Code and Conveniences

Martin Dodge
Department of Geography, University of Manchester
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# 1. Technology promises… convenience

- Think about where code is at work in world and for what purposes
- Playing on the popularist notion that technologies bring greater convenience to modern life
- Does code and degrees of automation make things more suitable and easy to use?
- Promises new capacities, more flexibility, cost reductions, BUT at what risks and complexities
- I want to consider specifically 'conveniences', an apposite space of modernity
- Installation of sensors and software to toilets is seeking to change practices but not clear that it makes space more convenient

2. Studying everyday code

- More work being done on the subtle imbibing of software in different everyday contexts

- Code detecting bodies, algorithms recognising human activities, databases recording more exhaustively
  - Mobility infrastructure, vehicles and driving practices
  - Continuous tracking and governmentality of public space
  - Building management and access control
  - Consumption of media
  - Domestic monitoring – sustainable households, smart metering
  - Lifelogging, online exhibitionism and egocentric virtualism
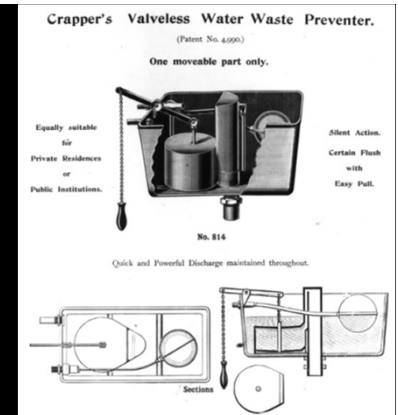 - Body monitoring, health tracking, fitness and performance

3. Touch and space
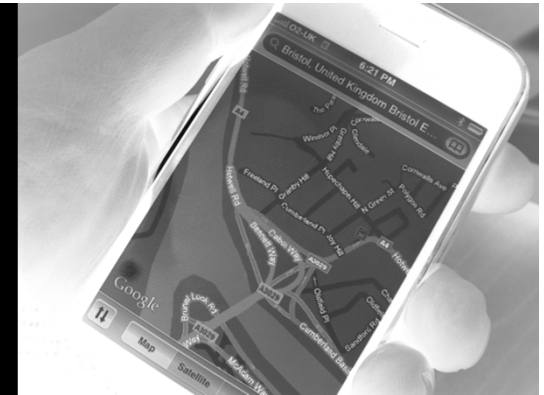
- Touch integral to so much technologic activity and control – pressing buttons, pulling handles, flicking switches

- New software-enabled technologies are changing the social and material production of everyday landscape of touch, and re-figuring the embodied relationships between people and space

- Recently the role of touch to control software has become much more apparent and, one might argue, more intensively tactile

- Smart-phone caress, compellingly intimate. Intuitive to use?

- Focus here on digital technologies, being applied in everyday contexts, that use sensors and software to automatically produce spaces that can react to people (or body like objects) in meaningful ways without direct human contact

- How many 'magic eye' sensors in this building and what do they activate? – door openings, lighting, heating, security control, ….
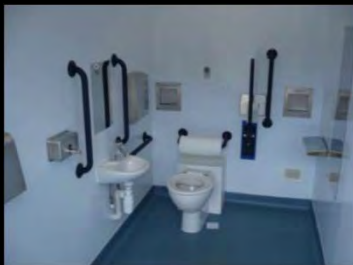
4. Toileting practices and bathroom space

Crapper's Valveless Water Waste Preventer.
(Patent No. 4,990.)
One moveable part only.
Equally suitable for Private Residences or Public Institutions.
Silent Action.
Certain Flush with Easy Pull.
No. 814.
Quick and Powerful Discharge maintained throughout.
Sections.

- Daily toileting is an elemental physiological function. Enveloped in a range of cultural practices and complex social meanings
- It is enacted in spaces architecturally configured to conceal these practices
- Access to specifically designed bathroom spaces (flush WC + sink with clean running water) would be seen as essential for convenient and comfortable living
- Toilets outside the home are culturally complex spaces, with multiple ambiguous meanings, providing public spaces for very necessary, private activities, but also spaces necessarily shared
- Many people have anxieties around privacy, personal safety
- A sense of vulnerability through enforced sharing of space with strangers and potential for contamination from 'matter out of place'. Boundaries of clean/dirty are fragile and transgressed

