Handbook of Research on Urban Informatics: The Practice and Promise of the Real-Time City

Marcus Foth
Queensland University of Technology, Australia
Chapter V
TexTales:
Creating Interactive Forums with Urban Publics

Mike Ananny
Stanford University, USA

Carol Strohecker
University of North Carolina, USA

ABSTRACT

In this paper, we describe the design and installation of a new kind of public opinion forum—TexTales, a public, large-scale interactive projection screen—to demonstrate how public city spaces can become sites for collective expression and public opinions can be considered social constructions. Each TexTales installation involved different groups of European young people taking photographs of everyday city events and controversial public issues, and then using custom software to invite general public passers-by in urban spaces to annotate the photos with SMS text messages. We analyze the design and implementation of these installations and identify a number of interaction design elements critical for designing expressive urban spaces: starting “intermodal” conversations; authoring for nomadic, unfamiliar audiences; distributing public discourse across mediated and physical space; and editing and censoring dialog to ensure that it reflects the norms and values of forum designers. TexTales is essentially an experiment in understanding how city spaces can be more than venues in which to take public opinion snapshots; instead they might be places that nurture and reveal collaborative, public expression.
INTRODUCTION

Public forums are spaces where individual perspectives come together to reflect and shape political discourse. Designers of such forums become facilitators whose products can help or hinder different voices, constrain or afford certain kinds of discourse and, ultimately, help people to examine and develop their own opinions and the thinking that gives rise to them. We consider the roles of community members—particularly young people—as co-designers, as citizens who express their views on issues of public concern and as learners who become aware of their own ways of forming opinions.

The question of how to discern peoples' public opinions and civic attitudes has long been a topic of research. Downs (1956) argues that individuals are “rationally ignorant” of current affairs and policy options because they think it is unlikely that their perspectives will influence large-scale civic issues. Converse (1970) suggests that most people have “non-attitudes” and questions opinion polls’ ability to identify well-formed thoughts, arguing that people usually offer “top-of-the-head” answers to pollsters’ questions to avoid appearing ignorant.

These conditions, if true, would be antithetical to democratic life. Several political scientists and technologists are researching ways to counteract such potential deficiencies. Fishkin et al.’s Deliberative Polls argue that deliberation among a random sample of voters can “produce better-reasoned preferences grounded in evidence about the complexities of controversial public issues” (Fishkin et al., 2000, p. 665). In essence, people who better understand difficult issues will give less arbitrary and more reasoned answers to poll questions. Wyatt et al. (2000) focus on understanding political deliberations that already occur in everyday conversation. After examining how freely and how often Americans engaged in casual political conversations in common spaces, they proposed a conversational model of democracy, arguing that “informal conversation among people who largely agree with each other plays a more vital role in democratic processes than is usually recognized” (Wyatt et al., 2000, p. 72).

Different models of public opinion underly these approaches. Schoenbach and Becker (1995) review various writers’ definitions of public opinion: Habermas (1962) considers it as “public reasoning by those who have the intellectual capabilities to arrive at socially useful beliefs and attitudes and to discuss them publicly” (Schoenbach & Becker, 1995, p. 324). This emphasis on the processes by which people arrive at public opinions is consistent with our view of opinion-forming as a development in thinking and therefore a kind of learning. However we question the presumptions about intellectual abilities and social utilities. Aside from being difficult to enact, identifying and excluding those deemed not to have appropriate intellectual capabilities would raise serious questions about hegemony. Requiring citizens to pass standardized tests that evaluate their intellectual capabilities before admitting them to public forums runs counter to an inclusive and participatory model of democracy (Barber, 1984). Further, those advocating preliminary screening misunderstand the nature of democratic forums: participating in such forums supports individual development, serving “educative functions” vital to the construction of an informed and active citizenry (Mansbridge, 1999; Pateman, 1970).

De Sola Pool (1973) sees public opinion as the “opinion held by a majority of citizens,” invoking a simplistic model of majority-rule democracy that does not adequately account for the role of dissent in the public exchanges. In contrast, Price (1992) considers public opinion as the result of a kind of collective epistemology that helps us to consider our own viewpoints and those of our fellow citizens. In this model, both as individuals and as members of collective forums, we separate judgment from fact but may not explicitly resolve differences between them. Price characterizes
public opinion as a pragmatic process of dialogue in which individuals come together to form “issue publics.” They do not have to adopt any majority opinion; they simply have to agree about what should be done.

