

Play, Pause, Rewind

The Era of Archived Lifetimes

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What if you never had to forget anything again?

In the era of archived lifetimes you will be able to summon up
any memory or life experience...

Change the way we work and learn, improve our health,
change relationships...

It will change what it means to be human, and it is happening
now. In fact, it is inevitable...

Agenda

Pervasive Computing

The Phone as a Sensor

Archived Lifetimes

Oral Communication



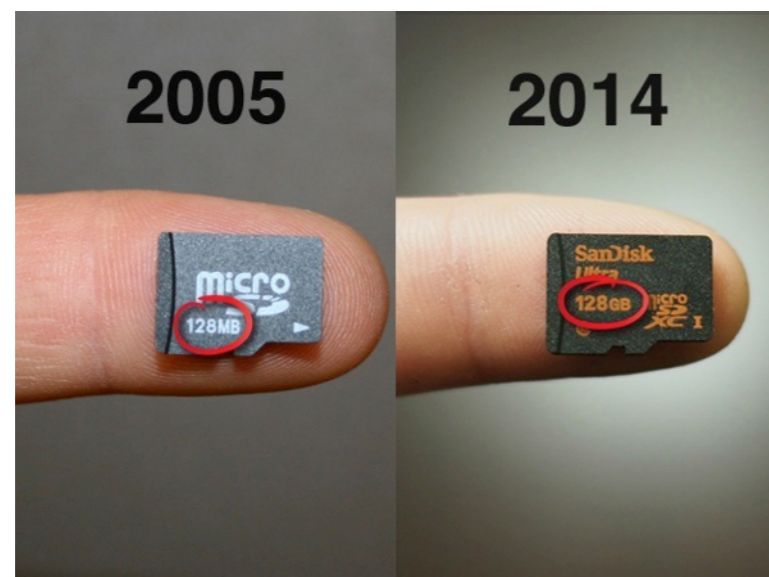
Omnipresent Access - General Computing Devices

The iPhone 5 is 60,000 times more powerful than the computer that guided the Apollo 11 astronauts to the moon.

