

Urban Interfaces: The Cartographies of Screen-Based Installations

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Nanna Verhoeff¹

Abstract

This article analyzes the way media technologies provide interfaces for the complexity of cities as historically layered, continuously changing, and intricately connected spaces. Following Branden Hookway and Alexander Galloway, I understand media interfaces as processes rather than objects. An interface *is* not something; it *does* something. I propose to focus on the way in which often temporary, mobile, and connected interfaces produce urban cartographies in the very act and process of navigation. This navigation constitutes a performative cartography of ambulant presence, fluid connectivity, and an inherent multiplicity of connections between locations and other subjects. In what follows, I examine a small collection of urban art projects that speak to this description and suggest that the interface's pursuits of connectivity, and the stakes and claims inseparable from these pursuits, produce and structure urban cartographies. The article then questions in what ways interfaces can create, not a threshold between two dimensions, but spatial transformations of a third kind.

Keywords

urban screens, mobile media, media architecture, location-based media, interfaces, performative cartography

Urban Alphabets is a project developed by Finnish artist Suse Miessner around the playful tagging of urban space by means of mobile camera phones. The first prototype was developed in 2012, but the project has been continuously updated since. It has also traveled around the world to different events and urban contexts. The core of the project consists of a mobile application for smartphones and a website that collects uploaded images of letters. The project works with the fact that although letters are

¹Utrecht University, The Netherlands

Corresponding Author:

Nanna Verhoeff, Utrecht University, Muntstraat 2A, 3012 EV, Utrecht, The Netherlands.
Email: n.verhoeff@uu.nl



Figure 1. A public projection of *Urban Alphabets* by Suse Miessner bringing the found and relocated letters to the screen for the present viewer on the square.

Source. For more about the project, see www.susemiessner.org/spacenew-media/urban-alphabets/. Image: Connecting Cities Network (2014).

ubiquitous, they are also site-specific and differ from place to place and from use to use. Essentially, the project offers the tools for a playful deconstruction of fixed geo-spatial relations. With the application, one can collect letters from a specific urban environment, geotag, and upload them to an online repository—with an interface depicting a geographical map of the world—rearrange them and reuse them for sending what the artist calls “urban postcards.” The postcards can be sent either online or on-site, via an urban screen at a specific, local event (see Figure 1). Instead of limiting the game to magnetic letters on a kitchen refrigerator door, the project makes the letter game shared and public; the city becomes simultaneously a private game board and public playground.

A playful multi-platform project like this is explorative and experimental in the sense that actual use of the interface for searching, collecting, and sharing is really up to the users. The principle of retrieving letters in space may be reminiscent of Google Maps Alphabets that use disembodied aerial views of Google Maps to “find” (recognize) letter-like shapes in either natural or architectural formations. However, contrary to the visual model of Google Maps, based on principles of surveillance and depersonalized satellite perspective, *Urban Alphabets* is made for, and by, mobile urban explorers who use their personal devices and from their “grounded” and embodied perspective collect the images within their immediate surroundings.¹ The application offers the platform, but participants make their own, situated urban alphabet. Moreover, the web portal invites suggestions for new uses of the application and possible further development of

the project. But perhaps most relevant to our concern, here, is the way the project demonstrates how location-based technology can be used for individual mapping and remapping of urban spaces, and in the process, changing our relationship with our immediate environment. The city becomes a site for playful cartography by inviting us to explore, document, and creatively recombine the often-missed miniature details of our urban surrounding. As the artist claims, the relatively modest ambition is to make the participant look in a new way at the otherwise familiar or unfamiliar urban spaces where she moves around.² As such, the project offers an experimental framework for analyzing and reworking, if not deconstructing, the spatial order of the material and visual urban environment. As I will explore in this essay, this makes this work and other urban screen-based installations both experimental and cartographic.

