



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

The future is here...



HoloLens 2
A new vision for computing

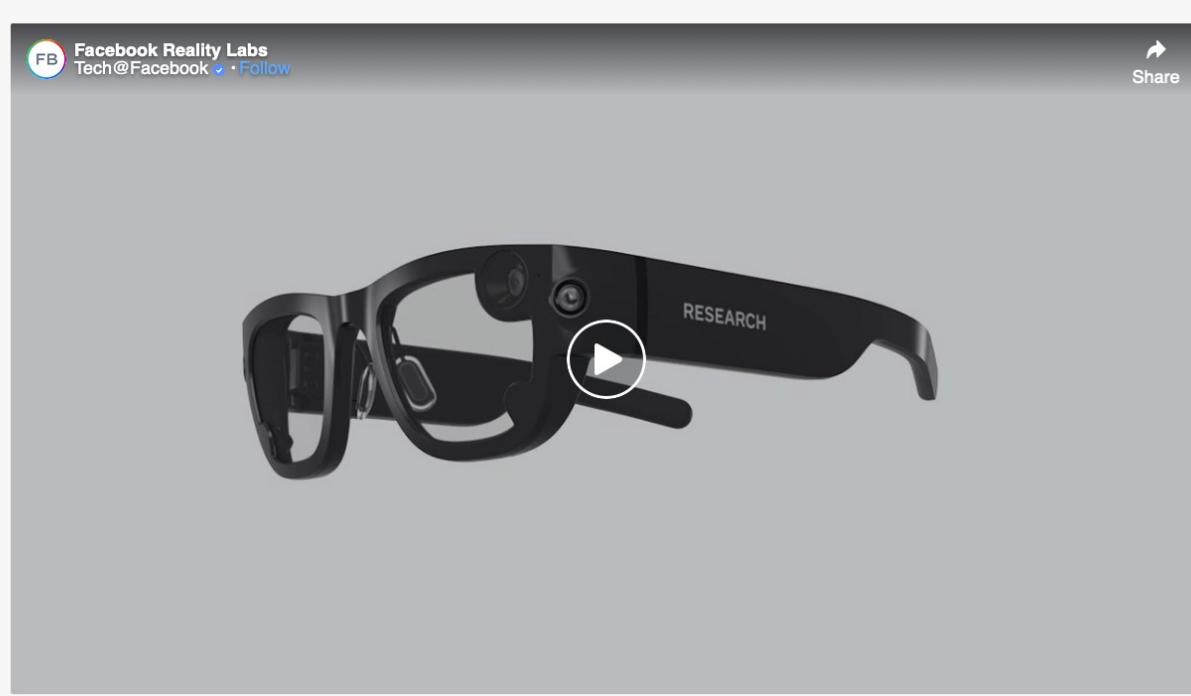
[See pricing and options >](#) [Watch the HoloLens 2 video](#)

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.



Share

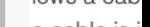
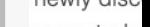
Facebook Reality Labs Tech@Facebook • Follow

Samsung patent application reveals augmented reality headset design

It comes as the Gear VR slowly fades away

by Jon Porte

Q



The future is here...



Stephen Patula •

@StephenPatula · 507K subscribers · 544 videos

i'm lovin' it >

instagram.com/stephenpatula and 1 more link

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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

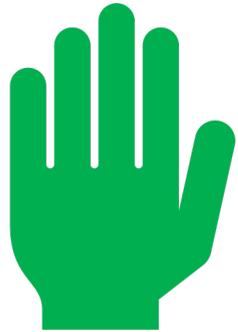
2.2M views • 4 months ago

Fundraiser

The future is here...



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



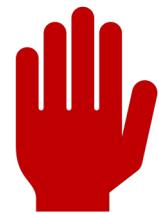
Hands-Up if you are ready to wear a head-mounted or glass-mounted camera...



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



A world of isolated individuals....



Dangerous for crossing the road...



Mind-altering...



45 years ago...



Walkman ban ok

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

Personal St

'Let'

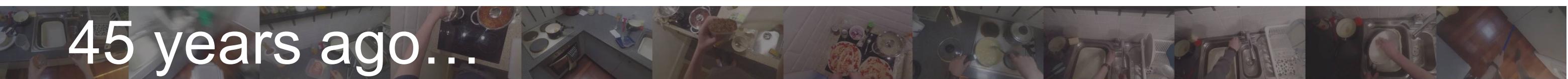


TUESDAY, 19 MARCH, 1996 9

Are we lost in a world of our own?

Dima Damen
CV 20/20 – June 2024

45 years ago...





CV 20/20

A Retrospective Vision

June 17

Let's step back in time

How did we get here?



1907

1970s

1987

2004
GoPro



How did we get here?



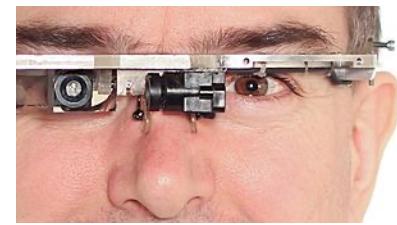
How did we get here?