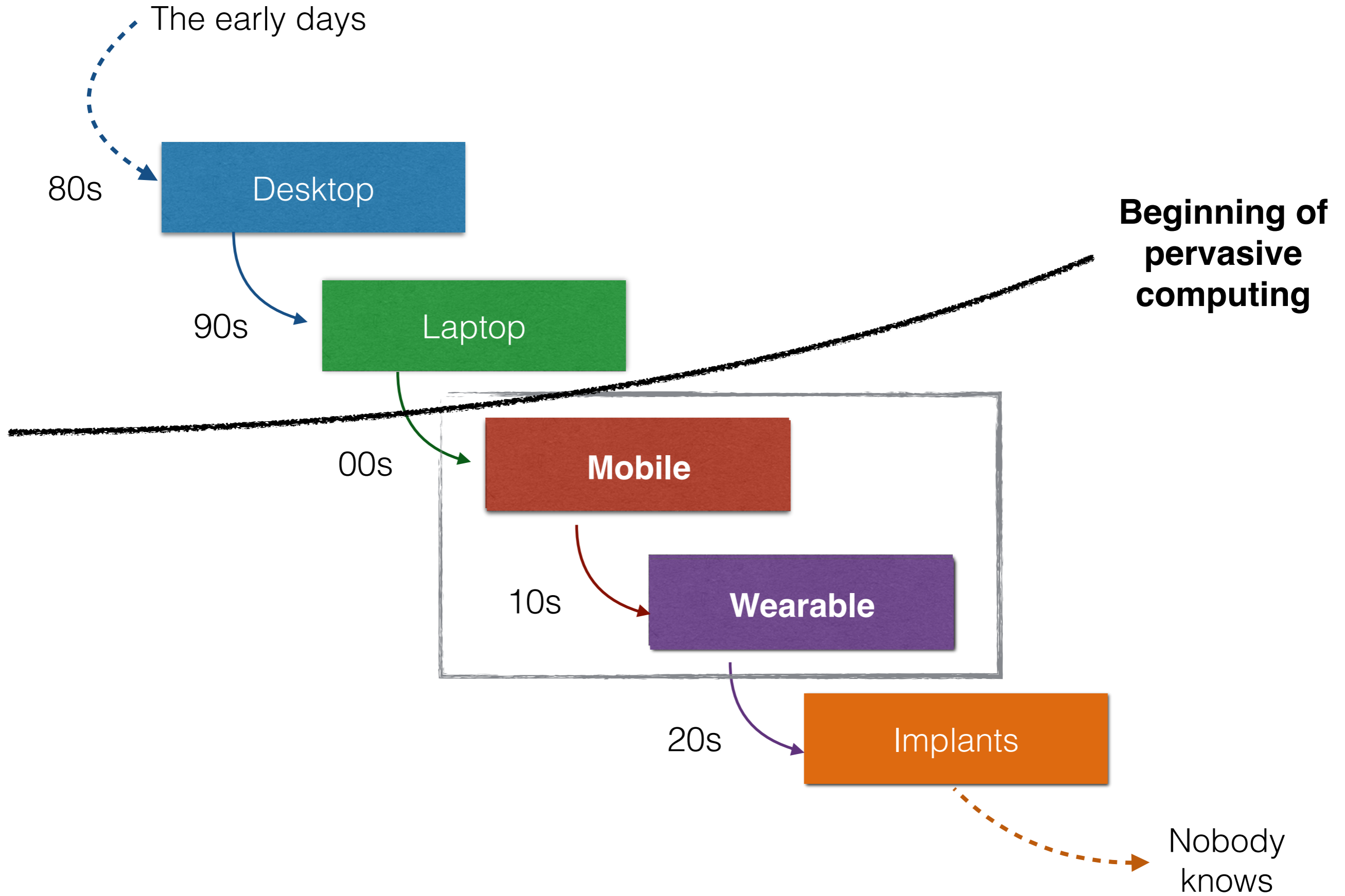


**Increasingly
Powerful**

Increasingly Low Cost and more Powerful



€35 tablets; big disks, ubiquitous computing

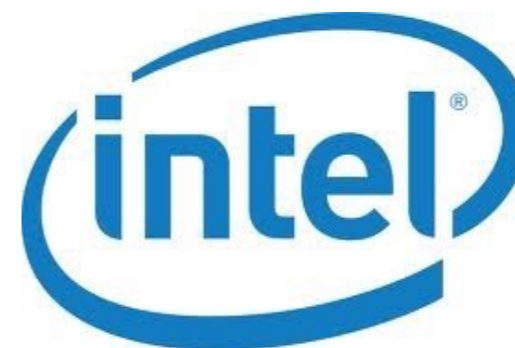


So we enter an era of
pervasive computing.



Is this for real?

- Wearable Computing
- New in 2012
- Novel in 2013
- Promising in 2014
- Mainstream in 2015



We don't see mobile devices as access devices.

We see them as sensors.

Agenda

Pervasive Computing

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Archived Lifetimes

Pervasive Computing Today

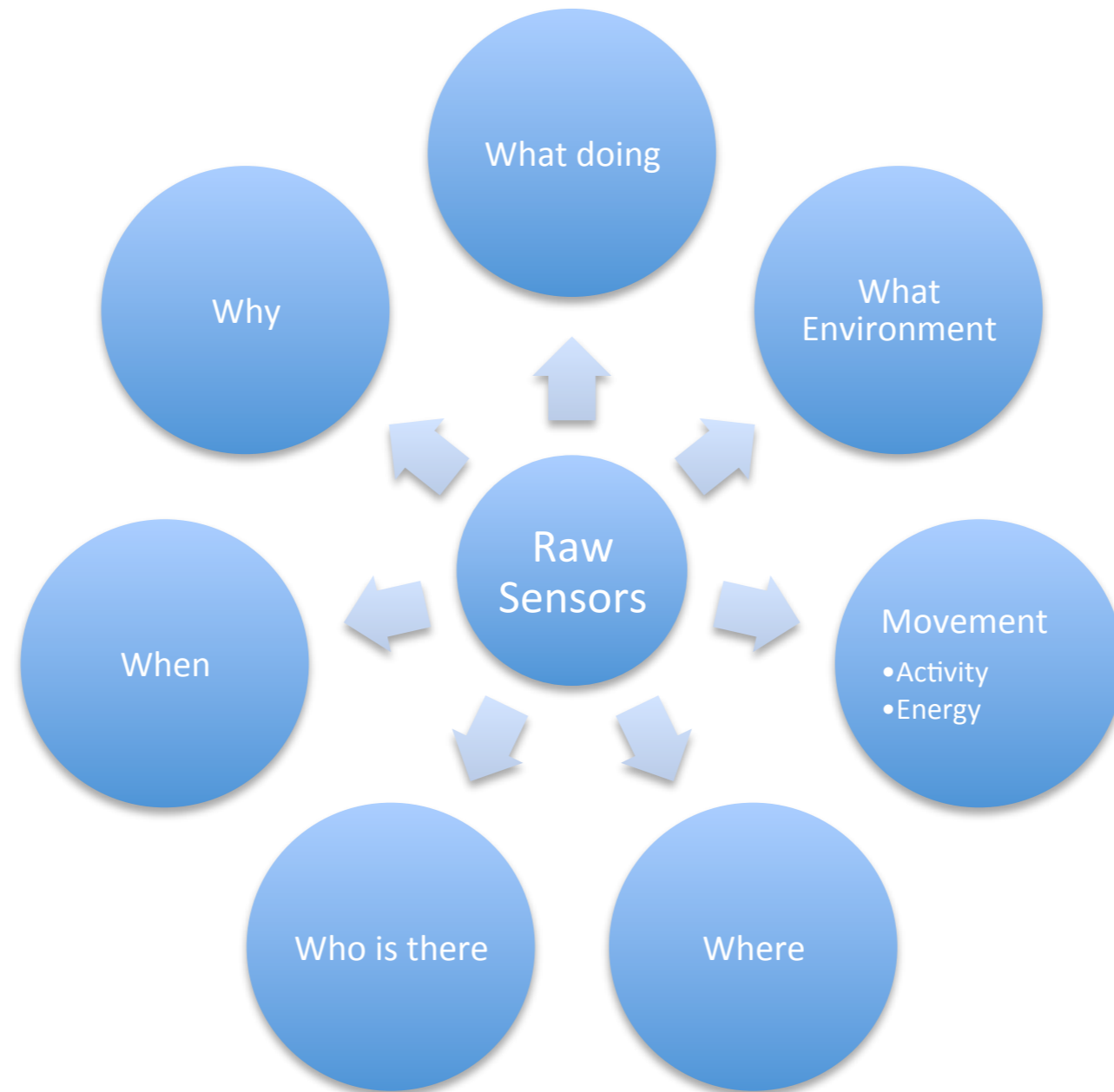




Google Glass



Omnipresent sensors, that enable a whole new era of services that understand the individual

