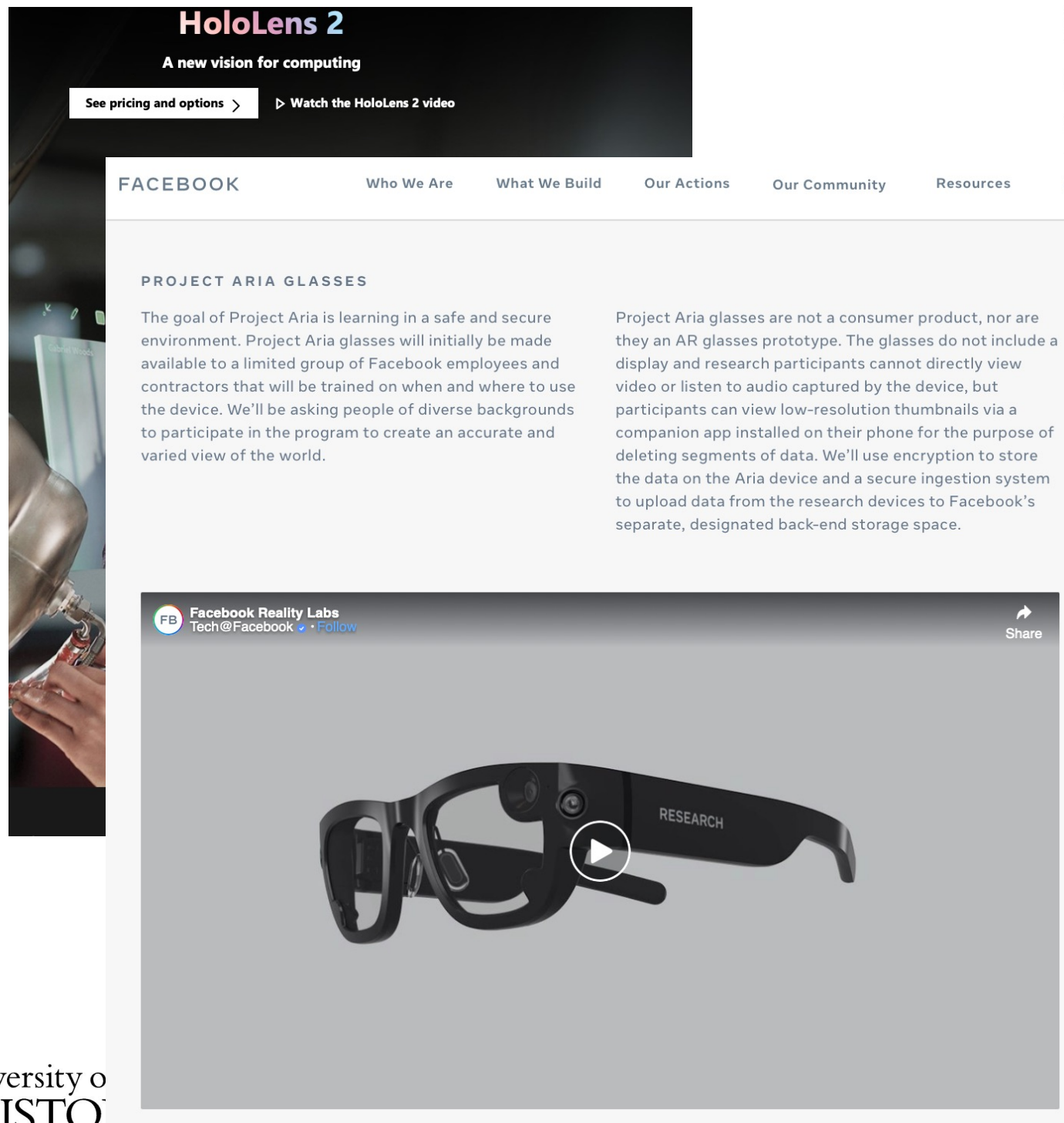




What's Up with the Ego Buzz? Hype or Hope?

The future is here...



HoloLens 2
A new vision for computing
See pricing and options > Watch the HoloLens 2 video


FACEBOOK Who We Are What We Build Our Actions Our Community Resources

PROJECT ARIA GLASSES

The goal of Project Aria is learning in a safe and secure environment. Project Aria glasses will initially be made available to a limited group of Facebook employees and contractors that will be trained on when and where to use the device. We'll be asking people of diverse backgrounds to participate in the program to create an accurate and varied view of the world.

Project Aria glasses are not a consumer product, nor are they an AR glasses prototype. The glasses do not include a display and research participants cannot directly view video or listen to audio captured by the device, but participants can view low-resolution thumbnails via a companion app installed on their phone for the purpose of deleting segments of data. We'll use encryption to store the data on the Aria device and a secure ingestion system to upload data from the research devices to Facebook's separate, designated back-end storage space.

Facebook Reality Labs
Tech@Facebook Follow



Samsung patent application reveals augmented reality headset design

It comes as the Gear VR slowly fades away

by Jon Porter



The future is here...



Stephen Patula ✓

@StephenPatula · 507K subscribers · 544 videos

i'm lovin' it >

[instagram.com/stephenpatula](https://www.instagram.com/stephenpatula) and 1 more link

Subscribe

Home Videos Shorts Live Playlists Community 🔍

For you



McDonalds POV: Breakfast to Lunch Transition

960K views · 11 months ago



McDonald's POV: Dynamic Duo | Lunch Table

62K views · 2 weeks ago



McDonald's POV: Snow Day | Lunch Solo Table

2.2M views · 4 months ago

Fundraiser

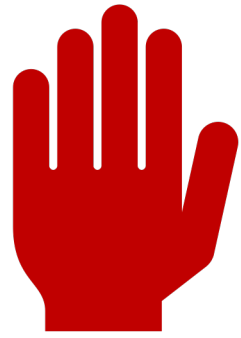
The future is here...



Let's start with a show of hands...



Hands-Up if you are ready to wear a head-mounted or glass-mounted camera...



Hands-Up if this is NOT the future...



A world of isolated individuals....



Dangerous for crossing the road...



Mind-altering...

45 years ago...



Wa

Walkman ban ok

WOODBRIDGE, N.J. (AP) — Trians and cyclists who tune in to and tape players with lightweight also tuning out traffic hazards, sa Council.

Personal St

'Let'



Richard Butler, 24, rides the No. 30 (Jack-

Isolation is a result of plugging in

By John Jenks

Plug in to solitary entertainment, America. The Sony Walkman and its clones are here to stay.

Sales of the lightweight cassette tape recorders and radios continue to be brisk in the Milwaukee area and "plugged in" people are becoming more and more visible.

The Walkman is a valuable weapon in the fight against boredom when walking, jogging and traveling. It's also a good way to listen to music. For workers in noisy jobs it serves as a set of deluxe earplugs — shutting out the noise of machinery and bringing in favorite music or other entertainment.