Cartographic Considerations

This article is the third of a “trilogy” on screen-based installations as urban interfaces. In the first, I examined their architectural aspects. Urban screens and installations, as time-based and (often) temporary *architectural* interfaces produce and affect our experience of and within the built environment (Verhoeff 2016). A second analysis focuses on the *curatorial* aspect of the design of these urban interfaces in public space. They are not only curated but also bring forward a curation of space. As “machines of curation,” they produce new and emergent meanings and experiences within urban spaces (Verhoeff and Wilmott 2016). This third article concerns the *cartographic* aspect of how they operate as interfaces for both mobility and presence. My aim here is to analyze how media technologies intersect with the complexity of cities as historically layered, continuously changing, and intricately connected spaces and—with the help of the alphabet project and some other urban installations—to explore how our complex mobility within urban space is bound up with the presence of pervasive and location-based media technologies and the diversity of screens we encounter on the streets or hold in our hands while we navigate urban space.

Media technologies have intervened profoundly in our cities, providing interfaces for highly mediated spaces. These interfaces produce emergent, performative cartographies of our traversals through urban sites. Urban cartographies are performed in mobility and are situated through mediated connectedness and within architectural assemblages. Here, we can locate a counterpoint between the temporal and temporary nature of mobility, on one hand, and the location-bound situatedness of presence within these spaces, on the other. As we suggest in the introductory essay to this issue, this points to a paradox of presence. As productive structures of thought, paradoxes raise questions and in particular question thought. They are only apparently contradictory, and in fact, point at the essence of intersection: in this case, the intersection of punctuated (Verhoeff 2006) presence and situatedness and of transitory and transitional mobility. This paradox is played out at the interfaces we use to move and to communicate. Moreover, whether mobile and portable, or architectural and fixed, screen-based technologies simultaneously multiply mobilities and perform situated presence—this is what creates the ambivalence of ambient screen media, as Anna McCarthy (2001) has already pointed out.³

These intersections are the product of the technologies that at once makes us mobile, connected, and copresent, as argued by Larissa Hjorth in this issue. Both (ambulant) mobility and (location-bound) situatedness are produced at the interface. Following Branden Hookway's (2014) theory of interfaces, we must consider that interfacing technologies—the screens, vehicles, terminals, algorithms, and other sensory *meeting points* and communication technologies that connect (with) us—are not so much technological objects, as they are encounters and relationships with and through technology—hence, they are social, cultural, and historical. These encounters are interactive: the subject, as both *actant* and *user*, is both produced at the interface, and the active coproducer of this subjectivity. In her discussion of some perspectives in interface theory, Shannon Mattern (2016, 51) summarizes Hookway:

In [our working through interfaces in order to relate to technology], the interface structures the user's agency and identity and constructs him or her as a "subject," which is different from a mere "user," in that the subject's identity shifts in response to contextual variations and is informed by historical, cultural and political forces.

This working "through"—or at—the interface encapsulates us in a self-affirming and (literally) creative process. This processuality is also brought forward by Alexander Galloway (2012). As he has summed it up, an interface *is* not something; it *does* something. These perspectives on interfaces—or *interfacing*—resemble a conceptualization of performativity, which underscores the cultural, social, and inherently historical aspect of technology.

This coincidence of mobility and presence raises our interest in exploring the processes of interfacing by means of media technologies, specifically with and within urban, public environments. What cartographies are created? How do these cartographical transactions at once create and change the space we call the city, for which the qualifier "urban" is used? And how does this practice modify our experience of the designed and built environment we work, play, and live in?

