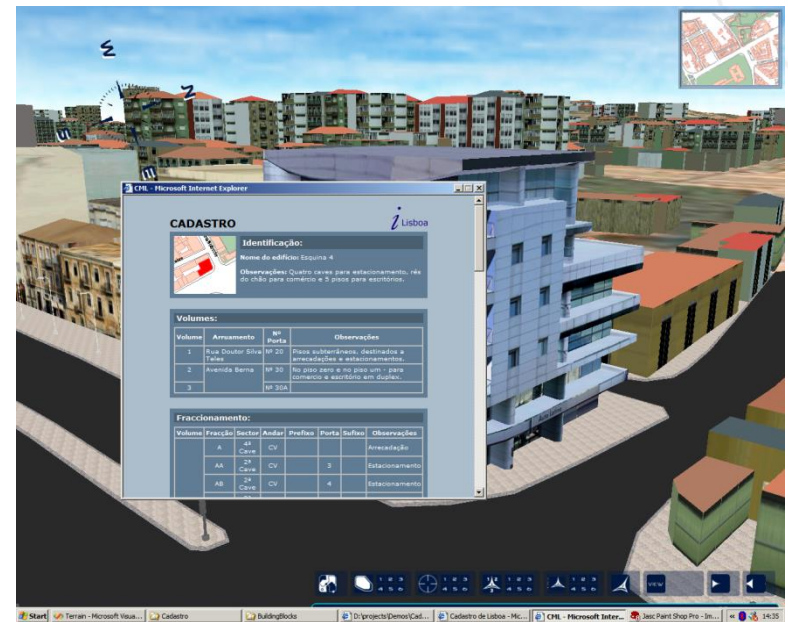
ARIA's will also enable their
use as sensors



SOCIETAL IMPACTS

Smart cities

ARIA will feed Smart Tags
on urban infrastructure
by parsing and learning
from heterogeneous
data bases



SOCIETAL IMPACTS

Other vertical markets

Tourism

Retail

Health

Utilities

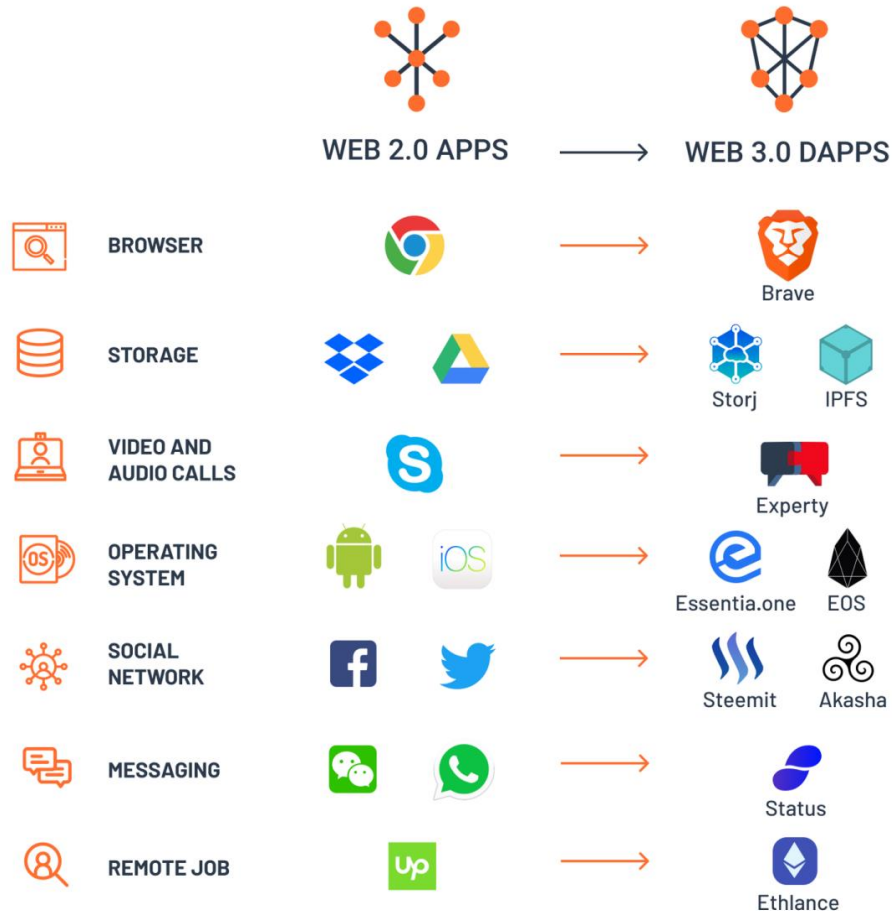
Space

Entertainment



Internet of Everything will be the Internet of Everyone

FROM A CENTRALIZED TO A DECENTRALIZED INTERNET



ARIA is a Web 3.0 browser for IoE

Pro privacy, anti-monopoly

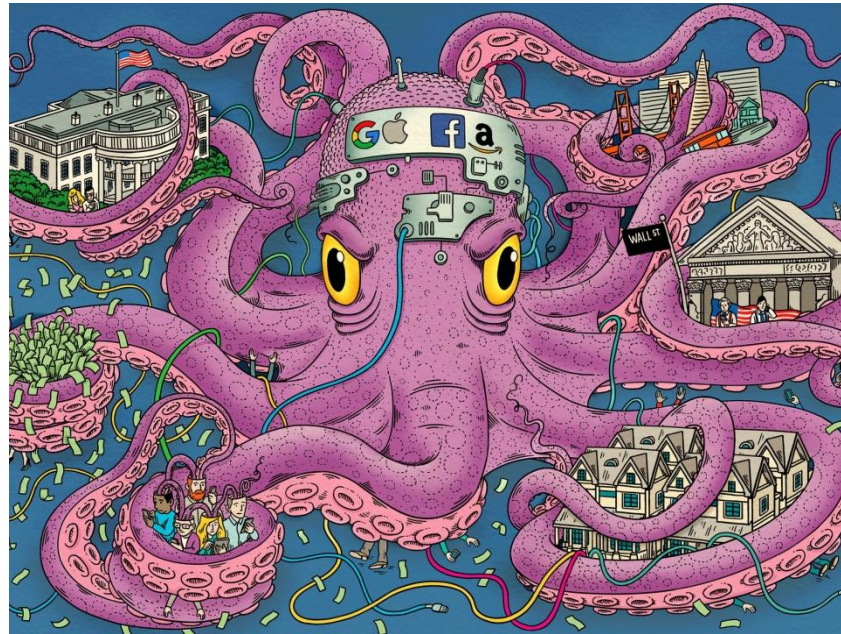
No central point of control

Ownership of data

Permissionless blockchains

Matteo Zago, Why the Web 3.0 Matters and you should know about it, Medium, Jan 30, 2018

ARIA: a new leveled playing field for and with the World from Europe: a true digital societal transformation



<http://www.esquire.com/news-politics/amp15895746/bust-big-tech-silicon-valley/>

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