It also can be a source of solitude in the midst of the hurly-burly of 1980s America — just plug in and tune out.

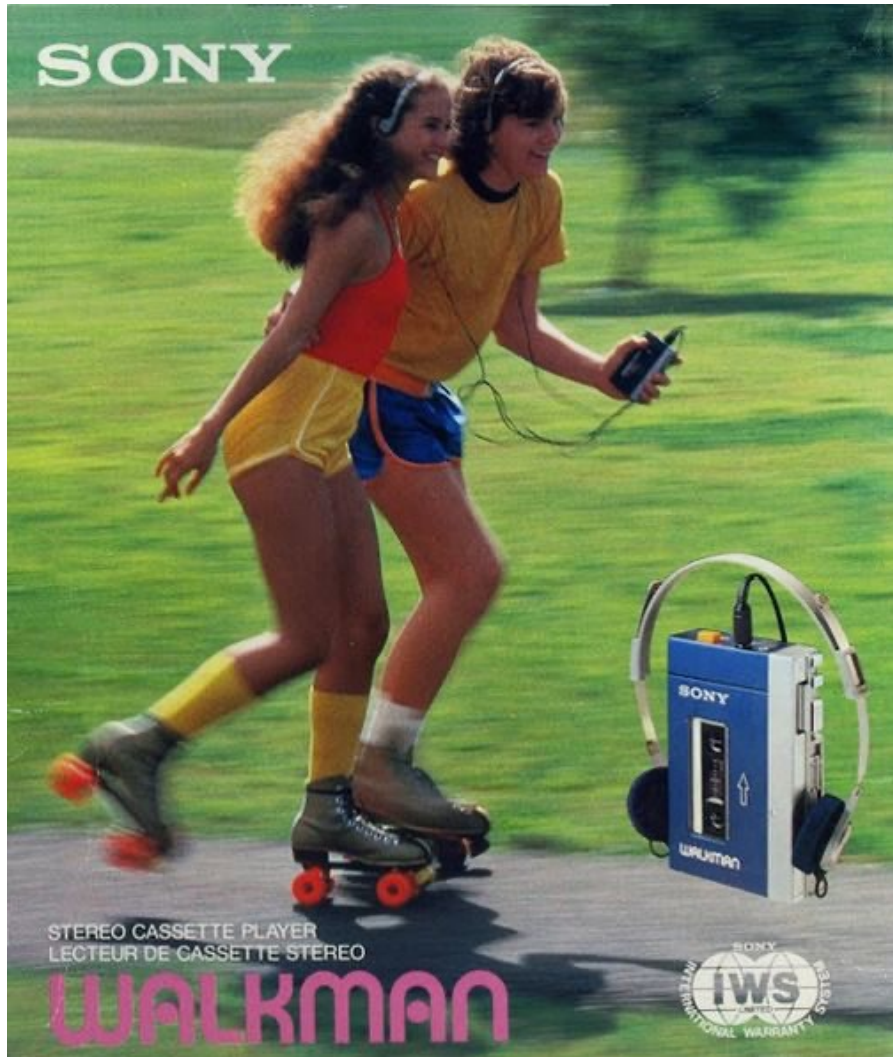
"As society gets more and more cluttered you will see an increase in

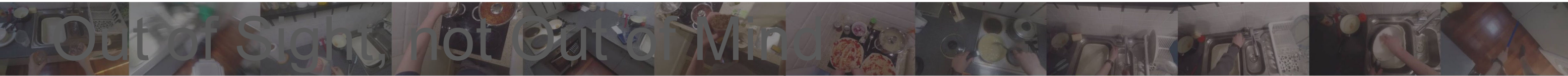


Alone in the crowd: as more people opt for Walkman-type isolation, we are slowly peeling away from our fellow citizens, according to the latest American theory

Are we lost in a world of our own?

45 years ago...





How did we get here?



1907

1970s

1987

2004
GoPro



How did we get here?



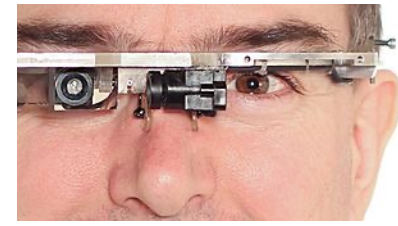
How did we get here?



