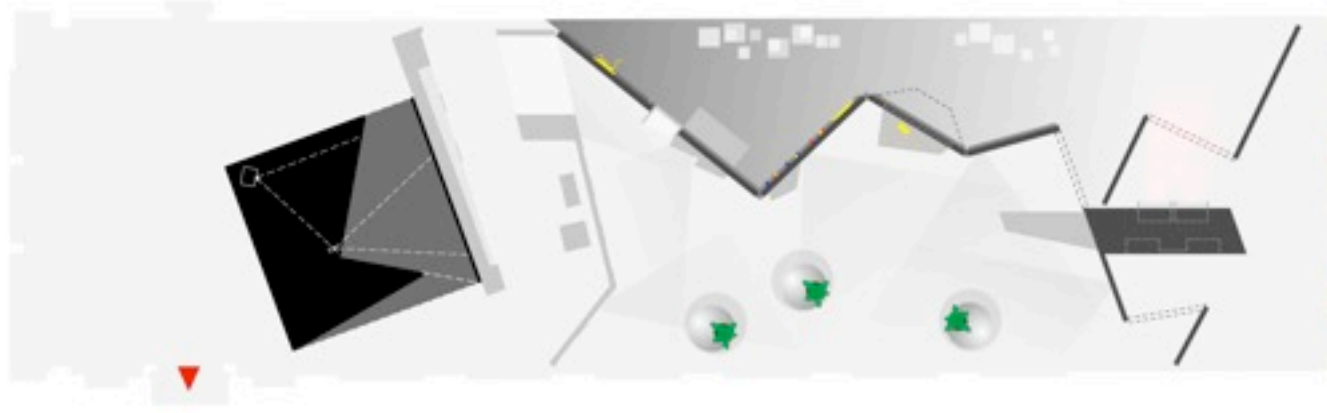


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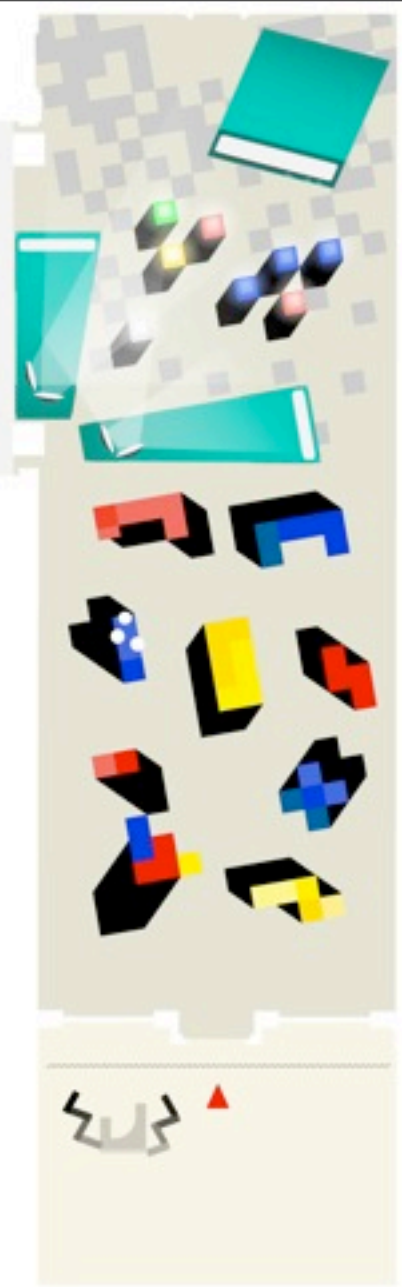


Fiona Romeo on The Science of Spying exhibition

I think I'm here at the pleasure of Arthur, Russell's son, because he enjoyed a exhibition I worked on.



- Temporary exhibition space in the Science Museum, with a footprint of 750m² (touring)
- Interactive exhibition for 8-12 year olds in family groups
- Spying (+ surveillance)



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Recruitment

You're recruited to the experience via a covert entrance.

Dramatic spy narrative



- Shunt: initiation and attention on the audience
- Former MI6 agent Harry Ferguson: credible
- Cory Doctorow: 'shared world'

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One of the most interesting things about an exhibition is that it occasions a gathering of people, like we have here today in Conway Hall. That was an opportunity that I really wanted to explore, so I worked on early concepts with experimental theatre company Shunt.

Cory Doctorow facilitated the development of a 'shared world' for the exhibition. Some fictional parameters but everyone else free to innovate. Health check for ideas as development progressed.

Difficulties of a narrative exhibition: don't visit every exhibit (redundancy) and needs to be optional for people who want to follow a story - kids and keen adults.



First exhibit: Do you dare? Test of nerve that immediately sets the mood. Screams filtering out from the gallery help to build anticipation.

Spymaker skills training



Training Base: trained in the human skills spies have always relied on: intelligence, stealth, nerve, sharp eyes, logic, and charm.



- **Do you dare?** Investigate the strange packing cases
- **Stealing secrets:** Crack the safe mechanism to find a secret dossier
- **Spot the liar:** Question an enemy agent
- **What's revealed in rubbish?** Sort through the smelly contents of a suspect's dustbin
- **Choose your equipment:** Consider the challenges you might face in your mission. Can everyday objects be more useful than gadgets?
- **Who's watching you?** You must deliver an urgent message to a fellow agent without being spotted
- **Disguise yourself!** so you're not exposed as a spy
- **Decode the hidden messages**



