Christian Ulrik Andersen & Søren Bro Pold

In a New Situation, We Need a New Situationism – Manifesto for a smart city

Abstract:
Almost any mid-sized city in the Western World aspires to become 'smart'. Hence, the smart city is not a demo city (as for instance the much-debated Songdo International City in South Korea), but rather a term that is mostly used to describe interfaces to existing infrastructures. In the format of a manifesto, the article addresses this 'scripting of space', and discusses potential strategies to open up for meaning-making processes in the urban environment of the smart city. With references to the situationist movement as well as developments within programming and design, this discussion leads to a reflection on interface-related artistic strategies potential role in the smart city.
Keywords: *interface criticism, software studies, interface arts, smart cities, participatory design*

The 'smart city' is a composite term that broadly signifies the layering of information over physical infrastructures. Most often, it is a layering over already existing infrastructures; for instance, sensors built onto roads to measure traffic, or the use of already existing data from schools, libraries, or other institutions to gain new knowledge and efficiency. As such, it is a term widely used to signal an urban environment that re-invents, or 'updates', itself. The smart city is also a vehicle for many different interests: With its expanded network of sensors embedded into the environment it represents engineering interests; as a concept widely used by small and mid-sized European cities, it represents interests in city branding; with CCTV it represents interests in security and surveillance; with its open data sets it represents interests in innovation and business developments; and arguably, the list is much longer. This hodge-podge of interests, attentions and significations also makes it an increasingly meaningless term that feeds ambiguities around notions of, for instance, 'openness' and 'participation' – notions that most people have taken to be positive, but are now attracting the attention of network culture's bandwagon fans. It seems as if everyone shares the same positive fantasies of a re-invented urban 'networked' environment; but do we really?

The smart city not only embodies techno-visions, but also signals the existence of different perspectives within them. In the following, we will seek to outline ten different characteristics of the smart city that express this multiplicity; followed by a brief discussion of potential strategies to open up for meaning-making processes in an urban environment. These strategies bring us back to the situationist movement, but also to a discussion of its potential role today, in the smart city.

1. The smart city is not a demo city

The smart city is usually not a future 'new' city where 'data' supports efficient administration in smart ways – as seen in, for instance, the Korean Songdo International Business District. 'Ubiquitous computing' is not how it was envisioned in the labs, but is a 'messy' cultural interface that exists through many parallel technologies, networks, gadgets, and software developments (Bell and Dourish 2007).

2. The smart city is an updated city

Songdo has been described as a "test-bed urbanism" with a particular performative epistemology that is also a particular form of governmentality (Calvillo et al. 2016). Following §1, this test-bed is however more often an information overlay to the *existing* infrastructure in *existing* cities. As an

example, "Smart Aarhus" (the "Scandinavian Third Way" of the smart city), represents multiple interests – real estate, tourism, engineering, security, urban planning, business development, NGOs, and much more – that all share a belief in opening up and connecting to the city's information infrastructure. That is, they want to use data from sensors and networks, people's smart phones, flows of traffic and much more to 'update' the city within their respective domains. As it is stated in the official folder advertising the initiative:

> *Through collaboration between the public and the private sector, citizens, the business community, and knowledge institutions, Smart Aarhus offers a platform for everyone, who wants to make use the opportunities of digitalization across sectors and hierarchies. (Andersen 2015)*

3. In the smart city, hybridity is not seamless

Embedding the computer into the environment will not render it transparent or invisible – as envisioned by Mark Weiser, Norbert Streitz, and others (Streitz et al. 2007). Rather, computing will continue to be an important part of our conscious experience as a 'scripting of space'.

4. The smart city is a scripted space

The notion of a 'scripted space' was originally suggested by Norman Klein to describe spaces such as shopping malls (Klein 2004). They are compounds that seal off the complexity of urban life and provide 'safe' environments where citizens can indulge in the pleasures of consumption. It is a way of seeing, as Klein states, and compares it to an interface:

> *An interface may seem invisible or absent, but the audience tends to fill in the blanks, so to speak. The scripting of absence is thus essential not only in architecture, but also in the novel, in cinema. (Klein 2005).*

5. In the smart city, the script is as adaptable as the user

Following on from Klein, the challenge of an interface criticism – in relation to the urban context of the smart city – is to accentuate this "scripting of absence". This is a difficult task, because in the scripted space of the smart city the script itself is adaptable as the user.

6. The smartness of smart cities is a production of prediction
More specifically, the production of data from people's devices and sensors continuously participates in complex processes that alter the scripts. It is a 'production of prediction' (as Adrian Mackenzie has argued in relation to machine learning), where any response to the scripted space – even denial – will produce valuable information to calculate future events, needs and desires in the smart city. (Mackenzie 2015)

7. The scripting of space is a shopping mall
To avoid any confusion, the scripted spaces of consumer society, that Normal Klein addressed, and the scripted spaces of the smart city still have something in common.

