Accumulation and Interaction in an Urban Landscape: Urban Corridor

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Abstract

The installation *Urban Corridor* was presented from June to August, 2000, at the Colorado University Art Gallery within the context of the *Electronic Easel* exhibition. This installation consisted in a constructed space shaped as a corridor containing lights, motion sensors, two slide projectors, a video projector, and a multichannel sound system. The whole setup was run from a Macintosh PPC computer equipped with two CD-ROMs and a x10 two-way interface. The *Urban Corridor* explores the relationship between the public, the visual and sonic material, and the space as a way to bring to life the clash produced by the urban landscape on our day-to-day interactions. We describe the conceptual grounding and the technical implementation of this installation by focussing two issues: (1) the interactions between musical processes, time and space, context and materials, and the role of the public in the piece; and (2) the accumulation of sonic elements.

Conceptual background and motivation

The *Urban Corridor* was developed as part of our ongoing investigation into the role of the artist in relationship to urbanism, globalization, new technologies and their application to media coverage. This installation explores the power of the individual to influence the media and the city through art and technology. To us, this subverting potential is essential to negotiate among different viewpoints.

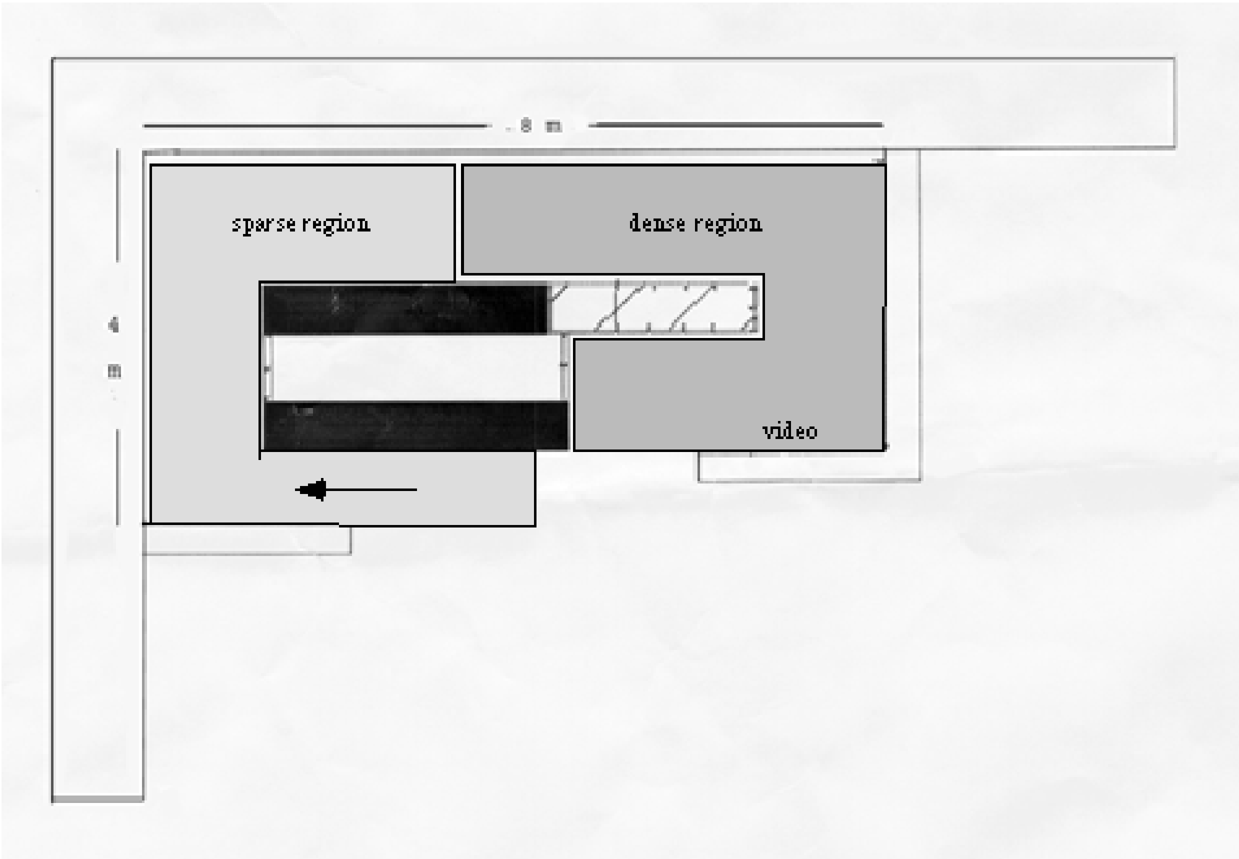
In the information and globalization era, with the development of technologies of mass diffusion, the media has become an instrument of power and control. The media is concentrated in the urban environment and cannot exist outside its physical space. The space of the *Urban Corridor* mirrors this urban space and enables us to critique the dynamics of creation and diffusion of information.