Opportunities to wear a disguise, take someone else's identity, etc

Spymaker technology centre

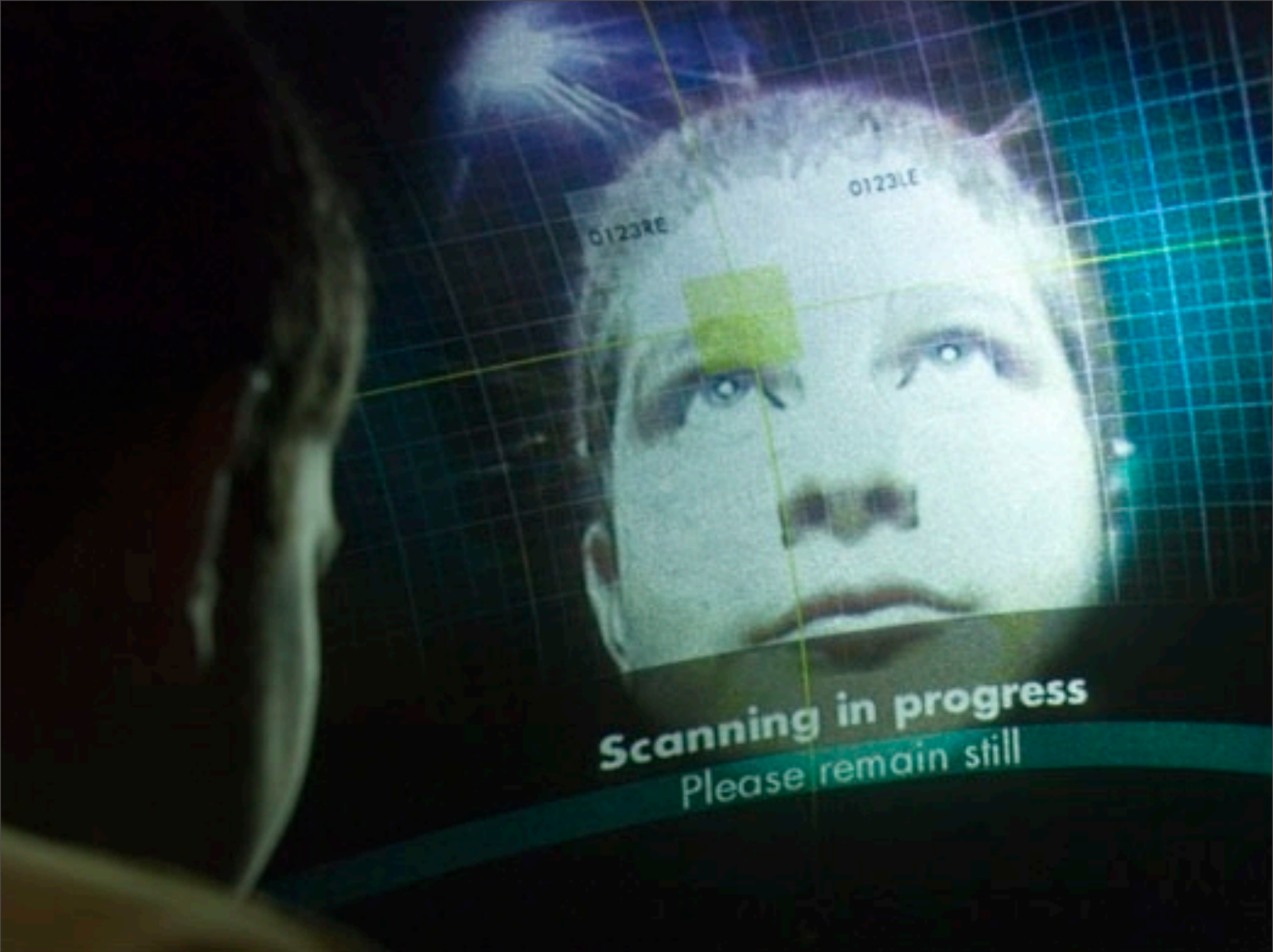


Technology Centre: You check out the latest spy technologies and prepare for your mission





Simulation of data mining.



Biometric identification.



Dramatic transition: you go undercover in OSTECK's HQ. Staff stop and interrogate you. Light-touch opportunities for roleplay - visitors can sit at the security desk, told to 'report to security'.



Your basic training complete, your first mission is to go undercover in Osteck HQ, where you're tracked by security systems and spied on by other trainee agents. How do you feel when you're the one under surveillance? Luckybite developed a whole area of the exhibition around a series of everyday interactions, which have been modified in novel ways to raise provocative questions about spying and surveillance. E.g. OSTECK's hi-tech vending machines offer personalised shopping choices based on data from your shopping, travel, school and communications records. Someone's dropped some cards nearby – what will you find if you swipe them? Would read your name and other data off your real cards if you tried them.



Multistorey’s graphic design treatment was reflective - aware of self, cameras (strange choice for me)



The audience separated into two groups, with a permeable wall running between them. The attention is on the people in the space, as mediated through the central wall. There are different experiences of watching and being watched, and some opportunities for smaller children to hide.





OSTECK Future Lab: You find a cache of prototypes of spy equipment for development and sale within the next 20 years
OSTECK Loading Bay: You must walk in an unusual way to fool OSTECK's security and escape
Mission Accomplished: You've now graduated as a spy

The visitors

- Paying customers (ticketed exhibition)
- Most visitors come in a family group
- If you target 8-12 year-olds you need to remember that they often come with under-8s and grandparents

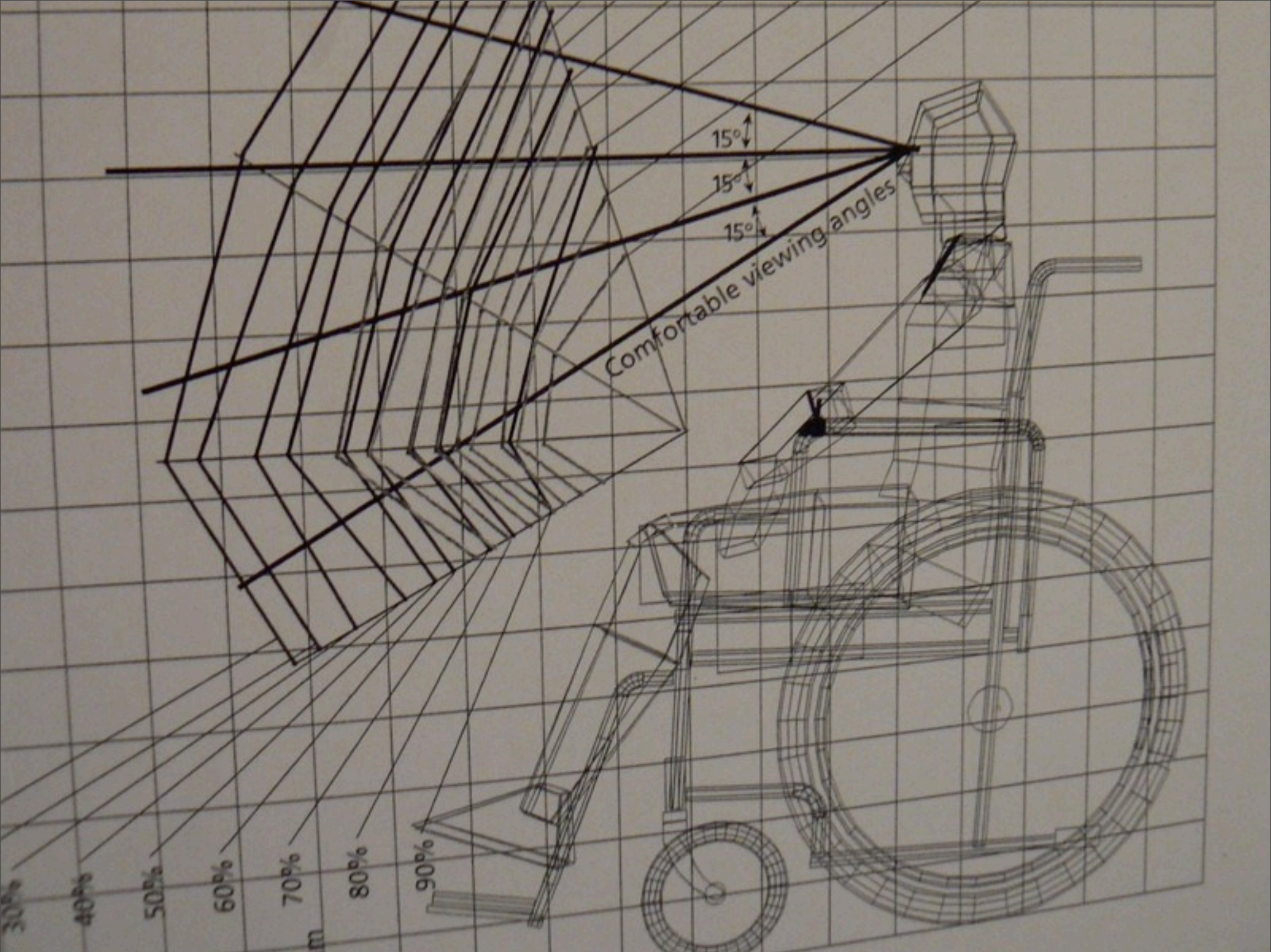
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In a way with a theme like spying (Alex Ryder, Young James Bond) it would be relatively easy to design a show for a 10-year-old boy. But because it's a museum, different challenges...



