To Act in Publict through Geo-Annotation

Social Encounters through Locative Media Art

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Locative media art makes artistic use of location-aware and time-aware media to promote social encounters between users and locations. The social contact is usually experienced via a PC. Assia Kraan wonders whether the shared location is only the pretext or also the location for social activity.

During the last few decades, the use of digital media has changed traditional public space into a hybrid space, Eric Kluitenberg claims in the introduction to this *Open*. [1] Electronic networks are interwoven with social, political and physical space, leading to a new dimension in the use and experience of that space. The new hybrid space also calls for new forms of public action. [2] These can only be created and facilitated if the users of hybrid space learn to see the influence of the relatively invisible digital structures and appropriate their technology where possible for alternative use. For example, the practice by which *Google Maps*, [3] albeit from a commercial angle, offers users a view of the world that used to be the preserve of the US military, is a successful example of the appropriation of – in this case GPS – technology.

Because of its more experimental and critical explorations, locative media art can bring new possibilities to light on this front. [4] By making use of digital technologies for public action, it can enable the users to understand hybrid space and bring about social activity. A particular type of locative media art that works with geo-annotation causes communities of users to form who share something special with one another; their experiences of a specific space. They give meaning to hybrid space and form social relations on the basis of that. A new form of public action in hybrid space is manifested in the activities of these social communities that confer meaning through geo-annotation.

Locative media art makes use of locative media to annotate space and to bring people together. But what are the specific characteristics of locative media, and why are they suitable for public action in hybrid space? A closer examination of the concepts of space and location and of examples of locative media art with geo-annotation seems called for.

Hybrid Space

The new hybrid space calls for a different understanding of the concept of 'space'. Using Henri Lefèbvre's notion of space may help us to understand hybrid space better. [5] Discourse about 'space' today is influenced by his theory, introduced in the 1970s, that space consists of an interaction between perceived, conceived and lived space, and that it is in motion. Hybrid space could then be understood as a space in motion and an interaction between perceived, conceived, lived and virtual space. This space is formed not only by materiality and social and political actions, as Lefèbvre argued, but also by digital technology.

We try to understand the world around us from an elementary survival instinct, and then we act in accordance with the spatial concept that has been formed in that process, according to the urban planner Kevin Lynch and the social geographer Yi-Fu Tuan.[6] This probably also applies to people in hybrid space. The distinction that Michel de Certeau makes between the actual city (the physically experienced and lived city) and the concept of the city (the rational, ordered model of the city) is applicable here.[7]

With the transition from traditional to hybrid space, the concept that people have of the city, which is determined by everyday experiences, changes. It is precisely this that is problematized by the development by which digital technology invisibly influences the experiences of people in public space and thereby affects the images that they form and their actions, without their being aware of the fact. When people learn to know and use the characteristics and working of digital media, they will have a better understanding of the character of hybrid space and will be able to handle it better. Their spatial concept is in need of adjustment so that they can function better in the public space of today. Opportunities for this lie in the alternative use of digital technologies and in the exchange of spatial concepts with others, as this takes place in locative media art.

Mental Maps

People form their spatial concept by ordering public space and conferring meaning on it. It is important to make a distinction between space and *plek*. Anglo-Saxon theoreticians talk about *space* and *place*. The Dutch word *plek* (plural *plekken*) will be used here because the alternative 'place' does not express its meaning adequately. 'Place' is used, for instance, to refer to the physical space of a settlement, while *plek* refers to the meaning that a physical space has for somebody. A *plek* can be described as a complex ensemble of physical characteristics, cultural experiences, history and personal logic. Geographers target the navigational characteristics of *plekken*, but the computer scientists Paul Dourish and Steve Harrison emphasize an aesthetic quality. They recognize the function of *plekken* in a creative appropriation of the world and describe *plekken* as 'developed sets of behaviour, rooted in our capacity to creatively appropriate aspects of the world, to organize them, and to use them for our own purposes'.[8]