There are infinite cross-points in the city. We focus on the co-dependent relationship that ties the media, the urban center and the individual. On one hand, the media can shape the perception of reality and effectively impact the course of events. Media creation and diffusion are concentrated in a few metropolitan points. On the other hand, we believe that individuals can transform the character of the city and dictate the course of their lives and their environment (Attali, 1985). Art becomes the tool of the individual to influence this three-way interaction.

Implementation of the core system

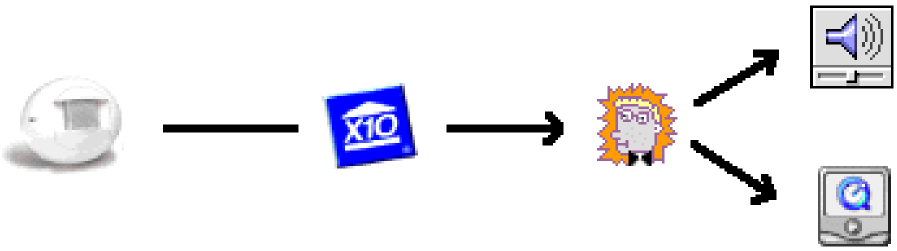
The visual and sonic elements in the *Urban Corridor* are laid out as two layers of events: active and passive. Active elements, or events, are triggered by the presence of the public and passive elements, or the environment, provide a constant background, which reinforces the sensation of a surrounding urban landscape.

Figure 1



The active layer is controlled by means of x10-compatible motion sensors (x10, 2000). Three motion sensors placed at each section of the corridor detect the presence of people passing through. The sensors are set to five different addresses: **A1** is set for the sensor at the entrance, **A2** is set for a sensor in an intermediate point, and so on (see figure 1). When sensor one detects motion, it sends the **A1 ON** command to a radio frequency receiver plugged into the power line. This receiver routes the signal through the line to a x10 interface that decodes it as a serial message. This message is received at the serial port of a Macintosh PPC 5400 and is translated back as an **A1 ON** command by the *xTension* software (Sand Hill, 2000). Every 500 milliseconds, a script running on the ascript Max object checks the status of the **A1** address. If the status is **ON** it triggers an event in the UC controller.

Figure 2



The UC controller, implemented in the Max environment, triggers both sonic and visual events. Sound events are stored as CD audio tracks and are played back by the internal CD-ROM drive and by an added external drive. Each CD provides space for up to 99 events. Visual events are produced by one of the two slide projectors or one of the three sets of lights. When motion is detected in region one, an **ON** command is sent to address **A4**, corresponding to the projector placed at the entrance of the corridor. The **A4 ON** message generated by a script is interpreted by the ascript object. This message is routed to the serial port by the *xTension* software. In turn, the CM11A two-way x10 interface translates the serial message to a x10 message and routes it to the power line. The projector is plugged into a x10 lamp module. This module is set to address **A4**. When the module receives an **ON** command, it turns the slide projector on. Since the projector is set to automatic forward mode the slides keep changing as long as the status of **A4** remains **ON**.