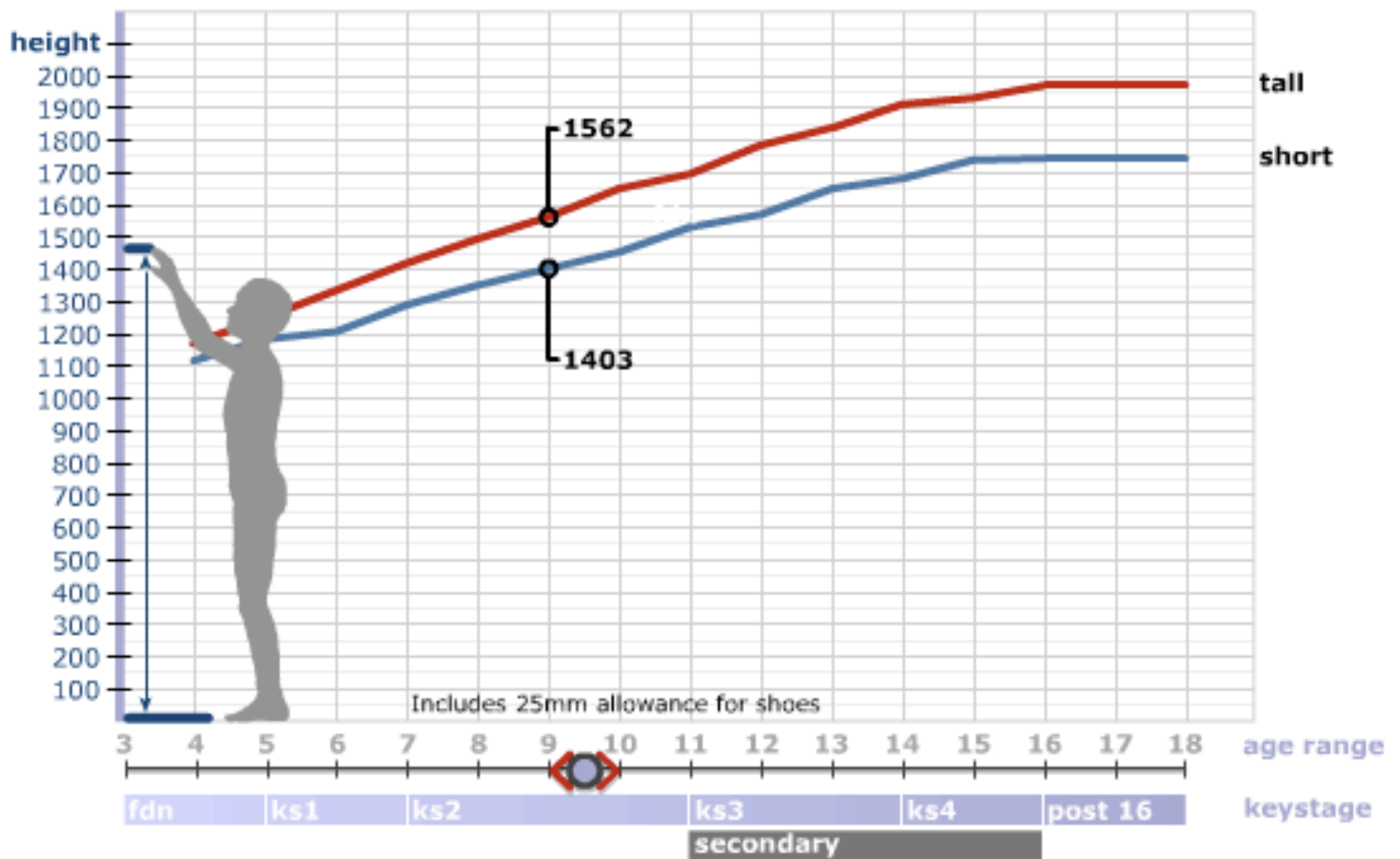
**INTERESTING
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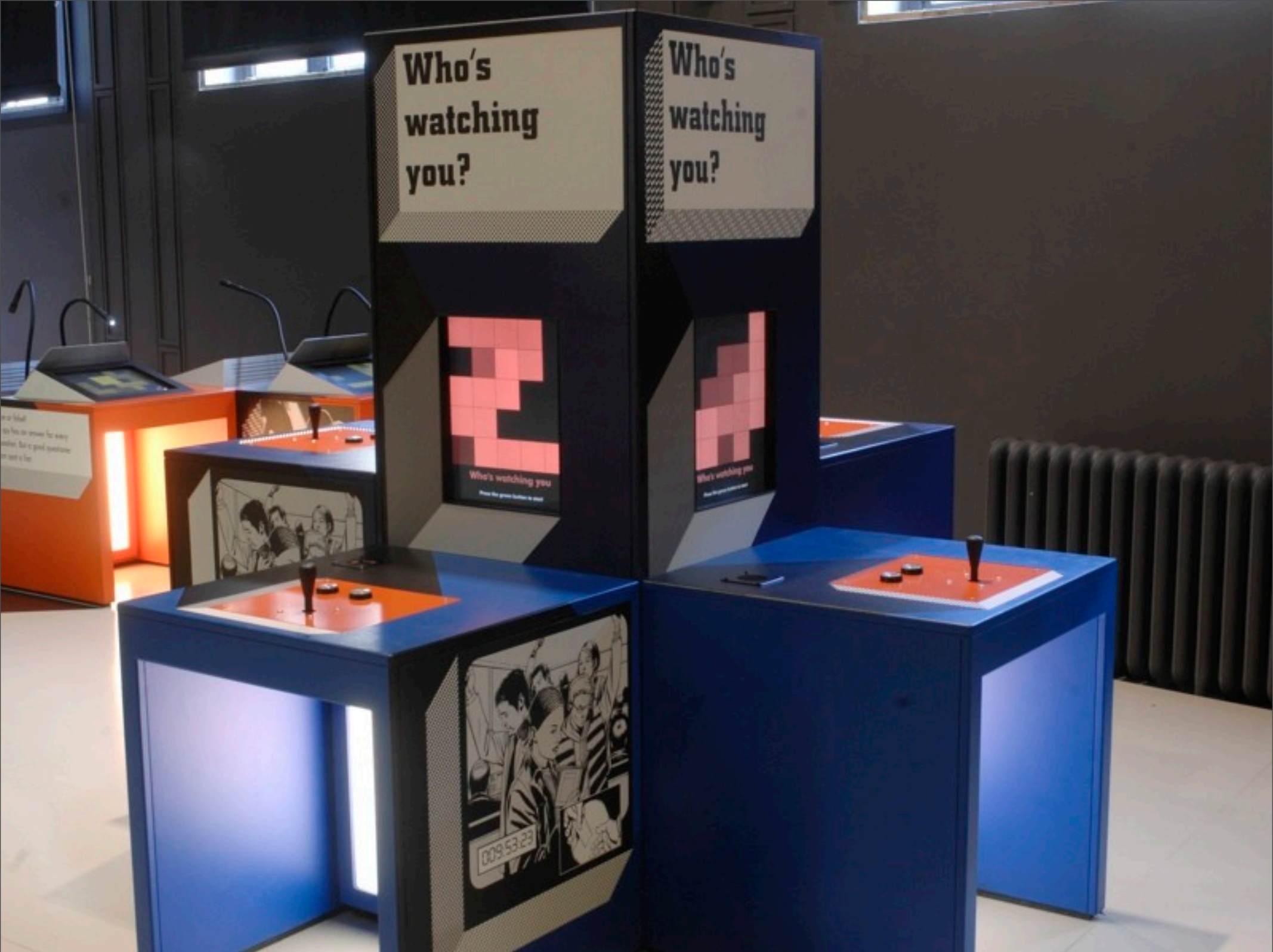
Make sure several people can gather around a screen - interaction to the side.