8. In the smart city data is open
Unlike the shopping mall, the business of the smart city is often driven by ideals of openness. Smart Aarhus has for instance launched the project 'Open Data Aarhus', where a number of data sets (ranging from the use of parking lots to public libraries) are publicly available as a resource for innovation (economic as well as social, educational, cultural, etc.). As the numerous organizations that identify with ODAA seem to suggest, openness, transparency and participation have become the mantras of not only NGOs and activists – but also governance and urban administrators. In the underbelly of digital culture as well as in administration, openness in the technical infrastructures equals sustainability in all practices of life.

9. (Open, not free)
In his study of Wikipedia, Nathaniel Tkatcz points to how contemporary ideas of openness, transparency, and participation in governance and elsewhere, should be seen in a historical light. (Tkacz 2015)

First of all he links openness to the development of neo-liberalism in the 1940s (Karl Popper and Friedrich Hayek). To them, the direction of a society is beyond any individual or group's knowledge, and only open competition between ideas and practices will provide the agility that ensures liberty and prevents totalitarianism.

Secondly, Tkacz reminds us that within the history of software the promotion of openness against proprietary and closed formats follows two competing routes. One being Richard Stallman's political Free Software Movement. The other being Eric Raymond's advocacy for an Open Source Initiative that – in the spirit of Popper and Hayek – explicitly sees the poli-

tical free software as a hindrance for technical development.

To be more specific, in the smart city 'data' is always imagined as open. As a mode of production it willingly lends itself to the future scripting of the city.

10. "The smart city" is a really annoying concept.

This brings us to our final point. The smart city is a concept that seeks to disguise a mode production and control, behind a veil of intentions that all seem to be for the social good (in this respect, it bears resemblance to 'social media'). It is a concept that tends to evade criticism by hijacking adverbs: who can argue against smartness, openness and participation?

Although the participatory and open visions of Smart Aarhus tend to represent alternatives to the speculative design visions of Songdo, the challenge of the interface critics remains: we need to unravel the smart city as a mode of production. Interface related art practices that express a different kind of experimentation with signification, may potentially play a role in this.

Serendipitor

There are many examples of arts practices that address 'the scripted space', and also employ new alternative and critical interfaces to the city. The smart phone app S*erendipitor*, produced in 2012 at the V2 Institute in Rotterdam by Mark Sheppard. It is a journey planner for pedestrians that subverts the traditional smart phone route planner by instructing the user to "find something square nearby and photograph it", or "look for someone who is lonely and ask to walk with them for a while" (as it is proclaimed in the app).

If conventional mobile journey planning is about getting the user aptly to a location, *Serendiptor* draws on a history of mapping developed by the sitationists. The psychogeographer explores "the precise laws and specific effects of the geographical environment, whether consciously organized or not, on the emotions and behavior of individuals," by letting the drifters be guided by "the attractions of the terrain and the encounters they find there," as explained by Guy Debord (Debord 1955) (Debord 1956). Situationist strategies are in this way open up the compounds of the city that seamlessly guide the citizen and his/her way of seeing; it opens up to the absence that is otherwise hidden in architecture (the "scripting of absence" (Klein 2005).

The topoi of the program

Whereas psycho-geographical drifting is exposed to the randomness of the environment and one's individual mood, *Serendipitor* also exposes the user to the environment of the app; i.e., its predefined instructions and functionalities. In other words, as a situationist journey planner it also reveals the programmability of 'the dérive'. The letting go and playfulness of the dérive is not only countered by the restraints of the topology of the urban environment, but also by the topoi of the program itself. It instructs the user in various ways ("look for someone who is lonely", "find something square", etc.), and more fundamentally demands of the user 'to be instructed'; which is a special ontology. In many ways, one could claim, Situationism does not deny the spectacle of mobile technologies, but only lends itself too well to the instrumentalization of an app interface. The appearance of Endomondo's #TrackYourArt Contest and similar phenomena further underlines this.

In the messy, urban ubiquitous computing, were scripts are as adaptable as users, the replacement of commercial scripting with 'situationist' scripting does not seem to change much. In fact, the openness to individuals' diverse behaviors and desires seem to be an intrinsic part of the scripting of space. The "derive" is no longer an alternative; in fact it just contributes to the adaptation of the script. In a new situation, we also need a new situationism that addresses the topoi of the program and programmability.

To understand the topoi of the program we must turn to the "object orientation" within it – which is also a special ontology of computer programming.

Pattern languages and object orientation

The architect Christopher Alexander has played an important historical role in the development and conception of object orientation in software development. In continuation of situtationism, but also other urbanists such as Henri Lefebvre and Jane Jacobs, Alexander is renowned for formalising human-centered design. His "pattern language" is a collection of behaviours that guides design. For instance, he observes that people need open green places to go to; but when they are more than three minutes away, the distance overwhelms the need. Consequently, green spaces must be built within three minutes' walk (Alexander et al. 1977).