In a philosophical discussion of the work of James Tully, Michael Simpson (2008, 526) provides a succinct demarcation of the city as a habitat of deficiency: "Cities are almost by definition concentrations of people that are larger than that which the local ecosystems upon which they are situated could support on their own without the diversion of resources from other areas." Without specifying the type of resources—whether cultural, social, material, economical, and so on—Simpson *de facto* describes the city as defined by a permanent state of exhaustion and in need of augmentation. It is this inherent and inevitable need—urgency even—of the urban ecosystem to expand beyond itself that Simpson describes as characteristic of cities. Although, indeed, depletion and sustainability of both natural and cultural recourses are currently high on the political and academic research agenda, his argument emphasizes these concerns with regard to the city as social system too. Cities are augmented by *connectivity*, and the mechanism for this can be conceptualized as the urban interface: the mobile media and urban cartography discussed in this issue. This connectivity is not secondary to the city's ecosystem, but basic to it.

According to Hookway (2014, 4), interfaces establish a form of expansion in their double-sided operation of separation—the other side of connectivity—and augmentation. He describes this threshold in terms of habitation as well as *exploration*—a conception that, in my opinion, underscores how interfaces are simultaneously situated and mobile, even essentially cartographic:

The interface is a liminal or threshold condition that both delimits the space for a kind of inhabitation and opens up otherwise unavailable phenomena, conditions, situations, and territories for exploration, use, participation, and exploitation. (Hookway, 2014, 5)

The practices that result from this need that Simpson refers to, and Hookway also seems to imply—especially if we consider “resources” as an open category that includes the qualitative resources of social and cultural exchange—are produced and facilitated by interfaces of all kinds, based on the paradox of situated presence and mobility.

One way to understand this double-sidedness of site-specific presence and mobility that pertains both to the urban situation and the operation of interfaces is through a performative notion of cartography. Cartography, as the logic, description, and inscription of spatial relations, enables us to conceptualize a layered mobility of time, space, and subject (Verhoeff 2012a). Moreover, we can understand this conceptual framework as performative. The cartographies produced by urban travelers and the interfaces that they use are emergent and dynamic. When both spatial contours and space-producing subjects are mobile, we can speak of a multiplied mobility—a mobility of, and with, the device. This multiplication I have analyzed elsewhere as produced by the dispositif of the (digital) media at hand and in hand, and as performed in practice as cartography; hence, my proposal for the concept of *performative cartography* (Verhoeff 2012b) for these media practices.

Urban Installations: A Comparative Approach

To get a grasp on this multiplication of mobility and the complexity of mobility, presence, and connectivity as specific to the urban situation, I want to adopt a comparative perspective of screen-based installations as urban interfaces. This includes a wide range of mobile and networked technologies, different screen forms and formats, installations, sensory interfaces, screen-less projections, and so-called media architecture. Such forms and practices take place in public spaces, they are interactive, and work to connect the subject with her immediate—and sometimes more remote—surroundings. They are platforms for a co-creation of space that position us within that space. As machines for various forms of processing and interaction, these interfaces enable us to experience their affordances—and limitations—as a subjective *presence-effect*. Pepita Hesselberth (2013, 586) has described this effect as “the perception of self-existence, of a ‘me’ that becomes tangible in our encounter with real-time sound and imaging techniques.” In particular, I propose to focus on the way in which these often temporary, mobile, and connected interfaces produce urban cartographies in the

very act and process of navigation—whether these interfaces are mobile and hand-held or architectural and (always temporarily) fixed. Urban navigation constitutes an ambulant presence, a fluid connectivity, and an inherent multiplicity of connections between locations and other subjects—making the figure of the navigator fundamentally different from the Benjaminian solo and introvert flâneur. The urban cartographies afforded and produced by urban interfaces, then, are at the heart of this dynamic and layered process of navigation and encounter.

To demonstrate the impact of this diversity and complexity on urban presence, I will now examine a few other screen-based urban media art projects that speak to this description of urban interfaces. My aim is to consider to what extent each has a characterizing feature. At the same time, I will examine if and how these characteristic features occur in each of the other projects under scrutiny. In this way, the projects are both objects and subjects of analysis. As laboratories for urban curation, the experiment with their affordances and limitations for mobility, connection, and presence, they demonstrate their specificity and how they operate.