Noelle-Neumann (1984) takes an opposing view, characterizing public opinion as a process of social conformity that reflects our identifications and allegiances. Whether we choose to express ourselves in public reflects who we think the majority is, where we think public consensus is heading and who we imagine our community to be. In her “spiral of silence” model, Noelle-Neumann defines public opinion not as a dialogue among competing points of view nor even the negotiation of consensus; rather, public opinion is the result of fear of social isolation.

In the collective epistemology model, public opinion is a moment in a process of discussion that is ongoing and pluralistic; in the social conformity model, public opinion is a mechanism for achieving cohesion and uniformity. Common among these models, though, is the notion that public opinion emerges when citizens produce public deliberation by engaging in the discursive practices of specifically designed forums that let represent both individual and collective views on public issues (Delli Carpini, et al., 2004).

Our interest in generating systems and cultures for public communication is rooted in better understanding how people develop and express these opinions. In our view, public opinions are best considered as epistemological processes—processes of thinking, of learning and potentially of development—that rely on discursive processes at personal and collective scales. By representing ideas so others can appreciate them, and by joining others in extending the representations, people can express and develop perspectives on issues of public concern.

We are interested in how accessible electronic media make possible new, potentially better ways for people to represent, share and develop their perspectives. In particular, our aim in this work is to understand how such representation, sharing and development can best be supported in urban environments. While much research on the design and evaluation of technologies for deliberation focuses on assembling groups in online, screen-based forums for discussing political or electoral issues (e.g., Capella et al., 2002; Min, 2007; Price & Capella, 2002; Price, 2006; Iyengar et al., 2003) such work does not tend to see public opinions as more general phenomena that develop in a variety of cultural contexts. Traditional political science research neglects the situated nature of public opinions and the potential for new media support and reveal the kind of cultural expressions that occur in contemporary urban spaces.

Our work is more in the tradition of an emerging literature describes how technologies can mediate between the rituals and actions of everyday life, and the affordances and aesthetics of urban space (Manovich, 2006; Silverstone & Sujon, 2005). More specifically, we focus on how large-scale, architecturally integrated interactive projection screens (Auerbach, 2006; Lester, 2006; Slaatta, 2006; Struppek, 2006) might help collaborating individuals comment on and within particular urban locations (Harris & Lane, 2007; Social Tapestries, 2006; West, 2005), creating new kinds of public “media cities” (McQuire, 2006) that use new technologies to help redesign cities (Hanzl, 2007). This focus on the culture and geography of public opinion helps us see public opinions not as snapshot samples of static venues but as emerging from interactions between people and their built environments.

Here we describe our experiences designing and implementing urban public opinion forums with four different groups of people, each using mobile phones and a custom piece of software called TexTales. We describe the co-design of each media installation and the kinds of interactions that emerged during each forum. We also discuss implications for further participatory design of public opinion forms and forums.
TexTales

TexTales is a large-scale interactive projection designed to support multimodal dialogue among many participants in public places.

A TexTales display (Figure 1) consists of a grid of nine photographs, with three captions under each image. Passers-by create the captions by sending short messaging service (SMS) text messages from their mobile phones. Contributors compose captions by deciding what picture to augment and entering its number along with the text. Moments after sending the message, the display refreshes and shows the new caption. It appears at the bottom of the set of three, bumping the oldest from the top as the other two lines scroll upwards. This dynamic effect engages additional passers-by, who quickly understand themselves to be co-creators of the display. As participants continue to initiate captions and respond to some already there, people linger. Some of their discussion plays out among the crowd and some on the display, for all to see. Meanwhile the TexTales system stores and indexes all texts by time, date, phone number from which the text was sent and display number of the associated image.

TexTales Installations

During a six-month period we created four different forums with four different groups for four different audiences. The design groups consisted of researchers, photographers, and/or community leaders working with local teenagers and adults to act as “authors” and create the displays. The “audiences” were people of varied ages and backgrounds who found their way into a nearby public area where an installation was taking place and participated by entering the discussions and texting. Members of the design groups generally included themselves among the audiences. The settings and themes of the forums were varied:

Figure 1. Left: The TexTales interface, showing a grid of nine photos with the three most recent captions scrolling underneath. New captions appear in the largest type at the bottom of each image; the screen refreshes approximately every 30 seconds, displaying any new captions that may have arrived. Right: a Dubliner sending an SMS text to be a photo caption.
• **Fatima Mansions**: Dublin, Ireland: addressing fears of eviction and other tensions related to an urban renewal project within a low-income apartment complex (Figure 2);  
• **The Big Smoke**: Dublin, Ireland: debating a ban on smoking in pubs, with young people and their parents, via an installation situated in a public square in the city centre;  
• **Smokum**: Amsterdam, The Netherlands: examining attitudes on passive and teenage smoking with a group of Dutch young people in a prominent train station;  
• **cText**: Kilkeel, Northern Ireland: considering issues of community identity with a group of young people in a mixed Catholic-Protestant community in Northern Ireland during a divisive election campaign.