The formation of a concept of space is essential for an understanding and appropriation of hybrid space because on the basis of this concept the space acquires meaning and the user can survive in it. The psychologist Stephen Kaplan claims that users organize information in a cognitive (mental) map using the information-processing mechanisms that are theirs by nature. Back in 1913 the geographer Charles Trowbridge talked about imaginary or mental maps. He had noted that some people are better at orientation than others. He sought the explanation for this in their informal, imaginary maps, which were built up around the location of their home. As long as they remained on familiar territory (and thus on the imaginary map) they could find their way. Trowbridge's term 'mental map' referred to the perceived space, but according to Kevin Lynch it also consists of conceptualized space. In his view, it is the two-way process between the resident and his or her environment that forms the mental map. The environment suggests distinction and relations, and the resident selects, organizes and confers meaning on what he or she sees, on the basis of his or her interests. A mental map is in a process of ongoing development from the moment that the user is in relation to the space, and thus often from childhood.[9]

For users to become aware of the influence of hybrid space on public action, it is necessary to understand the character of that space. The traditional opportunities for public action are supplemented with the new ones offered by the current shift in the spatial character of the public domain. Where the traditional way of acting cannot deal with the network of electronic elements, the public should make hybrid space created by that shift operational by seeing that network as a part of public space. The hybrid space can then become a part of everyone's mental cartography. What remains for the users of public space is to gain

access to the new public domain through technology that makes use of the hybrid character of the space. Locative media art offers such access.

Geo-Annotation Reinforces Social Contact

Locative media art takes place in public space and makes artistic use of locative media. Locative media art with geo-annotation explores the possibilities for public action. Artists use locative media artistically to get people to use technology and to annotate and exchange the meanings that they confer on *plekken*. [10] This can result in a better understanding of the nature and working of technology among users and in the formation of a community around the *plek*. The art and design theoretician Malcolm Miles distinguishes the following forms of public art: integration art; handiwork in designing the built-up environment; and intervention by artists in public space. [11]

Locative media art could be regarded as a form of intervention art. It intervenes in public space to create environmental awareness, that is, an attentive perception of the physical environment with a feeling for the meaning of *plekken*. In the project *(Area)code* (2004) [12] by the artists' collective Centrifugalforces, for example, with the assistance of SMS users discover meanings of specific *plekken* in Manchester, which can be experienced in a very aware way as a result. Locative media art not only shows the environmental awareness of users, but is itself environmentally aware too. This is its strength: it can determine the spatial position of the user and relate it to other locations and locative information.

Besides the artistic use of technology, the interactive way in which users collaborate to produce the work of art is also a characteristic of locative media art. The role of the artist as initiator and the trend to let users take part in the work of art can be historically derived from the happenings. A happening is a specific dramatic activity that originated in the work of Dada in 1916-1921 and in the Surrealist art that came afterwards. The work *18 Happenings in 6 Parts* (1959) by the US artist Alan Kaprow was seminal for this artistic movement and defined the elements of a happening: the public is both spectator and participant; actions and events happen simultaneously just as they do in life; the 'stage' of the performance is virtually infinite and the acting is largely improvisation. Early happenings were focused on person-to-person interaction, but the introduction of technology into performances led to a person-to-machine interaction.

The use of (locative) media technology in works of art has its roots in the activities of the US collective Experiments in Art and Technology (E.A.T) (1966), one of the first initiatives in which artistic experiments were conducted with technology and in which the interaction between people and machines was explored. The engineers Billy Klüver and Fred Waldhauser and the artists Robert Rauschenberg and Robert Whitma brought technicians and artists together to work on performances that incorporated new technologies.

E.A.T. realized that artists could contribute to the development of technologies and developed interdisciplinary projects in which artists and technicians participated. In the 1970 s the emergence of hardware technologies in communication, data processing and data control led to a new generation of software systems in which artists were interested. There is no conventional classification of types of locative media art, but terms such as geo-annotation, geo-tagging and collaborative mapping are used on an occasional basis to refer to locative media art projects. In the case of geo-annotation, locative media are deployed artistically to establish a link between public space and the users, between hybrid space and mental space. The world is made legible via a transparent interface between the spatial object and the spatial metadata that are linked to it. Users are given locative media to annotate the meaning that they give to *plekken*. Image, sound and text are linked to the geographical coordinates or positions in the digital network by storing everything in a database, often on a website. This locative informative is made accessible in a map that is placed on the website and is accessible to all. Annotations are linked with other information, thereby acquiring context. Users can view annotations on the website using a

PDA , smartphone, laptop or PC.