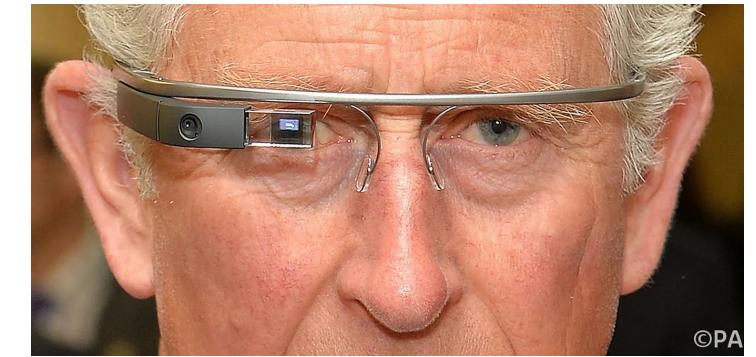
1907



1970s



1999
Eyetrap



2013
Google
Glass

1987



2004
GoPro



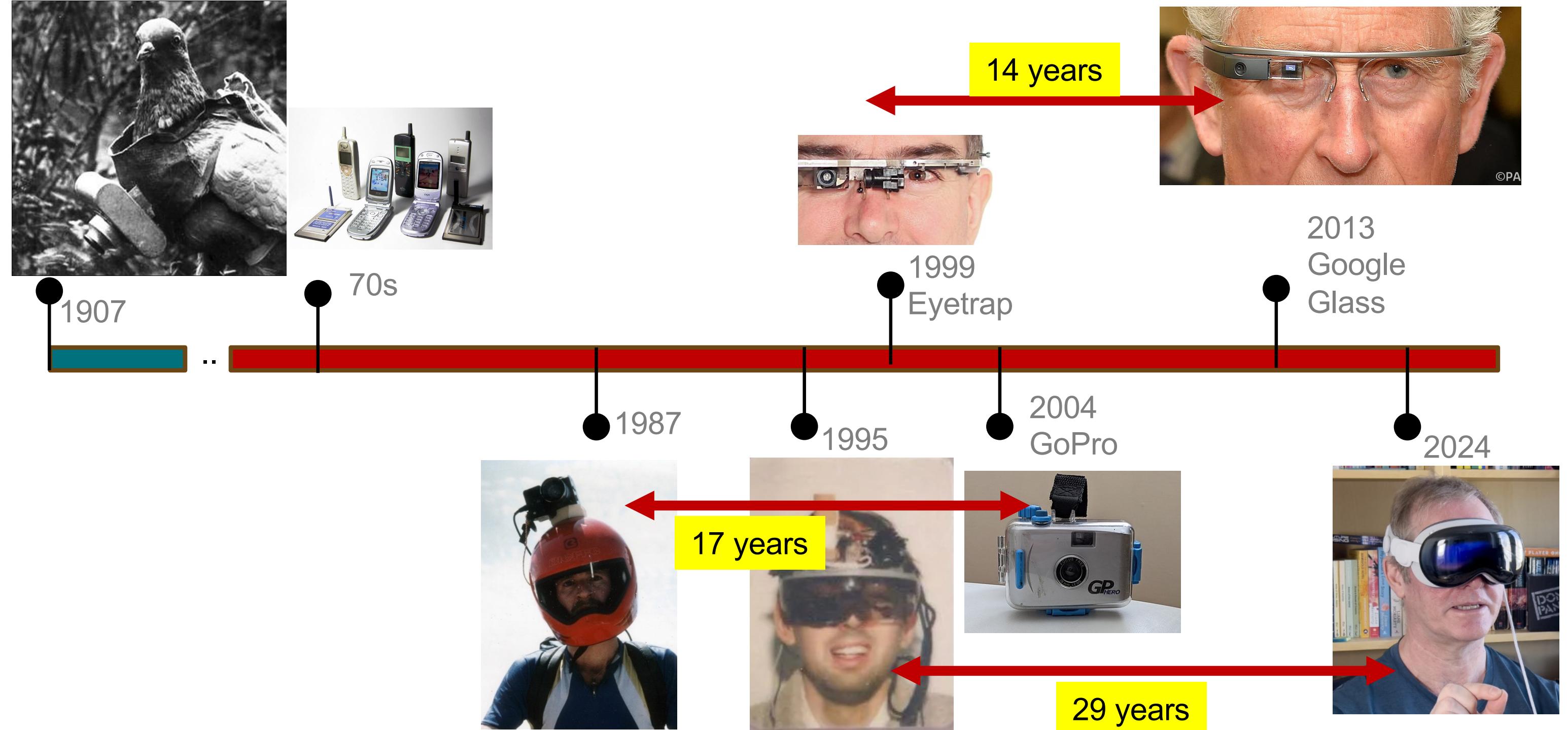
2024



How did we get here?



How did we get here?



How did we get here?



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[†]



Politecnico
di Torino



University of
BRISTOL



UNIVERSITÀ
degli STUDI
di CATANIA



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

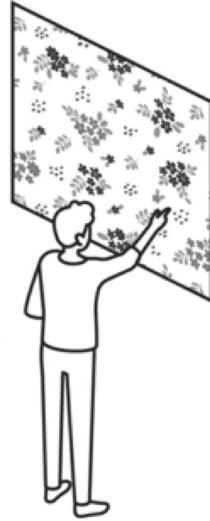
Envisioning an Ambitious Future and Analysing the Current Status of Egocentric Vision