The installations differed in content, authors and audience but we employed a general process for designing each:

• Establish a collaboration with a group interested in creating an installation in their neighborhood and give an initial demo of the TexTales interface.  
• Work with a group of citizens, artists and community leaders (e.g. photojournalists, youth workers) to decide the installation’s focus, setting and audience.

• During several weeks’ collaboration, create images and texts for the installation and plan logistics.  
• Advertise the installation and present it in a public venue, encouraging broad participation.  
• After the installation, reconvene to reflect upon results and plan future engagements or improvements.

We next present each TexTales installation in turn, describing its physical situation, design collaborators, motivating issue of public concern, public participants and the corpus of opinions that resulted.

**Fatima Mansions, Dublin**

Our first installation was in an urban apartment complex ironically dubbed Fatima Mansions, then undergoing major refurbishment. The complex houses approximately 700 residents in 14 four-story buildings built by the Irish government in 1951 and subsidized to this day. The entire complex was slated for demolition, to be replaced with new living centres. The community was eager to discuss what kind of new social and physical spaces they would like and to experiment with garnering and representing public opinion in this regard. We collaborated with a women’s

*Figure 2. Children and young adults of Fatima Mansions, Dublin, playing with and around TexTales*
history group interested in creating archives for the complex and a local photographer interested in creating visual histories. During the course of six months, we worked with community members to take and edit more than 700 images and to design and present 10 TexTales screens on the outdoor wall of the community centre. We ran the installation during three nights and received approximately 150 SMS text captions from the local community, including many from children and teenagers.

The Big Smoke: Temple Bar, Dublin

Our second installation was also in Dublin but was situated instead in a high-traffic public square in the city’s centre. We collaborated with a photographer who specializes in small-scale image juxtaposition, a children’s arts centre and 12 young people with their parents. This installation differed from Fatima Mansion’s in that we asked collaborators to focus on a specific theme: environmental tobacco smoke (or second-hand smoke) and effects of “passive smoking.” The Irish government had announced that, beginning January 2004, smoking would be banned in work places (including pubs and restaurants). The announcement sparked debate about the health effects of passive smoking, the rights of pub owners and, more generally, relationships between personal actions and public health. We saw an opportunity to design a TexTales installation on a timely and provocative issue. We asked participants to capture images and write captions that could start conversations about the ban and second-hand smoking (Figure 4).

During the course of four weeks, we worked with participants to create and edit more than 130 images and to design and project two TexTales displays (18 images) in the public square. We ran the installation during two nights and received approximately 190 texts from passers-by.

Figure 4. One of two TexTales screens created with a mixed-generation group, artist Michael Durand and Jim Ronan of The Ark, an urban cultural centre for children. The installation appeared for two nights in Dublin’s Meeting House Square, a large and centrally located high-traffic public area. (“The Big Smoke” is an old nickname for Dublin.)
Smokum: Station Leylaad, Amsterdam

Our third installation, also on the theme of second-hand smoking, was situated in an Amsterdam train station. We collaborated with a Computer Clubhouse (Resnick et al., 1998) whose coordinator was an actively exhibiting visual artist; one of the mentors was studying visual sociology.

Originally we asked participants to focus on the issue of second-hand smoking, but they interpreted the theme more closely to their local context and instead took images and wrote starter captions that focused on smoking among teenagers. During the course of four weeks, we worked with the organizers across the distance between Amsterdam and Dublin as they photographed, selected and arranged dozens of images. One of us (Ananny) then traveled to Amsterdam to help with final selection of images and installation of two TexTales displays (18 images) in Lelylaad train station (Figure 5). We ran the installation during two nights and received approximately 50 texts from passers-by. This installation provided the grist for the discourse analysis described below.

cText: Kilkeel, Northern Ireland

Our most recent installation was in Kilkeel, Northern Ireland, a fishing and farming community on the Irish Sea with a mixed Catholic-Protestant (approximately 60-40% split) population of approximately 5,500 people. The town has a long history of sectarian tensions and our local collaborators were eager to focus on a “mixed-community” project, knowing that sectarian issues might surface for discussion. We collaborated with a youth group that focuses on joint Catholic-Protestant youth activities, the British Broadcasting Corporation (BBC) under its project to engage young people in journalism, and an arts group that organizes a yearly Northern Ireland youth festival and was interested in conducting projects outside of Belfast. We worked with nine participants aged 16-19 years during three weeks to take and edit dozens of images, creating seven TexTales screens projected as part of the town’s Christmas festival. We ran the installation for one night, receiving approximately 50 texts from the local community.