Place-Based Authoring

In short, the meanings of *plekken* can be recorded with geo-annotation and then shared with friends and strangers. The art project *City Songlines* (2003) [13] by Karlis Kalnins and others is an example of geo-annotation. In this project a map of Utrecht (the Netherlands) was formed on the basis of shared annotation. Users could make an interactive map on the website of *City Songlines* and link image, sound and text to specific locations around the Central Museum in Utrecht. Users in the physical space had access to the reports through their PDAS and smartphones.

The research studio Proboscis project *Social Tapestries* investigated the advantages and costs of locative mapping and sharing information. On the basis of its findings, it designed the software platform *Urban Tapestries* (2004-now), [14] which has since been the basis for many test versions of place-based authoring. This annotation system emphasizes the thread formed by a series of annotations, by which insight can be gained into their context. The project *GeoSkating* (2005-now) [15] by Just van den Broecke is built on the software platform *GeoTracing* and works like *City Songlines* and *Urban Tapestries*. Skate routes are mapped on the website, and locations on them are annotated with image and text. The unusual feature of this project is that specific users of public space, namely skaters, are given the means to annotate their specific experience of the space (such as the quality of the asphalt). *Socialight* (2004-now) [16] not only allows users to pluck annotations from the website, but also bombards them with reports when they are on a specific location. Whenever someone is in a sticky shadow (a specific geographical location), he or she receives a report with information about that location. These sticky shadows (annotations) are added to the website by the users themselves.

The position of the user in the public space is important in geo-annotation. It can be traced using a variety of techniques. In the case of *Cellspotting* (2005-now), [17] it is done on the basis of the position in the mobile network, the cell where the user is located. This project by Carl Johan Femer helps friends to spot one another and provides users with location-bound information. *Plazes* (2004-now) [18] traces users on the basis of their internet connection and does not distinguish between PC or mobile media users. On the basis of the location of the user, information about that particular location can be made available, such as who is in the neighbourhood and how often it has already been visited.

Joint Cartography

Cartography is a familiar device to make location-bound information tangible in a visual representation. The Situationists experimented in the 1960 s and '70s with recording the personal experience of space in alternative cartography. Their practice was called psychogeography, and their products psychogeographical maps. Today Lori Napoleon is one of those occupied in exploring personal cartography. In *Mapsproject* (2004) [19] she documents personally hand-drawn paper maps that describe a route or say something about how their maker experiences the space. Julian Bleecker's art project *PDPal* (2002 - now) [20] is an artistic exploration of alternative cartography in the service of geo-annotation. Using locative media, users of *PDPal* make a multimedia representation of the city. In the first project this resulted in a visual haiku with text, but the following projects had increasing recourse to characteristics of Cartesian cartography to give the personal maps a common denominator on the basis of which they could be merged. In the second project the product was a digital schematic map with a grid, and in the third project users could only link audio reports to geographical locations but no longer represent them on a map.

PDPal illustrates the choices that artists have to make between the personal character of the user's annotation and the shared character of the joint map. Once the idea is to exchange annotations among users, they will have to be made in accordance with a pre-arranged system. Jason Wilson's *Platial* [21] and John Geraci's *Foundcity* [22] work with an annotation system. Users can make use of limited possibilities to make their own map on the website. Locations are drawn in the same type of map and annotated with specific symbols. A title, description, photograph and / or video can then be added in defined fields.

Annotations of public space generate reactions, discussions and conversations, in short, social contact between users. As media theoretician Lily Shirvane claims, there is 'a potential for the space between individuals and their environment to become a location for spontaneous formations of collective activity'. [23] Experiences that people have in their familiar environment may be a pretext for meetings not only with acquaintances 'in the street', but also with strangers. Collective activities can lead to communities around a specific *plek*. Projects such as *GeoSkating*, for example, create a community of skaters who exchange information about skate routes. *Droombeek* [24] and *The Former-Resident-Project* (2006) also bring people together, but this time around a shared (former) place of residence. In the first project, residents and former residents of the Roombeek district in Enschede (the Netherlands), where there was a devastating explosion in 2000 , share their recollections and experiences; the latter project is about New York City.