Also serious ergonomics for such a diverse group.
Diagram from CAE's Accessible ATMs. Similarities to exhibits. Difficulty - not usually specified for children. Often borrowing information developed for another purpose.

comfortable height reach





Best approach for access is to have as many permutations as possible. Four stations, two heights, one of each recessed.



Seating so younger and older visitors can have a rest. In this case, the seating doubles as a playful, multisensory experience for under-8s. The keys were originally intended to interact with the screen but that approach took all of the life out of the room. Opted for a simple lenticular instead.

Learning styles

- Linguistic
- Bodily-kinaesthetic
- Logical-mathematical
- Interpersonal
- Spatial
- Auditory-musical-rhythmic

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Also have to consider different interests and learning styles: Gartner's Multiple Intelligences.
Not just typical spying ciphers and high-tech devices, also incorporated code-breaking activities using colour-mixing and music.

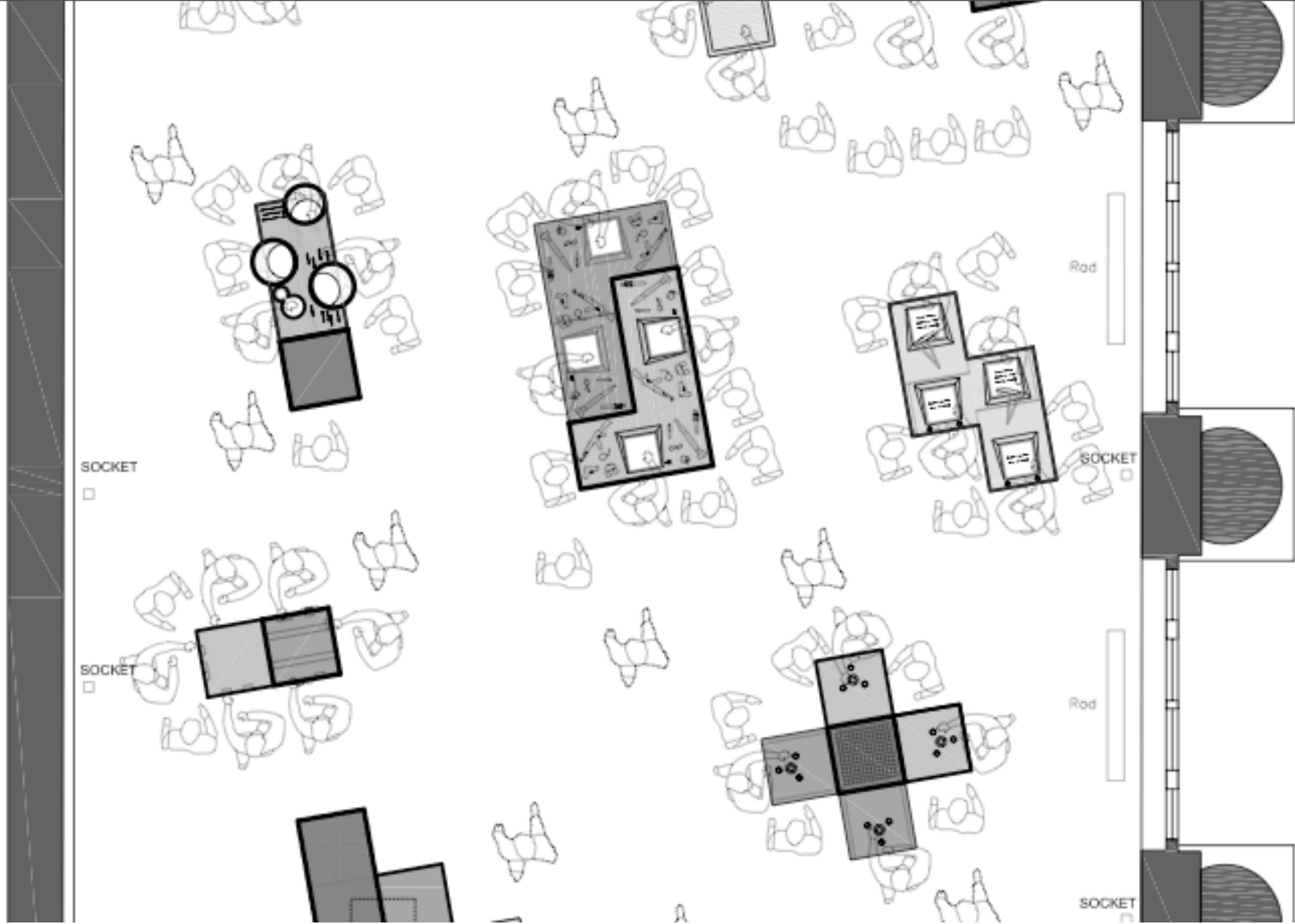
Social conditions

- Optimal visit of 45 minutes to one hour and 15 minutes
- Freeze capacity of up to 300 people
- Environment/ crowds
- Turn-taking (not queuing!)
 - Keep dwell times under 2 minutes (timed, assisted progress)
 - Good but not too good. Limit replayability
 - Sometimes you'll want to slow people down
 - Passive interaction (performance is good but beware spoilers, some degree of randomness)
- Learning in public. 2-seconds rule