Figure 5. One of two TexTales screens created with a group of Dutch young people in collaboration with the Amsterdam Computer Clubhouse. The installation appeared for two nights in an Amsterdam train station.
INTERACTION DESIGN ANALYSIS

Each site dealt with four design elements: starting “intermodal” conversations; authoring for nomadic, unfamiliar audiences; interplaying public and private messages; and framing, editing and censoring dialogue.

Intermodal Conversation Starting

We intended TexTales to support informal conversation about issues of public concern among individuals who might not normally have a reason or opportunity to talk with each other. “Conversation” thus had two senses: discussions occurring through SMS captioning and represented on the display, and those occurring among participants viewing and participating in the installation—each of which fed the other.

A critical aspect of this goal is to create “starting points”—the images that appear initially on the TexTales display, each with just a single caption to begin. The array of image-text combinations should help to ground and urge conversations and tend to encourage broader discussion beyond the displayed image and text (Figures 6 and 7). In preparing all four installations, we asked the design groups to consider what questions they might ask of passers-by through images, texts, a combination of images and texts or, more subtly, juxtapositions of different image-text combinations within TexTales’ projected grid.

The goal was to create image-text combinations that were evocative enough to elicit participation from the general public and that would encourage and sustain conversation both via TexTales and in the physical, social space surrounding the projection.

Framing the interaction design as an exercise in creating conversation starters meant that we could think carefully about how people manage turn-taking, how they might distribute conversations between the projected displays and the surrounding area, how they create coherence

Figure 6. An example of intermodal conversation starting: three generations of Kilkeel farmers peering over a cattle fence. Captions include “will there be a next generation of farmers?” and “i really hope so”. (Note: in the projection, captions scroll right-to-left beneath the images and are wholly readable.)

Figure 7. An example of representing public opinions on controversial topics: the popular unionist slogan rejecting unification with the Republic of Ireland “Kilkeel says no!”
between the virtual and physical places, how they change conversational topics and how the intermodal forms might address an installation’s intended theme.

Strohecker and Ananny (2003) discuss the need for systems that support compound representations in complementary media forms, describing how people develop “intermodal literacies” as they create and “read” combined textual and visual representations using systems such as TexTales. In creating conversation starters, TexTales authors consider how to “distribute” meanings across text and image, and what elements of an image to address in the starter text. Additionally, as the captions scroll upwards, starter texts eventually disappear, making the static image the original author’s only persistent contribution (unless he or she stays to moderate the conversation in person).

Over time, it is unclear how much influence the starter text created by the original designer will have (though our analyses of the log files reveal some threads of meaning in given sequences of captions). If an image-text designer only wants to launch a discussion, she may focus on an evocative initial image-text combination; if she wants prolonged discussion, she needs to create an image that can stand on its own, to ground discussion throughout an installation’s lifetime.

Authoring: Nomadic and Unfamiliar Audiences

Participants created images and texts to pose specific questions or make provocative comments—but, because the texts were anonymous and passers-by could leave easily, we were never quite sure who in the installation’s physical space was reading or writing texts. Indeed, for “The Big Smoke,” several people participated from beyond the immediate area, sending messages to the installation from nearby pubs and while riding buses. Since we changed image sets periodically to seed new conversations and people were texting continuously, people not present in the space had no way of ensuring that their captions were coherent with an image or with previous texts. And since they could not see their captions appear, remote participants had no feedback and had to imagine their text on the screen, what image it might be under, what other captions it might be with and who might be reading it. However, through the live dialog in the space, people sometimes discovered who had sent a text. These discoveries sometimes influenced responses and contributed to an emerging sense of community among participants.

TexTales highlights several challenges associated with designing large-scale interactive urban projection screens in which the general public creates messages for audiences that are diverse, constantly changing and composed of an unknown number of people.