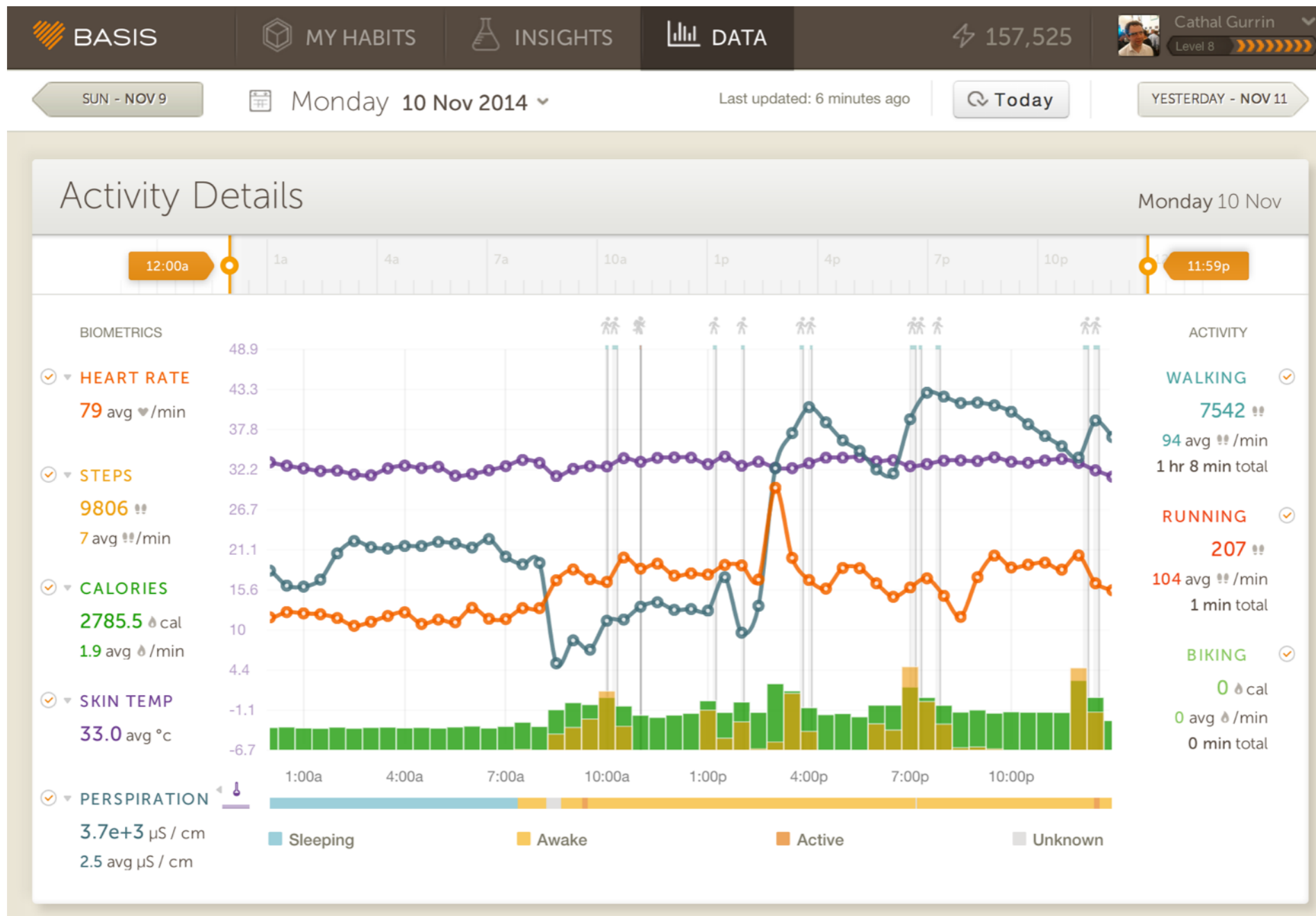


Understanding

The User Context

SIMPLE CONTEXT

UNDERSTAND USER HEALTH




DEEP CONTEXT

UNDERSTAND WHAT THE USER SEES

```
image
--- 0.140525 mouse, computer mouse
--- 0.126532 laptop, laptop computer
--- 0.047876 desktop computer
--- 0.043066 desk
--- 0.032453 space bar
--- 0.016106 monitor
--- 0.014830 typewriter keyboard
--- 0.007064 screen, CRT screen
>>>>>>=====n=e=x=t=====>>>>>>

image quality: 0.909002
Top classes :
--- 0.265477 desktop computer
--- 0.261316 monitor
--- 0.198308 screen, CRT screen
--- 0.118786 desk
--- 0.064211 notebook, notebook computer
--- 0.026199 mouse, computer mouse
--- 0.017706 laptop, laptop computer
--- 0.011744 printer
--- 0.006966 web site, website, internet site, site
--- 0.005328 television, television system
```

A photograph of a man in an orange sweater sitting at a desk in an office. The desk is cluttered with several computer monitors, a laptop, and a keyboard. One of the monitors displays a blue screen with white text, possibly a code editor or a terminal window. The office environment includes cubicles and other desks in the background.

Computer Vision and Machine Learning

Enabling new services that know:

where the user is,
what the user is doing,
who is there,
etc..

These 2014 mobile devices can know more about us
than we know ourselves

NEW SERVICES

UNDERSTAND THE USER ENVIRONMENT



So.. why not flick the 'store switch'?

Beginning a whole new era of personal computing...

Agenda

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Archived Lifetimes

Archived Lifetimes

Using mobile devices and information devices to **automatically** record everything you see, hear, learn and experience. Creates a **complete and accurate record of an individual** - a Lifelog.