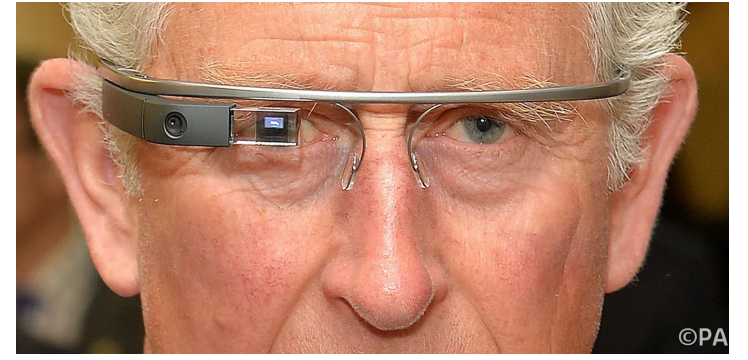
1907



1970s



1999
Eyetrapp



2013
Google
Glass

1987



1995



2004
GoPro



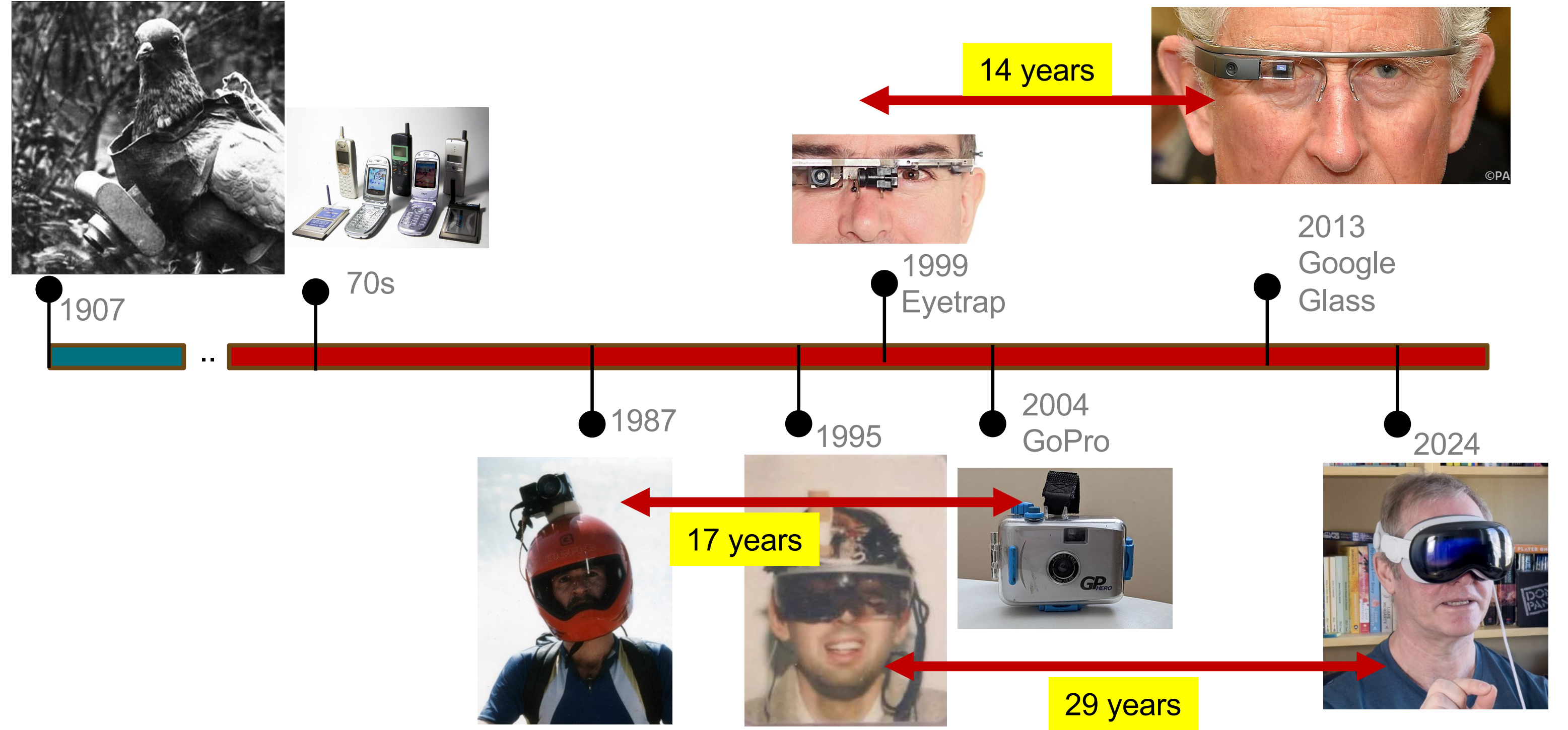
2024



How did we get here?



How did we get here?



How did we get here?



Motorcyclist fights fine for GoPro-style camera on helmet

A MOTORCYCLIST who was fined for having a GoPro-style camera on his helmet has fought the fine.

Rebekah Cavanagh

2 min read September 16, 2015 - 1:5

Home > Biz > News

lost a landmark | THE SHIFT

How Much Could Google's New Camera-Embedded Eyeglasses Change the Way People Use Entertainment, raise privacy question.

By Kevin Kelleher



Undated : GoPro HD Motorsport Hero camera - motorbike / motorcycle helmet mounted

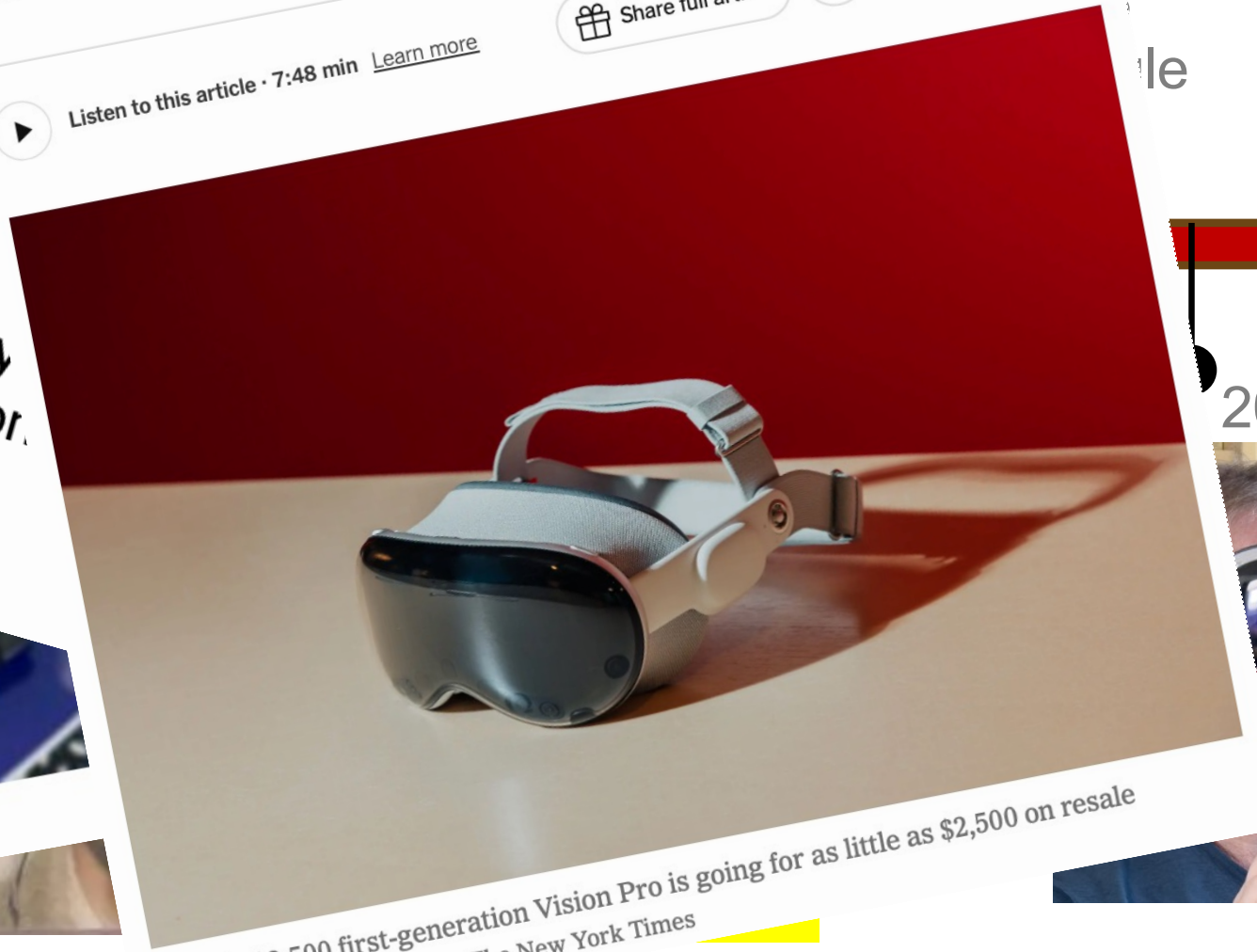
Can Apple Rescue the Vision Pro?

The \$3,500 "spatial computing" device has gathered dust on my shelf. Can tweaks and upgrades save it from obsolescence?

Listen to this article · 7:48 min [Learn more](#)

Share full article

106



Apple's \$3,500 first-generation Vision Pro is going for as little as \$2,500 on resale websites. Clara Mokri for The New York Times



2024

And ideas are flowing..