Specifically, it is difficult to anticipate and design for the many directions an interactive public conversation may take. Since TexTales limits the

Figure 8. An abstract image from the “Big Smoke” installation on a particularly cold night in Dublin. Captions include “getting hot out herrrrrrre!” “i wish i could warm my hands on that!” and “or i could get a half bottle of wine!” (Note: in the projection, captions scroll right-to-left beneath the images and are wholly readable.)
number of lines of text under each picture, texts written by the person who took the picture and created the initial caption—the person who “seeded” that picture’s conversation—will disappear when a picture receives its fourth text message; the picture will be the original designer’s only persistent contribution. Despite a designer’s best efforts to “ground” a conversation in a particular image or text, as the general public participates the conversation may deviate significantly from the designer’s intentions. Designers of future similar systems may want to create mechanisms for “re-seeding” the original conversation, branching the public conversation into multiple sub-conversations, or limiting a display’s duration or number of comments.

It is also difficult for general public participants to know who is viewing the installation at any particular time. Even in small crowds it is unlikely that passers-by will know everyone at the installation, making it challenging for participants to know whether they creating content for people still in the vicinity or for people who may have long since left. *TexTales* shows no time, date or geographic information on the text messages it displays, making it difficult for people to know how recent the captions are or from where they may have been sent. Designers of similar public urban interactive displays that depend on content from the general public may want to consider how to show who created what content, when and from what location. Such information may help passers-by better understand a public conversation’s context and participants.

Participation exists not only in the display but also in the social and physical context surrounding the display. For example, *TexTales* participants were frequently distributing their conversations across both text messages and interpersonal conversations—writing captions for pictures and then elaborating on those captions by talking with those around them. Similarly, because captions were being received continuously, there was no way to anticipate whether your caption would suddenly be juxtaposed to one that referenced a completely different conversation among a different group of people in the same space. Passers-by searching for coherence only in the texts displayed at a given moment might be confused since they were not privy to the multiple, concurrent conversations happening among participants in the space. In essence, the content of *TexTales* “conversations”—indeed, perhaps of all discourses among physically situated individuals who create content for shared displays—are distributed in both media and places. Understanding the practices and meanings of such an installation means appreciating two distinct but intersecting kinds of discourse—talk in the display and talk around the display.

**Experimenting: Public and Private Messages**

The challenges associated with conversation starting and intermodal authoring for nomadic audiences are closely related to the senses of privacy and publication that are relevant to *TexTales* installations. In one sense, *TexTales* preserves the privacy and anonymity of the installation designers and participants: images are neither “owned” nor moderated by any particular person; no log-in or registration is required to participate; all texts are displayed anonymously; and, since only the three most recent captions are displayed for a given image, captions tend to have an ephemeral quality as their presence in the discursive space gives way to memories of interpreted meanings. The anonymous, open forum and the reliance on personal mobile phones as input devices are intended to lower barriers to participation and encourage casual contributions by as many people as possible (cf. Brignull & Rogers, 2003).

Nevertheless, sources of *TexTales* contributions can become known. Some messages were controversial or provocative enough that those around the installation immediately asked everyone assembled who had sent the message and if
he or she would elaborate. In this sense, although the projection preserves the texter’s privacy and anonymity, the verbal conversations around the projection can make individual opinions public and attributed. This knowledge can, of course, come to influence the display.

A result of this arrangement is that traces of “public opinion”—ideas in formation—do not just appear in the TexTales display. Instead, they are distributed between the displayed text-image combinations and the physical conversations that may occur the installation area or even long after the participants leave the forum.

Another kind of public-private phenomenon were conversations that took place either wholly or partly on the projected screen and that departed from the theme of the forum to broach personal connections among participants. There were numerous instances of people sending personal messages to TexTales (sometimes with full names, phone numbers and requests for romantic meetings). These were presumably intended for an audience of only a few people but they appeared in a public form—a kind of reverse, discourse-based voyeurism.

Framing, Editing and Censoring Dialogue

An issue that arose consistently was how to censor or edit the installations to ensure “appropriate” content. There were three aspects to this process: the initial framing of the installation’s theme, the real-time moderation of the installation through different editing techniques, and the censorship guidelines and technical architectures designed to “pre-moderate” the installations.

Framing

With the Fatima Mansions group, we framed the installation’s theme broadly, asking questions like “show me something you love,” “show me something you’d like someone standing here 100 years from now to see,” “show me something about your community you’d like to change—or not change.” Since issues of urban change and reconstruction were foremost in nearly all community discussions, we assumed that they would arise regardless of our framing and that explicit prompting for opinions on urban renewal might make the installation a local cliché.

