



**intelligent museum:
experience design
not technology**

@sebchan

chief experience officer, ACMI

labs.acmi.net.au | freshandnew.org

你好

museums and libraries as sites
where an **alternative smart city**
might be glimpsed

loss of public space
public space as **digital space**



garbage bin as network tracker, london 2012

quantification of **the city**
quantification of **culture**



MyMagic+, Disneyland, 2008 (Magic Band, 2013)

Apps & APIs

Bluetooth LE

WiFi tracking

Cellphone triangulation

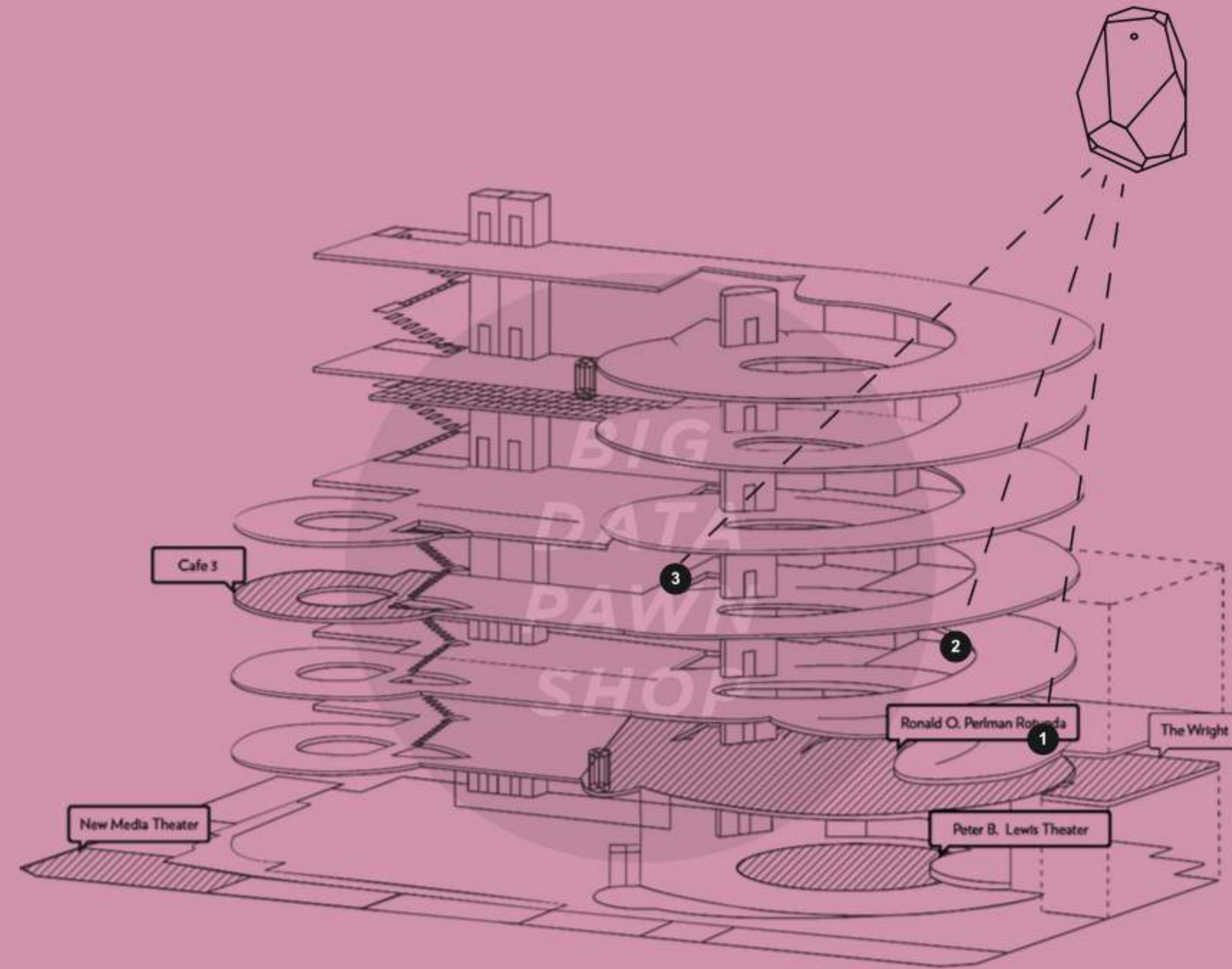
Guggenheim iBeacon N°1

Recorded on December 20, 2014 at 40°46'58.5"N 73°57'32.0"W



```
No.      Time      Source      Destination
1        0.000000
[Frame 1: 69 bytes on wire (552 bits), 69 bytes captured (552 bits)]
  Encapsulation type: Per-Packet Information header (97)
  Arrival Time: Dec 19, 2014 23:31:21.289127000 EST
  [Time shift for this packet: 0.000000000 seconds]
  Epoch Time: 1419049881.289127000 seconds
  [Time delta from previous captured frame: 0.000000000 seconds]
  [Time delta from previous displayed frame: 0.000000000 seconds]
  [Time since reference or first frame: 0.000000000 seconds]
  Frame Number: 1
  Frame Length: 69 bytes (552 bits)
  Capture Length: 69 bytes (552 bits)
  [Frame is marked: False]
  [Frame is ignored: False]
  [Protocols in frame: ppi:user_dlt:btile:btcommon]
PPI version 0, 24 bytes
  Version: 0
  Flags: 0x00
    .... ..0 = Alignment: Not aligned
    0000 000. = Reserved: 0x00
  Header length: 24
  DLT: 147
  Reserved: 36750c00006209000c6e4b2600000000
DLT: 147, Payload: btile (Bluetooth Low Energy Link Layer)
Bluetooth Low Energy Link Layer
  Access Address: 0x8e89bed6
  Packet Header: 0x2440 (PDU Type: ADV_IND, TxAdd=false, RxAdd=false)
    ..00 .... = RFU: 0
    .1.. .... = Randomized Tx Address: True
    ...0 .... = Reserved: False
    .... 0000 = PDU Type: ADV_IND (0x00)
    00.. .... = RFU: 0
    ..10 0100 = Length: 36
  Advertising Address: de:c1:95:1e:39:b4 (de:c1:95:1e:39:b4)
  Advertising Data
  Flags
```

BIG
DATA
PAWN
SHOP

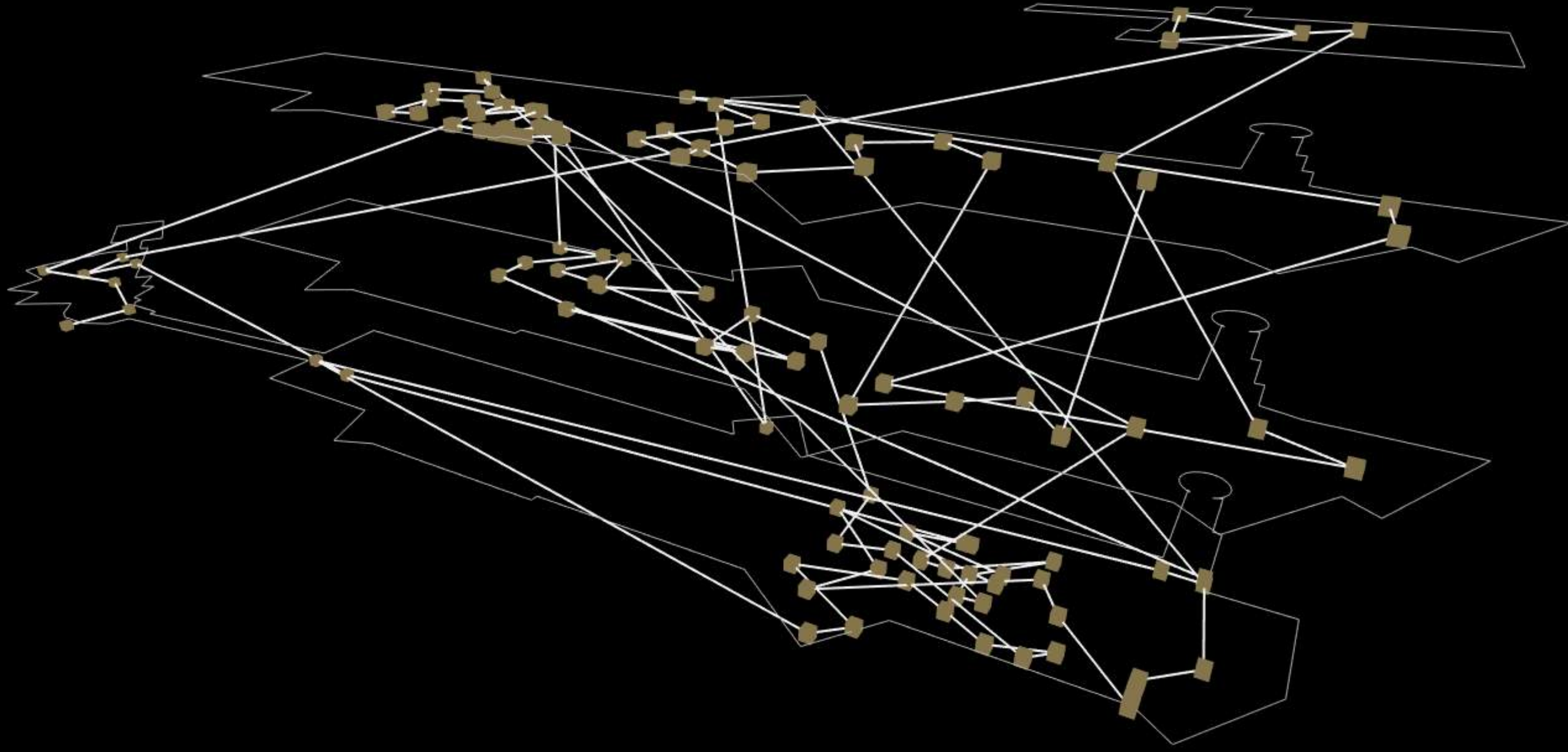


adam harvey, **big data pawnshop**, 2014



Time Range: 10:00 AM to 5:00 PM

exhibit design & **wifi tracking data** 2010



seb@snarl.org

Logout

My Tours
 Wednesday 26 October 2011

Filter

Viewed

Missed

Results for:

Wednesday 26 October 2011

Viewed



FAT CAR
 Erwin Wurm



SNAKE
 Sidney Nolan

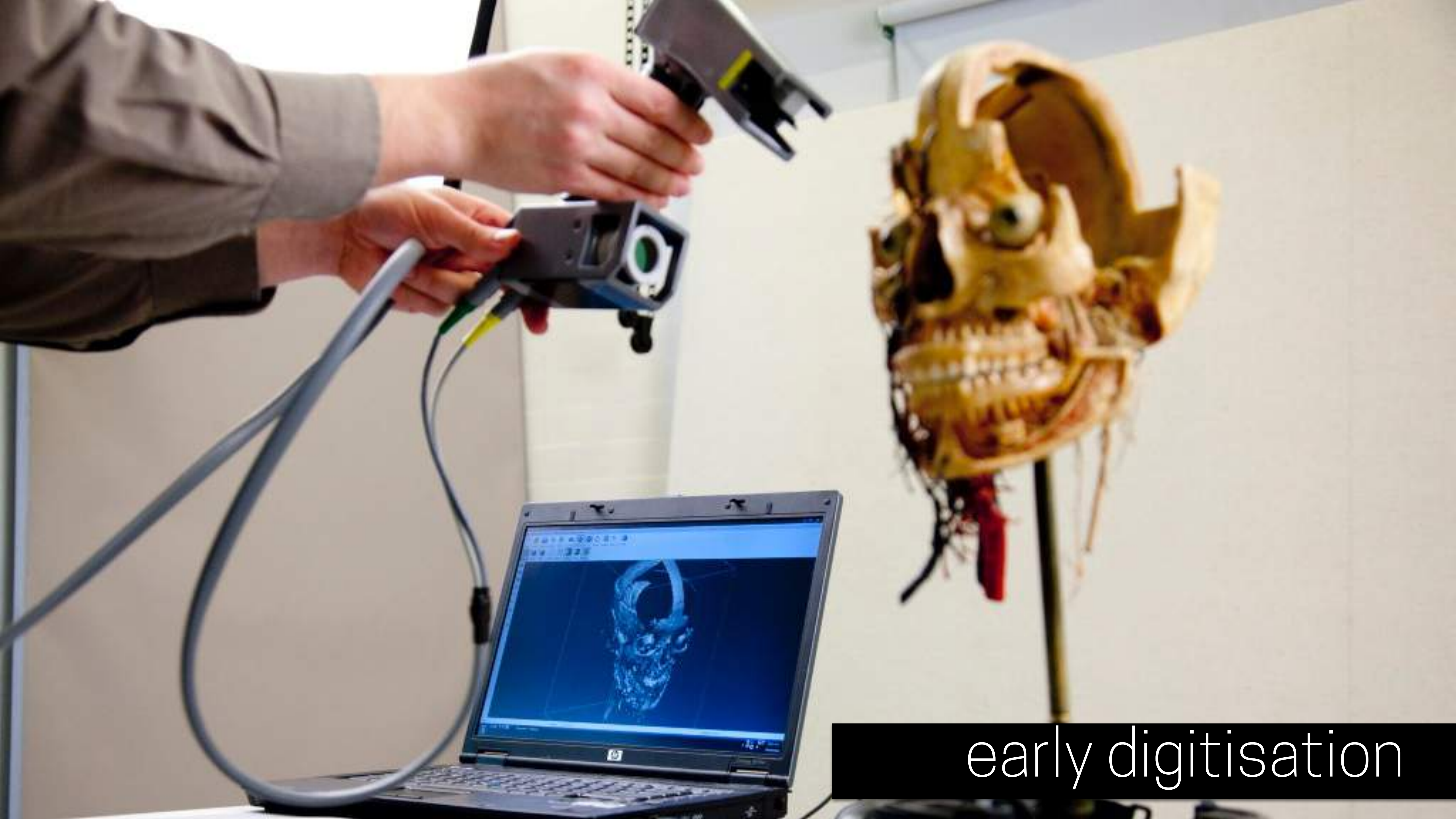
visitor maps at MONA, 2011

it wasn't always so **dystopian**

2000s



powerhouse museum



early digitisation

Related Subjects

- + [Beauty and haircare](#)
- + [Plastics technology](#)
- + [Art Deco](#)
- + [Spanish culture](#)