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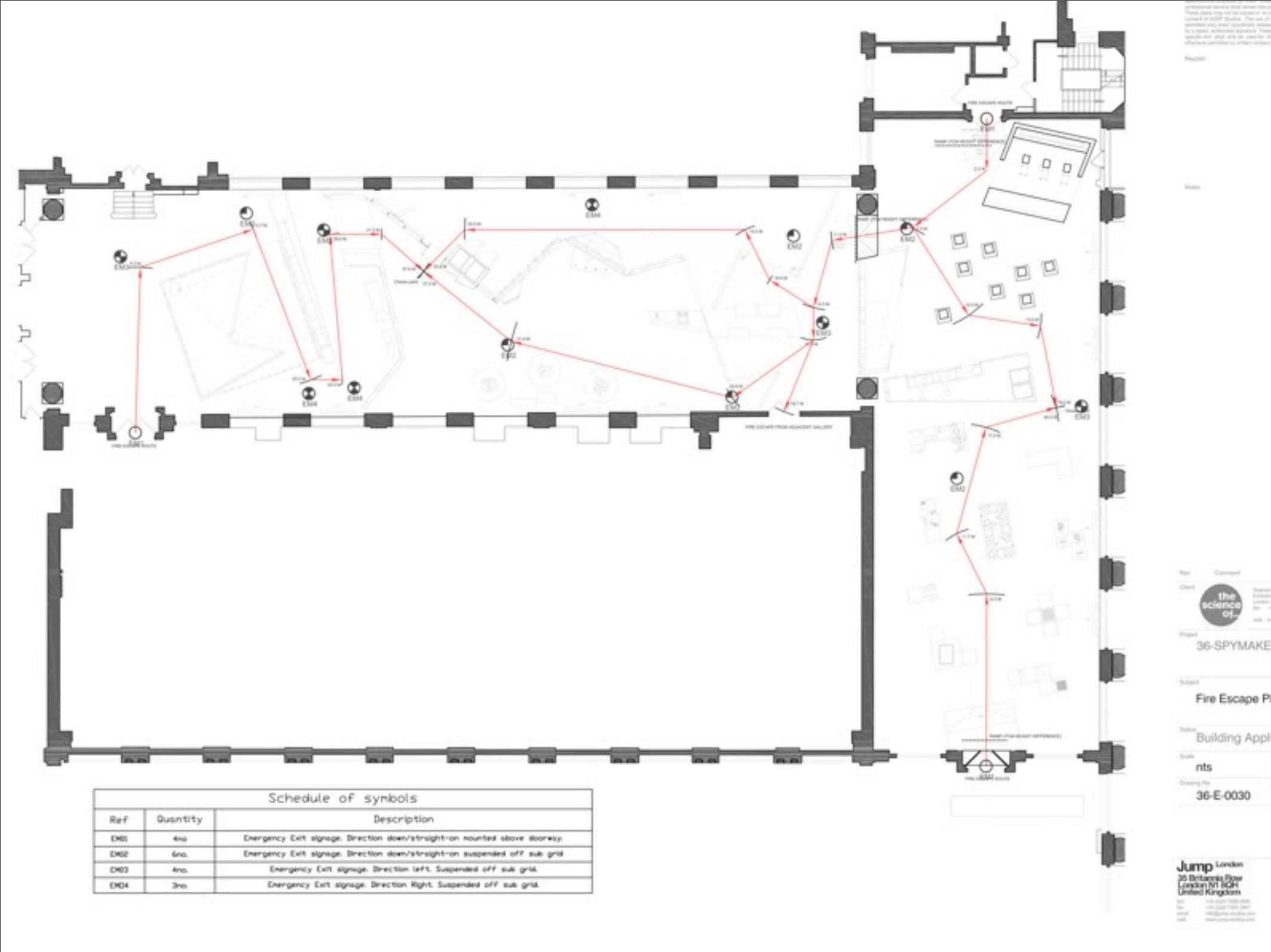


Director General of MI5, Dame Eliza Manning Buller at the opening of the exhibition, reluctant to interact.



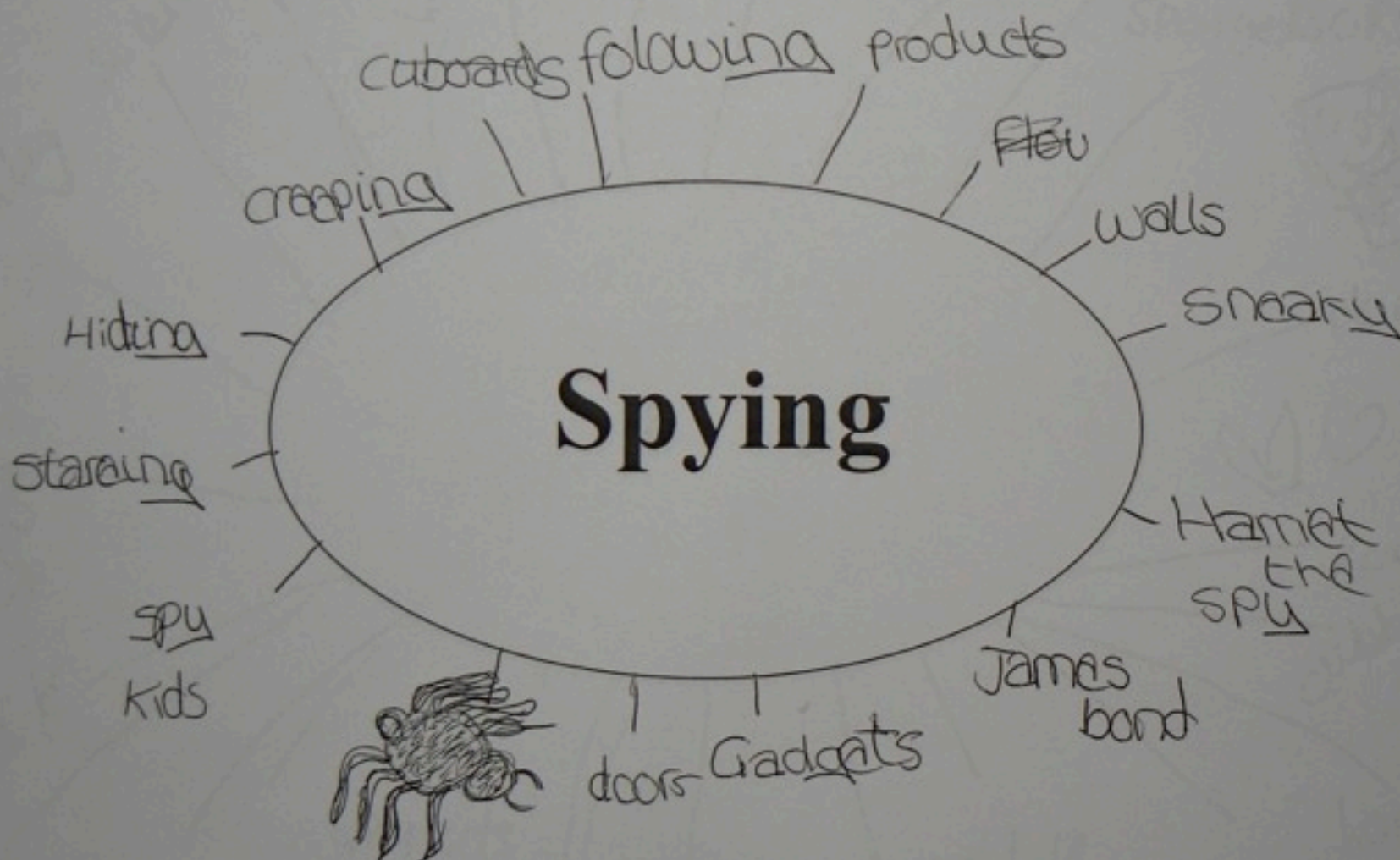
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Freeze capacity



Imagined flows (also required for fire safety) but people find shortcuts and blockages you don't expect.