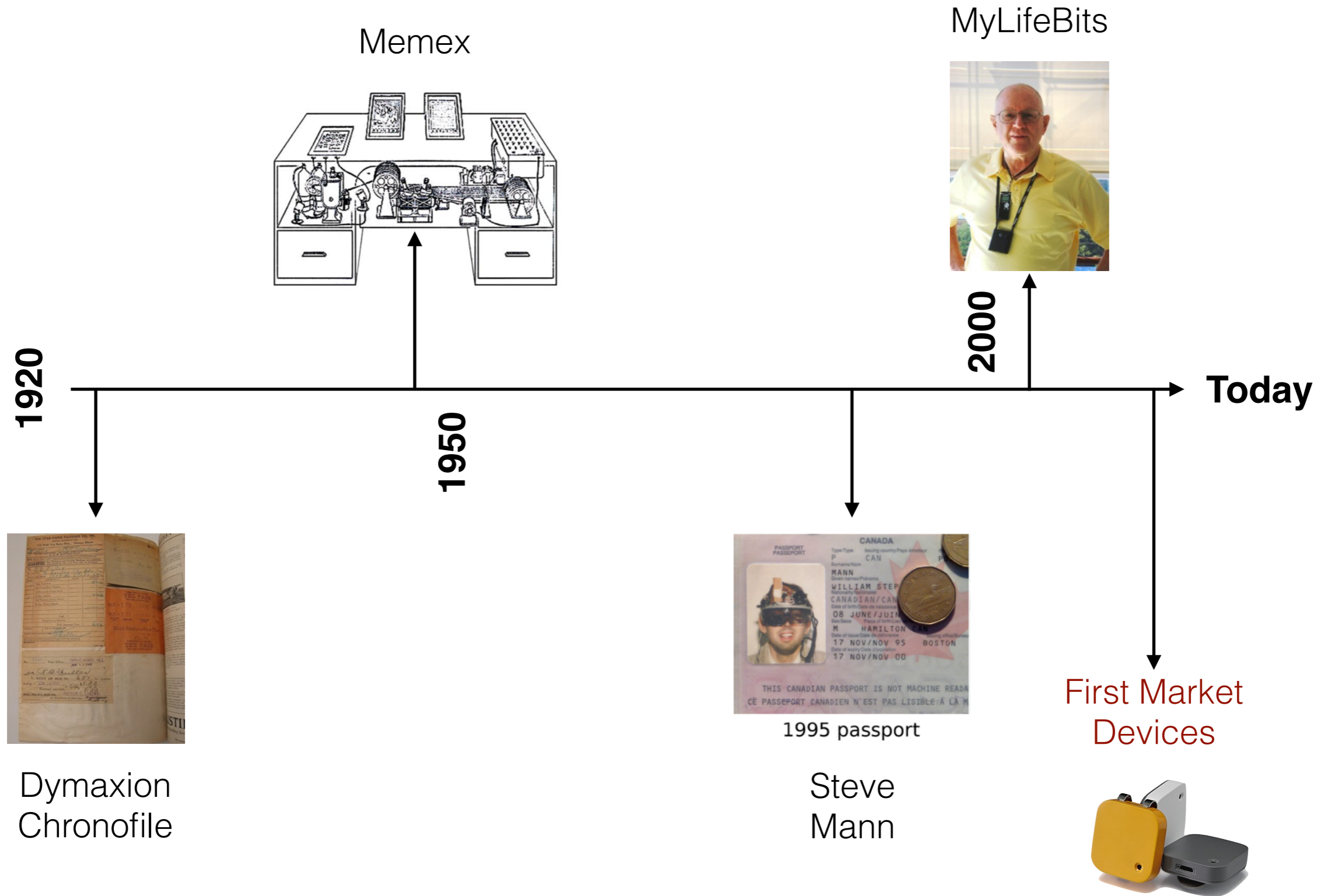
First generation devices are on the market now and people have begun to do this.





Lifelogging enables the concept of a **surrogate memory**. A private digital archive that sees what you see, hears what you hear, 'knows you' and is always available to help you.

Lifelogging has been around for decades.