- City
- + [Algiers](#) x
 - + [London](#) x
 - + [Glasgow](#) x

User tags

[Add tags](#)

- + [nla.gov.au/nla.news-article18164478](#) x

Related Subjects

 Statement of significance

+ [Technical College's Chemical Society](#)

early social success

Print Save as PDF

Cite: <http://nla.gov.au/nla.news-article>

Tags (Keywords) Add

<http://www.powerhousemuseum.com/database/entry/241781> powerhouse mu

Comments Add New

Show comments

ELECTRONICALLY
TRANSLATED TEXT

[Why may this text have mistakes?](#)
[How to correct this text?](#)

1 correction by [noisyoyster](#) - [Show corrections](#)

SPANISH COMB

The Museum of Applied Arts and Sciences, Sydney, has acquired from France a replica of a Spanish mantilla comb which was made for the Centenary Exposition of Algiers in 1930.

It is described as one of the finest pieces of handwork of its type ever to come to this country

It is now on exhibition in the Special Exhibition Hall on the first floor of the Museum in Harris Street, Broadway.

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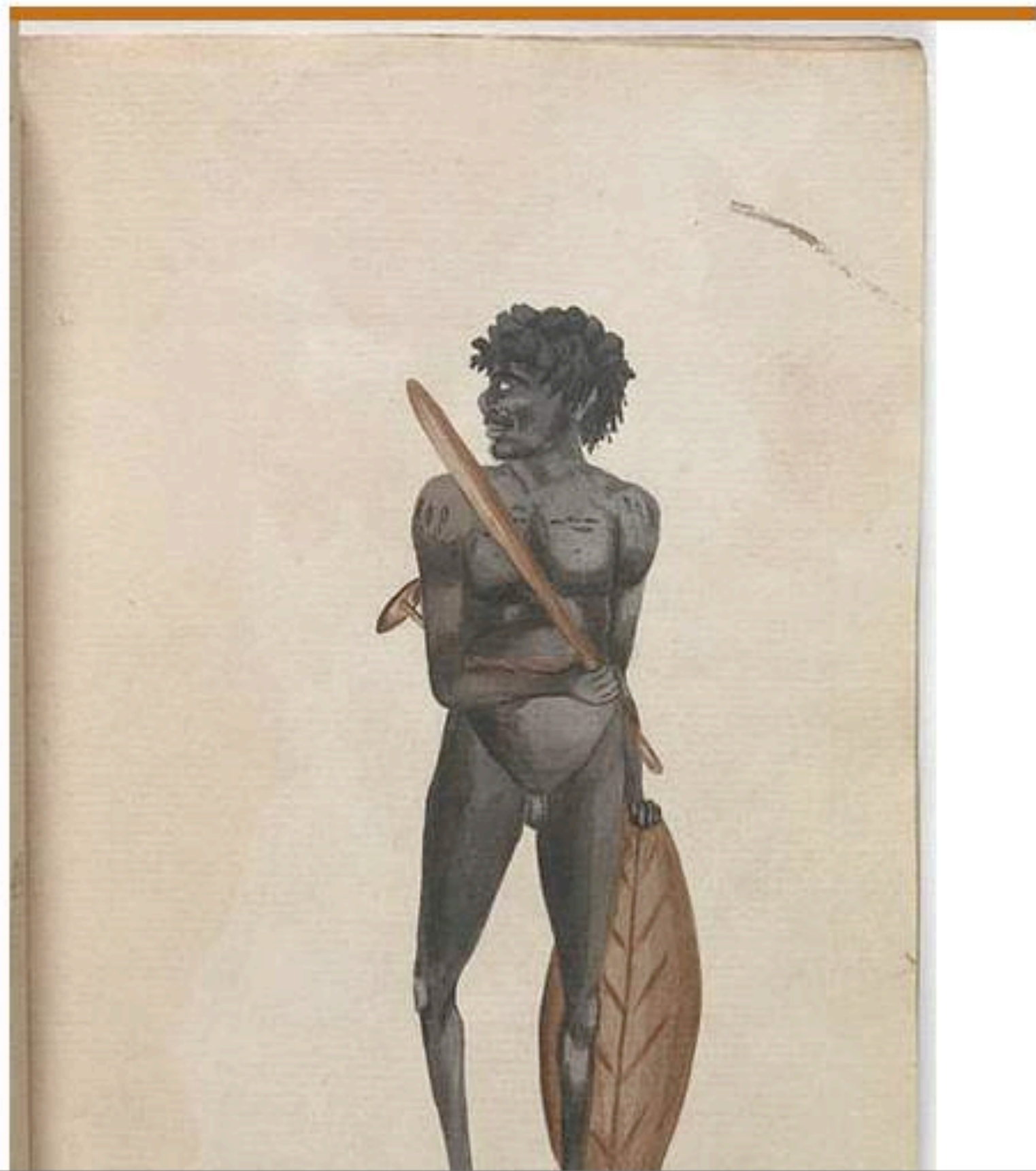
View entire page

Sport In De

King, A. Myers; 11.40, W. S. J. Proctor and R. G. 8-10, 6-3, 10-12, 6-3; on, I. Close, H. Mullaard; 11.45, G. Carmona (Philippines) r. R. Haddon, D. Cullen; 11.50, and R. Tinting (G.B.) Horey, W. Ritchie, N. Berwick; J. W. Ryan, R. Carr, N. Wilson; Dorfman and A. Jark; H. Hudson, J. N. King, R. Menties; E. Moyle, N. W. Pritchard, J. Canapele and R. Sch 4-6, 9-7, 6-0. MIXED DO First Re A. K. Quist (Aust.) (U.S.) beat J. Boer Boegner (France), 6-4, and Mrs. Matous (Czechoslovakia) and Mrs. 6-1, 4-6, 11-9. N. Nath Phillips (G.B.) beat and Mrs. Knott (G.B.) Paish and Miss J. Qy N. Hassen (Norway) a (Belgium), 6-1, 6-1, and Miss L. Broo D. Lurie (S.A.) an berg (Australia). J. Bromwich (Aust.) a son (G.B.) beat Statha cher (G.B.), 6-3, 6-1. Mrs. Schmier (Holland) Mrs. David (G.B.), 6- Horn and Miss Wood R. Lemyze and Mrs. 6-3, 2-6, 6-3; J. Brich Miss Butler (U.S.) B and Mrs. Glover (G Sauglier and Mrs. G. W. T. Anderson an (G.B.), 9-7, 9-7. D. Mrs. Walker-Smith (G ter and Mrs. Thomas M. Murphy and Mrs land) beat G. Gull (G.B.), 6-8, 6-3, 6-3; and Mrs. Isaac (Belgiu and Miss G. E. Wood 6-2, 7-5; G. Caccia (Aust.) beat J. G. ZOOM

first museum with downloadable
data & (patchy) API in 2008

api.powerhousemuseum.com



ARTICLE CATEGORIES

- ANIMALS
- CULTURE
- ECONOMY
- HISTORY
- PEOPLE
- PLACES
- PLANTS

FEATURED ARTICLES

 **A brief history of New South Wales**
[READ STORY](#)

 **Bermagui**
[READ STORY](#)

 **Mosman**
[READ STORY](#)

about this site
Welcome to 'about NSW', a new site dedicated to showcasing the diversity of people, places and things to see and do in NSW.
[GIVE US YOUR FEEDBACK](#)

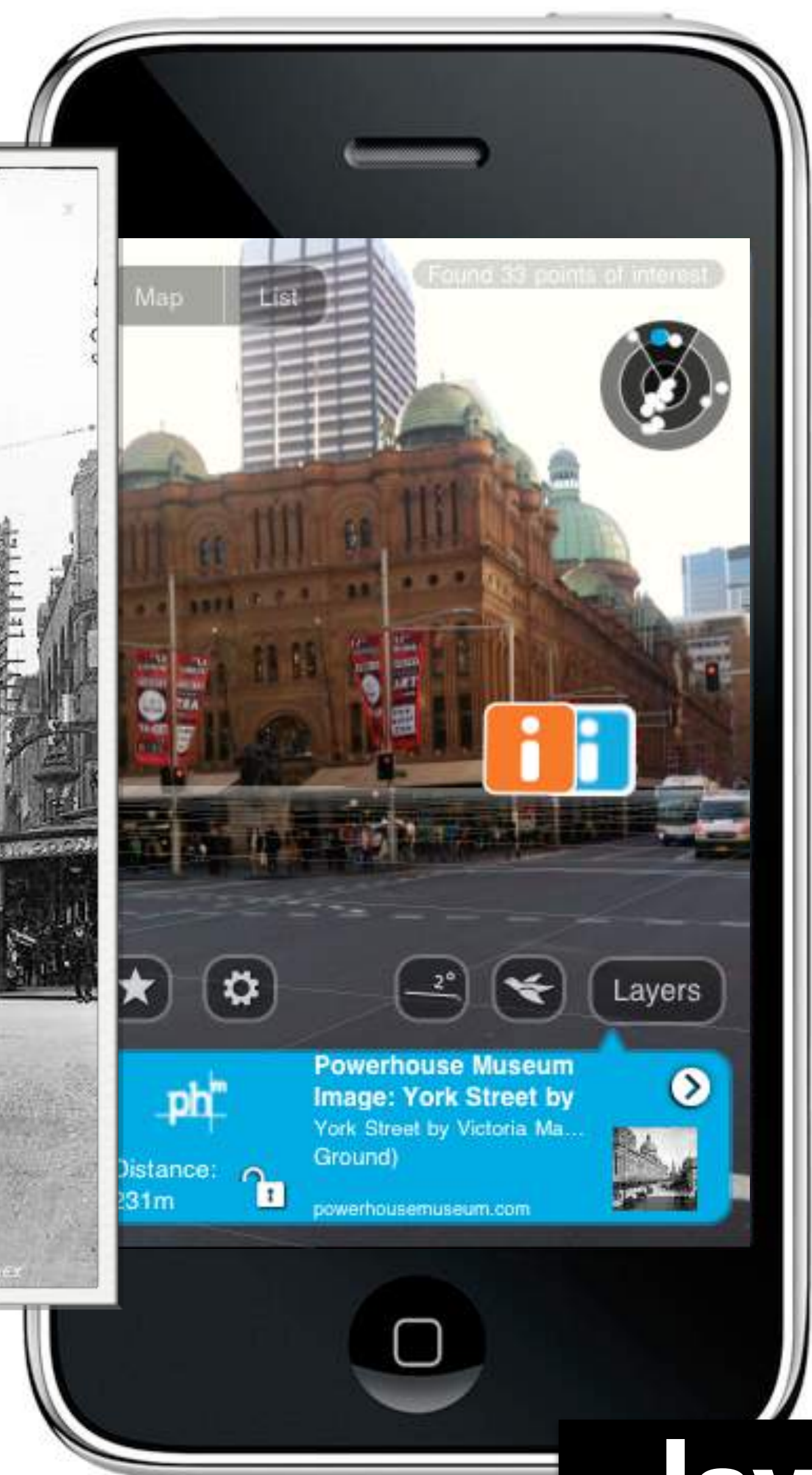
- ABOUT THE SITE
- CONTACT US
- COPYRIGHT
- PRIVACY
- TECHNICAL REQUIREMENTS

browse NSW by map




QR 2009

how might we **connect the**
museum to the world outside?