The practices of conferring meaning carried out by these communities are forms of public action. Meaning is annotated and distributed within the community. The exchange of spatial concepts leads individuals to form a community that experiences that hybrid space differently, and possibly understands it better. The *Familiar Stranger Project* (2003) [25] is based on the fact that we make use of the public space with other people. Elizabeth Goodman and Eric Paulos do not focus on the formation of a community of acquaintances, however, but on that of familiar strangers: those strangers we regularly meet in public space, but whom we choose to ignore and by whom we are ignored. The mobile application, called *Jabberwocky*, is based on Bluetooth technology. [26] When two people who both have a mobile telephone fitted with Bluetooth approach one another, the *Jabberwocky* software detects the other's presence and indicates it as a red square. The other person's unique characteristics are recorded, and at the next meeting they are recognized and visualized as a green square. This colour code shows whether you are passing familiar strangers whom you have seen before or not. This project illustrates both the importance of the other in the experience of public space and an unusual form of social contact between strangers on the basis of the use of space.

Public Action: Online Media or Locative Media?

Geo-annotation projects promote social contact between users of a *plek*, but they do not bring them together *in* that physical space. Using online digital media (fixed network and PC), communities are formed around a website about a particular *plek*, where members enter into contact with one another via their PC . However, we should not forget that media are only devices for representing mental maps so that locative experiences can be exchanged and experienced together. A *plek* is still best experienced, however, on the physical location itself instead of behind a PC . The represented mental map on the website can not replace the far richer, genuine mental map, but only offer a shared language for communicating about locative experiences. In order to experience *plekken* in a genuinely shared way, there is thus no point in only chatting about annotations in the virtual space via websites, but the physical location has to be taken as the starting point. It is important to take this step after forming a representation of mental maps.

But online digital media are in the last resort perhaps not the most suitable instrument for promoting social contact on the basis of the experience of space. The locative character of

locative media may offer many more opportunities for contact in hybrid space. Unlike online digital media, locative media generate communication about space *on* location. By means of locative media, members of communities can recognize one another in physical space. Moreover, the user can scan the environment on the *plek* itself for the presence of members and exchange locative information. There is more point to the exchange of location-bound information on the *plek* itself than on a website. Information about a location can best be experienced and discussed on location, in the physical proximity of other users.

Strangely enough, there are hardly any art projects that deploy locative media instead of online digital media to bring people in physical space into contact with one another. Still, there are a few examples of commercial projects, including *Sensor* [27] by the Nokia telephone company, in which this does happen. When users are distant from one another within a particular radius, messages can be exchanged via Bluetooth and contact is possible. The content of those messages can come from a portfolio compiled beforehand, or be created on the spot. Since the portfolio is only kept on the mobile phone and not on a website, it can only be exchanged with other people in a physical space. It is thus personal information, not location-bound information. Other commercial applications are *Streethive* [28] and Dodgeball, [29] in which location-bound information is exchanged. Users of *Streethive* indicate on a digital map (from their PDA or smartphone) where they are, and can also see which fellow users are in the vicinity, with a view to an actual meeting. Moreover, *plekken* can be annotated and gain visibility on the map. *Dodgeball* brings people together by informing them with text messages about other users who are geographically close on the basis of their position in the mobile network.

Projects like *Droombeek* and *GeoSkating* demonstrate that geo-annotation with locative media offers experimental and artistic opportunities to make social contacts on the basis of the experience of *plekken*. To sum up, this takes place in three ways. First, users make use of locative media to link multimedia information to a geographical location. In this way the meaning of a *plek* is recorded and represented on a digital map. Second, locative media are used to request annotations when you are on location. The user accesses the locative information by accessing the website or subscribing to a news service. Third, locative media could be deployed to inform users when they are near to one another, so that they can meet physically and exchange their experience of a *plek*.

As far as the last possibility is concerned, artists still seem to make use of online media and not locative media on the whole. Social contact is brought about while the parties concerned are not in close physical proximity to one another, but behind their PCs. It is striking that none of the art projects mentioned makes use of locative media to bring about social contact on location, while some commercial projects do exactly that. Locative media seem pre-eminently suitable for this purpose of geo-annotation. In the case of social contact on the basis of online digital media, the point that gives rise to the contact – the *plek* – is not a meeting place but only a theme.