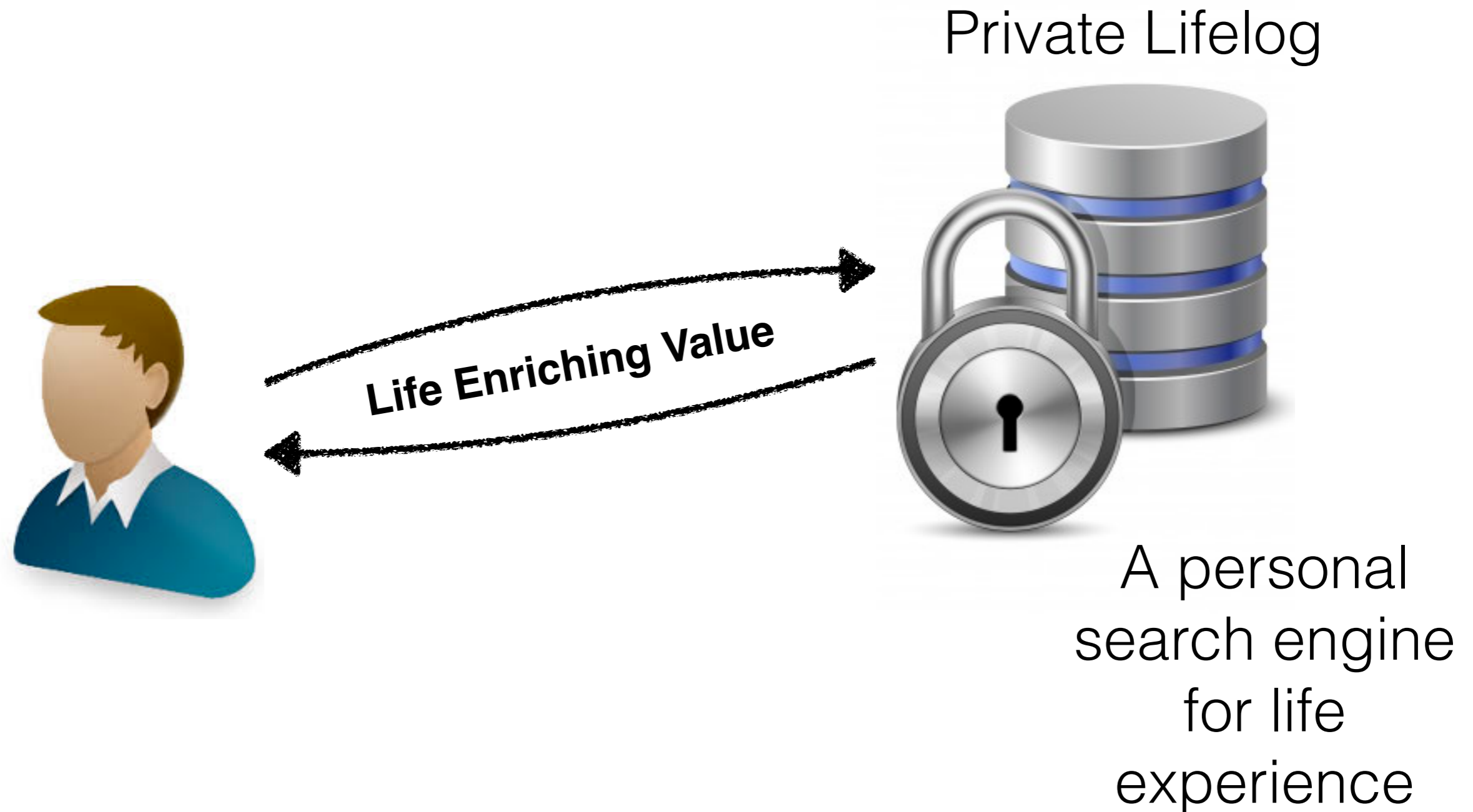


In 2014, lifelogging can generate thousands of images per day, hours of audio and tens of thousands of data and sensor readings per day.



Images, audio, locations, movements, temperature, heartbeats, interactions, communications, information, activities...

Enabling the 'Internet of Me'



New Opportunities

- **Health** - personalised health, new tailored treatments
- **Productivity** - greater understanding of self, enhanced knowledge access, enhanced productivity
- **Personal** - never forget anything
- **Security** - your own security data, self-protection (sousveillance)
- **Societal** - more productive and healthy population, a better understood population
- ... and many more ...

EXTERNAL MEMORY

NEVER FORGET AGAIN / ALZHEIMER'S SUPPORT

My Visual Diary WITH SENSECAM Men: 76,430 photos (25 days)

MY ACCOUNT | SIGN OUT | ABOUT

CALENDAR

← MAY 2006 →

S	M	T	W	T	F	S
30	31	1	2	3	4	5
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10

29 May 2006 19 EVENTS

Drag the slider bar to adjust the number of Important Events

WEEKLY SUMMARY

Selected day is shown below in the context of whole week. Move mouse cursor over to see other similar Events in the week.

SIMILAR EVENTS

92 Similar Events have been found. Click on the photo to replay all photos within the Event

1 | 2 | 3 | 4 | 5 | 6 |

Sort by: **TIME** | SIMILARITY | #PEOPLE

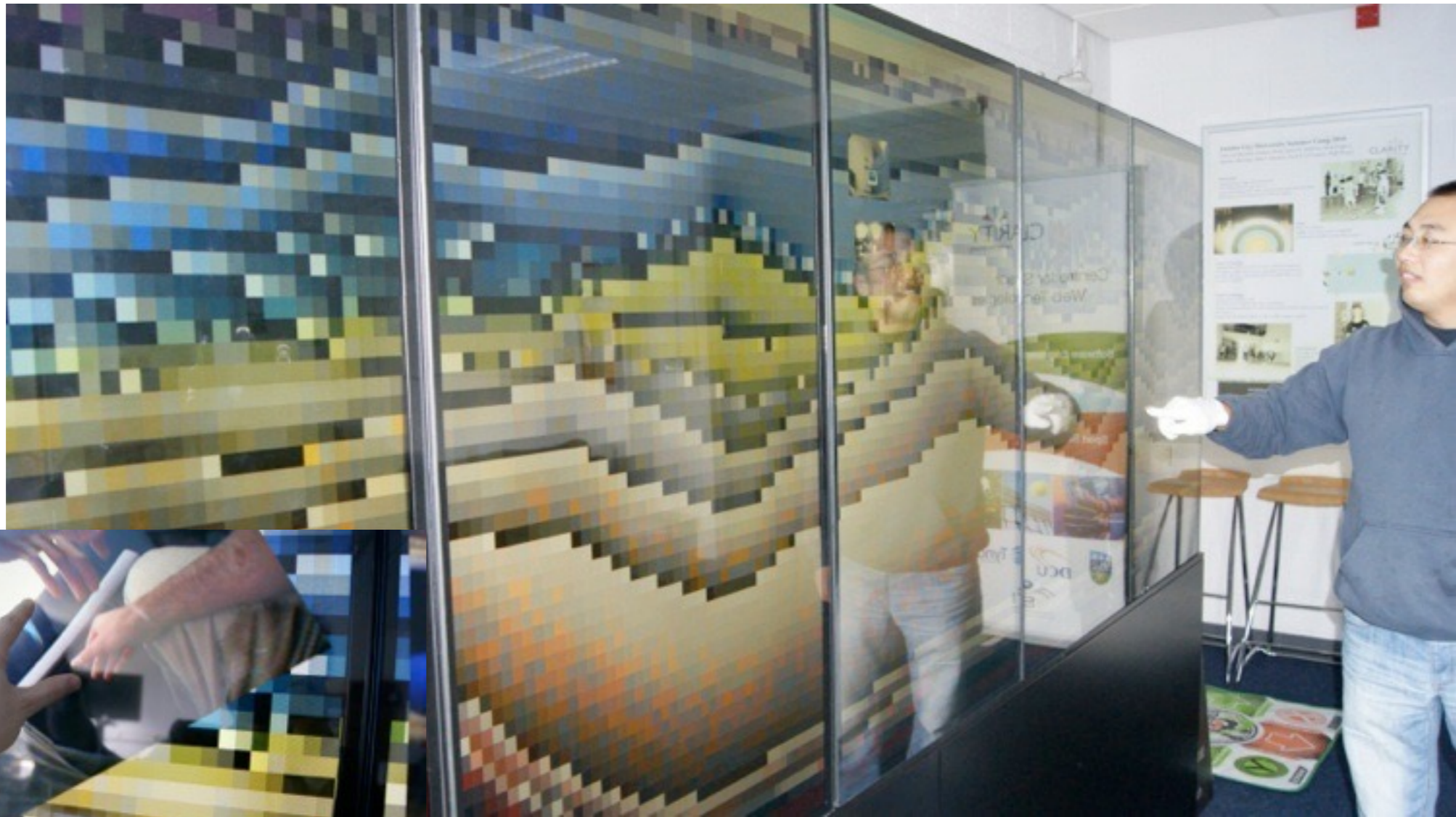
- 16:33 (Duration: 08m-43s) 14 APR 2006
- 13:45 (Duration: 14m-05s) 14 APR 2006
- 10:02 (Duration: 23m-56s) 13 APR 2006
- 14:33 (Duration: 15m-30s) 12 APR 2006
- 11:25 (Duration: 09m-21s) 12 APR 2006
- 09:52 (Duration: 01m-03s) 12 APR 2006
- 15:13 (Duration: 21m-10s)