The Connecting Cities network is an international consortium and platform for cultural content initiatives involving media façades, projection sites, and other “urban media” initiated by Public Art Lab, Berlin (Pop 2012). This curatorial bracket brings together a collection of media art projects that work with networked and location-based technologies and are particularly concerned with the possibilities for, and pitfalls of connectivity within urban, public spaces. By means of three subthemes—the *networked city*, the *participatory city*, and the *invisible city*—Connecting Cities has organized an overarching curatorial framework for a collaborative—and connected—infrastructure for these temporary projects. Thus, this network demonstrates, analyzes, and embodies the concept of urban interfaces as sites of presence, mobility, and connectivity (Pop et al. 2016).

By its curatorial bracket of “connecting cities,” the platform not only brings out but also, and more importantly, activates what the media projects have in common, and thereby simultaneously makes the differences stand out and speak up. This is, in essence, the point of a comparative approach. The merit of comparison is that it never isolates phenomena nor flattens out their singularity, but connects them while also showing their specificity. This comparative approach is congenial to the practices studied in that it helps to see knowledge beyond a strict(er) separation of subject and object; the object of study instead encourages a form of interactive knowledge production where an immersed and engaged subject can only produce knowledge “with” the object.

In that spirit, departing from the project of *Connecting Cities* as a comparative and distributed case study of urban curation, I wish to make a claim for a comparative approach to the cartographic logic of urban interfaces. From this approach, I aim to examine their creative experimentation with divergent but shared complex reconfigurations of spatial relations. In particular, I will discuss their site-specificity, their connectivity, and their transforming potential. Whereas each project foregrounds one of these features, I will suggest that all three features are necessarily included in each of them.

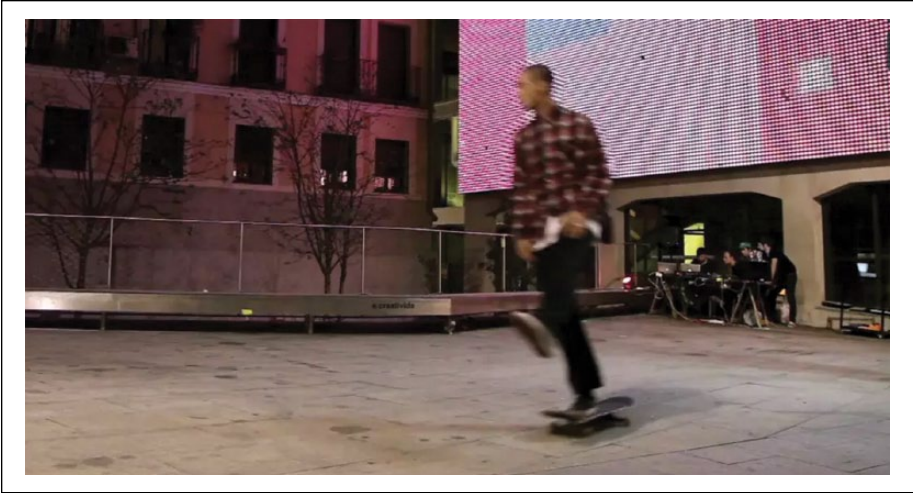


Figure 2. *Sonic Skate Plaza* by Pablo Serret de Ena, showing in the background the large screen that maps the skater's movements in the square in real-time and abstract colorful visualizations.

Source. www.pabloserretdeena.com/education/2013-sonic-skate-plaza.