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



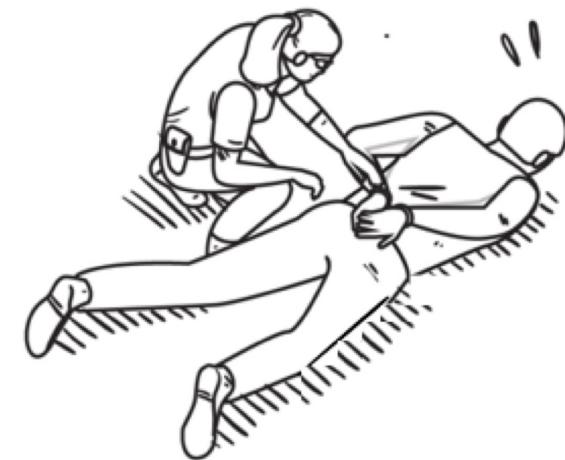
EGO-Worker



EGO-Tourist



EGO-Home

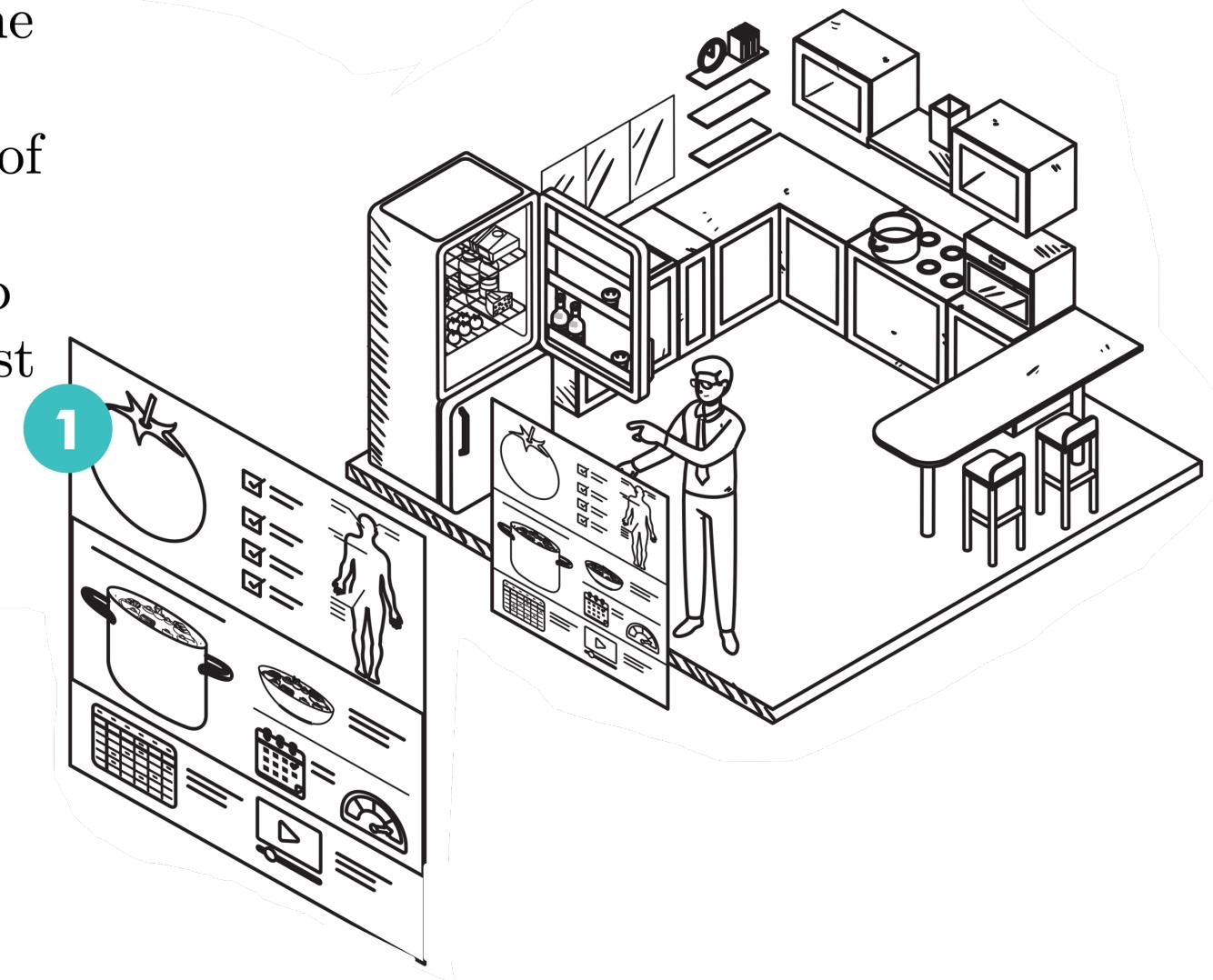


Ego-Police

EGO-Home

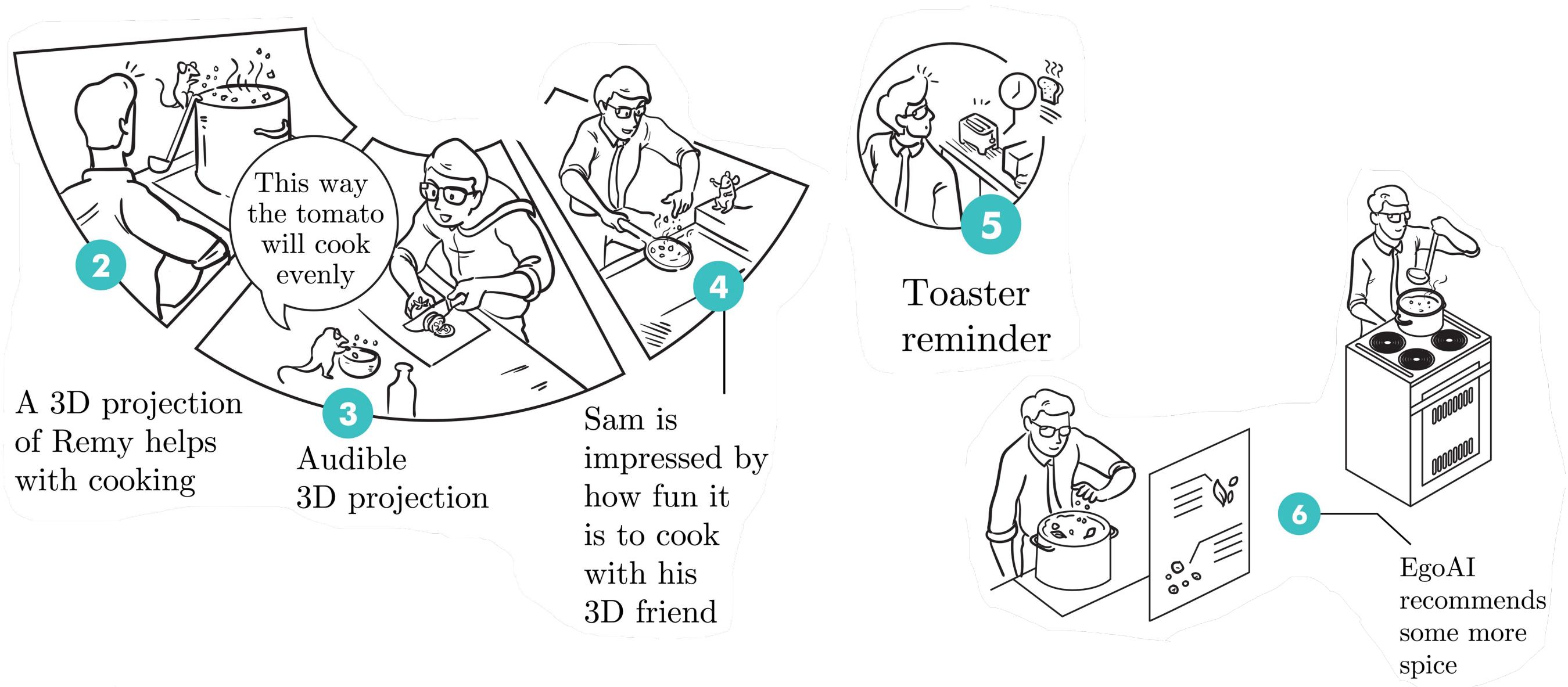
with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi

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



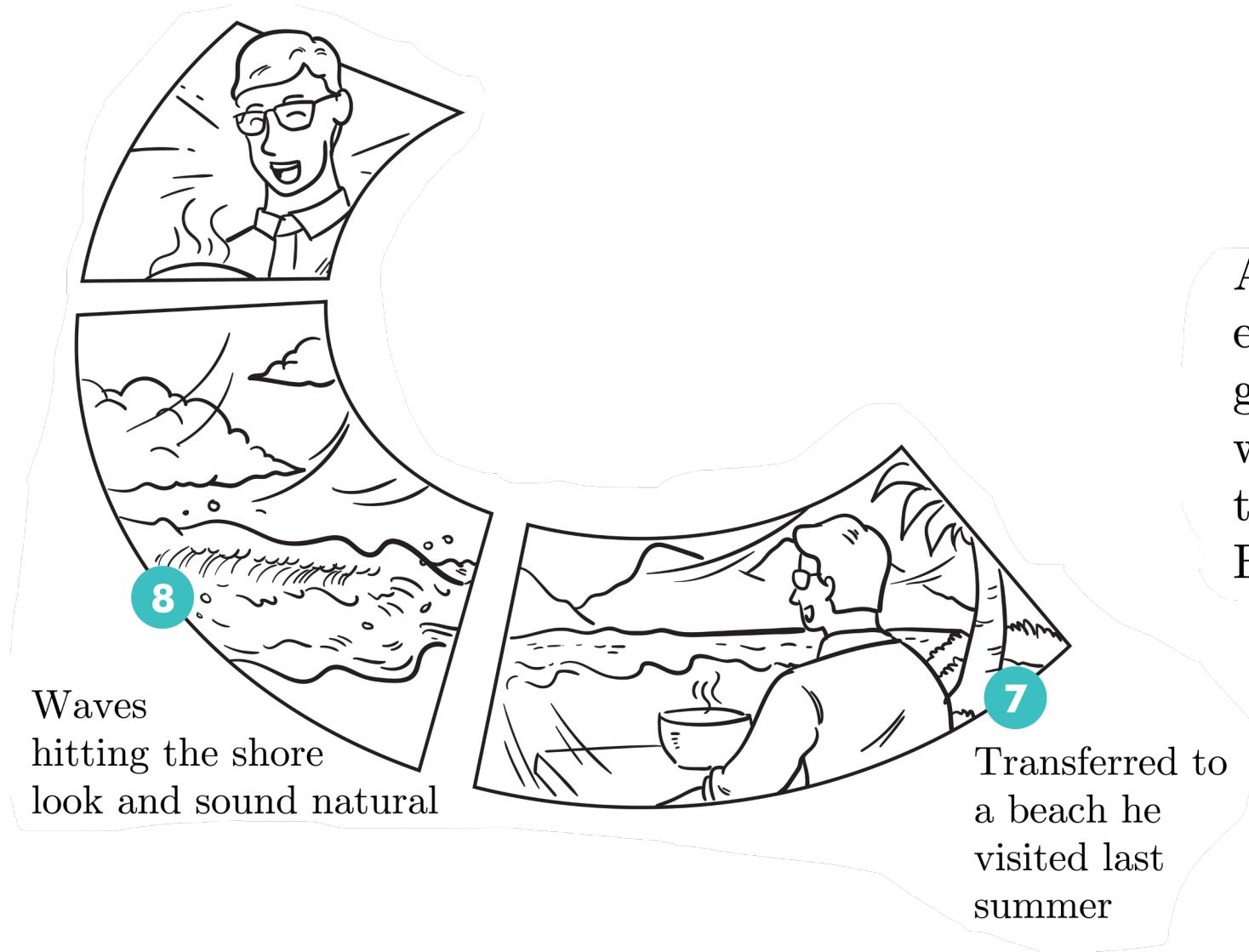
EGO-Home

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



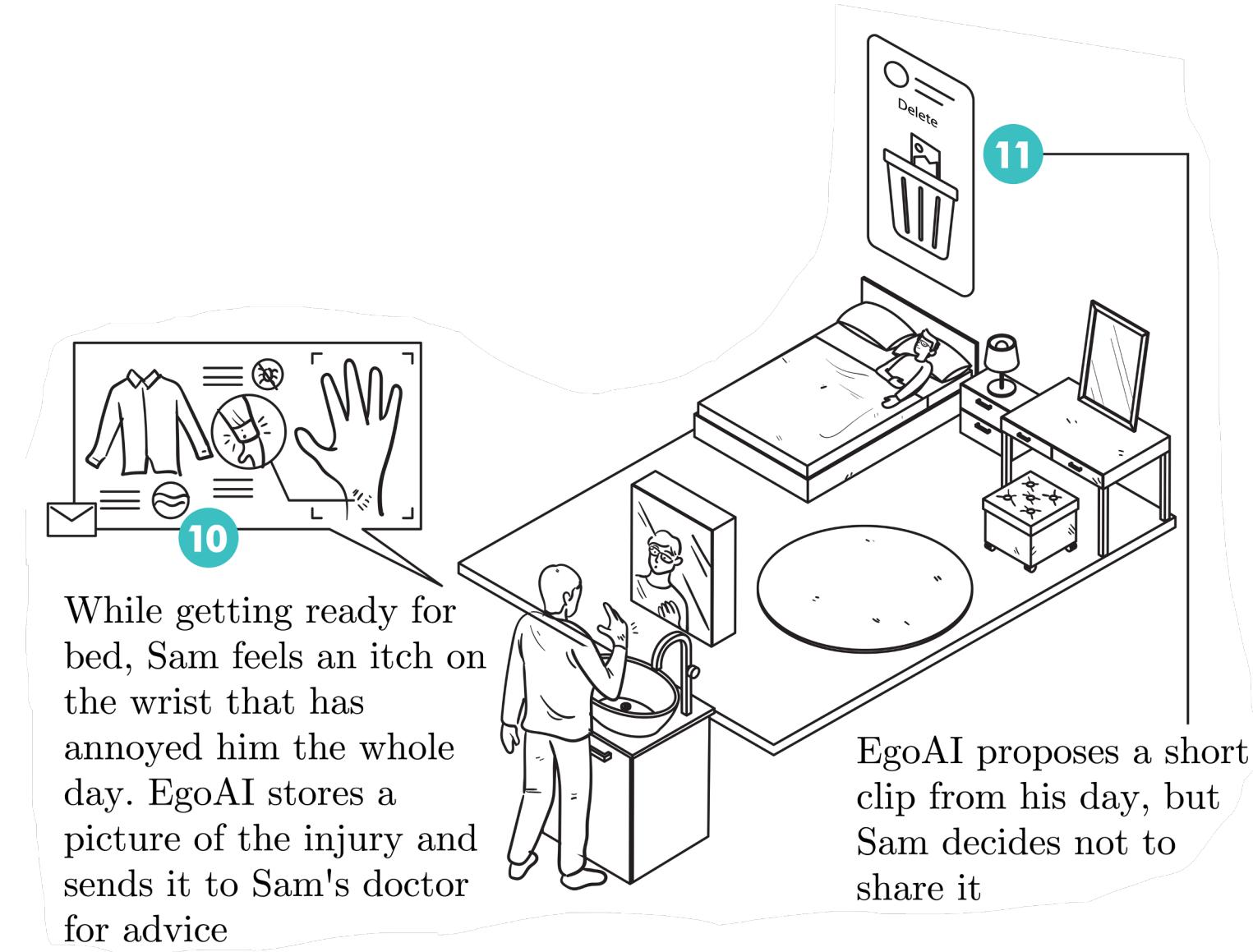
EGO-Home

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