What's Next?





An Outlook into the Future of Egocentric Vision

Chiara Plizzari*, Gabriele Goletto*, Antonino Furnari*, Siddhant Bansal*, Francesco Ragusa*, Giovanni Maria Farinella[†], Dima Damen[†], Tatiana Tommasi[†]





with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal,
Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi

Envisioning an Ambitious Future and Analysing the Current Status of Egocentric Vision

How did we do this?

with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi

We imagined a device – *EgoAI* and envisioned its utility in multiple scenarios



EGO-Designer



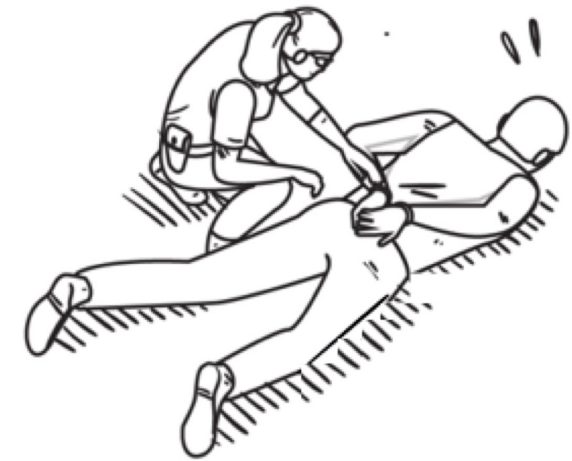
EGO-Tourist



EGO-Worker



EGO-Home

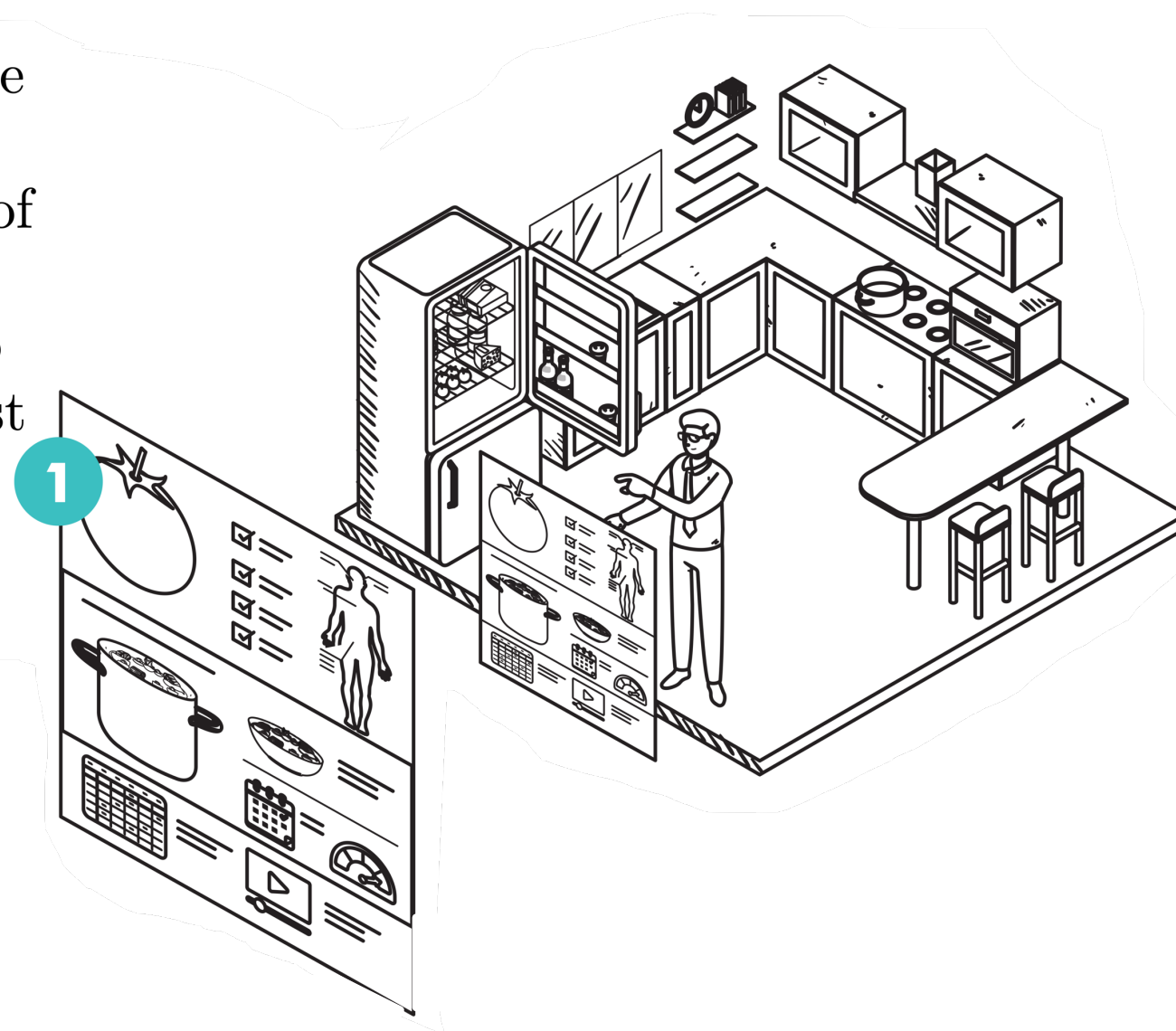


Ego-Police

EGO-Home

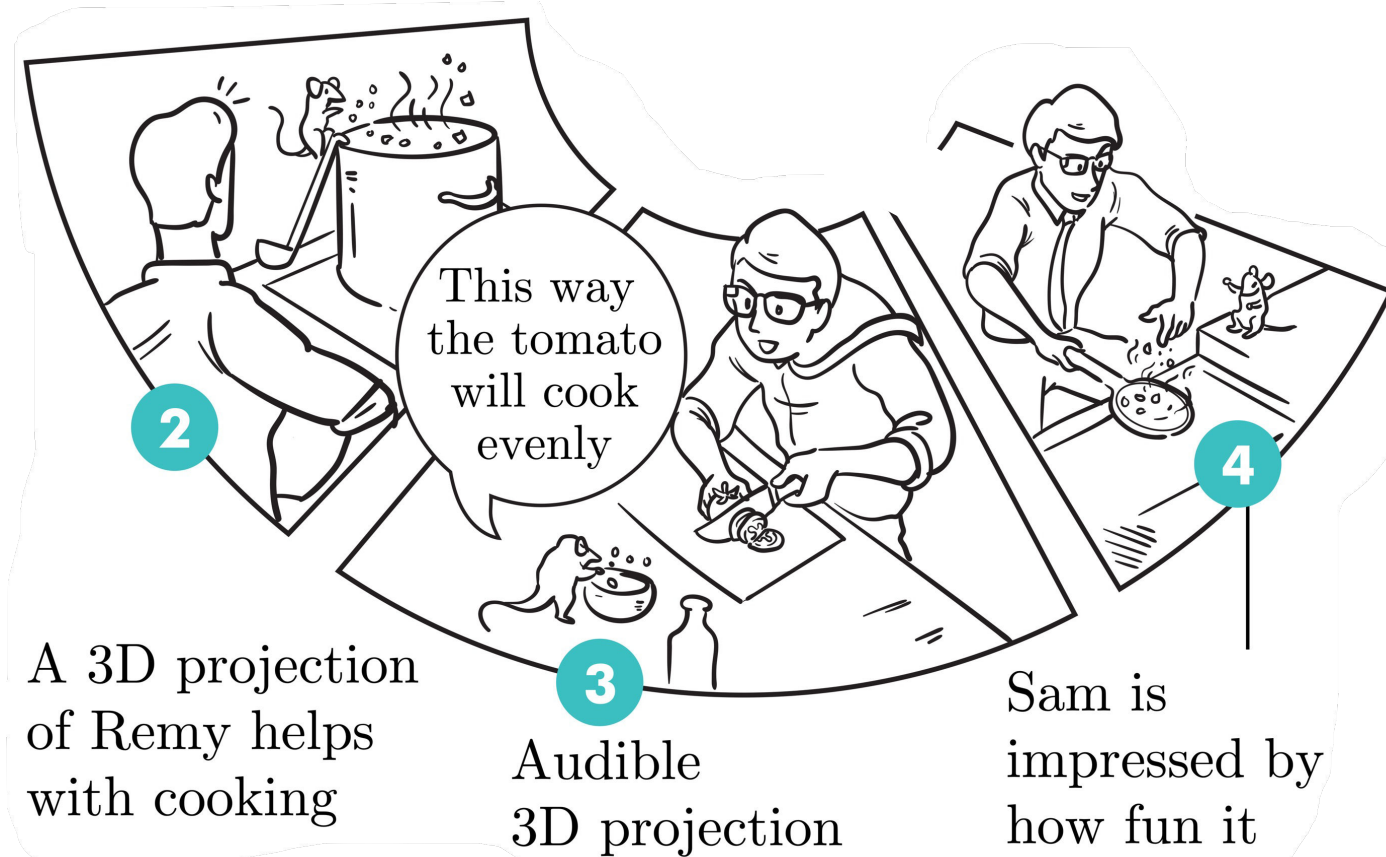
with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi

Sam is finally home after a long day. EgoAI kept track of Sam's food intake and a tomato soup sounds like the best complementary nutrition