Similarly, we framed the Kilkeel installation broadly, asking the young participants to describe a day in their life. Like Fatima’s focus on urban renewal, issues of Catholic-Protestant sectarian tension are endemic to Kilkeel, with residents almost constantly reflecting or acting upon sectarian issues. Many local leaders want to experiment with new ways of supporting cross-community dialogue and building secular identities.

At the suggestion of our local collaborators, we framed the installation as a way to help issues of religious, nationalist and community identity
surface and develop without explicitly asking for opinions on sectarianism. As one local youth worker put it, we “came at sectarianism sideways,” addressing it as it arose. Further influencing the decision to let sectarian issues emerge naturally was Northern Ireland’s 2003 election. Campaigning was occurring in Kilkeel throughout our preparations, with the final installation coming three days after the election.

In contrast, the “Big Smoke” and “Smokum” installations focused on second-hand smoking, an issue that concerned participants but with which they were not continually engaged. Furthermore they were not part of a close geographic community. In preparing the installations, the collaborators debated far more as they struggled to define the boundaries of the topic and what visuals would capture their interpretations and evoke captioning. Especially since the smoking issue has clear “pro” and “con” sides, we attempted to present a balanced view.

Thus, through the four installations different framing strategies emerged. When the installations were situated within established communities, framing relied on local collaborators, their senses of community issues and what kind of everyday imagery would spark discussion of common issues. When the installations focused on a specific issue and the participants were not members of a geographic community, framing relied on conversations about how to depict issues in balanced ways, what kind of media would support equitable discussion and how to ensure that we were designing for rich and diverse dialog rather than inadvertently seeding a biased debate.

Editing

A consistent question in preparing all four installations was how to ensure that the images and texts would be “appropriate” for public projection. We had more control over the pictures than the texts, as people who cared about the project gathered the images over many weeks and could discuss and re-shoot to achieve different effects or meanings. Indeed, we cropped, lightened, darkened or resized many images to help them communicate particular meanings or be visually effective within the TexTales interface.

Ensuring appropriate texts was more difficult. For the Fatima Mansions installation, we agreed that any person whose image appeared in a projection had to give informed consent, understanding that the text messages were not to be filtered or edited before being displayed. Thus, once people had consented to appearing in the projection, they agreed to have their likeness juxtaposed to any text message. We had no clear plan of what to do if someone sent an offensive message and, especially given the nature of the community and the prevalence of casual profanity in everyday speech, we expected controversial captions.

The potentially tense situation was simplified through the insight of a young Fatima resident when his friends texted a playful caption that included his name and a mild joke. Onlookers agreed that the text was a harmless, friendly tease—but in rapid succession, he sent the three captions “no”, “i’m” and “not” to the image, re-

Figure 10. The picture that revealed the three-line editing technique (or “bumping”). A Fatima texter sent three texts in rapid succession to remove a teasing message and replace the caption area for this image
moving the tease and replacing all captions with his own (Figure 10). Thus he enacted a kind of *in situ* editing as he worked with the short, three-line form to compose captions that had nothing to do with the photo’s content but took the interface’s conversational floor.

A similar but more serious incident occurred during the Fatima installation when a young participant texted “*niggers out*” to the display, prompting community members to send—but only much later in the installation—innocuous messages like “*hi how are you?*, “*good*” and “*i’m fine*” to replace the offensive graffiti (for further discussion see Ananny, Biddick & Strohecker, 2003; Ananny, Strohecker & Biddick, 2004).

Both of these instances became exemplars for how to edit *TexTales* in real-time. It became known as “bumping” messages or the “three-line editing” technique. In planning subsequent installations we referred to these examples, saying that, while we could not censor captions, if participants found any texts to be offensive they could delete the texts from the display by sending three captions in rapid succession.

The critical feature of this editing technique is that it is equitable: *anyone* can be the installation’s real-time censor. The editorial control is not the sole responsibility of the designers but is instead distributed among the participants. (It could be argued that we as designers of the original *TexTales* system always have the ultimate responsibility since each installation relied on the core technology we developed. We feel this is a fair criticism and only underscores the need for citizens to design their own public opinion systems with their own technological materials—an option that is becoming increasingly viable.)

In the next installation, “The Big Smoke,” we relied on this real-time editing technique to allay the concerns of our principal collaborator: a children’s arts organization uncomfortable with co-sponsoring any installation that might have defamatory or offensive material, especially about children. The three-line editing strategy invented at Fatima Mansions initially worked well. (Our collaborators periodically replaced offensive texts with ones they felt were more appropriate). In one instance, however, the “bumping” technique failed completely.