layAR 2009



museums as **democratic spaces**

museums as **curiosity machines**

2011



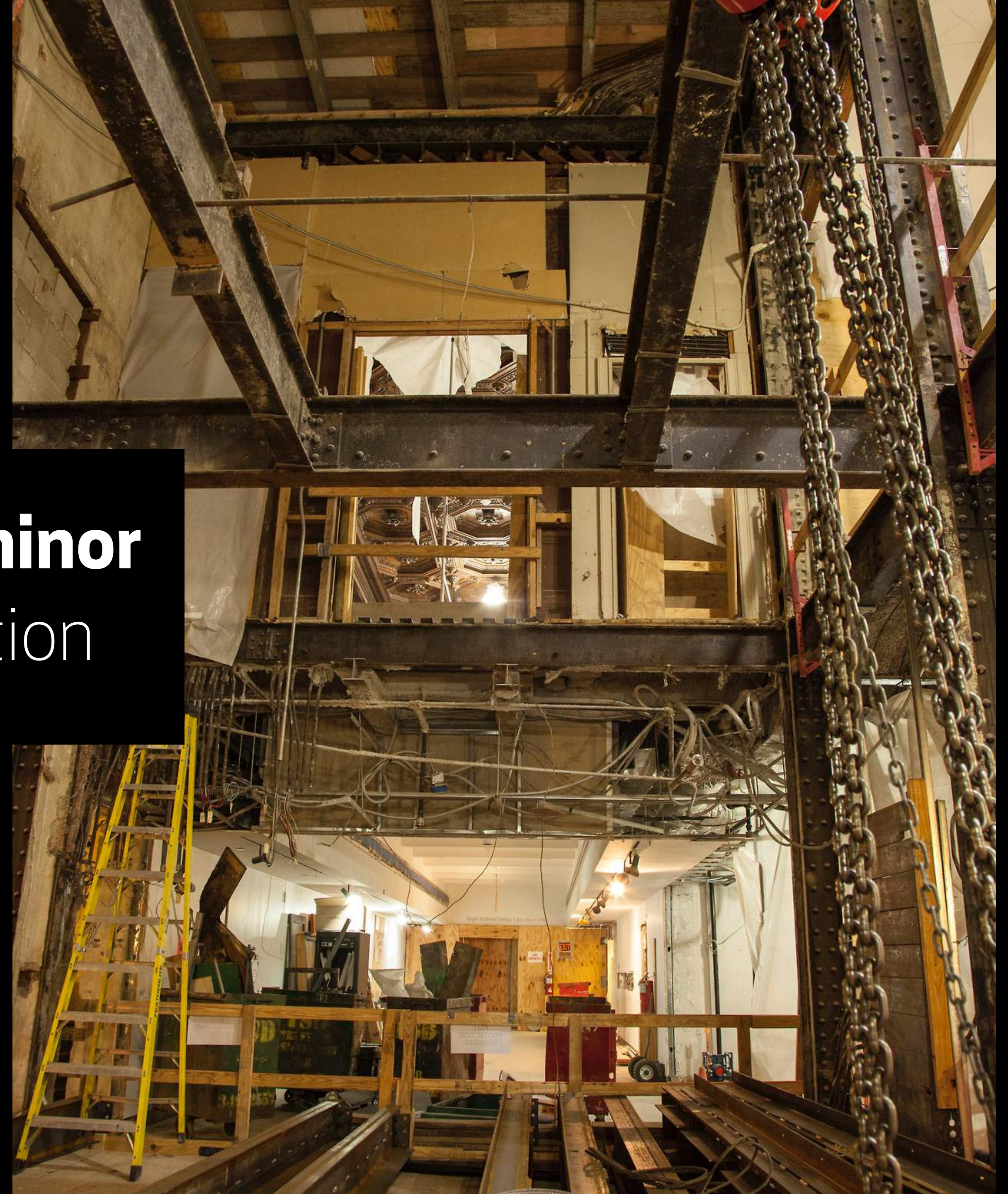
cooper hewitt smithsonian design museum



cooper hewitt

aussie coffee

tourists



just a **minor** renovation

the **museum as a physical and social interface** to a digital (and physical) archive

if every object was **digitised, online,
and addressable** how might we train
visitors to use the building differently?

even though every
object would be online
we needed to assert the
**importance of
physically visiting**

so we made **a thing**
magic wand

a bit like a **magic library card**, or a **transit pass**, except not a card

	PROS	CONS
III RECIENT CTO/IRS.	(DEF) SIZE CAP B/E? ALUMINUM CORE TICKET PRL W/CUNS. REMINDER. VISIT URL.	QTY. ? TECH ? MANU. ? \$ + \$3/unit (L) Reorder Time
PEN	PENS & CASE UNISEX BRAND!	UNKNOWN? PORTABILITY EXPENSIVE
RING	ULTRA CHEAP! VISIBLE	GENDERED ↓ BLOOMSBURG
BRACELET		BAD FOR LABELS
CARD	BOILING CHEAP	FORMING UBICITOUS

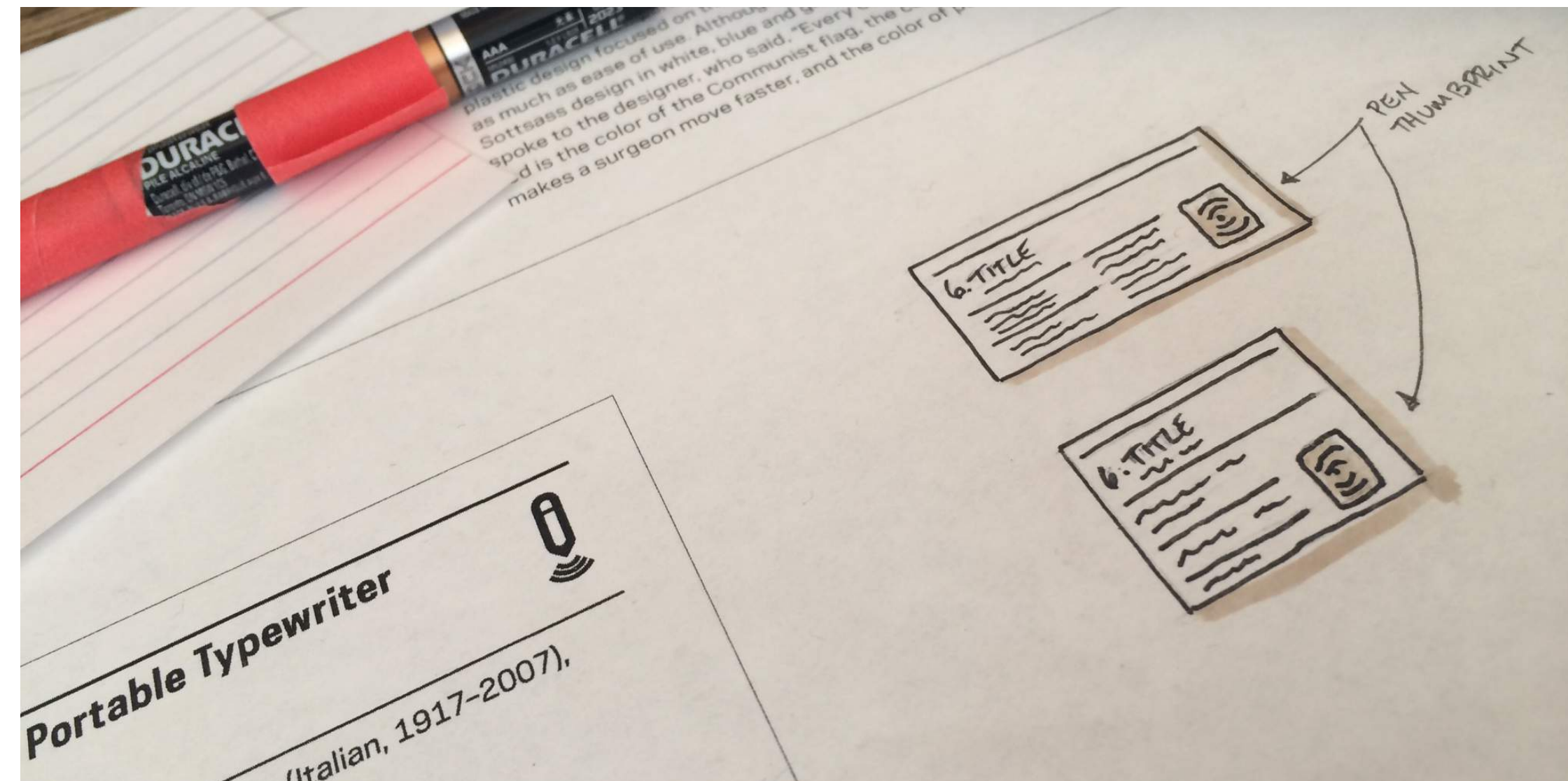
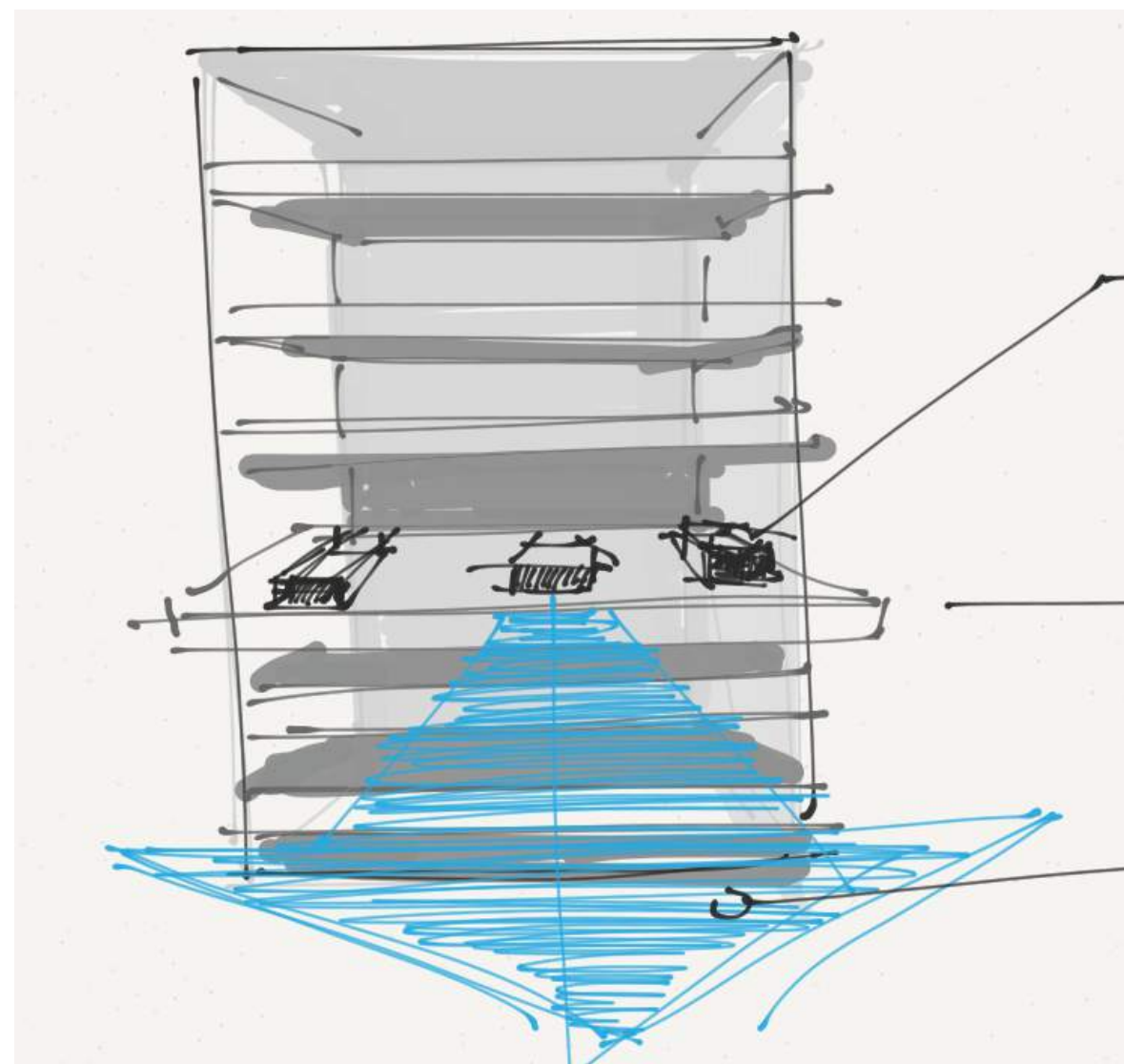
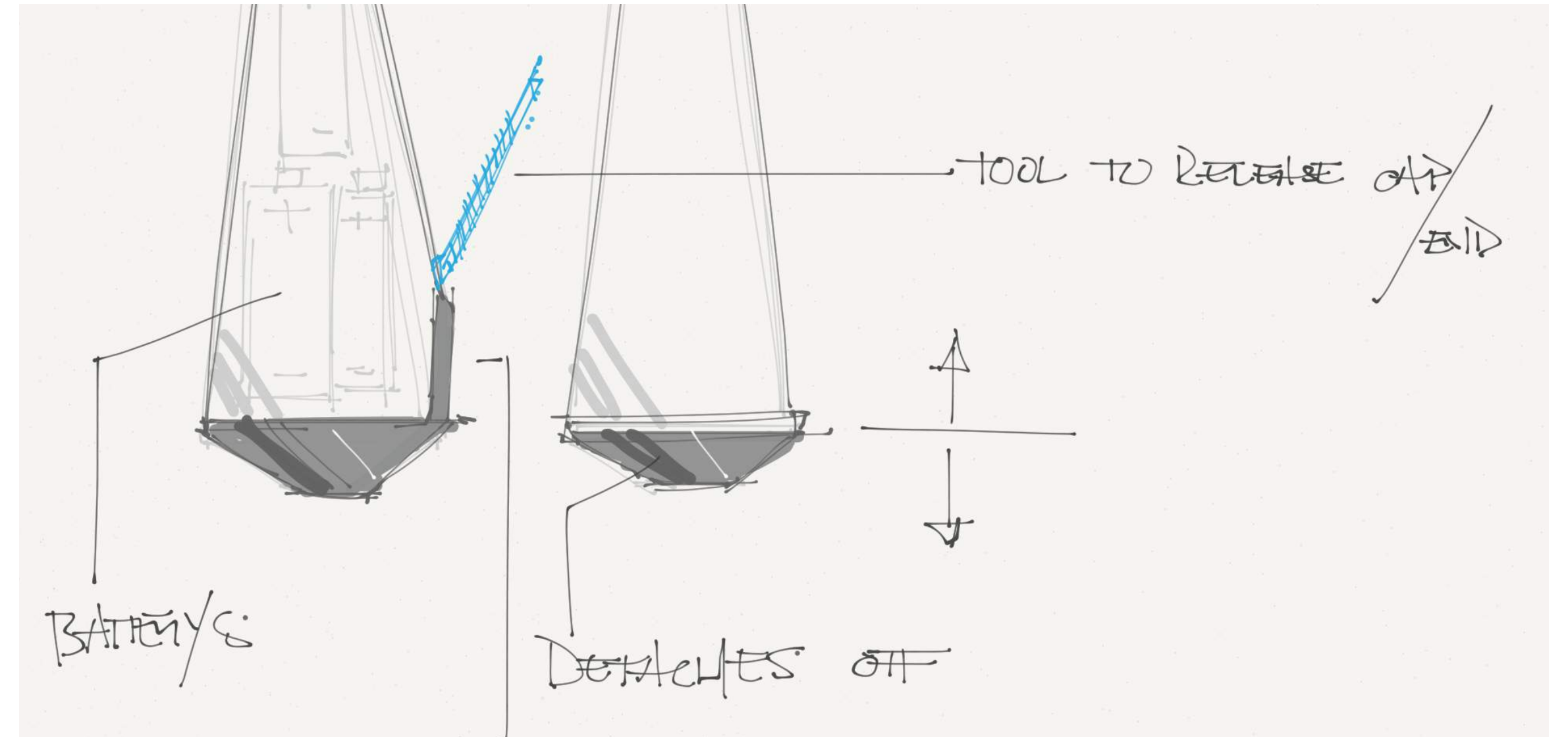
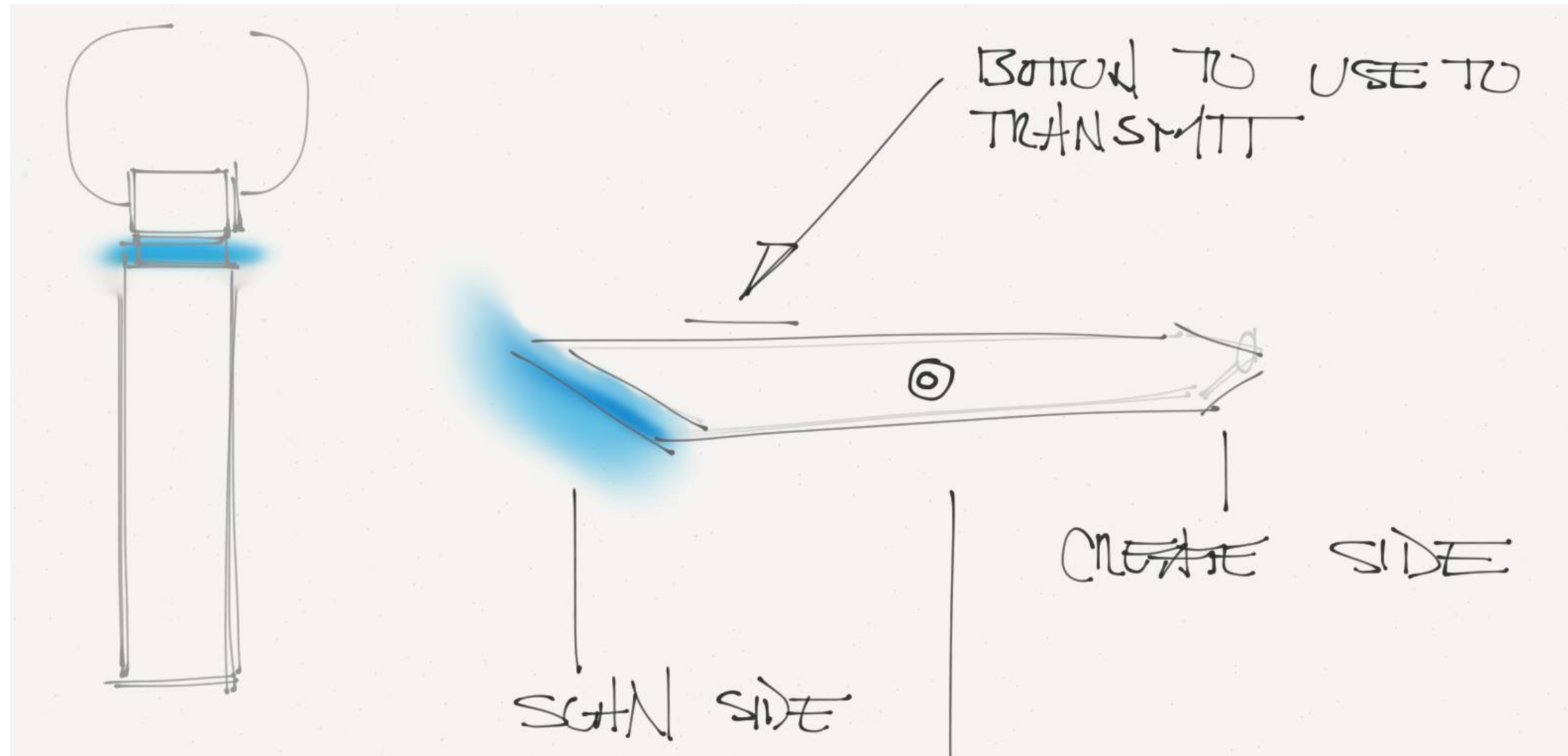
netic needle
er