Event Captions:

- I was chatting with Darrell on the conference in July. Quite a few chats today!

VISUALISING LIFE

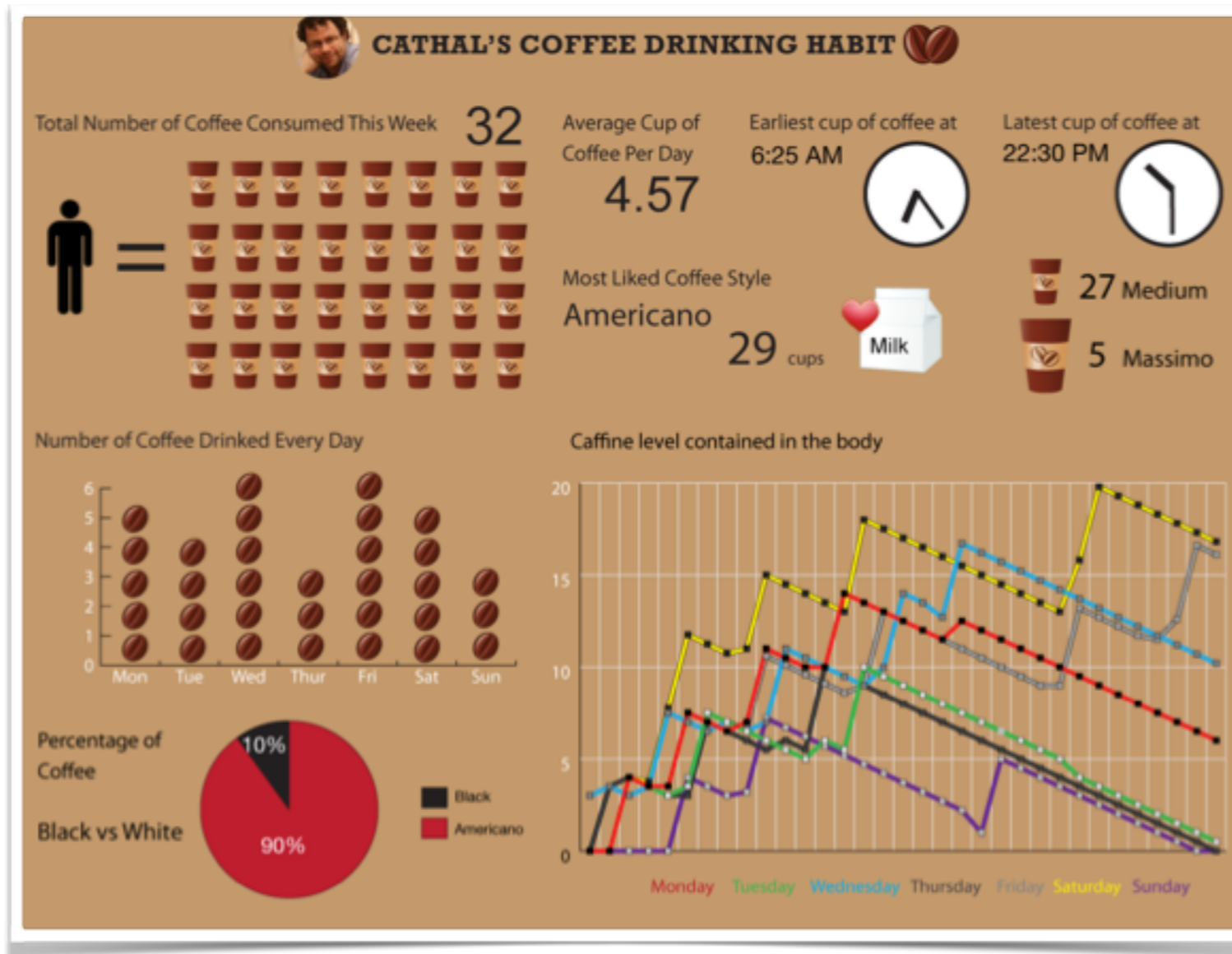
UNDERSTAND AND OPTIMISE YOUR LIFE



Colour of Life
(objects, people, products)

PERSONAL HEALTH

ENHANCED KNOWLEDGE FOR THE USER



BETTER UNDERSTANDING WHAT MAKES YOU STRESSED?