Throughout “The Big Smoke,” one group of young people stayed toward the back of the public square, mostly socializing and listening to music but periodically texting captions to the installation. One of these people sent an overtly offensive caption that included the phrase “*kiddie porn*,” perhaps testing whether the content was moderated in any way. The text appeared intact and three of us (Ananny, a local collaborating artist and a representative of the children’s arts organization) attempted to use the three-line editing technique to “bump” this text from the display.

We began texting but, on the screen’s next refresh, the same offensive message appeared under two other images; each of us quickly divided the “bumping” responsibilities and began applying the three-line technique to a particular image. However, on the next refresh the offensive caption appeared on all three lines of all nine images—effectively spamming the projection. (Log files of the installation indicate that the caption spam came from the same phone number and that the 27 spams were sent within about 1 second of each other.)

Our “bumping” technique had failed. In frustration, one of our collaborators texted “*go* “*away*” “*go*”; another one of us began talking to the spammers, asking them not to send such messages; and, after consultation with the collaborators, another of us (Ananny) suspended the projection for two minutes to delete the offensive texts from the display. The spammers left the area shortly after their texts had been removed.

The incident had little impact on the installation’s success but it did show us that the three-line editing technique had limitations. We also learned that, especially when considering the nature of inter-organizational collaborations and public
projections, there were limits to the kinds of messages we as designers felt comfortable having associated with the installations.

Censoring

The fallibility of the three-line editing technique, coupled with the sensitive nature of public debates in Northern Ireland and the installation’s sponsorship by the British Broadcasting Corporation (BBC) brought several editorial challenges to the next installation in Northern Ireland.

First, “The Big Smoke” experience showed that we could not ensure editorial control using the “bumping” technique alone. Second, sectarian graffiti (some of which is intended to incite hatred against identifiable groups) is common in Kilkeel and we could not ignore the reality that the installation brought serious security concerns. Designing an installation that supported or encouraged violent or offensive messages in any way was antithetical to all individuals involved in the project. Third, since the installation was prepared and presented in the wake of the dissolution of the provincial assembly and during the Northern Ireland election, any potentially sectarian issues needed to be treated with great care. Fourth, the BBC’s sponsorship meant that the installation was, in effect, a BBC “broadcast” and was subject to editorial policies designed to ensure objective and balanced reporting, especially with respect to Northern Ireland sectarianism.

These constraints meant that the Kilkeel installation needed a different approach. The informal editing of the previous installations was not adequate. The first step in designing the censorship policy was to discuss different strategies with all participants. We rejected approaches that relied on automatic message filters because we had difficulty defining exactly what constituted an offensive message, even among ourselves. We did agree on three general principles: no one person would have the power to censor messages and all messages would be rejected or accepted in their entirety; we would not delete or substitute any part of a text; any message that mentioned someone by name (whether innocuously or threateningly) would be censored.

A more difficult discussion involved what kind of sectarian messages would be allowed to appear. Our collaborators were adamant that images and messages with sectarian content be included in the installation—the absence of such discussion would have been conspicuous—but were equally insistent that no “offensive” sectarian messages or personal attacks be projected. Further complicating these requirements was the suggestion that we should only censor sectarian messages that were intended to be offensive. We failed to agree on a way of determining intent and instead left it as an open problem for the collaborating reviewers (Ananny, a BBC producer and a self-selected subset of collaborators) to address.

Questions about what was technically possible were also present throughout the censorship discussions: Can we block certain phone numbers? (Yes.) Can we block messages from people who may have subverted this blocking by using another phone number? (No.) Can we automatically filter out sectarian messages? (Not with any reliability, given our partial familiarity with the rich set of idioms and slang terms used to convey sectarian messages.) Can we hold all messages in a buffer and discuss them before they are projected? (Yes, but the longer the delay in refreshing the display, the less interactive and engaging the projection.)

Such questions led to a change in the TexTales technical architecture. In all previous installations, the software (including the SMS and display servers) resided on a single laptop, the display of which was projected directly to the public screen. Everyone saw all messages when they appeared on the public projection and any kind of editing or moderation occurred after texts had been projected.

For the Kilkeel installation, we split the software in two and added a second laptop. The
messages first came into the laptop running the SMS server where they were held for approximately one minute to review a message, discuss our loose editorial policy and decide whether it should remain in the projection’s active log file. If the message was acceptable, we would do nothing and let it be projected on the screen’s next refresh; if the message was not acceptable, we would move it from an active log file to the master log file for archiving and later review—and it would not be projected. Thus the censoring system’s default was to let messages through the filter; we took action only taken if messages were deemed not to be acceptable.