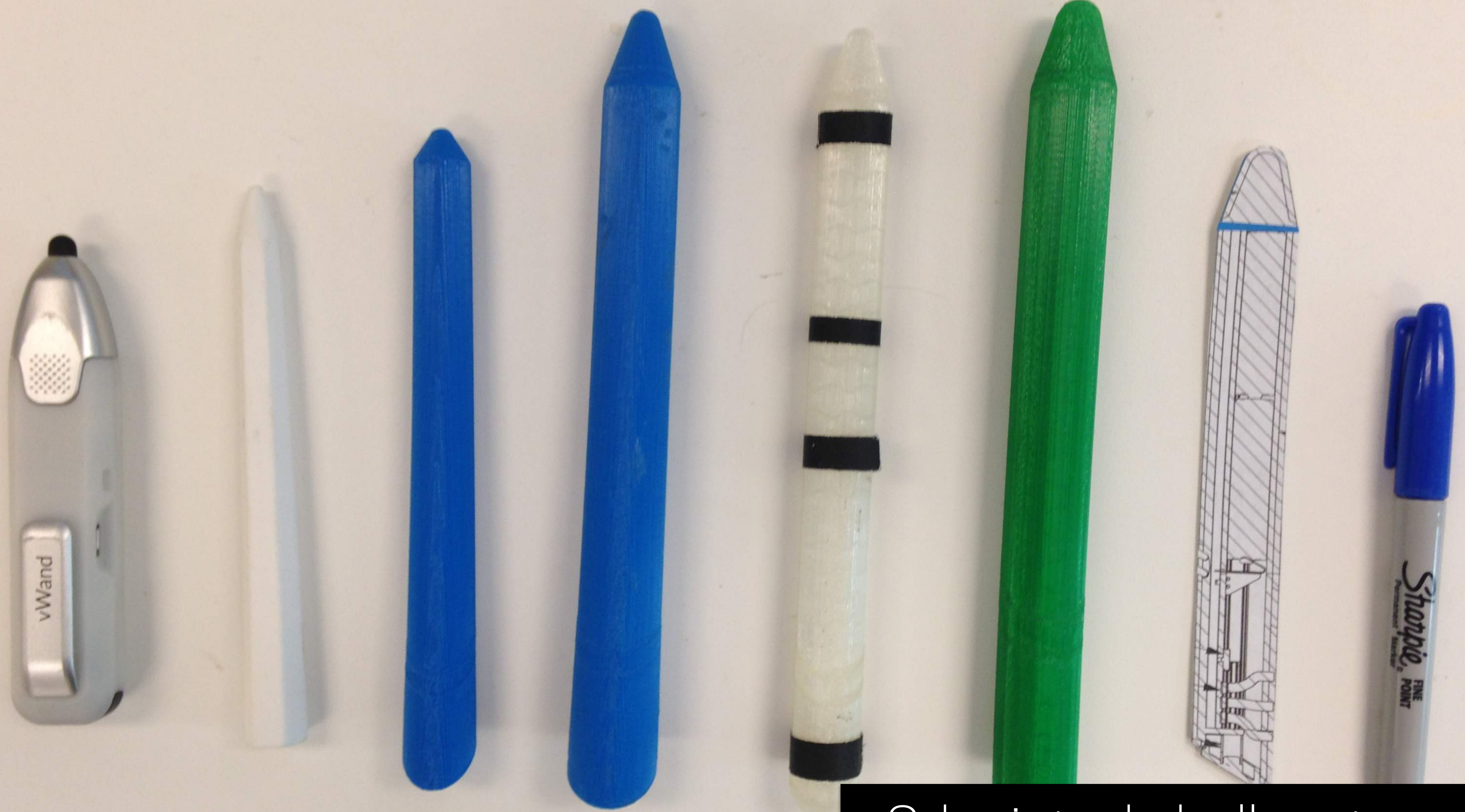
end with
CUTAIN

+ portable **NFC** reader
NFC enabled museum **labels**
paired with museum entry **ticket**

battery charging time **shared design language** multiple colors **create desirability** what to do with the stuff on pen **how durable is it** didn't receive data on phone **cleanable & sanitization** don't want to **work hard** trouble with account when home **ease of manufacture** children losing pen **better than a smartphone** can't see the NFC icons **create desire to use** screen & pen calibration **am I doing it right** is this distracting from the objects on display **what kind of feedback** pen won't sync **pen is too subtle** where to store all the pens **how intuitive is it**

INITIAL SKETCHES





3d printed shell prototypes

NFC reader

capacitive stylus



full backstory of making the pen

<http://bit.ly/cooperhewittpen>

(chan & cope 2015)



LOCAL
PROJECTS

the pen in operation

playful and generous interfaces

browse not search

API METHODS

[API documentation](#) [API methods](#) [API formats](#) [Create a new API key](#) [Your API keys](#) [Your access tokens](#)

API.SPEC

[api.spec.formats](#)

Return the list of valid API response formats, including the default format
[Take this API method for a spin](#)

[api.spec.methods](#)

Return the list of available API response methods.
[Take this API method for a spin](#)

API.TEST

[api.test.echo](#)

A testing method which echoes all parameters back in the response.
[Take this API method for a spin](#)

[api.test.error](#)

Return a test error from the API
[Take this API method for a spin](#)

COOPERHEWITT.OBJECTS.LOCATIONS.SITES

[cooperhewitt.objects.locations.sites.getFloors](#)

Return the list of floors for a specific location site.
[Take this API method for a spin](#)

[cooperhewitt.objects.locations.sites.getInfo](#)

Return detailed information for a location site.
[Take this API method for a spin](#)

[cooperhewitt.objects.locations.sites.getList](#)

Return the list of location sites.
[Take this API method for a spin](#)

[cooperhewitt.objects.locations.sites.getObjects](#)

Return the list of objects that have ever visited a specific location site.
[Take this API method for a spin](#)

COOPERHEWITT.OBJECTS.LOCATIONS.SPOTS

[cooperhewitt.objects.locations.spots.getInfo](#)

Return detailed information for a specific spot.

“the API as **public infrastructure**”

anonymous

respectful of visitor privacy with opt-in accounts

YOUR VISIT TO THE MUSEUM ON JULY 26, 2015



11:51 AM

Stacking Tea Service (Italy), ca. 1970



Teapot (Ch

Search

SEARCH YOUR VISIT

This visit has the code **kzcr** and is associated with **26 items**.