Sonic structure

The process of accumulation informs the techniques employed to generate the sound material. Short samples, or grains, are extracted from the recorded sources. These grains provide the basic spectral and micro-temporal features of the sounds to be synthesized (Clarke, 1996; Truax, 1988). Thus, we ensure a continuum from the environmental elements of the piece to the events triggered by the motion sensors. First, short events are synthesized by using constrained random distributions of grains (Schottstaedt, 2000; Vercoe, 1993). These stochastic algorithms create related sound classes in which no single event is identical. Once the events are synthesized, we recombine them in two ways: intraclass and interclass. Intraclass combinations provide events with a greater number micro-temporal elements, adding depth and volume to the sound. Interclass combinations create fusions and hybrids among sonic classes. The transformations applied onto the recorded and synthetic material are also guided by the objective of obtaining smooth transitions between the environmental sonic space and the artificially modified sonic elements. Spectro-temporally complex sounds such as those created by the San Francisco subway only need to be transformed slightly by using real-time granulation. Resonant filtering can be used to reinforce resonance peaks already existing in the sampled sounds and to change the spectral color of unpitched events. Not surprisingly, most of the collected material provides a range of behaviors from harmonic stable evolutions to fast-varying temporally complex dynamics. Thus, most of the work consists of creating timbral bridges (Grey & Gordon, 1978) among the environmental sonic classes.

In the sound database, the sound events are grouped by levels of complexity. The classes are distributed according to the position of the sensors. Thus, most simple events are routed to the section of the corridor close to the entrance and the most complex events are heard on the speakers nearby the exit. Within each group the selection process is random. Therefore, every listener gets a different version of the piece.

Anchors

An important factor shaping the perception of the *Urban Corridor* is its geographical and social location. On a surface level, the piece situates the listener in a generic urban landscape. At a more detailed level, it provides references to very specific social issues (Truax, 1996). The racial struggle is suggested by the intonation and content of the recorded voices. The reference to class issues is further enhanced by sounds that locate the piece in a San Francisco neighborhood where marginals are usually found: the cable car, the drunkards, and the subway. Once more, the link between the specific and the general is underlined by the relevance of the local issues presented in the soundtrack in relation to the global issues displayed in the images.

Visual elements

The visual components of the corridor are tightly related to the dynamics of the urban space. Broken tiles and walls covered with graffiti contrast sharply with with the clean-cut look of the glass and steel constructions. The dimensions of the corridor are twenty-four feet long by eight feet high. The width is four feet. This elongated space situates the viewer within the cityscape. As the visitor walks into the corridor, he is faced with a plexiglass mirror grid, reminiscent of the reflective surface of skyscrapers. A series of slides representing views of various cities is projected onto this surface. The projector is placed two feet from the ground, 15 feet away from the projection wall. This strategic placement allows the visitors to literally be in the image through their shadows. While walking along the corridor, sounds and images are triggered by motion sensors. The progression of auditory and visual stimuli increases as the viewer gets further into the corridor. Complex sounds, shadows and intermittent lights enfold the viewer. The last section of the corridor features a large-scale projection of a distorted skyscraper and a video projection.