EGO-Home

with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi



A 3D projection of Remy helps with cooking

Audible 3D projection

Sam is impressed by how fun it is to cook with his 3D friend



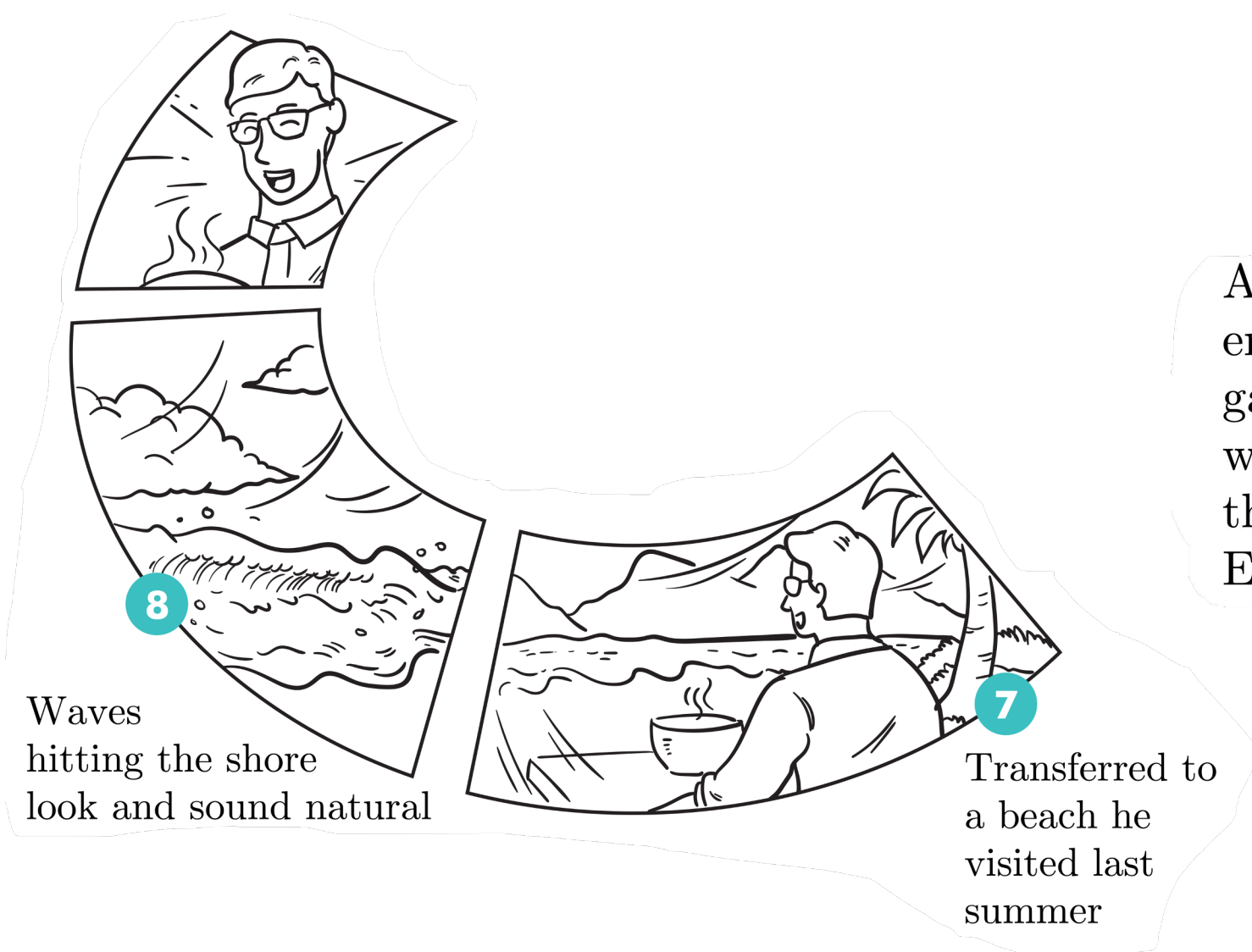
Toaster reminder



EgoAI recommends some more spice

EGO-Home

