

The Many Faces of Interactive Urban Maps

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New Urban Maps

The times of typing a password before the jarring modem connects to the internet were the times when the metaphor of cyberspace was to spread most briskly.¹ It felt like crossing a border after the passport check and entering a new space of text-only communication with people connecting from all over the world. Today's spread of mobile communication and ubiquitous computing denounce the cyberpunk theories of the nineties that proclaimed the abrogation of physical space and the human body. Digital technologies and sensors inhabit urban space, parts of the digital documents and data along with virtual communities migrate back into geographical space.² The internet merges with the geographical space instead of overriding it. This trend is characterized rather by the urban GPS chasing game "Can You See Me Now?"³ than Second Life.

As a consequence the classical cartographic paradigm hardly applies to urban space. The street map is not a fixed representation of the terrain anymore.⁴ While using GPS and mobile internet in the city we navigate through physical and virtual space, permanently redrawing the map. Spatial annotation systems' maps can be referred to as new paradigmatic examples of urban mapping. Spatial annotation is mainly the attachment of any digital information, comment or message to a chosen point of geographical space. Tagging with stickers or any other physical tags⁵ is referred to as spatial annotation but the interactive maps combined with localization technologies become more and more dominant. Such maps: *Bliin*, *denCity*, *Plazes*, and *Urban Tapestries*.⁶ Depending which map we use, messages can either be attached to any point on the map or to the users actual location (which is generally the case when users are commenting on the actual situation). Further features might include manual or automatic localization, setting the group of people authorized to see the annotation, or the time interval for which the comment should be published.



Figure 1: screenshot of Bliin map

Locative Messages

Spatial annotation is often associated with 'locative media', coined lately by media artists exploring the intersection between the internet and the geographical space.⁷ The locative media project *Loca* tracked down urban passengers without their knowledge and sent intimate messages to them according to their trajectories in urban space. For example: "You walked past a flower shop and spent 30 minutes in the park, are you in love?". *Loca* not only addressed the issues of surveillance and data-protection but also the issue of media that deals with the city as context of our actions and communication. *Loca* exemplifies the question raised not only by locative media, but also by developers of location-based services: What kind of knowledge and information depends the most on the context of urban space? How can we measure locativity?

Location-based services often support navigation by indicating the location of the next restaurant, cash machine, friend or doctor. Yet indicating the location of a single person, institution or facility is not the utmost image-specific task. The use of mobile phones reprogrammed urban life even before the arrival of interactive urban maps by enabling people to communicate in real time where they are or where they are heading to. As a result not only our time management has changed but also the nature of time itself.⁸

Besides navigation, interactive urban maps help us interpret locative messages. Locative messages may be understood as information that comments on a specific location or situation in the city or its relevancy pertains to a specific location. It can also be understood as a message for which concrete location provides the context that supports its interpretation, such as ‘Get out at the next stop!’ or ‘Call me when you get there!’. Usually these messages cover practical aspects of urban life. But how can we assess the grade of locativity of a specific kind of information?

What Maps Can Do

The question above encompasses spatial relations that are represented with images better than through text. The real strengths of interactive urban maps as visual tools is illustrated by thematic maps: the long list of data collected about weather conditions over years will never reveal the belts that become salient when visualized on a climate map. Similar to this is the data about urban life — such as density of mobile use, WiFi coverage, messages attached to a place — which become tangible and apparent on the map.⁹ These maps are not drawn by a single cartographer but by a community. Principles that are analogous to the ones underlying the Blogosphere determine the appearance, spread, mutation, disappearance of messages. Dots merge to lines and lines draw shapes on the map revealing new connections and correlations. Hence the interactive map does not only visualize statistical data (which Jane Jacobs has warned us from) about the movements and communication of individuals and existing communities, but the pattern drawn by a number of messages reveal the emergence of new topics, communities and initiatives. For this image-specific task the maps cannot be substituted for.

Zooming allows us to change from street-level to birds eye view providing an overview over community scale activities. This implies a real time feedback between the individual and the community scale, rewriting the

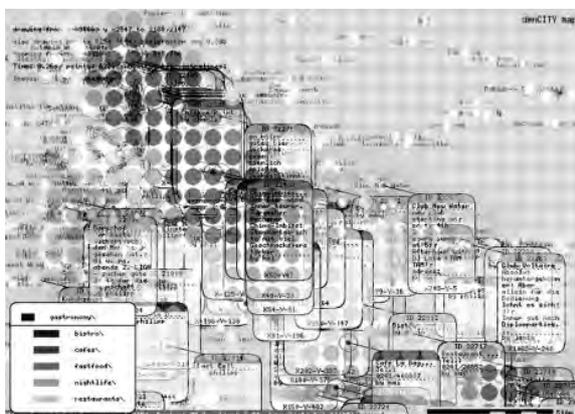


Figure 2: screenshot from denCity map (streets hidden)

rules of urban life and communication just as mobile telephony did by allowing a real time feedback between individuals.

Finally, dynamics of the pattern emerging on interactive urban maps allow us to deduce which topics and messages are location-sensitive. Messages that have the same relevancy at every location in the city will most probably draw random pattern on the map. As opposed to this, messages that are embedded in the ever-changing context of urban life, will exhibit a dynamics that reflects the self-organizing nature of the city. The detection and identification of pattern on the map that emerge out of a seemingly random background noise is an image-specific task similar to the use of scientific visualizations fostering scientific work and scientific discoveries. A famous example is the discovery of the double helix structure of the DNA by Watson and Crick, who used besides their knowledge in chemistry and their self made models also the abstruse images produced by X-ray crystallography.

Interactive urban maps will enfold their full power as soon as they will be used by a sufficient number of people, yet this paper already revealed some of the facets of urban life that are most likely to be effected by maps: the support navigation; display urban context fostering the interpretation of locative messages; rewrite rules of urban self-organization by providing feedback between the individual and the community scale; and finally, they become visual instruments that contribute to the understanding of the nature of locativity.

- 1 Alex Soojung-Kim PANG. 2007. "The End of Cyberspace and the Emerging Telecommunications Convergence." In presentation at the conference *Towards a Philosophy of Telecommunications Convergence*, Sept. 27–29, Budapest: Hungarian Academy of Sciences.
- 2 Adriana de Souza e Silva. 2008. "From Cyber to Hybrid: Mobile Technologies as Interfaces of Hybrid Spaces." In *The cybercultures reader 2.0*, edited by D. Bell and B. Kennedy. London, New York: Routledge, pp. 757-772.
- 3 http://www.blasttheory.co.uk/bt/work_cysmn.html
- 4 <http://personalpages.manchester.ac.uk/staff/m.dodge/cybergeography/codespace/>
- 5 cf. <http://www.elasticspace.com/2004/06/spatial-annotation>
- 6 <http://bliin.com/>; <http://dencity.konzeptrezept.de/>; <http://plazes.com/>; <http://urbantapestries.net/>
- 7 Leonardo Electronic Almanac Locative Media Issue, URL: http://lealmanac.org/journal/Vol_14/lea_v14_n03-04/intro.asp
- 8 Townsend, Anthony. 2000. "Life in the real-time city: mobile telephones and urban metabolism". In *Journal of Urban Technology* (7)2, pp. 85-104.; Nyiri Kristóf, „Time and Mobile Order”, URL: <http://www.hunfi.hu/nyiri/TMO.pdf> 2007
- 9 MIT Sensable City project; URL: <http://senseable.mit.edu/>