We also ensured that the process of review and censorship was public. Declining a suggestion to station ourselves and the two laptops behind the projection screen, we instead situated the two laptops beside the public display. The screens of both the “censorship laptop” and the “projection laptop” were available for anyone in the installation area to see. Thus, although we took care to design editorial guidelines and a technological architecture that supported our values, we chose to make any act of censorship public and transparent. Indeed, people often stood behind us as we reviewed incoming messages, commenting on the raw text messages and offering opinions on their appropriateness.

Censoring interaction in large-scale public projections is a sensitive issue that requires designers to reflect simultaneously upon: the overarching expressive aims of the project; the personal safety of designers and participating publics; the installation’s social and political setting and the values and beliefs of the designers and public participants; and the technological and architectural resources available for structuring or censoring discourse. There is no prescription for how navigate these issues—each installation’s policies and procedures will emerge from its particular context—but we found that we were best able to address these concerns by making the process of censorship public. That is, the limits that we designers—of urban spaces and communication technologies—place on our participants are best understood as opportunities to learn from the communities we work with how and why censorship is sometimes needed. Such decisions may be instantiated in technologies, architectures and policies but they are fundamentally reflections of the community cultures and tensions we ultimately aim to understand and design for.

CONCLUSION

Our broad goal in this paper is to understand determine how citizen-authored media (in this case images and texts) and—more broadly—cities themselves can become “objects to think with” (Papert, 1991) as we understand the socially constructed nature of public opinions. How can cities be seen as cultural learning environments and, more specifically, how can new media forms and forums support and reveal the processes of social discourse out of which collective voices emerge?

By forms we mean the representations that personal and public expressions take as people construct opinions. In the case of the TexTales installations, the expressions took form in the photographs people captured, edited and arranged as they interpreted a particular topic or issue; in the three-by-three image template that we as designers provided; in the SMS captions people created for the images as they participated in the installations; and in the informal conversations people had as they viewed the projected image-text combinations and discussed their particular contributions.

By forums we mean the settings and contexts in which people use the forms in particular processes of constructing opinions. In the case of TexTales, there were multiple forums:

- the initial workshops in which the designers and authors became acquainted with each
other and the *TexTales* technology, and discussed different photojournalistic and communicative techniques that they would use to produce their particular installation;

- the on-going *critiques* of images and issues that arose as people met repeatedly to design their installations;
- the *social spaces* of the projections and the ways in which the participant-designers and the general public came together to experiment with a projections and to explain and discuss the designs and goals of the installations;
- finally—and least explored thus far—the ongoing contexts in which participant-designers and the general public may continue to discuss and think about the issues and opinions they encountered during *TexTales* installations.

Our aim has been to describe one experiment in designing an urban environment for public opinion development. We would need further work, longitudinal case studies and design ethnographies to understand better the exact nature of our participants’ public opinions and how they evolve in relation to mediated spaces such as *TexTales*. By understanding how people make and use new media forms and forums for public discourse, we may better appreciate how they envision their roles as expressive city citizens.

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**KEY TERMS**

**Intermodal Forms**: Cohesive, expressive units in which meaning is distributed across multiple media (e.g., image, text, video), the combination of which may represent the perspective of a single author or multiple, collaborating authors.

**Intermodal Literacies**: The social and rhetorical skills associated with: creating and reading intermodal texts that distribute meaning across multiple media (e.g., image, text, video); authoring intermodal forms that start and sustain public
dialogues; and negotiating the meanings of such forms with audiences.

**Nomadic Audiences:** Publics who visit a particular urban public forum for a short period of time to read messages left by past visitors and to write messages for future passers-by.

**Situated Public Opinions:** Perspectives on social issues created through interactive, public processes in which individuals speak and listen to those around them through both conversation and mediated representations embedded in their shared, built environments.

**TexTales:** A public, large-scale interactive projection screen with which passers-by in urban spaces develop public opinions by captioning photos with SMS text messages.

**Three-line Editing Technique:** A TexTales-specific form of post-hoc censorship in which participants send three text messages in rapid succession to replace an offensive text; an example of a more general form of in-context public forum censorship in which participants themselves monitor and edit expressions.

**Urban Public Forums:** City locations in which individuals create and read the expressions of others; purposefully designed spaces for both synchronous and asynchronous public expression through mediated forms (e.g., image, text, video) and interpersonal conversation.