- colour
- BPM
- GSR
- light
- google glass
- logout

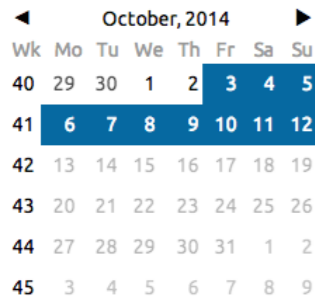


Name **Cathal Gurrin**
Height **180 cm**
Weight **70 kg**
Birthday **01/06/1975**

Lifelogger: **Cathal Gurrin**

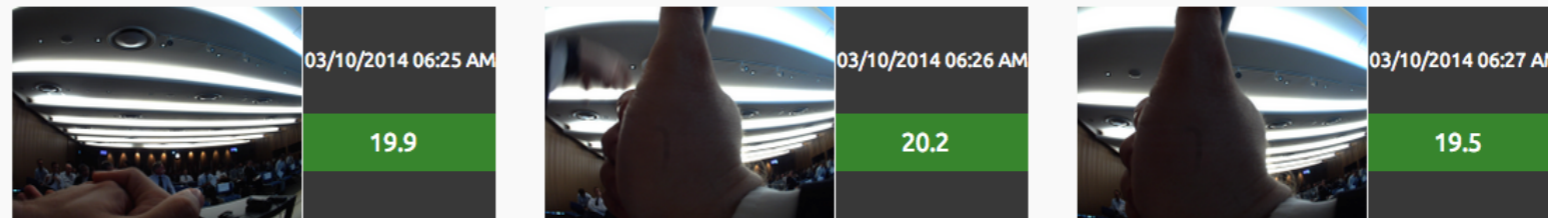


Cathal's Calender



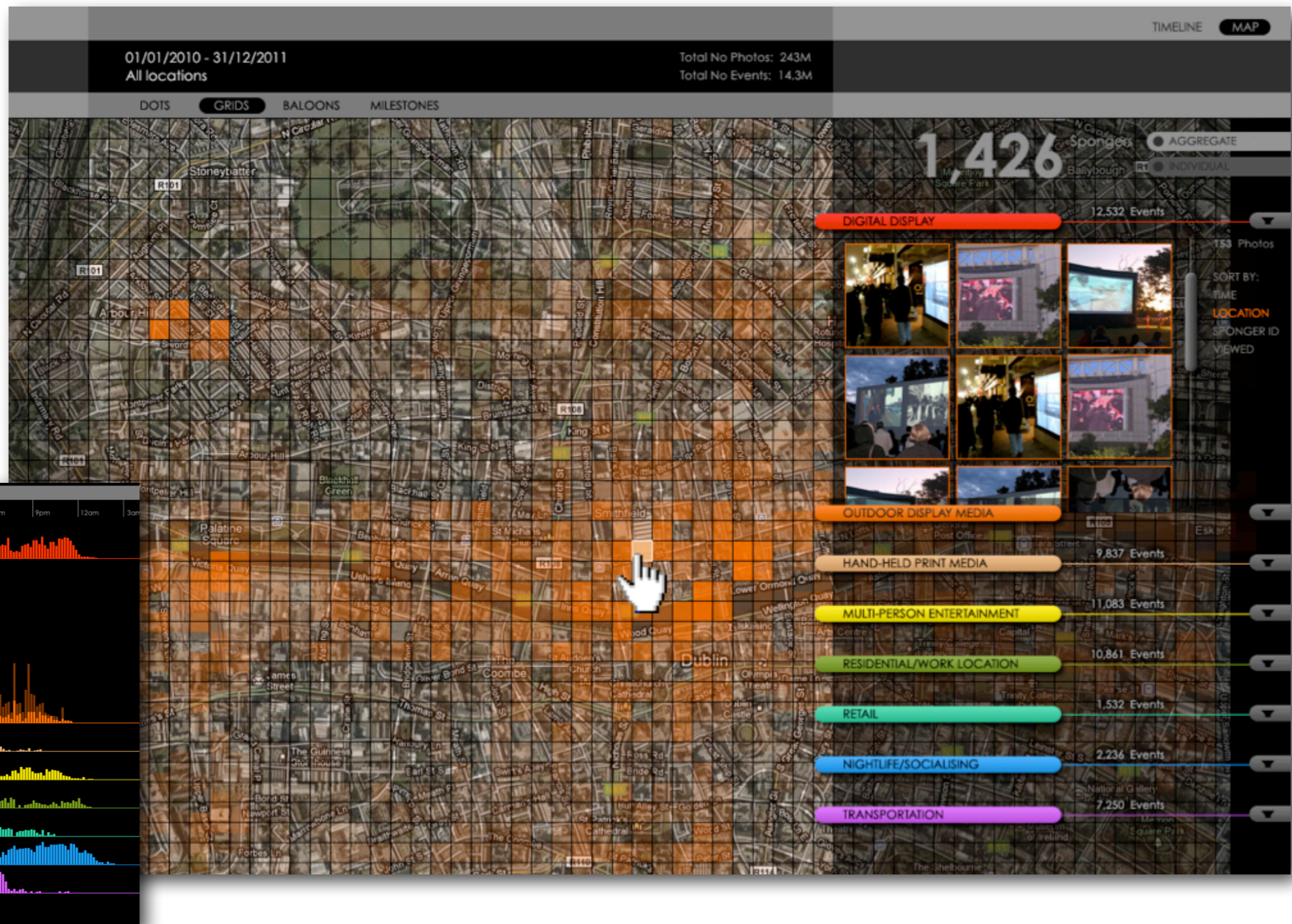
Clear

Apply



UNDERSTANDING A CITY

POPULATION-WIDE ANALYTICS



EXTERNALISING MEMORY

SEARCH YOUR PAST EXPERIENCES



FRIEND SEARCH

SEARCH YOUR PAST EXPERIENCES



Archived lives will create a whole new set of opportunities & challenges for industry and society.

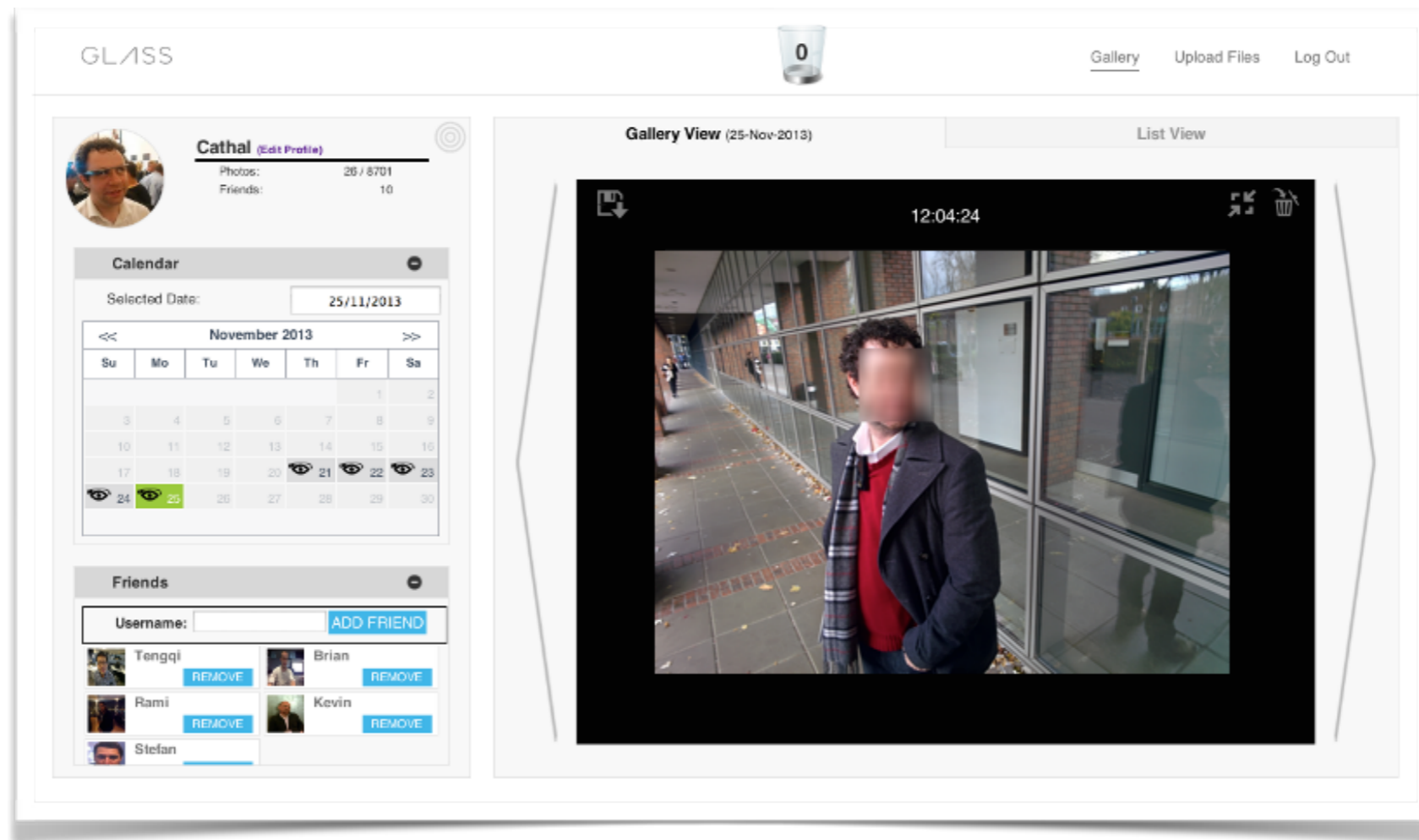
A new Google for archived lives, but;

Huge data **storage** challenges

Data **security** with huge consequences

Privacy of the lifelogger and bystanders

Privacy



Privacy and reputation of the lifelogger and the subjects/
bystanders.

In Summary

Mobile devices become context-aware pervasive computing devices

Throw the 'store switch' .. begin the era of lifelogging and surrogate memories

New challenges and opportunities

Then consider the impact of implantable devices

THANK YOU

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<http://www.computing.dcu.ie/~cgurrin/>

Any Questions?

LifeLogging: Personal Big Data

Cathal Gurrin, Alan F. Smeaton, Aiden R. Doherty

Published: 16 June 2014

Do a google search and download the book from the DCU website.