Performing Sites

Like *Urban Alphabets*, the project *Sonic Skate Plaza* (2013) also works with the visualization of navigation, but in a very different way. The artist Pablo Serret de Ena literally made a piece of musical architecture when he placed sensors below the surfaces and the “urban furniture” at the Plaza de las Letras in Madrid. Movement of skateboarders activated these sensors, which created cartographic sound pieces—an auditory equivalent of visualization, or *sonification* (Salter et al. 2008; Vickers 2012). The sound—or rather, the data mediated as sound—was simultaneously also visualized as colored, animated maps on a big LED display mounted on a building's façade (see Figure 2). The installation thus provided a double interface for the representation of the data generated by movement, based on sound and vision. It offered an experimental and playful urban playground for participants and simultaneously, an audiovisual spectacle for the urban public. Called an urban intervention by the artist, it changed the usual material surfaces of the city space into playful instruments for sound and vision. As such, projects like these bring to the fore the inherently playful affordances (Gibson 1979) of urban space for performative practices.⁴

Play in urban space is a current research topic that brings together media studies, urban studies, human geography, and ethnography. Adriana de Souza e Silva and Larissa Hjorth (2009) discuss urban play and mobile gaming from a historical perspective, associating the user of contemporary wireless technologies with the historical figures of the flâneur, the Situationist *drifter* on a *dérive*, and the more recent *traceur*—the practitioner of parkour.⁵ The urban subculture of skateboarding, much

like the urban sport of free-running or parkour, already is a form of space hacking in the sense that the surfaces and materials of the streets are used for play and performance in a fundamentally different way from everyday conventional and highly regulated use. In her dissertation on nomadic theater, Liesbeth Groot Nibbelink (2015) explains how these urban sports can be considered as forms of performative architecture. In line with architectural theorists Bernard Tschumi (1996), Sam Spurr (2007), and Iain Borden (2001), she points out the fundamental connection between the material and designed architectural space and the way we produce and perform these spaces in movements with and against these architectural surfaces. *Sonic Skate Plaza* does just that, and as such, explores the sensory dimensions of urban architecture as well. The interfaces of sensors, sounds, and screen produce a spectacle for multiple senses. Its result is architectural in a performative sense—it produces architecture. Moreover, the transmutation of visual and sonic performances into one another, in this collaboration between (performative) architecture and (performative) cartography, makes the work fundamentally experimental.

Connecting Sides

Another theoretical object is *Occupy the Screen*, a setup of two connected screens that uses video capture to combine the images of two separate locations on these screens in a hybrid, third spatial realm of representation (see Figure 3). Spectator/participants in front of two separate screen locations are filmed against a blue screen background—literally positioned on the ground (Figure 3). Through blue screen technology, images are combined and merged with colorful background images and projected on each screen. With real-time interactive feedback on screen, participants in both locations are invited to play with both their individual self-reflections and with those of others, sharing screenspace in a public spectacle of mirror play.

Similar to the other projects, *Occupy the Screen* has a concept at the heart of its development as urban interface. The development of this, in the words of the artists, “telematics public art installation” is described by the Brighton-based artists Paul Sermon and Charlotte Gould (2015) as pushing “the playful, social and public engagement aspects of the work into new cultural and political realms in an attempt to ‘reclaim the urban screens’ through developments in ludic interaction and HD video-conferencing.” As they attest, the work is inspired in part not only by 3D street art and computer games but also by the historical films of Lumière contemporaries, Mitchell and Kenyon (Sermon and Gould 2015).

The dispositif of early cinema’s “attractions” and traveling exhibition practices of fairground screenings sometimes included viewings in which audiences could recognize themselves on screen, having been filmed earlier the same day. This involved a high degree of direct address and audience feedback, which provides a historical echo in the design of this contemporary (in the words of the artists) “telematics” urban screen installation. The work possesses “all the traits . . . of live telepresent interaction, whereby the audience play directly to the camera and occupy this new public space by performing to themselves and others when screened later” (Sermon and Gould 2015).



Figure 3. Locations merge in the hybrid screenspace of this setup of *Occupy the Screen* at Esplanade Square for the European Capital of Culture, Riga 2014.

Source. For more about the project, see <http://www.paulsermon.org/occupy>. Image by Sermon and Gould (2015).

