Between engagement and information: Experimental urban media in the climate change debate

Jonas Fritsch & Martin Brynskov
Center for Digital Urban Living
Dept. of Information and Media Studies
Aarhus University, Denmark

imvjf@hum.au.dk, brynskov@imv.au.dk

ABSTRACT

This paper discusses the initial findings from a dual case study, describing two interactive urban installations and reflecting on their design and use. The two installations are *Climate on the Wall*, an interactive media facade, and *CO2nfession/CO2mmitment*, a video installation with user-generated content. Both were designed to contribute to the effort of making people in the city aware of the municipal goal of becoming CO2 neutral by the year 2030. They were designed as part of a larger exhibition to engage individual citizens in a concrete way towards the somewhat more abstract end: CO2 neutrality. In the paper we present the background for the work, describe the installations, report on initial findings regarding their use and reception, and, finally, outline what research agendas we plan to pursue in upcoming work.

Keywords

Interaction design, media façades, interactive video installations, civic communication, digital urban living

1. INTRODUCTION and BACKGROUND

The present work is a result of experiments with interactive urban installations carried out by the Center for Digital Urban Living (DUL) [1], a national research center located in Aarhus, Denmark. The concrete subject is a dual case study with two interactive urban installations: *Climate on the Wall*, an interactive media façade, and *CO2nfession/CO2mmitment*, a video installation with user-generated content.

During the last couple of years, a focal point for several people now working together at DUL has been to investigate the properties and qualities of urban scale interactive systems, e.g. media façade s, mobile and pervasive games, interactive museum exhibitions, and digital urban art. Since DUL was founded in 2008, two of the four groups have in particular been working with large-scale experimental systems, i.e. the Media Façades group and the Civic Communication group.

The research strategies include material studies and small-scale experimental systems as well as large-scale production quality systems with external partners. Since real-world deployment and interventions are a crucial component in understanding how new systems work, DUL continues to look for opportunities to expand knowledge in that domain.

Most often, the focus has been on form rather than content. Much of the experimentation, at least with the larger systems, has been done within a context that is already given to some extent. E.g.,

Aarhus by Light [2] – a 180 m^2 interactive media facade at Concert Hall Aarhus – was an experiment in social interaction set in the context of a very specific location (the concert hall park), involving a specific building (the concert hall), and addressing the various groups of people inhabiting that space at certain times.

The Concert Hall management had accepted to become involved in the project, but they did not give any specific directions on the content, on the contrary, they explicitly abstained from doing so. That is not to say that the designers of the media façade and the rest of the system did not work with content. They invented the whole conceptual and interactional paradigm. But they did so in order to learn something about the *medium*, i.e. the qualities and properties of large interactive urban system.

During the last six months, a prominent research trajectory has been that of using the initial research findings considering the form of the systems to more thoroughly address the production and reception of a given content, which might be framed as an investigation of the relation between *engagement* and *information*. Inherent in this investigation is the question of how it is possible to design large-scale interactive urban systems that can spur concrete actions from the users in relation to a given subject. Another question concerns content-production from the users as a possible way to sustain user interest in the interactive installations over time.

When the municipality of Aarhus, which is a partner in DUL, was planning an exhibition on climate changes in the world, it was natural to turn it into a testbed for two interactive urban installations aimed at getting people engaged on a personal level to take actively part in the struggle for a better climate in Aarhus in the future.

2. DESIGN CASES

The City of Aarhus has an ambitious goal: It wants to be CO2 neutral by the year 2030. To meet that challenge, the municipality needs to engage citizens on an individual level to make a difference by reducing his or her emission of CO2. This has lead to an ambitious strategic venture to engage every citizen in the process, which is now being initiated throughout the city. One such initiative was a large exhibition, *CO2030*, held in conjunction with the international *Beyond Kyoto* conference, which had more than 1500 attendees and a list of prominent international keynote speakers.

The general purpose of the *CO2030* exhibition was to create an opportunity for the citizens of Aarhus to meet up and get inspiration and good advice on how to decrease the emission of CO2. As part of attracting people to the exhibition, and to put real citizen

faces on the fight for a better climate, DUL was invited to contribute to the exhibition.

The result was two interactive installations: *Climate on the Wall*, an interactive media façade where people could write their climate slogans with speech bubbles on the wall of the exhibition building and *CO2nfesssion/CO2mmitment,* a video booth where people could tell about their bad climate habits and also commit themselves to a more active fight for the climate. The videos were then broadcast at various locations around the city on screens embedded in bus stops and poster stands.

The main event of the exhibition was an interactive game, the *CO2030 Game* [3], a physical installation in the shape of a digital tabletop game, developed by a design company to highlight, challenge, and inspire the players' lifestyle with regard to their climate footprints.

2.1 Climate on the Wall

During the climate exhibition, the citizens of Aarhus could engage themselves in the struggle for climate improvements by using *Climate on the Wall*, which functioned as an interactive generator of climate statements using Ridehuset – home to the *CO2030 exhibition* and a prominent building in the city centre – as a backdrop.