- [Make your visit private](#)
- [Share your visit](#)
- [Download your visit](#)
- [Delete your visit](#)

download and/or delete your data

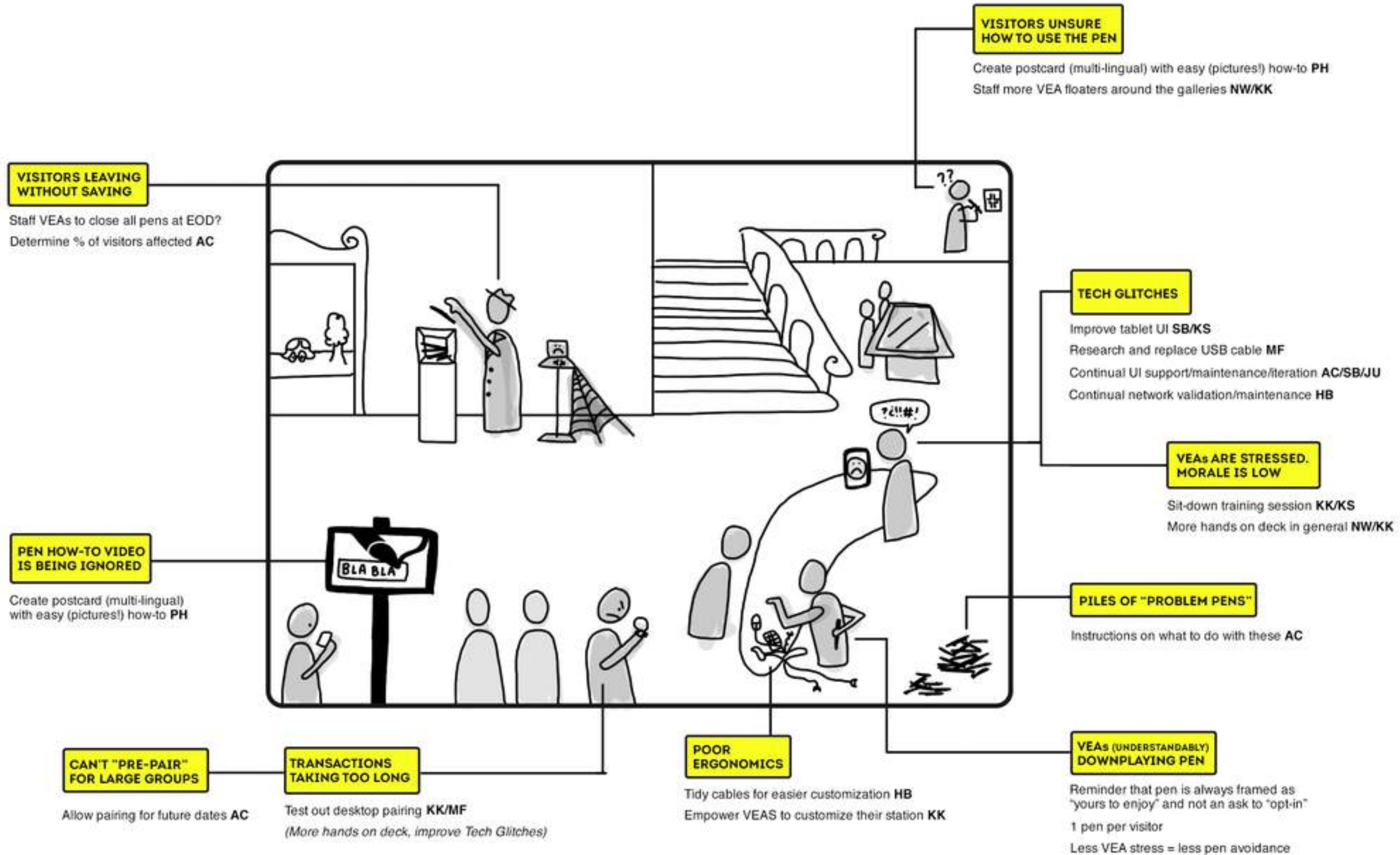
people not 'technology'
is what makes it
successful.



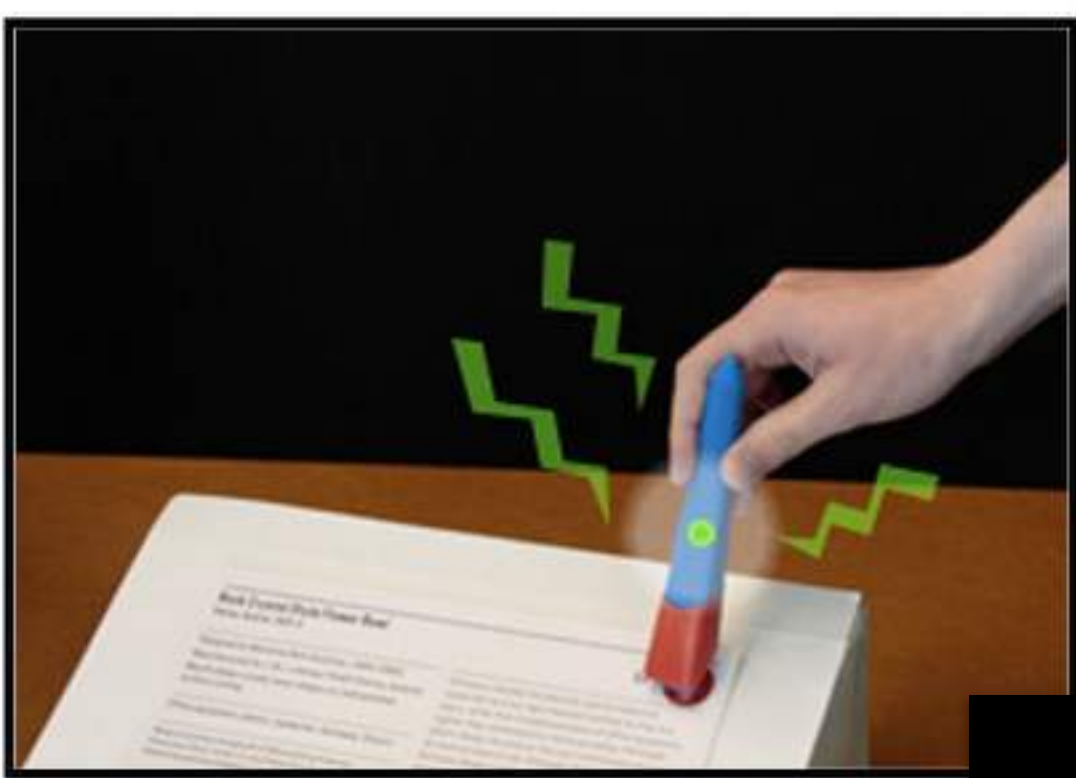
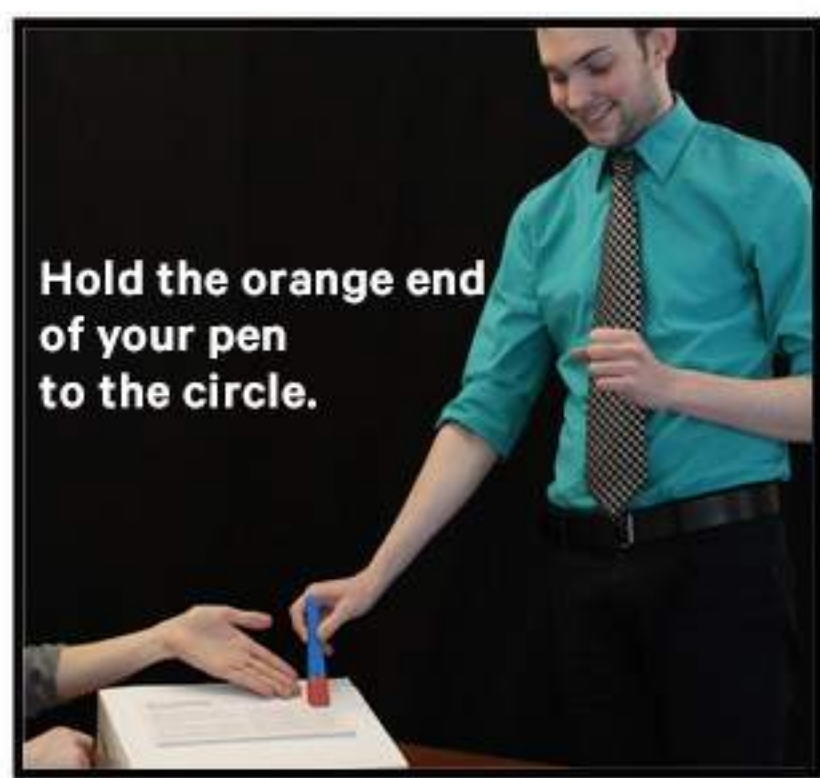
“seamful-ness”

not seamlessness

both the challenge and the
opportunity is that the work is
never finished



week one UX problem sketch



initial customer service UX

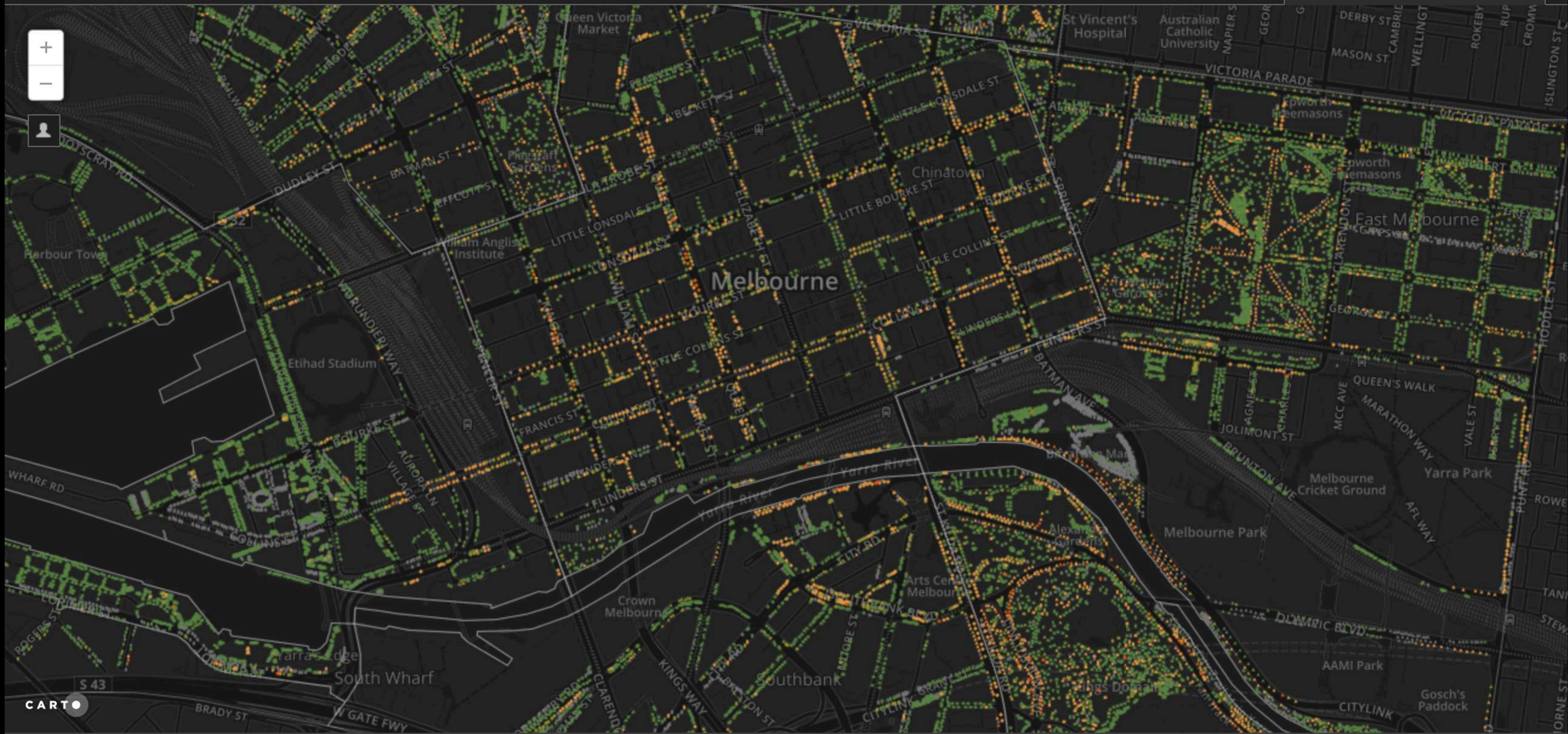
+ **onboarding** might be required
every single time it has to be used