5. Studying toilet space

- Shared public toilets, vital but disregarded spaces of modern life
- "The public restroom, so unattended by social scientists, is surely a site of analytic riches. … tensions form around who we are, what we are to share, and with whom we are to share it." (Molotch 2008, 61)
- Bathroom long been a highly technical space (specialised materials, need to control water, trapping smells, etc) but not really thought of as 'high-tech'. Devoid of overt digital technology
- Challenging to study – ethics, risks. We looked at physical environment and discourses in text rather than asking people to describe their toileting routine or observing embodied practices

6. Technologies for touch-free toileting

- Analyse how public toilet spaces are being reshaped, with sensor technologies and software processes deployed

- Seek to render toileting practices into a sequence of touch-free activities, and attempt to diminish direct touch of the materiality of the bathroom surfaces and fixtures

- Touch-free technologies, as the latest iteration in bathroom design, resonate with the spatiality of disgust and seek to provide automated mechanisms to maintain bodily distance from 'matter out of place'
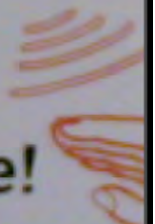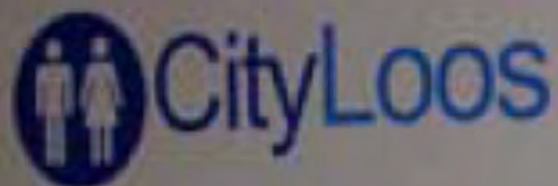
sensors and software that are deployed to react to humans without direct touch: to flush toilets automatically, to dispense soap and water without touching a lever or turning a tap, and sensing the presence of wet hands waiting for drying

Bitte die Handtuchrolle leicht berühren!
Please touch the towel gently!
Si prega toccare l'asciugamano facilmente!
Lütfen havluya hafif dokunun!
Touchez la serviette légèrement!

DOOR OPENS AUTOMATICALLY AFTER 20 MINUTES

WARNING LIGHT WILL FLASH
TWO MINUTES BEFORE OPENING

DO NOT FORGET YOUR BELONGINGS

TOILET

NOT A GOOD DAY?

TOILET & WC

TOILET FLUSHES
AUTOMATICALLY
UPON ENTERING
AND LEAVING THE
UNIT.
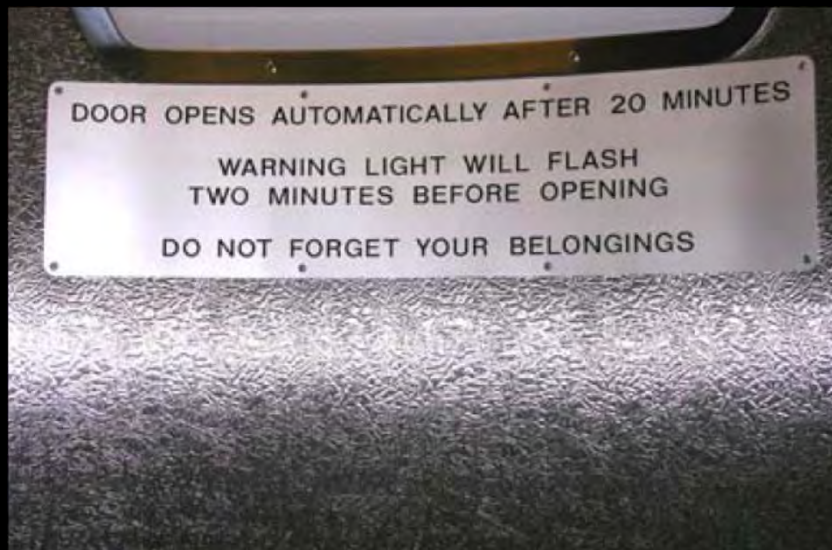
7. Discourses of deployment

- Touch-free technologies are, therefore, fundamentally about disgust control, although this is usually dressed up in more delicate language of hygiene and efficiency

- Driven by a range of modernist discourses around hygiene, ease-of-use. For owners/operators of toilets its about control and configurability

- New means of knowing tied to issues of enhancing safety/security, which has become a fundamental promotional discourse in a risk obsessed society

8. Does touch-free coding change toilets?

- Evident that sensors and software are more common in shared public toilets. Although extent of deployment context dependent

- Actual deployment of touch-free sensors is typically incomplete

- Inconsistent design and no standard operation

- "[h]owever natural automated fixtures might seem to engineers, they are all not natural and can even seem alienating to lay users" (Braverman 2010, 15)

- Do people use them intended or use them at all??