The inspiration found in early cinema’s public exhibitions—indeed, the roots of cinema as urban interface—brings forward the historical resonances that underscore the historicity of new media experimentation and how urban and public spaces have offered both today and in the past the sites for these laboratories. Thus, the work is both experimental and site-specific. But it is, first and foremost, an attempt to create a modified, interactive public form of subjectivity. The title of the project may at first sight suggest a connection with the urban political Occupy movements that started in 2011. Radically different, however, this installation brings out more playful encounters within urban spaces. Contrary to the protests of Occupy, the installation establishes spatial connections between two cities and brings dispersed publics together in a virtual, game space on screen. With an imperative mode as suggested by the title, *Occupy the Screen* encourages, if not demands, engagement and experimental performance of the public—it invites us to “take place” and play.

The project was installed at the 2014 Connecting Cities event of “Urban Reflections” in Berlin. Appropriately, *Occupy the Screen* works with reflection as a concept: with the urban screen as both a reflecting mirror of the city and its inhabitants and as the site of reflection on—not just of—our presence. Moreover, the spatial extensions offered by the location-based and connected technologies make it possible to produce a paradoxical, ambivalent presence of neither “here” nor “there,” but “on

screen.” This spatial presence “on screen” adds perhaps a shared third realm of screen presence as a result of the doubling of space on both “sides” of the screen—in Cities X and Y. Kate Mondloch (2007, 24) finds the doubling of space characteristic of interactive screen installations. She points out how interactive screen installations propose “that viewers be both ‘here’ (embodied subjects in the material exhibition space) and ‘there’ (observers looking onto screen spaces) *now*” (emphasis original). In both locations, the viewer is present “before” and “on” the screen—yet, this screenspace is shared by spectators on both sides. The spectator/participant is invited to use the usually “neglected space” (Mondloch 2007, 27) between the spectator and the surface of projection as an arena for interactions—actions that are performed in front of, and on, the screen.

As Mondloch (2007, 28) suggests, “On screen visual information in a media installation may be less important than the manipulations of the conventional spatial dynamics associated with screen spectatorship.” In the case of this project, these manipulations bring historical antecedents of early cinema spectatorship together with embodied, interactive gaming, and with screen-based forms of telepresence we know from webcams and other video connections. As such, like the other experimental urban interventions, *Occupy the Screen* self-reflexively analyzes, demonstrates, and in this way, critiques its own properties as a medium for representation, interaction, and presence. The result is a playfully, embodied, and self-aware form of connectivity that both produces and explores the shared screenspace.

Transforming Mobility

A project that interrogates the materiality and durability of both material and mediated presence is the 2012 *Ready to Cloud* installation by the Berlin-based artist collective, The Constitute. Like the other projects, the work brings forward fundamental questions concerning the status of the interface as non-object and the materiality of our (transitory) presence. The poetic subtitle of the work, “an ephemeric [*sic*] display for post-local communication,” announces how the installation provides a display of sorts for nonmaterial (postlocal) traces of presence in the perhaps nonmaterial realm of digital data.⁶ Inspired by science fiction fantasies of imaginary media/transportation systems for teleportation, this work offers a teleportation system for virtual bodies using scanning technology and hologram projections on smoke (see Figure 4). In the artists’ words, “Two clouds—one in each city—set up in public space. People get 3D scanned on site and beamed into the cloud. A temporary and spatial ephemeric [*sic*] display results. People in the cloud can now start communicating” (Constitute 2015).