+ **end to end** service design for
~~exhibitions~~ institutions

2015

- **melbourne is a well connected and instrumented city**

Drag map, click icons for details



All Precincts ▲

All Trees ▲

[Open bigger map in new window](#)

open data of **Melbourne's trees**

Drag map, click icons for details



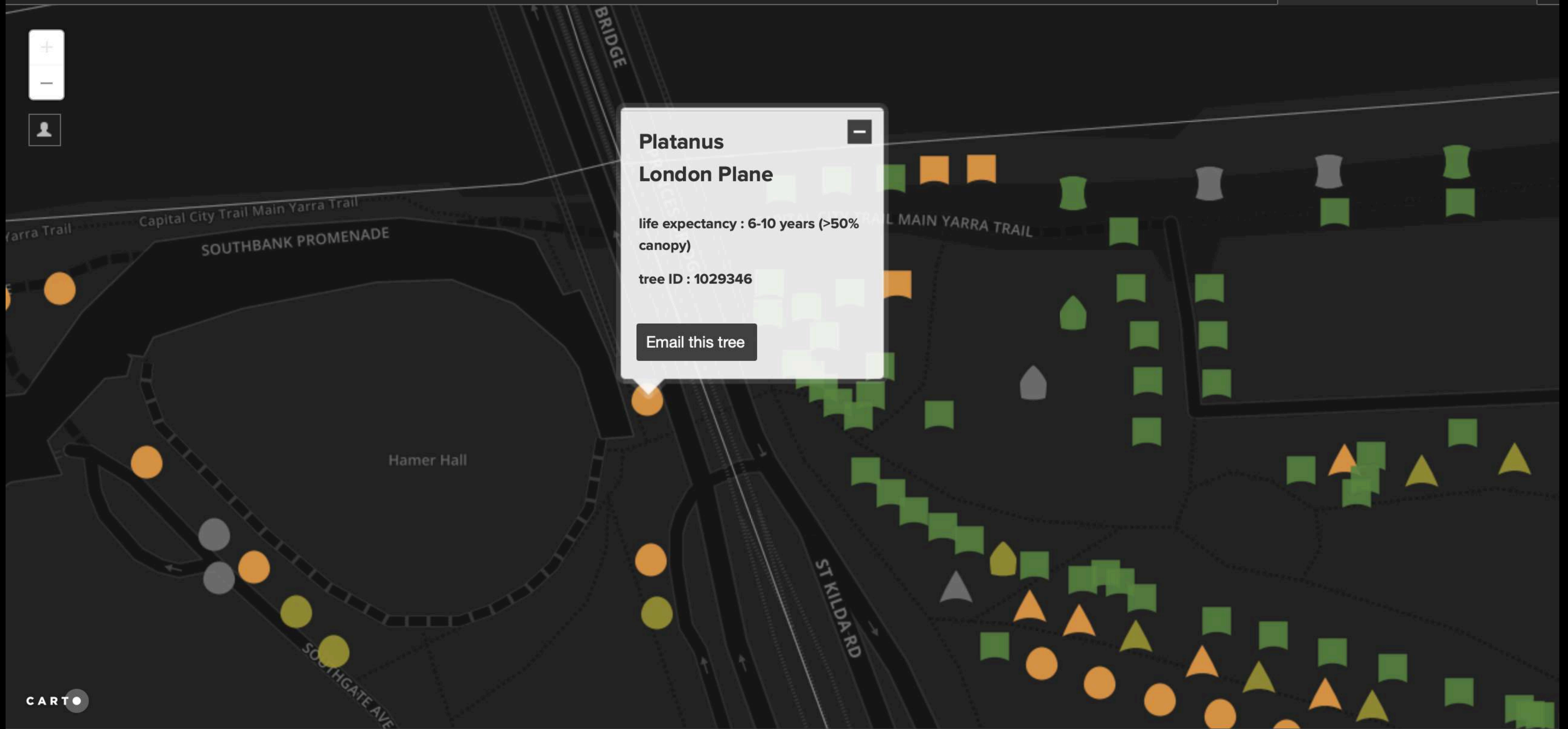
Platanus

London Plane

life expectancy : 6-10 years (>50% canopy)

tree ID : 1029346

Email this tree



CART

All Precincts

All Trees

[Open bigger map in new window](#)

email a specific tree in Melbourne



open **3D city model** of Melbourne

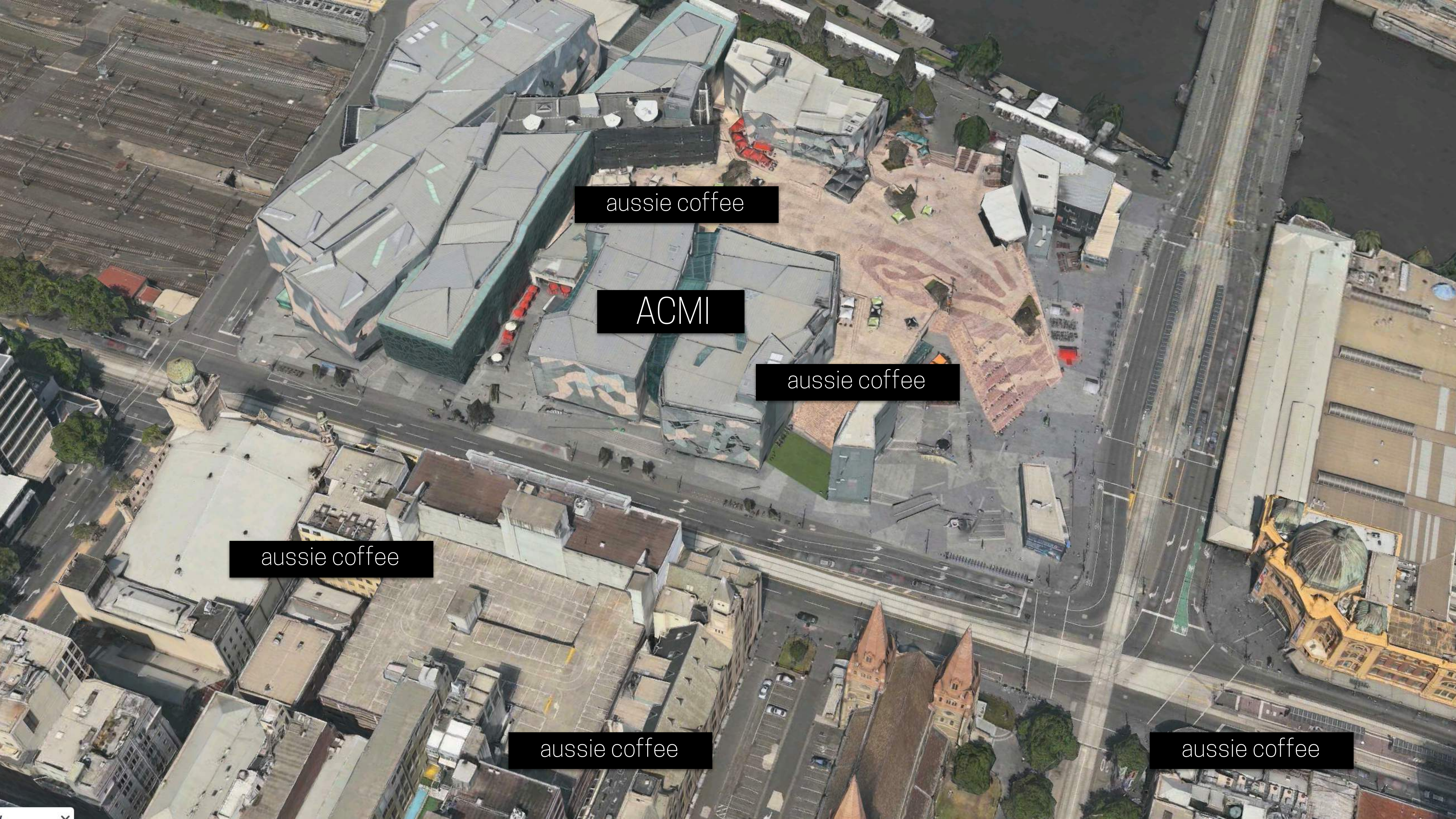


screen record of Troy Innocent's **Accelerando** (2018)



acmi AUSTRALIAN CENTRE FOR THE MOVING IMAGE

ACMI is the **national museum**
of film, tv, video games,
digital culture and art



aussie coffee

ACMI

aussie coffee

aussie coffee

aussie coffee

aussie coffee



MELBOURNE
LIFESTYLE COFFEE



ENERGY TATTOO
—纹身—

WELCOME
墨村咖啡
周一至周五
OPEN 09:00-CLOSE 20:30
周六周日
OPEN 10:00-CLOSE 20:30
(021) 34161810

“melbourne lifestyle coffee” is even a thing in Shanghai

Our Audience

1.55m
visitors
2017-18

720k +

visited our free
permanent
exhibition
last year

500k

visited our
touring
exhibitions

82k +

students and
teachers on site
per year

60k +

eDM subscribers

96%
visitor
satisfaction

44%

earn above median
household income

25-40

primary age
demographic

1.7m

website views
2017-18

22%

international
visitors



game masters exhibition built at ACMI 2012 now touring **worldwide**



dreamworks exhibition built at ACMI in 2014 now touring **worldwide**



Collisions (VR) 2016

STUCK IN
THE MIDDLE
WITH YOU

visitors as spectacle (2015)



new commissions daniel crooks, zany begg, soda_jerk, sandpit
soon: christian thompson, joan ross



MUSEUM

CINEMAS

IDEAS

acmi

OPEN DAILY 10am
Fed Square, Melbourne

Digital and Time-Based Media Artworks

A showcase of world-renowned artists
and titles in our collection.

OVERVIEW

INTERACTIVE/COMMISSION

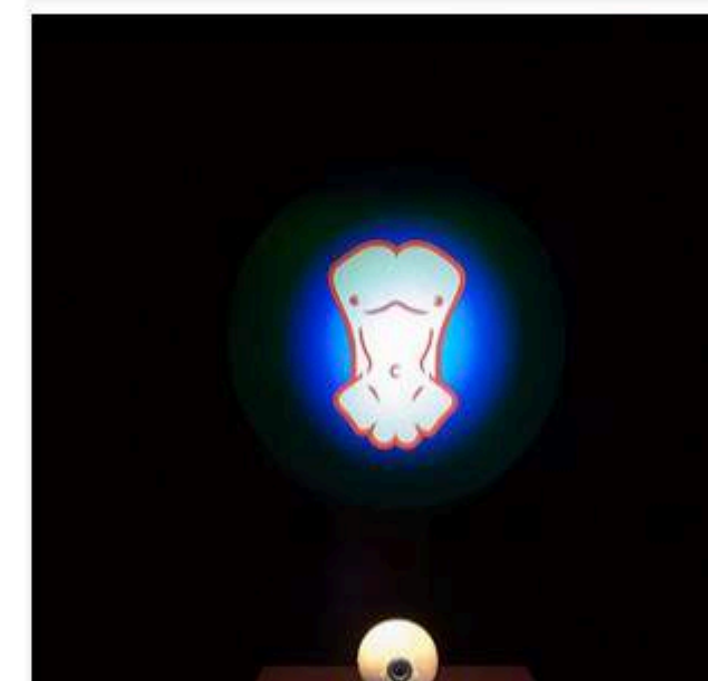
Prosthetic Head



Stelarc, Australia, 2003. Prosthetic Head, is a computer-generated head that has real-time lip synching, speech synthesis, and facial expressions. Through a vision or sensor system, the Prosthetic Head will be able to acknowledge the presence and position of any physical body that approaches it and speak to the person who interrogates it.

INTERACTIVE

The Body Malleable



Philip Brophy, Australia, 2003. An intimate interactive work where a custom built 'gromit' is physically engaged with by the viewer to create a display combining digital animation and synchronised audio in the installation space. The custom



digitising and preserving single channel works



a **co-working** space and **accelerator**

+ our currency is **time**
time to watch
time to play
time to experience

+ **valuing the time** that people give us and **multiplying** the return on that gift

+ new exhibitions used to **pilot and test new approaches** to design, technology, and visitor experience