- Logics of software enabled automation able to overcome the fear of contamination and subconscious disgust at direct touching of fixtures shared with strange bodies is thus nullified

- Chain of cleanliness is always broken

the coping practices that Bichard et al (2008, 80) outline will likely continue:

"…users described how locking the toilet cubicle door could only be done with a handful of toilet paper acting as a barrier between the hand and door lock. This behaviour was considered most beneficial before toileting, to prevent unknown and unseen dirt contaminating the more personal areas of the body."

Figure 2 Example of a normal rectangular cubicle layout

Dimensions in r[...]

540

210

800

600

Key

Circle of clearance. Minimum 450 mm diameter

Activity space

Disposal bin space

Toilet paper dispenser (can be in any reasonable position outside the circle of clearance)

NOTE   This drawing is not to scale.
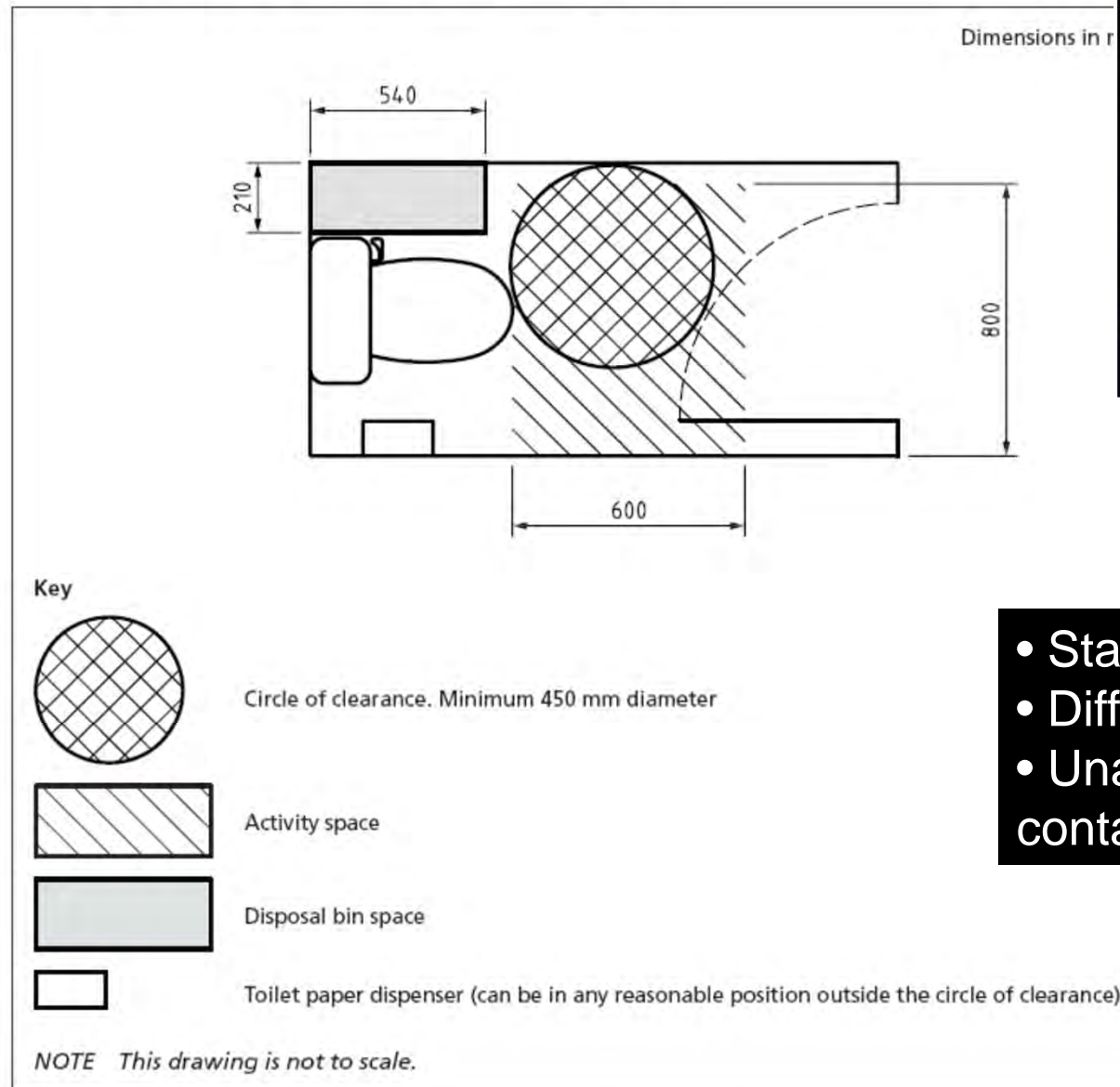
- Standard sized cubicle,
- Different sized bodies
- Unavoidable touch and contact with 'dirty' surfaces