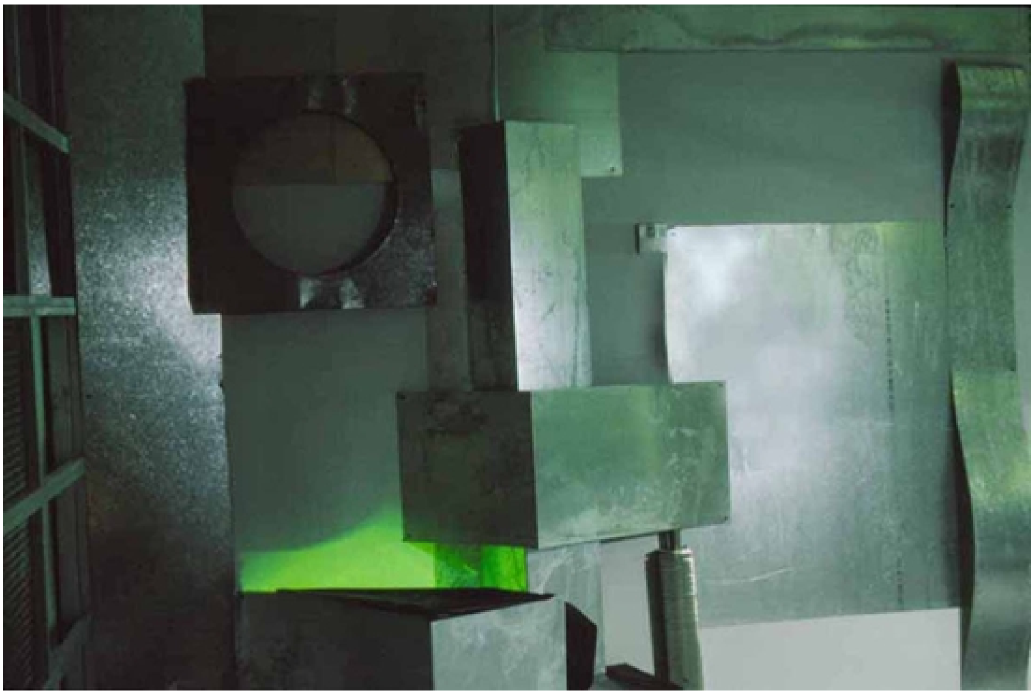
Figure 3

The video projector placed in the ceiling of the corridor and pointing to the floor plays a five-minute movie in loop mode. The images combine found and original footage. The video interweaves four "news" events: an automobile accident, a public demonstration, urban sprawl, and a war. These events are designed to encompass the audience perception from a global (i.e., a war) to an individual experience (i.e., car wreck). The news events expose the process by which real occurrences become a mediated reality.

Layers of space

There are two forms of space in the *Urban Corridor*: the actual constructed space and the space created by the projection of sonic environments. The acoustic characteristics of the first one are molded by the materials and the shape of the corridor. The construction features walls covered with metallic sheets and plexiglass and a concrete tile floor settled on sand. The parallel straight walls and the materials used allow for stationary waves and various patterns of reverberation (Grantham, 1995). Sixteen speakers are distributed along the walls and the ceiling. Given that three independent stereo tracks can be playing simultaneously, the effect is akin to the multiplicity of events coming from different directions that usually occur in real-life urban landscapes.

Figure 4



The role of the audience

The audience is an essential part of the *Urban Corridor* since it is the body that activates the space. Without people, the installation remains mostly dark and quiet. An exploratory attitude is encouraged by the progressive unfolding of visual and sonic elements. And most importantly, the temporal shape of the piece is defined by the pace in which this exploration takes place. The reverberant characteristics of the space change the way sounds are heard, but also the position of the listener with respect to the speakers modifies the perceived delay among events. Finally, the reaction of the audience to the stimuli in the corridor shapes their behavior and, in turn, the temporal distribution of the sonic and visual events. Thus, a feedback mechanism is established (Georgescu & Georgescu, 1990).

A corridor, "a long, narrow, densely populated area"[1] serves as a visual metaphor for the city's synekism[2]. The corridor is populated by sounds and images replicating the cacophony of news and information within the urban environment. In it, people, news, and art, travel and interact both through time and space.

Summary

We have presented the main aspects of the collaborative process leading to the realization of the installation *Urban Corridor*. For its presentation in the *Electronic Easel* exhibition, we constructed a corridor equipped with an interactive audiovisual system. The presence of the public triggered sonic and visual events evoking an urban landscape. The issues brought up by the piece stem from the dynamics of urban life: racial and social discrimination, growth, accidents, public expression and war. The local and the global are intimately related in this piece. Two processes underlie its temporal and spatial structure: interaction and accumulation. The first one is established by the relationship between the visual and sonic materials, the sounds and the space, the behavior of the public and the temporal structure of the piece, the referential elements and the social function of the artwork. The second process is laid out from the micro-sonic elements up to the organization of the whole structure of the piece.

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[1] American Heritage Dictionary definition.

[2] Edward Soja defines synekism as the stimulus of urban accumulation due to the spatial agglomeration of urban activities lying at the heart of modern innovations. From a lecture given November 9, 1999, at the University of Colorado, Boulder.

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