Within computing, the idea of a pattern language was later developed by Ward Cunningham, who created the Portland Pattern Repository, the world's first Wiki. It is a repository of collaborative design guides for interface design and programming. More generally, the wiki is – also today – an important agility tool in software development, but Cunningham's project

must also be seen in continuation of other developments in programming. In the 70s and 80s computer scientists were raising critiques of how computing was introduced at the workplace. In short, they were against the managerial tyrannies of closed system design that alienated workers from their new tools.

The work of Kristen Nygaard – one of the fathers of object oriented computing – is a good example of this. He wanted to design systems that matched the users' world, and worked closely with workers' unions in participatory design projects. Nygaard gained an unexpected insight in his co-research: programming is not only a way of modelling a labour process, but people in general find a value in describing a program and defining objects, classes and methods. Writing programs may in other words lead to insight into a social problem and its solutions.

In other words, object orientation is not a model, but a world-view. Despite the many good things object orientation and user-centred design has done for computing, it also seems to be part of the problem: its agile development methods have turned against us. Neither we, nor anything else in the world can escape being objectified. Anything is a 'behaviour' and a potential pattern that contributes to the programming of our lives and the world around us. To open up the topoi of this kind of programmability, and seeing the absence of the scripted space as a void that is open for possible significations (rather than a smart reality), we must turn in different directions.

Expressive data

A new situationism for a new situation addresses this 'openness' and 'object orientation' critically. We need to replace the idea of 'open data' with 'free data'; we must explore its expressive powers, rather than its indicative powers. This is often seen in interface related arts practices.

Expressive data is for instance seen in the work *AdNauseam* by Helen Nissenbaum, Daniel Howe and Mushon Zer-Aviv. *AdNauseam* plays on the latin origin of having had too much of something, to the verge of nausea. It functions as 'Ad Blocker' in a browser, but in addition to hiding advertisements it simulates clicks on every single one of them. Ultimately this polluting and production of ambiguity is a political expression. In other words, Nissenbaum, Howe and Zer-Aviv see obfuscation of data by way of overproduction as a form of expressive privacy. Howe also quotes Anna Munster for arguing that in response to data-surveillance we "not simply retreat or withdraw into the issue of privacy", but rather "become noisy, as noisy as our machines." (Howe 2015)

Inter_fight by César Escudero Andaluz (developed at Hangar in Barcelona in 2015) consists of miniature robotic creatures that move around on tablets. The creatures navigate by the light of the screen and interact through conductive material in their 'clicking' legs and 'swiping' tails. The direct interaction between the bots and the tablets somehow resembles an absurd dance theatre, but also demonstrates the functioning of the interface by disrupting the data capture of the websites they visit such as Google Maps: "They provide wrong information for tracking website location, fighting against the design homogenization and GUI standards," as Andaluz writes. (Andaluz 2015) The apparent 'natural' and 'invisible' touch interface is revealed as a technical artifice that depends on signs and acquired gestures, and its capturing of behavioural data is demonstrated as a simple technique; and hence also a language to be explored.

Bibliography

Alexander, C., S. Ishikawa and M. Silverstein *A Pattern Language: Towns, Buildings, Construction*. Edtion ed. Oxford: Oxford University Press, 1977.

Andaluz, C. E. Inter_fight. In., 2015.

Andersen, K. G. S. Smart Aarhus – A Scandinavian Third Way. A. Municipality, 2015.

Bell, G. and P. Dourish Yesterday's tomorrows: notes on ubiquitous computing's dominant vision. Personal and Ubiquitous Computing, 2007, 11(2), 133-143.

Calvillo, N., O. Halpern, J. Lecavalier and W. Pietsch. Test-Bed as urban epistemology. In S. Marvin, A. Luque-Ayala and C. Mcfarlane eds. *Smart Urbanism – Utopian vision or false dawn?* Oxon; New York: Routledge, 2016.

Debord, G.-E. *Introduction to a Critique of Urban Geography*. Les Lèvres Nues, 1955, (6).

Debord, G.-E. *Theory of the Dérive*. Les Lèvres Nues, 1956, (9).

Howe, D. Surveillance Countermeasures: Expressive Privacy via Obfuscation. A Peer-Reviewed Journal Aboout / Datafied Research, 2015, 4(1).

Klein, N. M. *The Vatican to Vegas*. Edtion ed. New York: New Press, 2004. 506 s. p.

Klein, N. M. Scripting The Invisible. Conversations Avec Les Vivants In M. Aktypi. Invisible, exhibition catalogue. Siena Palazzo delle Papesse Centro di Arte Contemporanea, 2005.

Mackenzie, A. The production of prediction: What does machine learning want? European Journal of Cultural Studies, 2015, 18(4-5), 429–445.

Streitz, N. A., A. Kameas and I. Mavrommati T*he disappearing computer : interaction design, systems infrastructures and applications for smart environments*. Edtion ed. Berlin: Springer, 2007.

Tkacz, N. *Wikipedia and the Politics of Openness*.
Edtion ed. Chicago: University of Chicago Press, 2015.