(Source: British Standard 6465, Part 4: Code of practice for the provision of public toilets.)

9. Coding up the conveniences

- Attempting to make avowedly simple activities touch-free with digital sensors and software algorithms is simply unnecessary it could be argued, and an excess of automation

- Could be critiqued as an example of disciplining the body through 'technological paternalism' (Spiekermann and Pallas 2006)

- Relative failure of sensors and software currently make toilets interesting to look at, speak to other smart environments

- Will monitoring of toileting bodies end the last chance of anonymity of action? (no longer chat, read a book, watch tv, walk into a shop)

- Code for convenience(s) becomes key part of cage of control?

- No longer be able to pee in peace?

For more information, see this book chapter:
Dodge M, Kitchin R, 2012, "Towards touch-free spaces: sensors, software and the automatic production of shared public toilets", in Paterson M and Dodge M (eds), *Touching Space, Placing Touch* (Ashgate, Farnham, England), pages 191-210.

http://personalpages.manchester.ac.uk/staff/m.dodge/Towards_touch_free_space_proof.pdf

Time for a toilet break?

References

- Bichard J, Hanson J, Greed C, 2008, "Please wash your hands", *Senses and Society*, 3(1): 79-84
- Braverman I, 2010, "Governing with clean hands: Automated public toilets and sanitary surveillance", *Surveillance and Society*, 8(1): 1-27
- Molotch H, 2008, "Peeing in public", *Contexts*, 7(2): 60-63
- Spiekermann S, Pallas F, 2006, "Technology paternalism - wider implications of ubiquitous computing", *Poiesis & Praxis: International Journal of Ethics of Science and Technology Assessment*, 4(1): 6-18

Image sources

- Slide 1: British Standard 6465, Part 4: Code of practice for the provision of public toilets, 2010

- Slide 3: Mother monitor images sourced from company homepage, https://sen.se/store/mother/

- Slide 4: Not known

- Slide 5: www.ssplprints.com/image/129343/crappers-valveless-water-waste-preventer-1902

- Slide 6: *Publicly Available Toilets: Problem Reduction Guide, Third Edition*, The British Toilet Association, 2010, www.britloos.co.uk/externals/downloads/publications/PubliclyAvailableToiletsProblemReductionGuide.pdf

- Slide 7: Tap images sourced from marketing material produced by Dart Valley Systems Ltd, www.dartvalley.co.uk. Magic eye image on top right is author photograph

- Slide 8: Girardin F, 2007, *The Design of Everyday Pervasive Things*, talk slides www.girardin.org/fabien/presentations/girardin_picnic07.pdf

- Slide 9: Not known

- Slide 10: Braverman I, 2010, "Governing with clean hands: Automated public toilets and sanitary surveillance", *Surveillance and Society*, 8(1): 1-27

- Slide 11: Marketing material produced by Dart Valley Systems Ltd, www.dartvalley.co.uk

- Slide 12: http://rebloggy.com/post/lights-light-trashy-ultra-violet-rad-toilet-trash-uv-kitsch-ultraviolet-toilet-s/10736979753

- Slide 13: Author photographs

- Slide 14: British Standard 6465, Part 4: Code of practice for the provision of public toilets, 2010. Ultraviolet image of toilet seat sourced from www.selfcleen.com/pages/cleen-or-not

- Slide 15: *Publicly Available Toilets: Problem Reduction Guide, Third Edition*, The British Toilet Association, 2010, www.britloos.co.uk/externals/downloads/publications/PubliclyAvailableToiletsProblemReductionGuide.pdf