EGO-Home

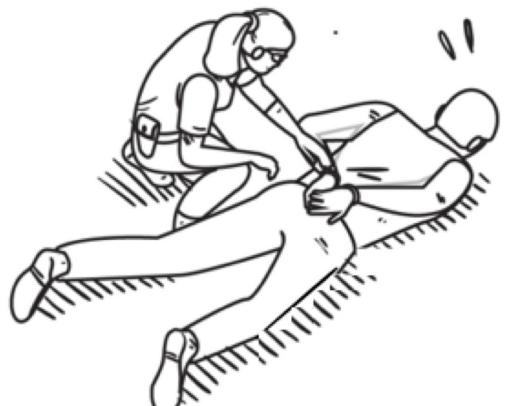
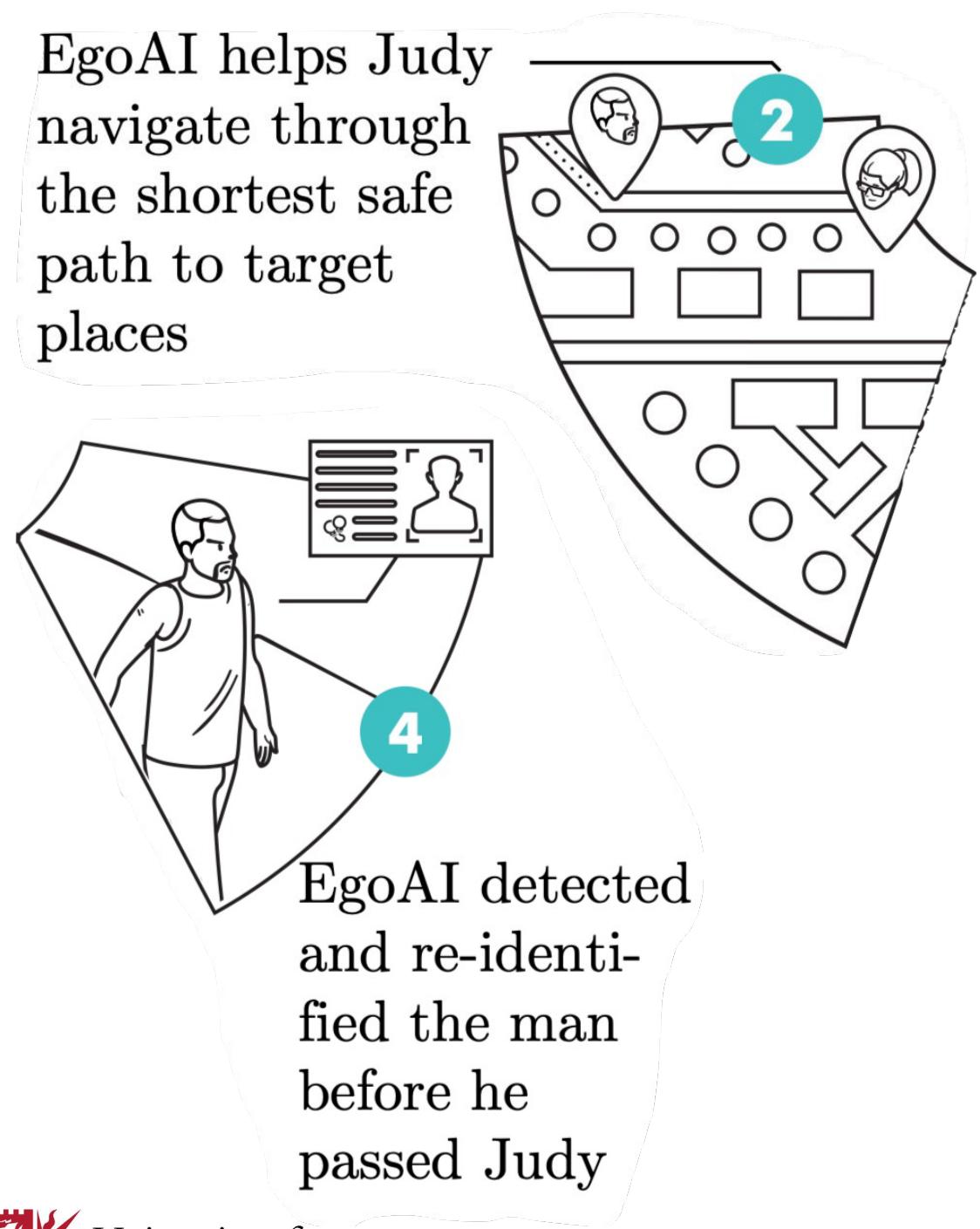
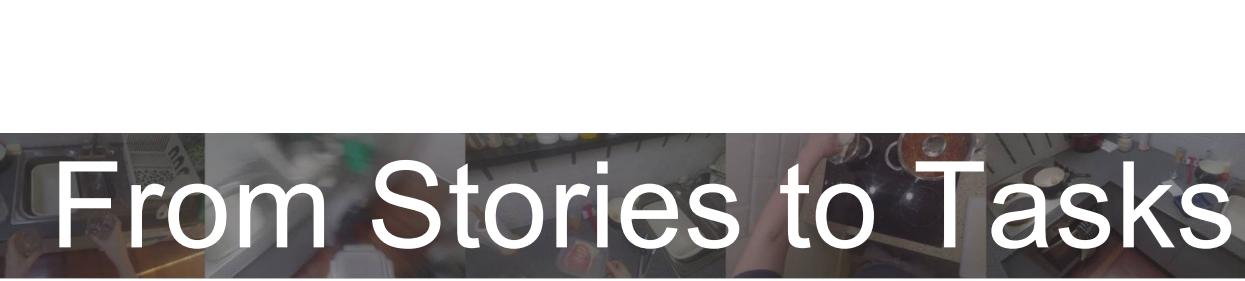
with: Chiara Plizzari, Gabriele Goletto, Antonio Furnari, Siddhant Bansal, Francesco Ragusa, Giovanni Maria Farinella, Tatiana Tommasi