Climate on the Wall used the facade of Ridehuset, as a display by means of projection technology involving two interlaced projectors placed in small towers built for the occasion. On the façade, a number of words relating to carbon emissions and climate issues floated around above the heads of passers-by. Some of the words were emphasized to form a statement about climate change. As people approached or walked past, the words pulsated and attracted attention. If a person stopped, the word above the person would grow and turn into a speech bubble. This word could now be dragged to a different part of the facade. In this way, people were able to create and manipulate sentences relating to climate change and carbon emission. The concept borrows from fridge magnets that can be arranged to form statements and sentences.

Figure 1 – A conceptual visualization of *Climate on the Wall*

During the exhibition, the installation was only accessible at night due to the projections. It attracted a great amount of attention, and engaged a variety of people in playful interaction with the interactive façade. People started sharing thoughts on the climate situation, and in general the installation spurred a great del of conversations about both the exhibition and the theme of carbon emission. Although people were easily attracted to *Climate on the Wall*, the content produced on the wall remained of a less complex character.

Figure 2 - Climate on the Wall, street-view

2.2 CO2nfession/CO2mmitment

CO2nfession/CO2mmitment was an advanced video installation developed by DUL in partnership with AFA JCDecaux and the Municipality of Aarhus. It served to put a personal face on the struggle for climate improvements and gave the citizens of Aarhus a voice to be heard – and seen – throughout the city.

The installation itself consisted of two parts; one inside the exhibition space (Ridehuset), and the other on info stands and bus stops throughout the city. In Ridehuset, people could enter a booth, where it was possible to confess ones climate sins (using too much water or electricity, eating too much meat, driving too much etc.) and to commit oneself to a more active fight for a better climate in Aarhus. In the booth, a number of props served as an inspiration to creatively convey the climate story people wanted to tell. A video was recorded of the persons in the booth shown as a live-feed outside the booth to attract bystanders.

Figure 3 - The *CO2nfession*-booth

The video was edited the same day and distributed on the screens in the city. It was possible to hear the sound of the videos when pushing a sensor on the screens. In that respect, the installation tried to render the fight for a better climate more personal and immediately relevant to the people of Aarhus, and to attract people to Ridehuset for the exhibition.

Figure 4 - *CO2nfession/CO2mmitment* on a bus screen

During the exhibition, more than 50 recordings were made and distributed around the city. A wide range of people used the installation, from people just visiting the exhibition who found a good opportunity to get something off their chest to the local mayor. The videos recorded were extremely diverse ranging from straightforward and simple confessions to complex animated narratives using the props in creative ways. The latter were especially successful for attracting children to the booth. Concerning the screens in the city, a number of people remarked their existence. Stories of people going to a certain screen to see themselves were reported, but also stories of people suddenly seeing some if their friends appearing on the video screens to their surprise. In general, although the screens created a lot of attention in the city it nonetheless proved to be difficult to attract people to actively engage with the content of the videos, namely the sound part of the confessions.

3. PRELIMINARY FINDINGS

We have a fairly broad range of data sources to analyze and evaluate the use and reception of the two installations, including 70 individual interviews with users, focus group interviews, observational video, photos of use and results (i.e. slogans on the wall and videos recorded in the booth), and a rich documentation of the design process (e.g. inspirational material, technological experiments, and meetings).

There are many aspects that could be investigated in detail from this large pool of data. Since both kinds of installations are non-standard systems, we have a general interest in observing how they are used and perceived, especially with regard to the context of the system (both physically, aesthetically, socially etc.). However, our more specific focus is on the tension between *engagement* on the one hand and *information* on the other. We shall go into a bit more into detail with that later.

The general reception of both systems was good, and they both seemed to engage people of all ages, although the age group 18-34 years is dominant. The vast majority knew or could guess the overall topic of the systems (climate change), and they generally perceived interest in climate change as a social responsibility. Many comments were made suggesting that people much preferred a communicative attitude based on motivation and realism (i.e. not too incompatible with everyday life) rather than dry facts and moral "preaching".

3.1 Climate on the Wall

Most users perceived the wall very positively, describing it with words like fun, exciting, engaging, and catchy. Most of them saw it for the first time, and they generally figured out how to use it by themselves, sparked by their (unavoidable) bodily interaction with the wall and drawing on expectations from the speech bubble metaphor; some did so by looking at others, and only very few never found out how it worked.

The typical usage time was a couple of minutes, and almost none remained spectators only. They usually did not try to write something specific, and while the majority found it too hard to write something, they commonly described the experience as fun. It was important for most users that they were active participants which they described as giving them greater feeling of engagement and involvement. They also perceived this style of reaching out to citizens as a way of giving them a platform for engagement on a larger (societal) scale and a strong incentive to commit themselves in the climate debate.

The interactive wall was generally used by groups of people who knew each other already. Only few instances of strangers talking to each other were recorded. However, the users described themselves quite or highly likely to tell others about the wall.

While this is preliminary data – and despite the fact that the interviews and observations may be biased in various ways due to the nature of the deployment "in the wild" – the overall perception seems to be that the wall was in fact perceived as highly engaging and relevant as a civic platform in the public debate about climate change. However, it was not rated very high for its specific information or communicative functionality.