Harriet
Bartley



Spying

What comes to mind?

- things
- ideas
- drawings
- questions
- words
- what you picture/imagine
- past experiences
- expectations
- interests
- related themes
- places
- people
- Etc!

Given all of the complexity, prototyping and evaluation is important.

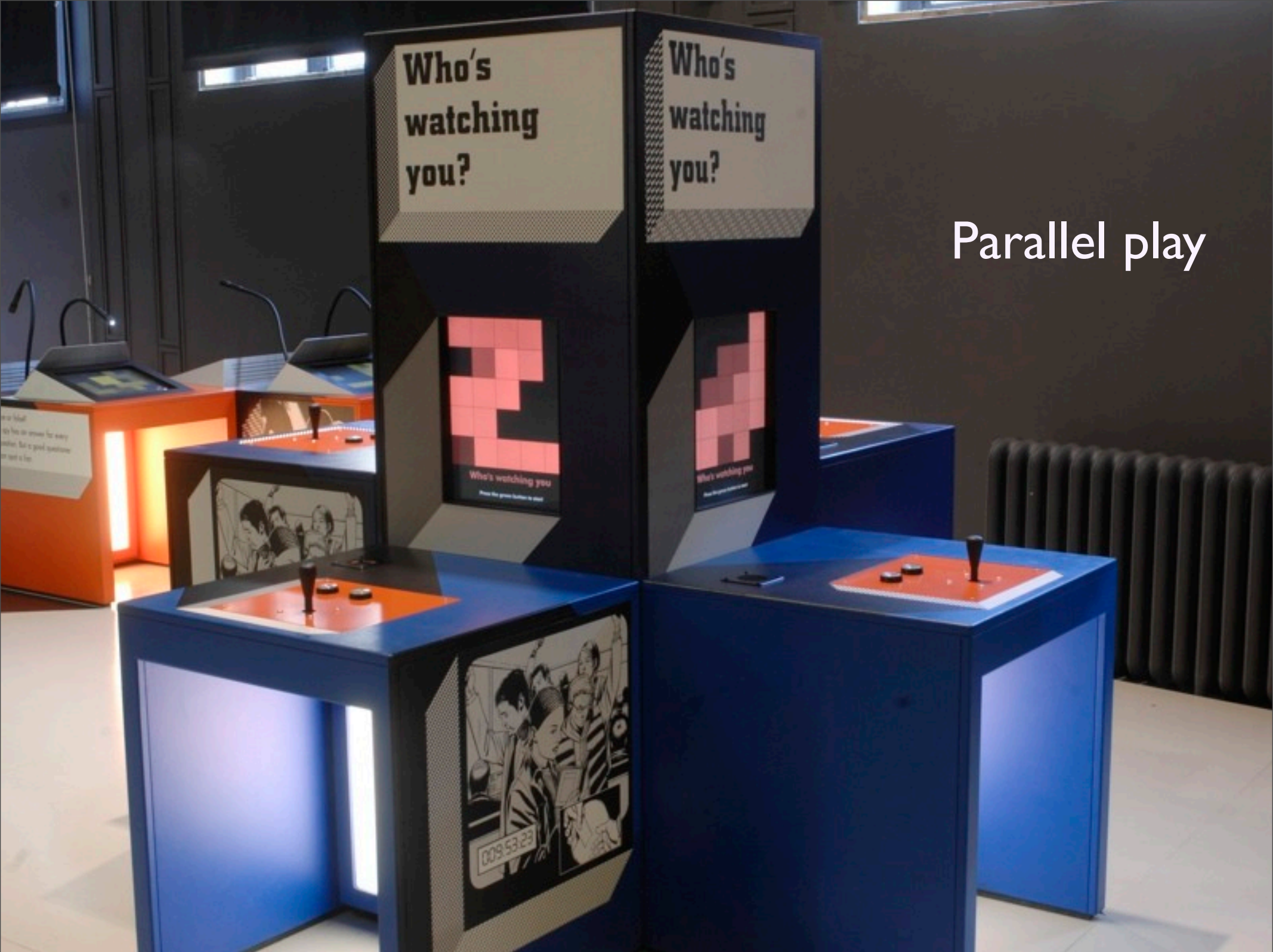
Evaluation: 12 on-gallery sessions (testing prototypes) and an audience panel every month - 3 families, refreshed every 3 months.

Informed exhibit concepts as well as detail. E.g. children's words for spying (creeping, following, sneaking, hiding, playing, whispering, staring) translated to verbs like solving, deducing, following, fooling, deciphering, identifying, spotting, evading, avoiding, disguising. These verbs then matched with learning styles (senses) in a workshop to develop exhibit concepts. Nintendo WarioWare methodology of one post-it note to describe game concept.

Play

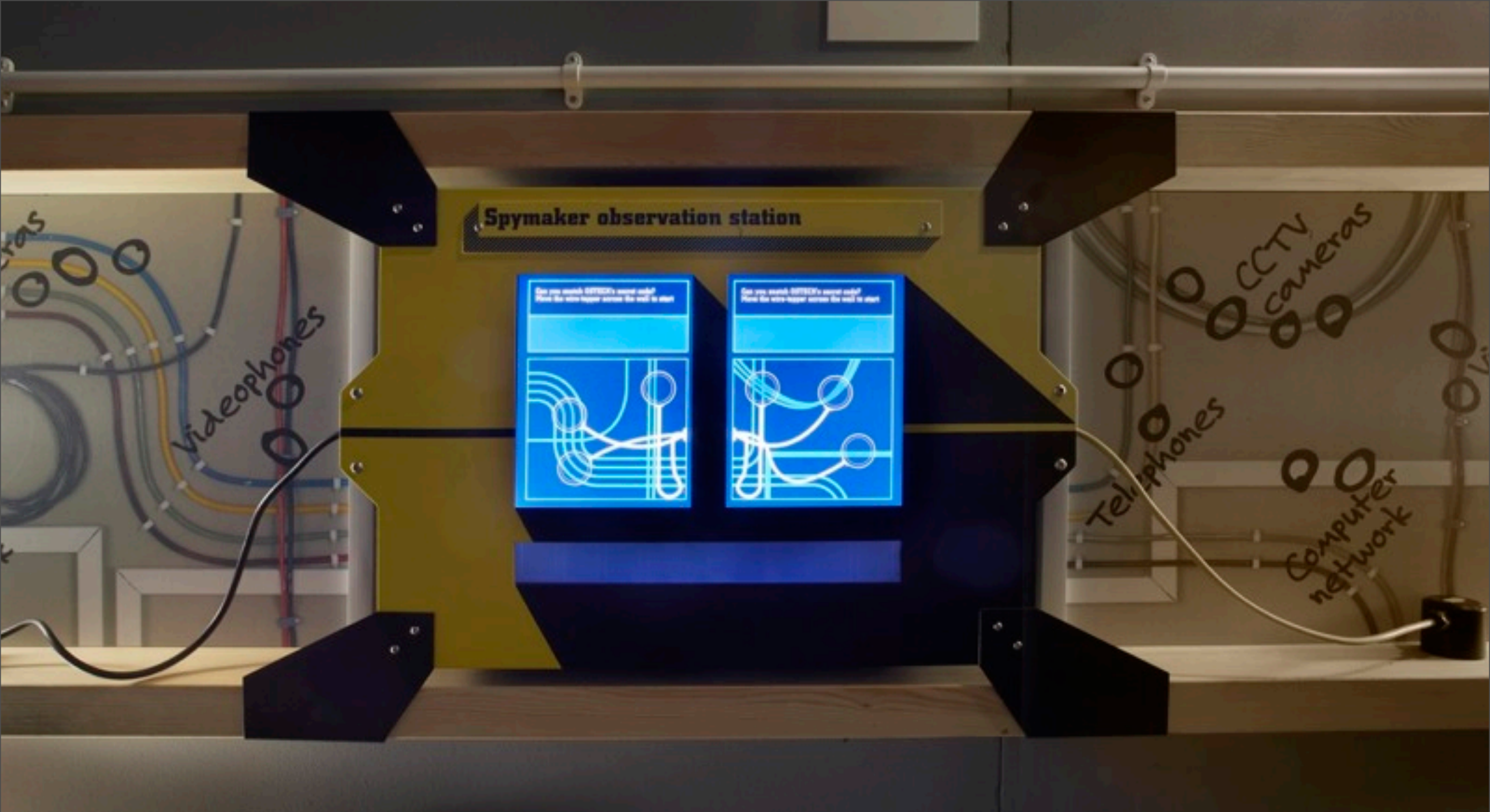
- For children, learning styles < how active and playful an exhibit is
- Game-like computer exhibits
 - Unquestionably popular with visitors, both children and adults
 - Evidence of sustained learning
 - Discourage social interaction
- Public space