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



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

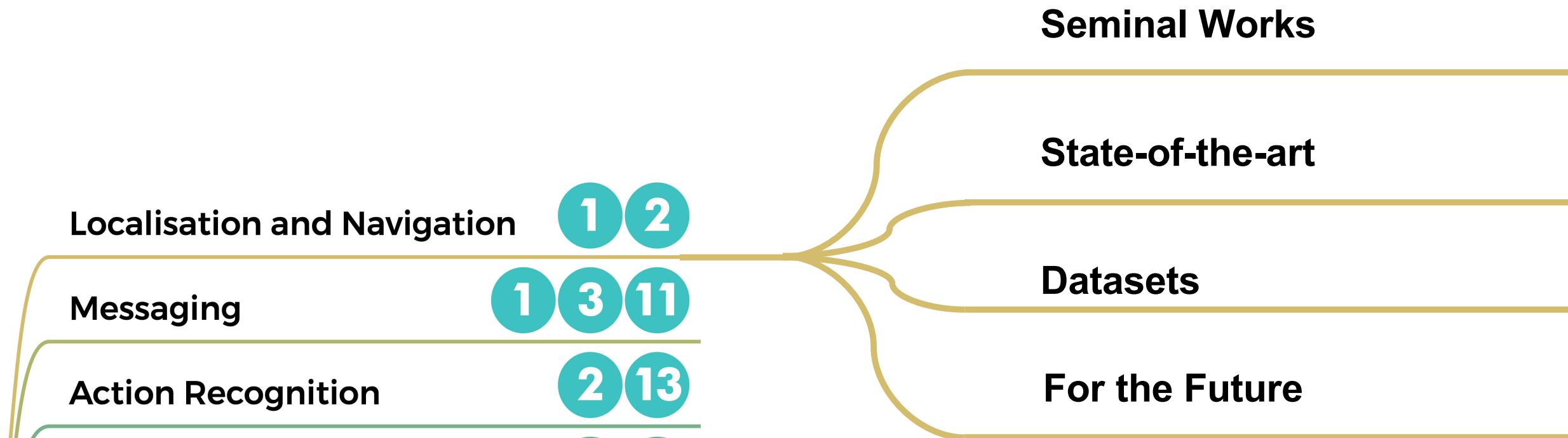
13

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



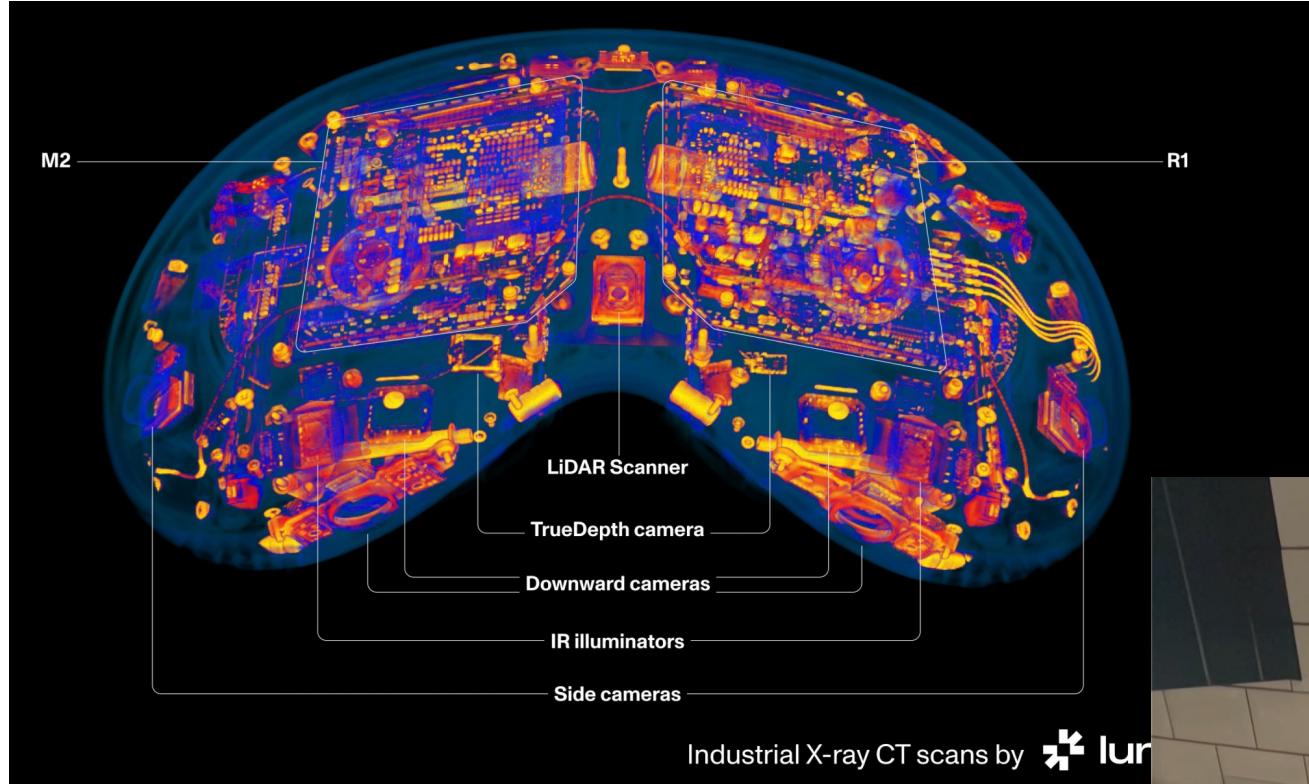
Egocentric Videos?



Egocentric Videos?