Locative media should be deployed in locative media art to bring about social contact in physical space. The location of a *plek* is important for social contact because meaning is annotated to that *plek* on the basis of it. Presence on location offers a richer experience of the contact about that *plek*. In addition, the character of locative media does justice to the hybrid character of the public space. By deploying locative media, physical, digital, social and mental space can be linked with one another. It can be a challenge to make optimal artistic use of the character of locative media to confer meanings on hybrid space and to exchange them with one another. Location must also have a metaphorical place in a genuine social public action in public space.

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Footnotes

1. Kluitenberg introduces the term hybrid space and problematizes public action in it because of the increasing invisibility of digital technology.
2. In this essay I use the term public action to refer to public human activity in public space to bring about a social effect.
3. http://maps.google.com/ consulted on 25-08-2006.
4. The term locative media was introduced in 2001 by the Canadian media researcher Karlis Kalnins and published in 2003 in the Acoustic Space Reader (rixc Center for New Media Culture) as a test category for media art that explores the interaction between the virtual space of Internet and physical space. The term locative media is used nowadays to refer to both location-aware and time-aware media and to this form of media art. This is confusing, which is why the term locative media art is used in this essay to refer to artistic practices that explore the use of locative media in hybrid space.
5. Henri Lefèbvre's La production de l'espace (1974) attracted the attention of Anglo-Saxon theoreticians after the publication of an English translation, The Production of Space, in 1991.
6. K. Lynch, The Image of the City (Cambridge: m.i.t. Press and Harvard University Press, 1962); Y.-F. Tuan, Space and Place (Minneapolis: University of Minnesota Press, [1977] 2003).
7. M. de Certeau, The Practice of Everyday Life (Los Angeles: University of California Press, [1984] 1988).
8. P.Dourish and S. Harrison. Re-Place-Ing Space: The Roles of Place and Space in Collaborative Systems. Computer Supported Cooperative Work (Boston: acm, 1996).
9. I go in detail into the formation of plekken by individuals and the role that locative media art can play in that in my master's thesis, available at http://www.assia.nl/docs/scriptie_A.Kraan.pdf.
10. Following the definition by Karlis Kalnins, locative media are regarded as 'location-aware and time-aware media', such as gps technology, mobile and fixed networks, in combination with PDA, smartphone or laptop.
11. M. Miles, Art, Space and the City (London: Routledge, [1997] 1999).
12. http://www.areacode.org.uk/ consulted on 25-08-2006.
13. http://www.gpster.net/songlinesredux.html consulted on 25-08-2006.
14. http://urbantapestries.net/ consulted on 25-08-2006.
15. http://www.geoskating.com/ consulted on 25-08-2006.
16. http://socialight.com/ consulted on 25-08-2006.
17. http://www.cellspotting.com consulted on 25-08-2006.
18. http://beta.plazes.com/ consulted on 25-08-2006.
19. http://www.subk.net/maps.html consulted on 25-08-2006.
20. http://www.pdpal.com/ consulted on 25-08-2006.
21. http://www.platial.com/splash consulted on 25-08-2006.
22. http://www.foundcity.net/ consulted on 25-08-2006.
23. L. Shirvanee, 'Locative Viscosity: Traces Of Social Histories In Public Space' Leonardo Electronic Almanac MIT Press. vol.14 issue 03 (2006), http://leoalmanac.org/journal/Vol_14/lea_v14_n03-04/lshirvanee.asp consulted on 25-08-2006.
24. For a detailed account of the Droombeek project see the article by Arie Altena in this *Open*.
25. http://berkeley.intel-research.net/paulos/research/familiarstranger/ consulted on 25-08-2006.
26. http://www.urban-atmospheres.net/Jabberwocky/ consulted on 25-08-2006.
27. http://europe.nokia.com/A4144923 consulted on 25-08-2006.
28. http://www.streethive.com/home consulted on 25-08-2006.
29. http://www.dodgeball.com/ consulted on 25-08-2006.

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