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Parallel play

Multiple stations, arcade style. Mostly done for access and circulation reasons but led to light competition: visitors calling out to each other, comparing results.



Parallel play with variations

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Unexpected penalties

Choose your equipment: A four-person multiplayer game with visible choices and scores and the potential for playful 'griefing'.

Meet an informant



15 seconds

You are meeting an informant in the park. Escape and recording the conversation are equally important.



Binoculars



Spy sunglasses



Birdseed



Matches

**"Question 1:
Does the agent's
codenumber
contain a 5?"**

Did the agent tell...

...the truth

...a lie

Press one to decide

1

2

3

Codenumber:
Kick-shot
Codename:
845



Tell truth

**Does the agent's
codenumber
contain a 5?**

Tell truth

Say your answer now

1

2

3

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Spot the liar: An interrogation based on the board game Guess Who.



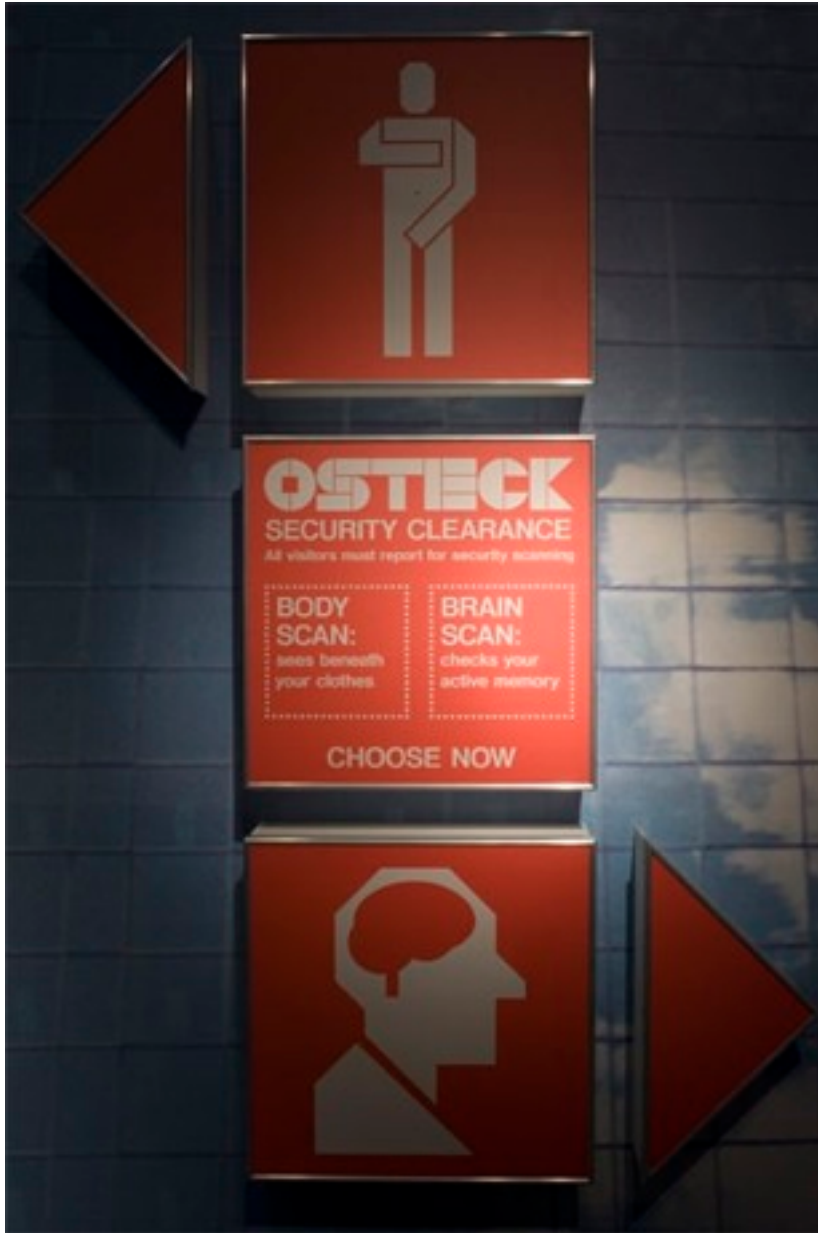
Inclusion of lights added to the drama: people would direct them into the face of their opponent.



And no screens is even better sometimes, even if it 'breaks the rules' of successful exhibits

Ben Gammon, http://www.big.uk.com/knowledgebase/exhibits/mech_interactives_v1.htm

- In exhibits where visitors have to communicate with other people at distant locations, it is vital that both users can see each other. Otherwise they have no way of knowing what to say, when and little motivation to try and communicate anything
- Don't hide your exhibits in inaccessible parts of the gallery



Dilemmas

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Exhibits that pose questions or dilemmas provoke immediate discussion.

Intelligent CCTV observation station: Not only some of the most enjoyable discussions within family groups but the best in terms of outcomes - people more questioning of CCTV after interacting with this exhibit.

Body scanners: To get in you must pass through a hi-tech security scanner, either a body scanner that can see under your clothes or a brain scanner that can check your memory.

Partly inspired by 'Experiments' at the V&A Touch exhibition, http://www.vam.ac.uk/vastatic/microsites/1376_touch_me/exhibition_experiments.html



Reach

**INTERESTING
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Wire toy: Was originally a design mistake: the exhibit was physically challenging to complete due to bad ergonomics. But evaluation showed that this led to cooperation with parents and older siblings, resulting in interesting conversations about the underlying privacy questions. So we left it that way.