Two aspects of the interface stand out, making it comparable yet different from the other works. First, similar to the other projects, the experimental interface is unique; it is innovative in the most literal sense of renewing the principle of the visual display on material surfaces. As such, it is self-reflexive of the act of displaying. Literally, the work revolves around screen-less projections onto smoke, making the interface emphatically material and molecular, yet mutable. Smoke literally goes up and dissipates. As such, it underscores the temporary nature of not only materiality and

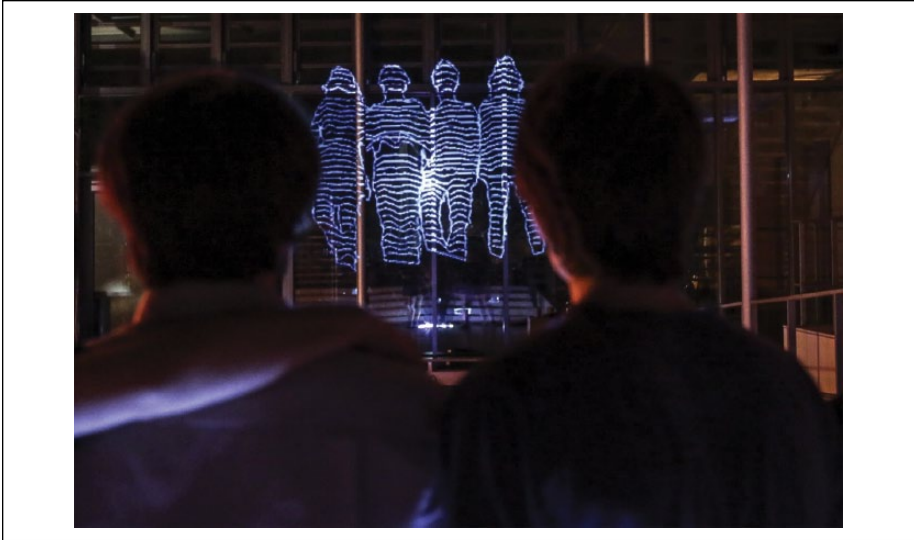


Figure 4. Participants watch their avatars projected on the fog screen of *Ready to Cloud* by The Constitute.

Source. For more about the project, see <http://theconstitute.org/readytocloud>. Image by The Constitute (2015).

technology and of the act of mediation but also of our situated presence in mobility. The second aspect touches on the multiple double-sidedness of the interface, in conceptual terms. At once, the interface denotes the technology and apparatus that we operate and communicate with, and the conceptual threshold between technology and the simultaneously active and emergent subject, and the coinciding product and process of this mediation. In the work, this provides an ambivalent presence of the participant: the physically present performer becomes an avatar projected on a cloud of fog that can interact with other avatars of people physically present in different locations. In this way, the cloud—like the shared screenspace of *Occupy the Screen*—becomes a parallel, connected space where people in separated spaces can meet. As such, and in line with *Occupy the Screen*, *Ready to Cloud* investigates how interfaces do not so much set up a threshold between two dimensions, or spatialities, but rather, they produce spatial transformations of a third kind. These fleeting and almost transparent projections on smoke provide us with an emergent cartography of presence.

Cartographies of Presence

These works demonstrate how their design aims to offer playful zones of creativity, interactivity, and connectivity. They produce urban performative cartographies of presence: site-specific, in connection, and mobile. They do this by constructing interfaces that produce subjectivities and reflections on and experiences of mobility and

change. Indeed, multiple mobilities and (subsequent) transformations—at the heart of urban space and culture—are characteristic of all projects discussed here. To return to the conceptualization of the interface as “process” (in the vein of Galloway) and as a site for agency—which is at the heart of Hookway’s theory of the interface—the urban projects discussed here all offer location-based laboratories for the playful investigation of, and experimentation with, the interactive and agential affordances of media technologies by the urban public. A critical concern about these ludic laboratories is whether they can offer experiences that have, in some way, a meaningful and sustainable, enduring impact on the city—as we tend to conceive of both meaning and sustainability in terms of historical duration in our western culture. Or, in other words, what is their transformative power?