Visitors waiting using phones



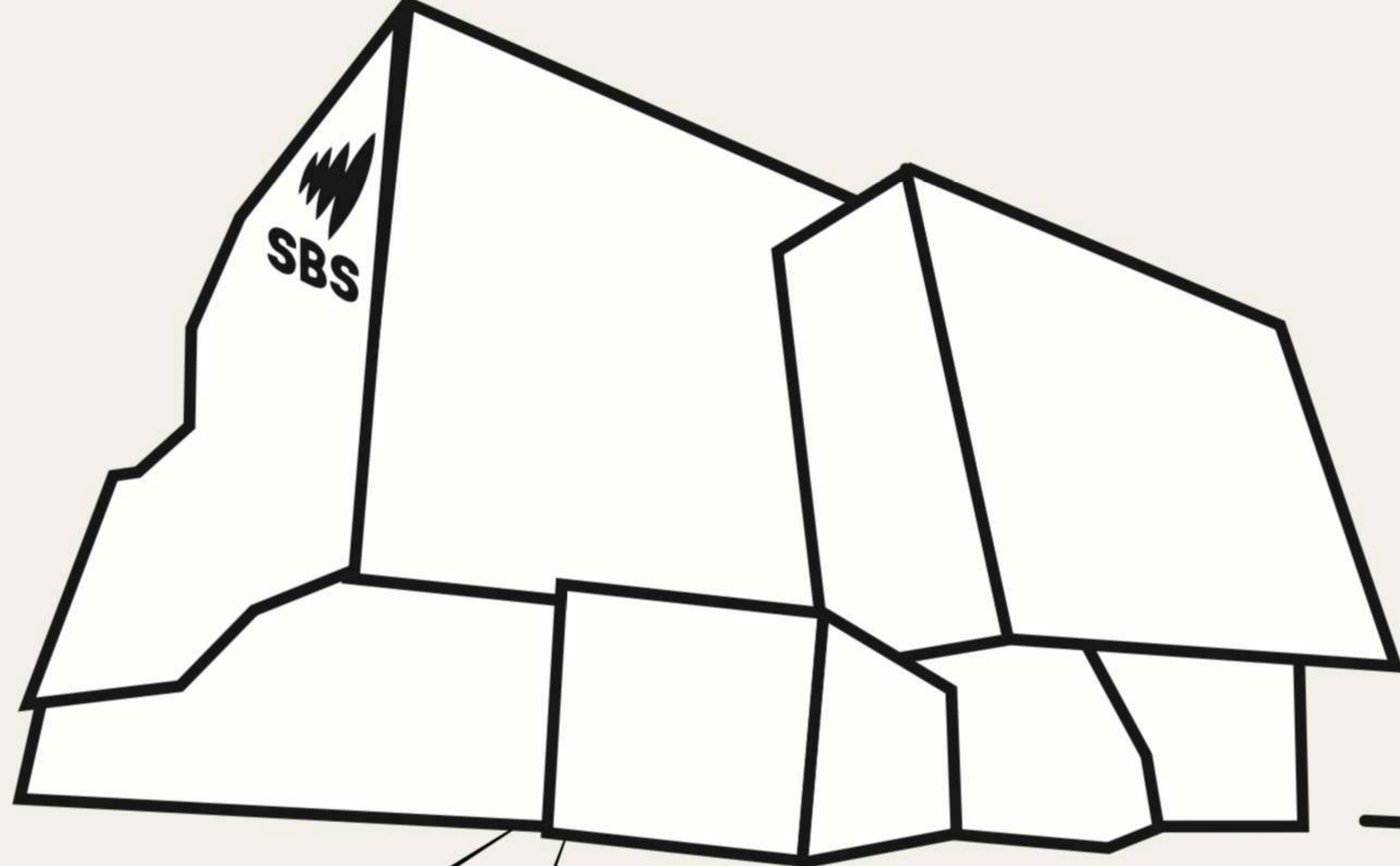
observational research

les
llection

s a 'natural'
t visitor
to begin a
t there is
tion given to
be done with

les are an
elp visitors

nclude
an the visit
offers that
tage of when



No visibility of ACMI from St Kilda Road

ACMI is not well signposted on the lead up from Flinders Street Station. This can prove especially problematic for wheelchair users as the hill up to the entrance is quite steep.



Oh dear me
what a hill!



International visitors require different levels of service

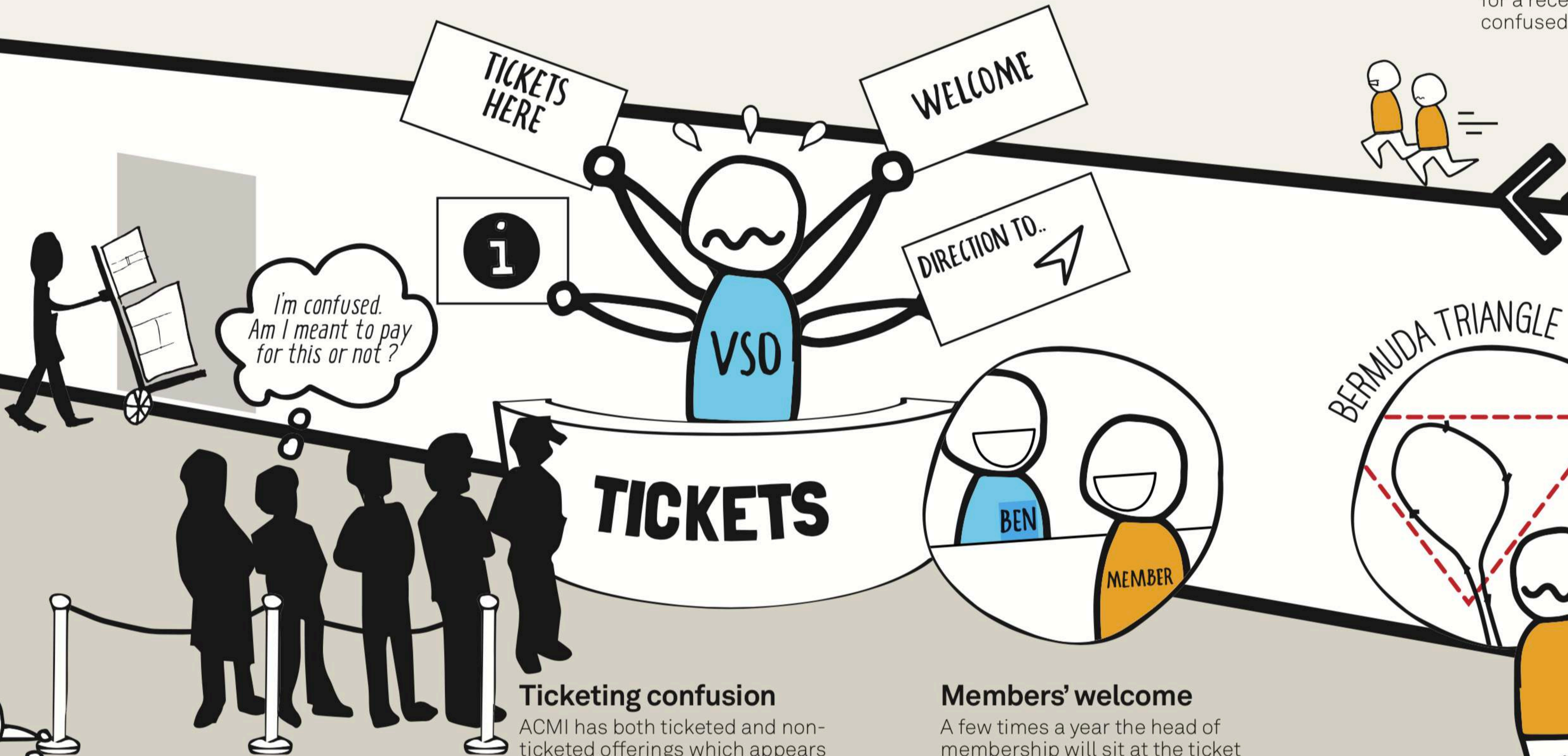
Both ACMI and Fed Square have high proportions of international visitors, VSOs and volunteers are the only way that ACMI currently has to service those who speak a language other than English.

location is

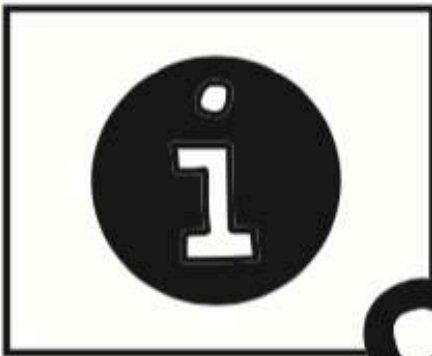
journey mapping

give tourist information, exhibit downloads, welcoming services, and take phone calls to help customers with online booking problems.

rinders
chevrons
Visitors g
Triangle' c
for a rece
confused



*I'm confused.
Am I meant to pay
for this or not?*

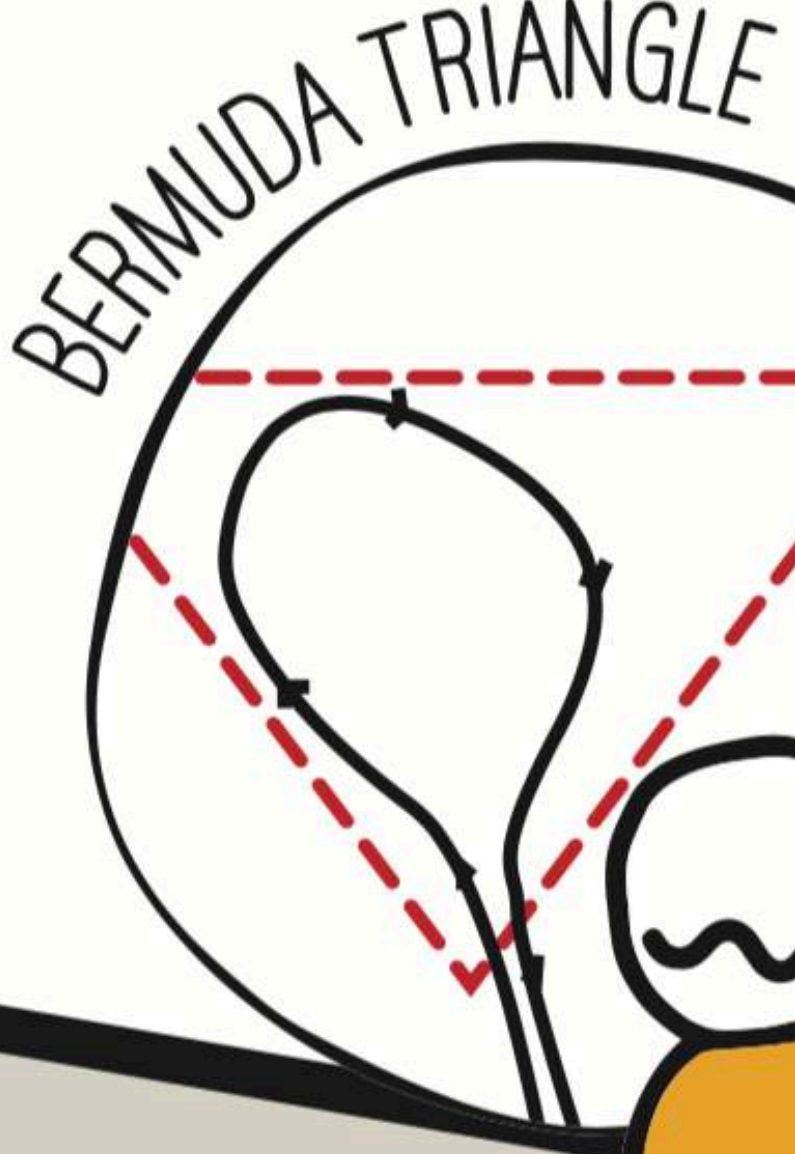
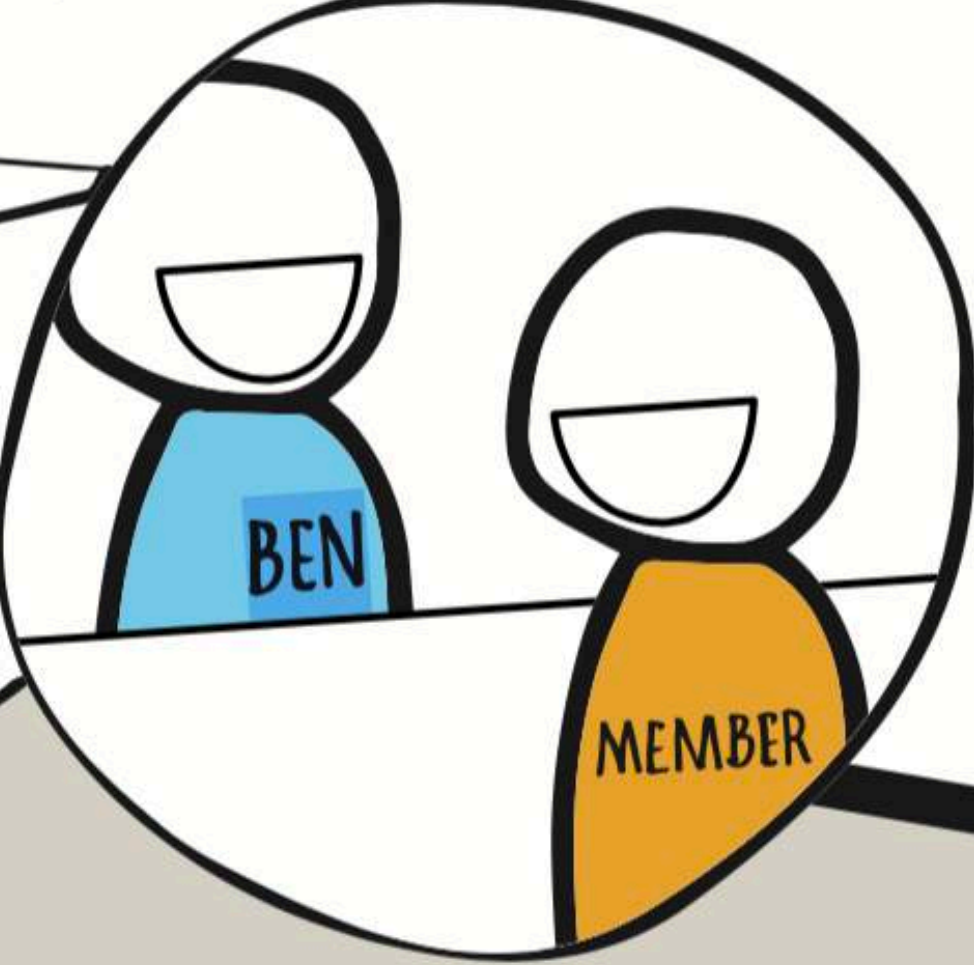


TICKETS
HERE

WELCOME

DIRECTION TO..