with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi

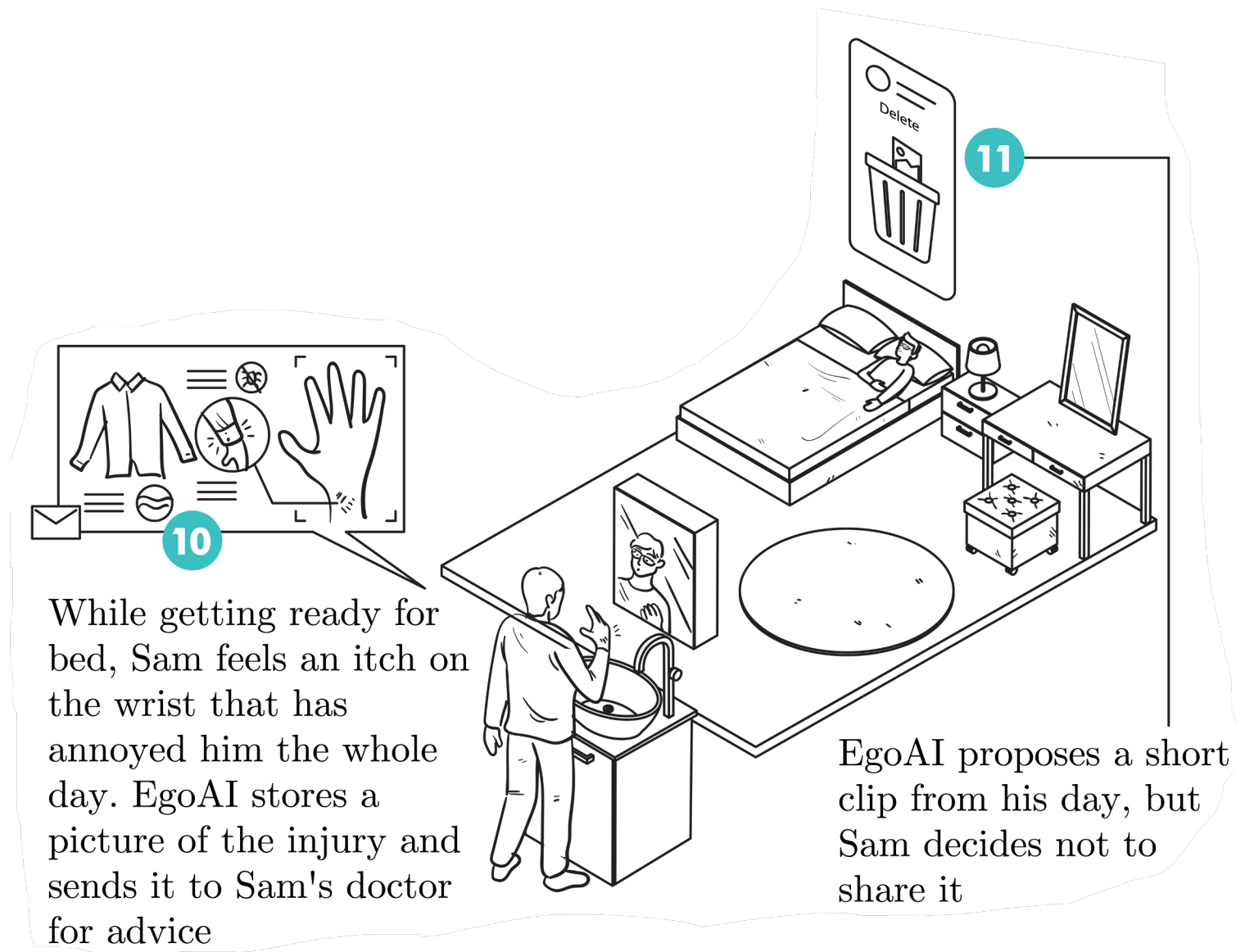


After dinner, Sam enjoys a group card game with his friends, who are connected through their own EgoAI



EGO-Home

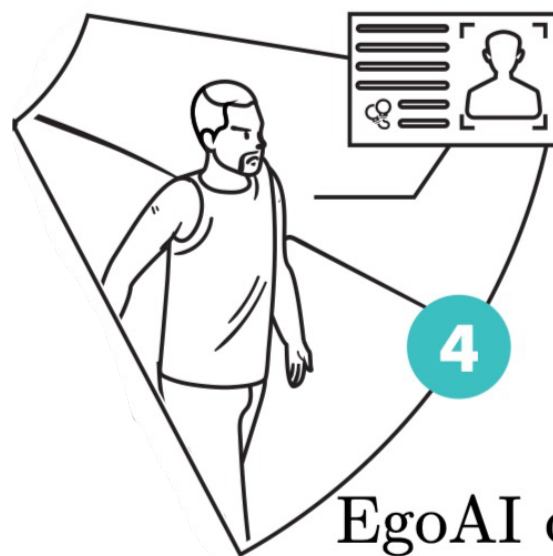
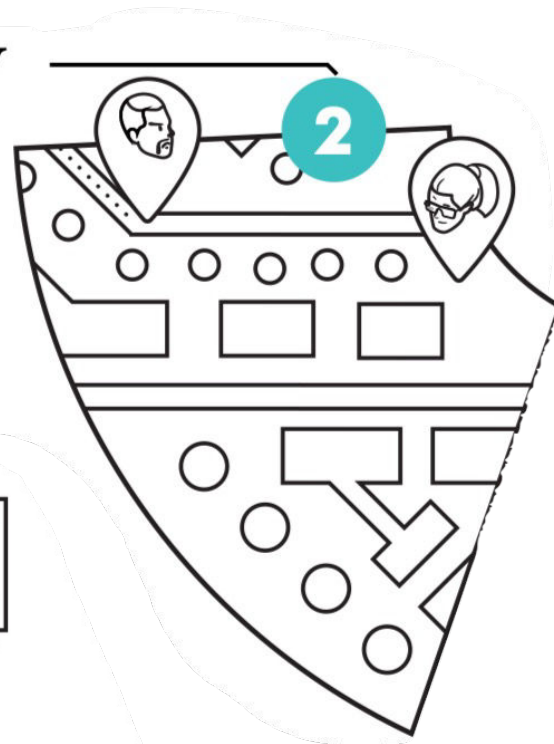
with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi



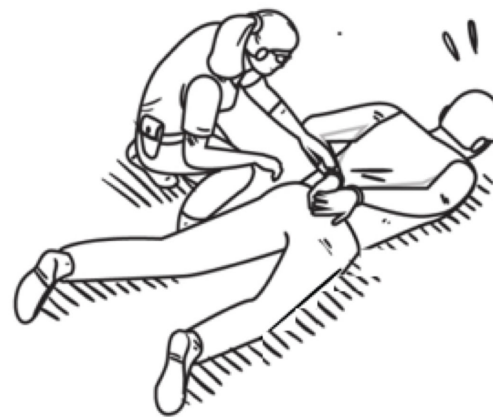
From Stories to Tasks

with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi

EgoAI helps Judy navigate through the shortest safe path to target places



EgoAI detected and re-identified the man before he passed Judy



EGO-Police

Localisation and Navigation

1 2

Messaging

1 3 11

Action Recognition

2 13

Person Re-ID

2 4

Object Detection and Retrieval

7

Measuring System

8 9

Decision Making

9

3D Scene Understanding

10

Hand-Object Interaction

12

Summarisation

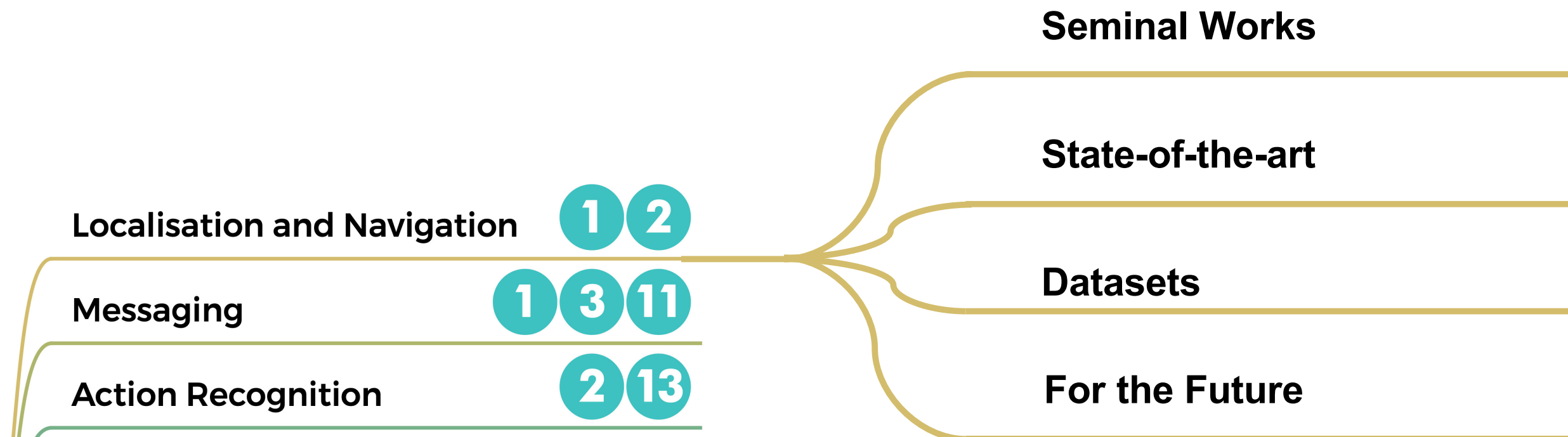
13

Privacy

14

The Survey Part

with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi



The Survey Part

with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi

- 12 tasks
- 46 pages (excluding references)
- 462 references

Data Collection



2017 - now

100 hours
45 kitchens
4 countries
Long-term recording
Kitchen-based activities

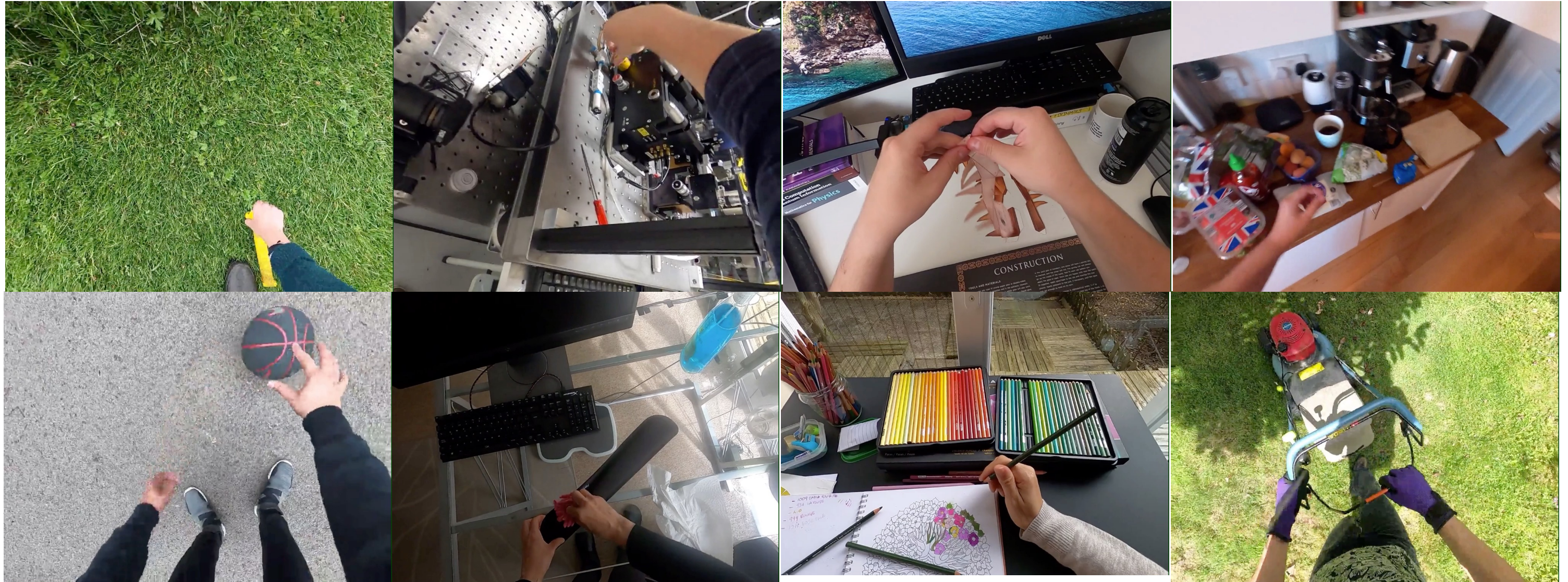


2020 - now

6730 hours
923 participants
74 locations
9 countries
Short-term recording
All daily activities