New Devices are offering multi-modality



Credit @JonBruner on X
9 April 2024



New Devices are offering multi-modality



Frame 234 at time 58.172s



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>



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di Torino

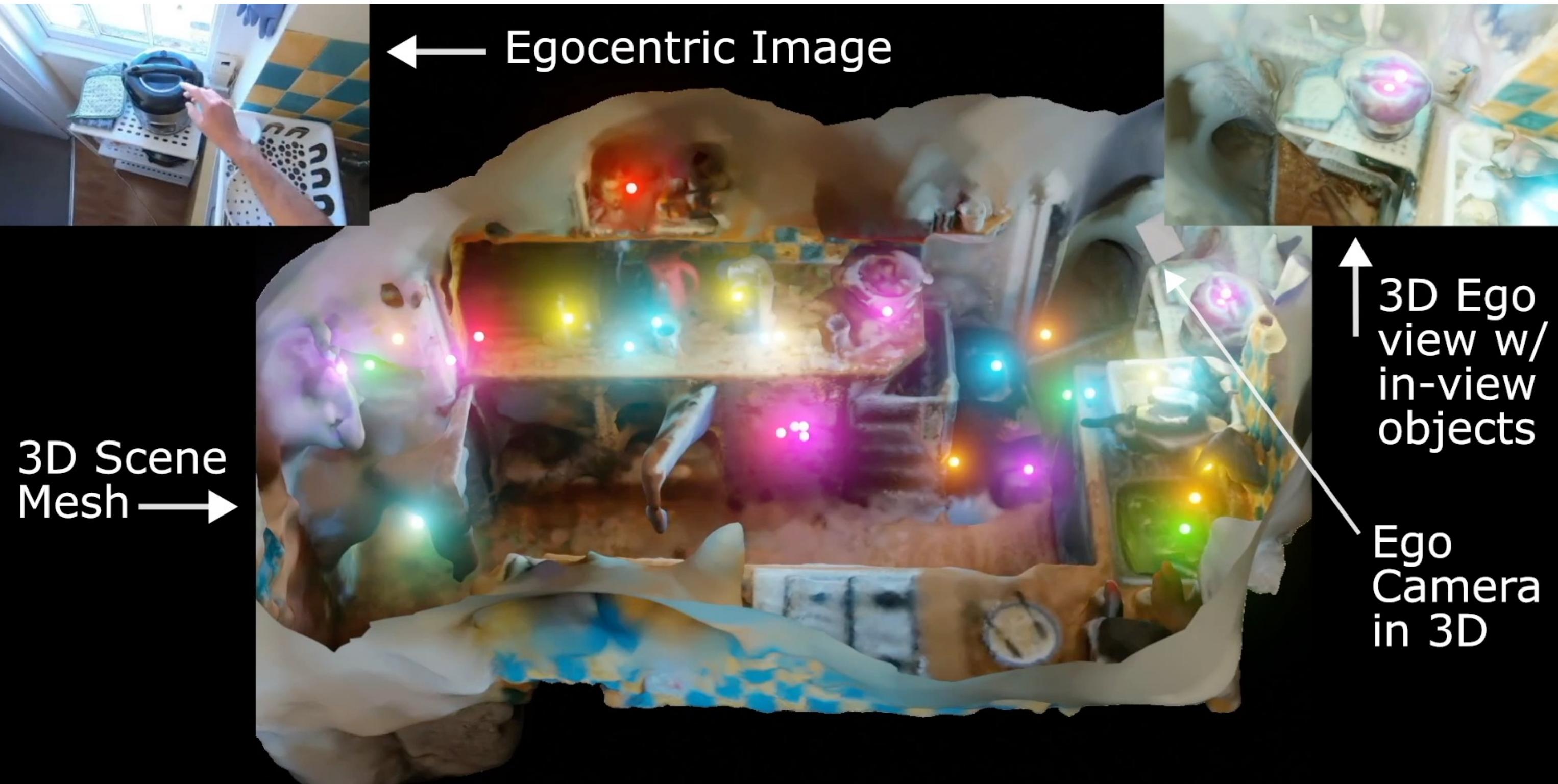
Berkeley
UNIVERSITY OF CALIFORNIA

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 University of
BRISTOL

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

Dima Damen
CV 20/20 – June 2024



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?

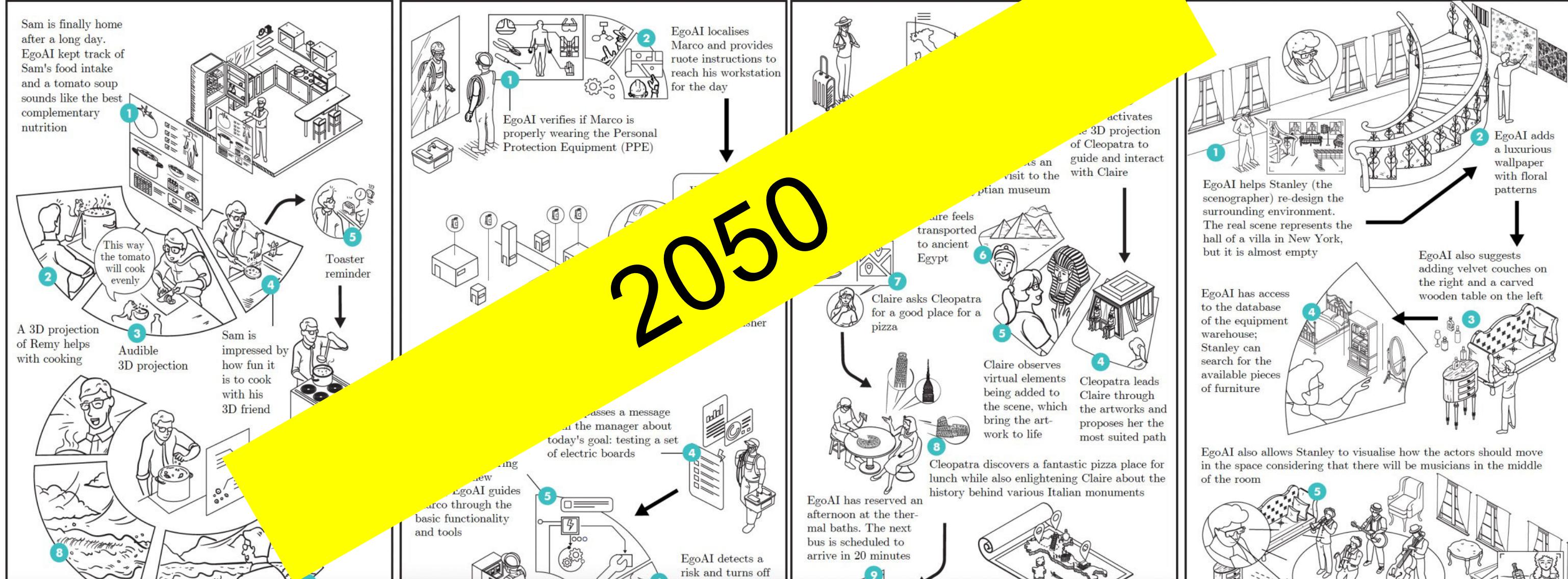


Hope or Hype?

- 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