TICKETS



Ticketing confusion

ACMI has both ticketed and non-ticketed offerings which appears can confuse some visitors who can't

Members' welcome

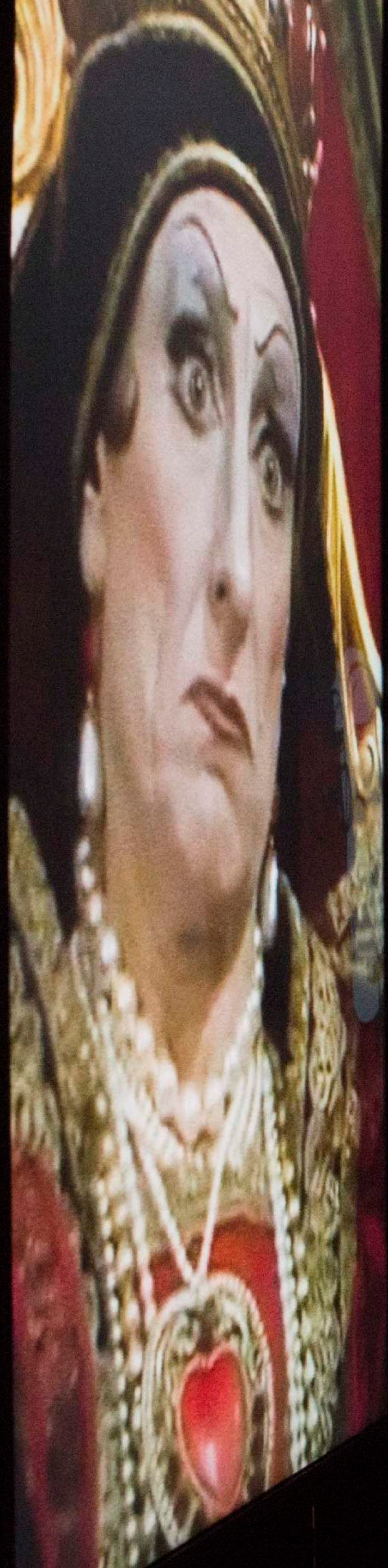
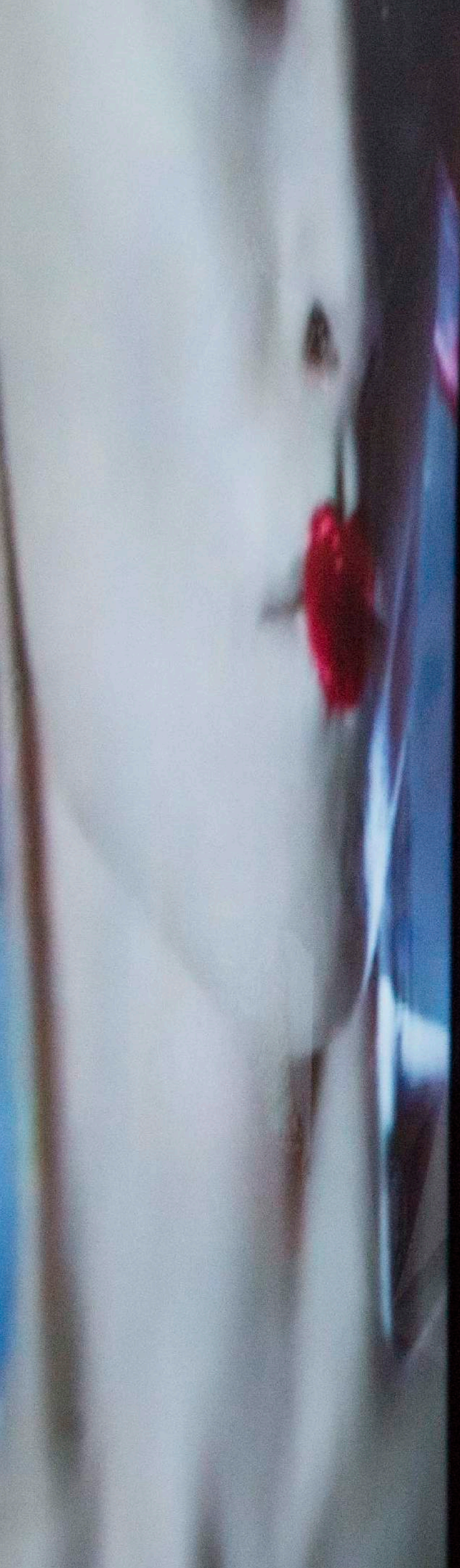
A few times a year the head of membership will sit at the ticket desk to meet members (they are notified by email) and to attend

Wonderland

MELBOURNE
WINTER
MASTERPIECES



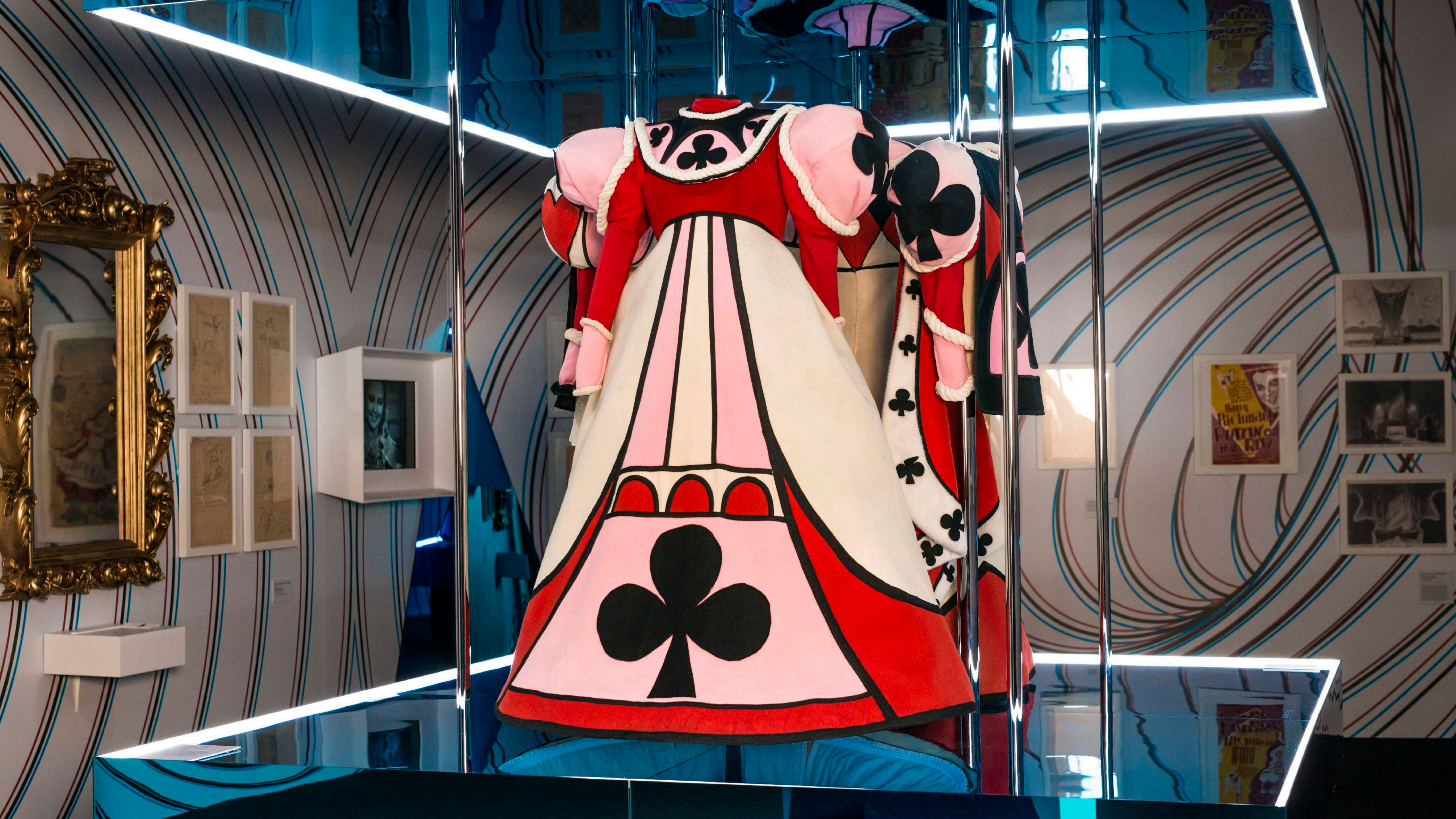
acmi





Costume designed for the Queen and King
by
John Galsworthy
London 1900
by
John Galsworthy
London 1900





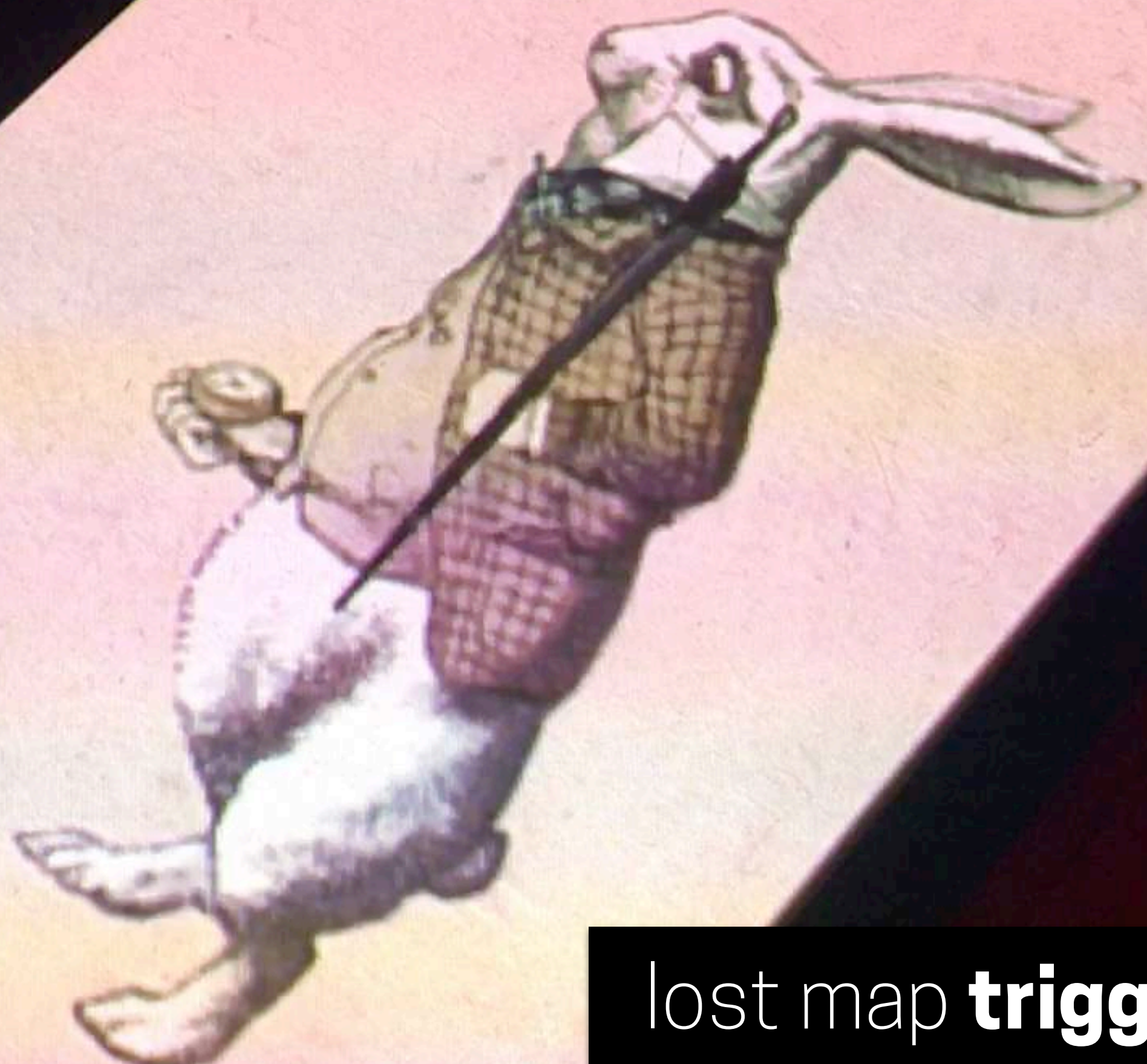


immersive **room scale projection mapping**



NFC-enabled **lost map of wonderland**





lost map **triggers and saves experiences**

- Visitors
- Rules
- Content Library
- Device Management
- Reports
- Dashboard
- Collapse Menu



lost map **tracking and analytics**



Cinemas

Education / Cafe / Labs / Commercial hire

Expanded permanent & temporary galleries / Retail

Moving Makers

Schools zone

WCs

Grand Stair

Lightwell

Flinders Street

Level 2 foyer

Studio 1 (beyond)

Paid temporary gallery

\$40m rebuilding project 2018-2020

ACMI is the national museum of
**“all the things you now can
get access to in your pocket”**

how might an institution be
repurposed to focus on the
‘connectivity between’ prioritised
over **‘access to’** objects & works?

equal parts

technology and

organisational and

cultural change

“

What forms of cultural memory don't fit on library shelves or city servers?

Performative knowledge like dance, ritual, cooking, sports. Ambient data like **shadows, wind, and rust.** ”

Shannon Mattern, *A City Is Not A Computer*

<https://placesjournal.org/article/a-city-is-not-a-computer/>

thank you

@sebchan

cxo/chief experience officer

acmi.net.au | freshandnew.org