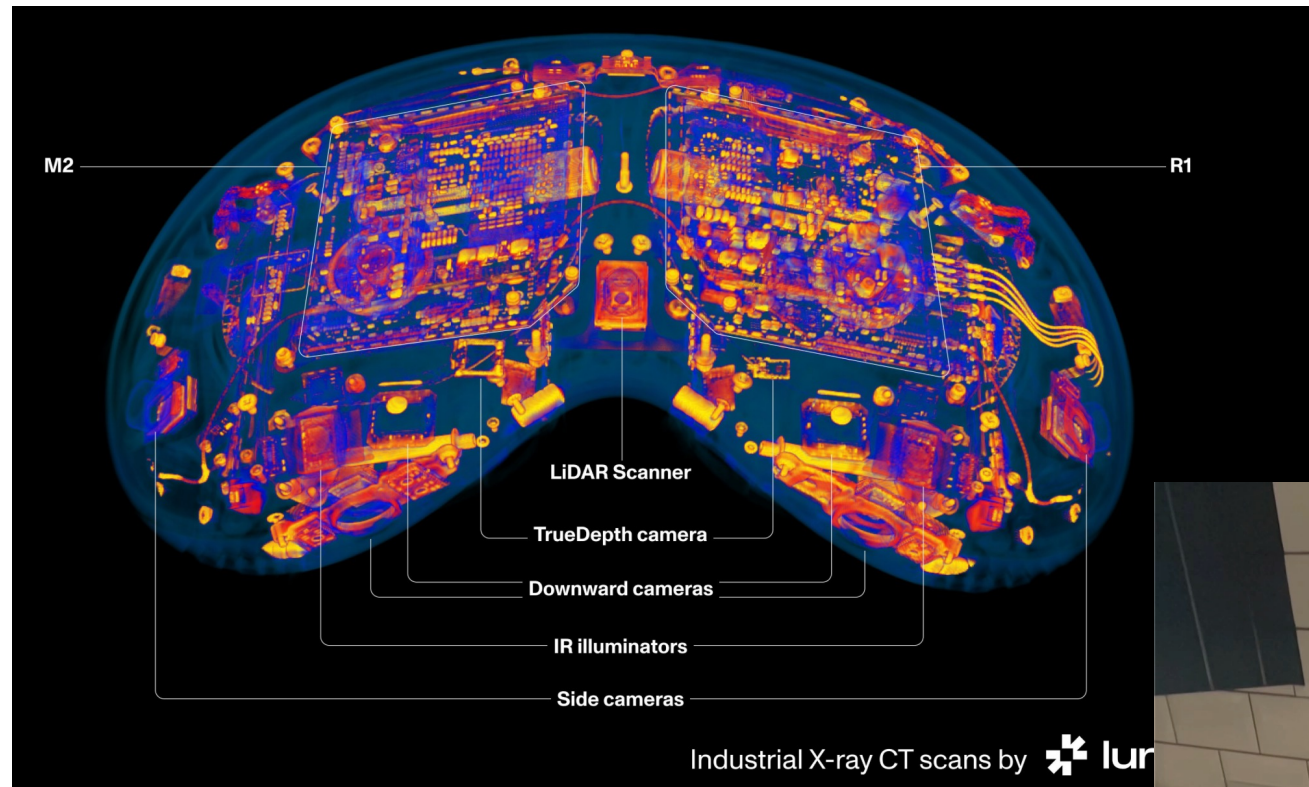
Egocentric Videos?



Egocentric Videos?



New Devices are offering multi-modality



Credit @JonBruner on X
9 April 2024



New Devices are offering multi-modality





EPIC-KITCHENS



EPIC-KITCHENS

Get a Grip

with: Zhifan Zhu

Bottle Samples





Spatial Cognition from Egocentric Video: Out of Sight, Not Out of Mind

Chiara Plizzari

Shubham Goel

Toby Perrett

Jacob Chalk

Angjoo Kanazawa

Dima Damen

<http://dimadamen.github.io/OSNOM>



Plizzari et al (2024). Spatial Cognition from Egocentric Video: Out of Sight, Not Out of Mind. ArXiv

Dima Damen
CV 20/20 – June 2024



← Egocentric Image



3D Scene Mesh →

↑ 3D Ego view w/
in-view
objects
Ego
Camera
in 3D

All active/moved objects in this video are represented by neon balls. Their initial positions are shown at the start of the video

Hope or Hype?

not a hype

DANGEROUS
CLIFF EDGE

still a long road

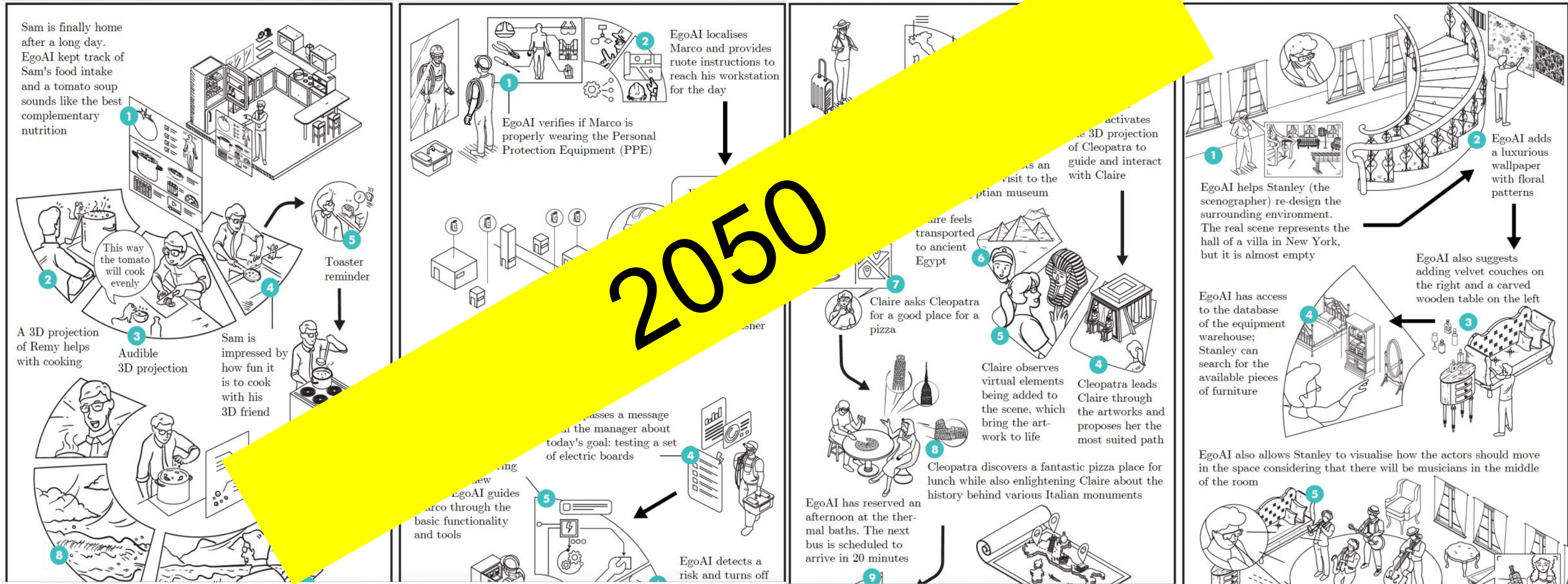


Hope or Hype?

- It's 15-30 years for most ideas to materialize
 - If you're into commercialization, be careful
 - If you're just a researcher, there's enough for a lifetime
- Concerns dissolve when techniques prove value,
- Humanity will survive technology...
- Whether you are an early or late adopter, that's a personal choice
- The memory of the nation (or of researchers) is very short... everyone wants to claim novelty!

So?

- Technology TAKES TIME....





Thank you

For further info, datasets, code, publications...

<http://dimadamen.github.io>



@dimadamen



<http://www.linkedin.com/in/dimadamen>

Q&A