Indeed, approached as technologies and media that first and foremost connect and provide affordances for, as well as providing sites of exchange and experience, interfaces are emphatically temporary and fugitive. As singular works and temporary projects, their own sustainability is a question. How can we collect, archive, and analyze these essentially temporary, “historical” works? But perhaps even more relevant is their status as curatorial machines for performative urban cartography. Moreover, we can raise the question of not just the material, but the cultural, social, or critical sustainability of their processes and products. However, in current debates about sustainability and the care for social and cultural ecosystems, connectivity, experience, or processes of mediation and subjectification are not high on the agenda. This is a wasted opportunity, for the city is of a (cartographic) scale, or of a level of size on which we can make policies, design systems, and make interventions. Instead, the concerns seem to be, first, material, economic, environmental, or health-related. Moreover, the questions and efforts that most people are more concerned with when it comes to cultural practices are primarily of data analysis and data visualization.

What these projects share, however, is something that can positively connect to such economical, ecological, or social concerns of urban sustainability as mentioned above. For it is their ability to produce, shape, and organize the experience of urban space as mobile, site-specific, and connected, which may indirectly speak to a more inquisitive, if not critical, participatory engagement with what happens in, and to, our urban environments. These urban interfaces at once generate, transform, and visualize our cartographies: the trackings and tracings of our mobility, our site-specific presence and the spatial relationships that are emergent, and temporary and dynamic inscriptions of urban space. Yet, they also self-reflexively probe the creative, experimental, and transformative process of interfacing itself, by dynamically positioning and (continuously) repositioning us as subjects within this layered public space. As such, they dynamically position and (continuously) reposition us as subjects within these intricately layered, public spaces. But they also demonstrate the temporary nature—the historicity—of technology and culture itself. From our theoretical, critical, and historical perspective then, it is the nature of process and transformation that stands out more, perhaps, than the longevity of materiality. As such, these interfaces demonstrate that the urban cartography of dynamic relations and navigations provides us, ultimately, with *cartographies of performativity* itself.

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Notes

1. See, for example, the work of graphic designer Rhett Dashwood at <http://rhettashwood.com/Google-Maps-Typography>.
2. For more about this project, see <http://www.ualphabets.com/map.php>.
3. Liesbeth Groot Nibbelink (2015) in her analysis of what she calls nomadic theater has borrowed the notion of nomadic deterritorialization from Deleuze for this double-sidedness of mobile presence in the case of ambulatory performances in urban spaces. Although I cannot elaborate on this here, for the sake of my argument, I want to suggest this duality is even a paradox because urban presence is simultaneously emergent and often also contested. Or, as Nigel Thrift (2011, 19) notices, “an explicit return to a kind of nomadism which no longer privileges fixed territory as necessary to produce effects but which does not therefore think that the attachments of territory are somehow unimportant.” Thanks to Jessica Scarpati for bringing this passage to my attention.
4. In some ways, a similar project that plays with ludic auditory presence is the *Piano Staircase* (2009), an initiative by Volkswagen that changed the steps of the staircase next to the escalator at Stockholm Odenplan metro station into piano keys, motivating people to walk up the stairs and as such make music. A widely watched video of this experiment can be found at <http://www.thefuntheory.com/>.
5. For a discussion of categories of *play* and playful practices, see Katie Salen and Eric Zimmerman (2003) and Brian Sutton-Smith (1997). Chris Perkins (2009) has written about playing with maps and playful cartographies. About the impact of play on contemporary culture, see Joost Raessens’s (2014) “Ludification of Culture.”
6. For a range of different theoretical, philosophical, and analytical approaches to the matter of materiality of the digital, see the collection *Digital Material: Tracing New Media in Everyday Life and Technology* (Van den Boomen et al. 2009).

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Author Biography

Nanna Verhoeff is associate professor at the Department of Media and Culture Studies at Utrecht University. Interested in theoretical and comparative approaches to changing media forms, she publishes on emerging and transforming media cultures from early cinema to contemporary mobile and location-based arts and media. Her books include *The West in Early Cinema: After the Beginning* (2006) and *Mobile Screens: The Visual Regime of Navigation* (2012).