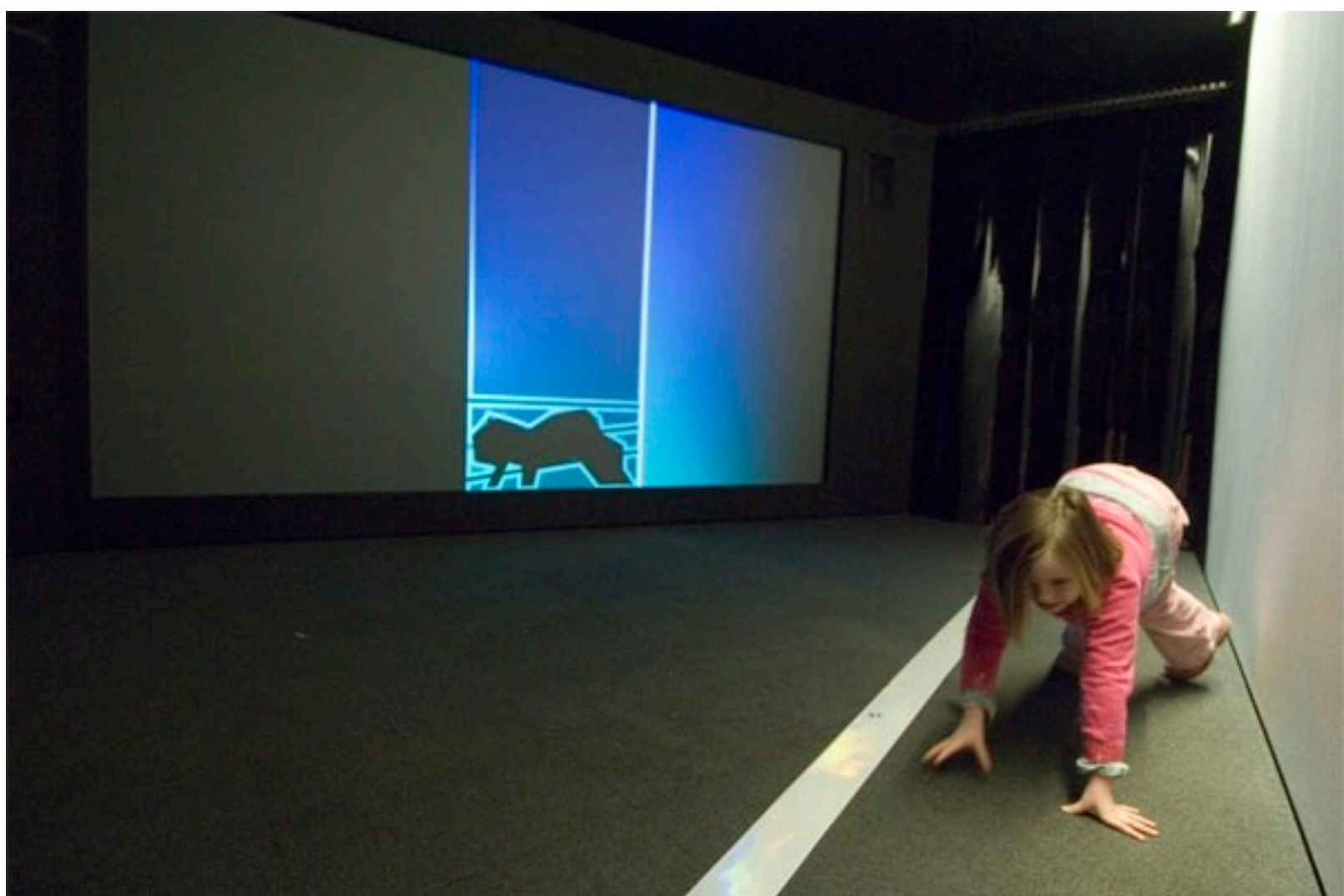


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Corporate hacking game: Very difficult to win alone. People would often start alone, then pull others in to help. One person takes the lead, giving instructions to others.



Escape: responsive wall installation to illustrate the concept of gait recognition for surveillance. Cooperation with another visitor is the easiest way to evade.





Surveillance Performance

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Sometimes absurd, playful approach to surveillance in the 'speculative products' we commissioned from artists. How do I look? by Troika: video compact that lets you spy on your own appearance by hacking into nearby CCTV cameras.



El Ultimo Grito's face-modification masks and stickers to change the contours, features and temperature patterns picked up by automated facial recognition systems.

Hopefully people can take those ideas away with them and play with the surveillance they encounter in their everyday lives.

Exhibition credits

Researched, curated and produced by The Science of...

Exhibition Design: Jump Studios (Architecture & Design) and Multistorey (Art Direction & Graphic Design)

Interactives, AV and Software: AllofUs, Centre Screen Productions, Codsteaks, Kiss the Frog, Luckybite, Paragon, Pickledonion, Science Projects, Spiral Productions, Sysco

Models: The Glue Factory

Text: Chas Walton

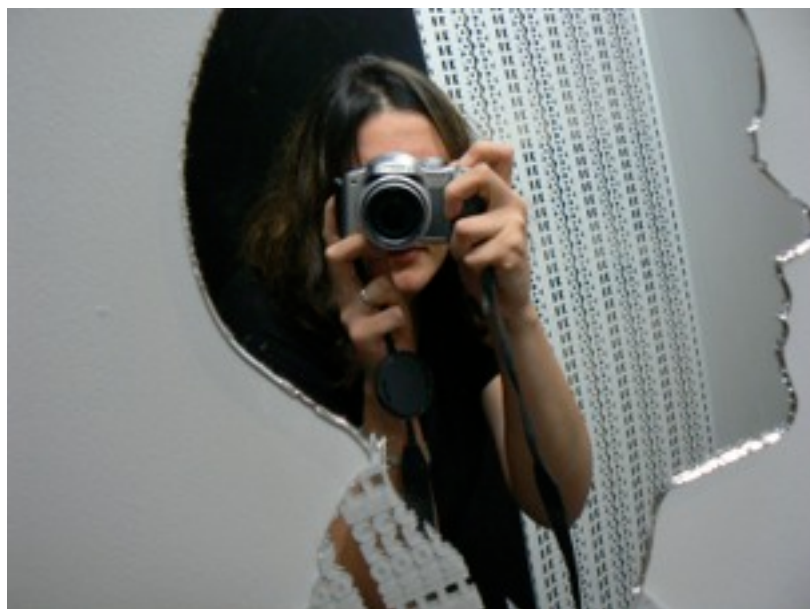
Comic Illustrations: Laurence Campbell and Dylan Teague

Fit Out Contractor: Beck Interiors

Products: El Ultimo Grito (Face modification masks and stickers), Troika (How do I look?)

Jump Studios and Multistorey led the design of the exhibition space, with AllofUs and Andrew Allenson creating centrepiece installations. Luckybite developed a whole area of the exhibition around a series of everyday interactions, which have been modified in novel ways to raise provocative questions about spying and surveillance.

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