3.2 CO2nfession/CO2mmitment

Data from the use and reception of the CO2nfession/CO2mmitment (2CO2) installation covered both the "input" (the video booth) and the "output" (the embedded screens in the city).

The video booth was located inside the exhibition building, and consequently, most of the users of the confession/commitment area were there in larger homogeneous groups because of lectures or events in connection to the exhibition and the CO2030 game. Apart from a few high-profiled events with local VIPs, the exhibition itself was not very sought when measured by people coming in from the street in comparison to previous exhibitions in the same space. This meant that the samples from these people varied less than was the case with the interactive wall.

More than 50 confessions/commitments were recorded. Typical explanations from those who entered the booth include curiosity and peer pressure, and only one (1) mentioned the intention to increase the focus on the climate debate.

There were mixed reactions to this kind of communication. While some felt that the personal exposure was warranted, or indeed needed, due to the urgency of the theme, others perceived the setup as negative, often because they did not find it interesting enough to engage in. It should be noted that these interviews were carried out before the booth had props in them.

The embedded screens were seen by many more due to their placement in busy city locations where they ran 24/7 for four days. Two-thirds of the interviewed people had activated the sound using the "Press for sound" button, and most of them found the volume appropriate. However, few of them could actually

remember what was said. So, either the volume was not high enough to allow for comprehension, or that they were not interested enough to pay attention. Most viewers did notice the changing persons, and they generally rated them as interesting.

Differences

Only few of the interviewees had tried/seen both the wall, the booth, and the screens. Those who had, felt that the wall was more "giving" due to the higher degree of anonymity. They also noted that the wall really stood out and was impossible not to notice, while the embedded screens (which came in two sizes) tended to blend in with the visual "noise" in the street.

4. FUTURE WORK

The initial findings highlight how difficult it is to perform strict evaluations of such large-scale interactive urban installations. Further, they also indicate that although the majority of the people that were interviewed generally appreciated the interactive installations, the appreciation was related more to the immediate and often playful engagement and not so much the possibility to produce and receive information. Further studies might indicate whether people in general were inspired to actually decrease their emission of CO_2 inspired by the installations, and to what degree the use of the installations spurred a discussion of the themes or attracted people to go visit the exhibition. Another study would be concerned with the temporal dynamics of the initial engagement and the long-term engagement through content-production. This trajectory would theoretically imply developing a nuanced vocabulary to address the relation between engagement and information, e.g. from pragmatist thinking or affect theory [2].

The findings underline the way people actively appropriate and make sense of the installations in multiple, unforeseen ways. The openness of the installations proved to be an asset in engaging people creatively in playful interactions (*Climate on the Wall*) and modes of production and content-making (*CO2nfession/CO2mmitment*). It remains an open question to what degree and how one should balance between controlled and open interactions in an urban environment. Nonetheless, our prior experience and the findings from this case study indicate that you neither can nor should try to fully control the environment. The openness of the system is an asset and can be actively pursued in the design process based on knowledge of the contexts of use and future users

Summing up, we will argue that both the conceptual and practical design process leading to both *Climate on the Wall* and *CO2nfession/CO2mmitment* as well as the evaluative work done so far has been valuable in following the general research trajectory concerned with increasing the focus on content and information in the design of interactive urban systems. In the following months, the preliminary findings will feed into the design process for the international climate meeting in Copenhagen in December, COP15, where we hope to pursue the goal of creating urban interactions that engage people immediately in the exploration of a given installation or content, while also actively affecting people's everyday lives in positive ways.

BIOGRAPHIES

Jonas Fritsch

MA in interaction design and PhD fellow at the Department of Information and Media Studies, affiliated with Center for Digital Urban Living (DUL), working primarily on projects in the areas of Civic Communication and Media Façades. The subject of the thesis is developing affect theory to work as a theoretical foundation for conceptualizing and practically designing new, experimental urban interactions. Currently visiting researcher at Université de Montréal and Concordia University, Montréal, engaged in theory building and activist urban projects on the verge of art and design.

E-mail: imvjf@hum.au.dk

Martin Brynskov

PhD (computer science) specializing in new interaction technologies. Director of the Civic Communication group within DUL and Assistant professor at the Department for Information and Media Studies at Aarhus University. During his doctoral work at the Center for Interactive Spaces, he developed tools for social construction based on mobile and pervasive media. He was the project lead of Aarhus by Light and has been involved in the development of numerous projects and products based on social interaction mediated by technology, working closely with public institutions and industrial partners, including LEGO Company and B&O. He also holds an MA in information studies, cognitive semiotics and classical Greek.

E-mail: brynskov@imv.au.dk

REFERENCES

[1] Brynskov et al. (2009). Accepted for *Interact 2009*, Uppsala, August 26-28, 2009. Cf. http://www.aarhusbylight.dk/index-english.html

[2] Dalsgaard, P. & Fritsch, J. (2008). Media Facades beyond Interaction. Position paper presented at the *Public and Situated Displays to Support Communities* workshop at *OZ-CHI'08*

[3] http://www.digitalurbanliving.dk

[4] http://www.co2030.dk/co2030-spillet