



## Future Elevation

### Ars Electronica Futurelab

The Ars Electronica Futurelab is not an educational institution offering academic instruction or training per se. Nevertheless, the dissemination of knowledge is part of this facility's inherent interest in confronting social and technological change in artistic and scientific forms.

Thus, over the years, the Futurelab has been experimenting with a variety of different ways to carry out projects in cooperation with educational institutions and, in doing so, to have input into and to analyze the processes involved. The model underlying these collaborative efforts is based on the infrastructure installed, the specific approach developed, the research results obtained and the competence derived by the Ars Electronica Futurelab in pursuing its mission in this artistic and experimental context. The key aspect of these educational joint ventures is the effort to launch a self-sustaining project that is ready to go public at the Ars Electronica Festival or in the Ars Electronica Center. These programs demand a high degree of flexibility and organizational talent on the part of the students and institutions involved. This includes acquisition and dissemination of the knowledge and techniques—both theoretical and practical—that enable participants to successfully pursue a common objective.

Such joint efforts reflect processes currently at work in society that lead to overlapping among art, science and technology as well as among the ways of working and forms of training associated with them. Accordingly, part of the Futurelab's intention is to lure students out of their majors, to give them an opportunity to discover new things and to then apply this knowledge and these new ideas in their specialty fields. Thus, what is proclaimed as well as practiced is the training of experts in the original sense of the word. If we consider the Latin root of "expert" (*exportare*: to carry forth), we see that experts differ from specialists to the extent that experts disseminate expertise to those in other fields in order to provide them with a fresh impetus that can be of use to them in their specialized field or which provides them with an aspect that expands their very definition of their discipline.

This approach goes hand in hand with renouncement of the seemingly long-since-obsolete image of the classic artist. The complexity and multi-layered nature of the tasks involved—especially in the area of media or systemic art—call for an array of "experts" who work jointly on a project, whereby the focus is on the process itself and less on individual ideas or those who come up with them.

In accordance with these ideas, an experiment is launched by a team taking leave of specialization and focusing on the process itself. And this also brings about a change in the participants' conception of self. They cease defining their task within the framework of a prescribed area of responsibility and discrete artistic, scientific and technical disciplines, and instead proceed on the basis of substantive objectives in order to apply their individual means and capabilities to the successful completion of the respective project. Here, we have come full circle and arrive back at the previously mentioned "inherent interest" and mission of the Ars Electronica Futurelab. After all, this very process describes the Futurelab's approach. Thus, the Futurelab not only brings technical and theoretical know-how to the table; it also seeks to establish a way of working that serves as a prototype for all this institution does.

The following articles have been submitted by universities and specialized colleges that in recent years have integrated work with the Ars Electronica Futurelab into their course offerings. The result has been a series of cooperative projects. The students worked with existing infrastructure at the Ars Electronica Center and came up with solutions for the presentation of installations—some interactive—on these elements of the building.

Text: Pascal Maresch / Christopher Lindinger

## time.space.media |||||

Fachhochschule / University of Applied Sciences – Düsseldorf, Germany  
Project Supervisor: Tanja Kullack

The understanding of time and space (and their reciprocal dependency) as central elements of physics, philosophy, psychology and sociology also, of necessity, “informs” the work of architects whose job is to construct spaces.

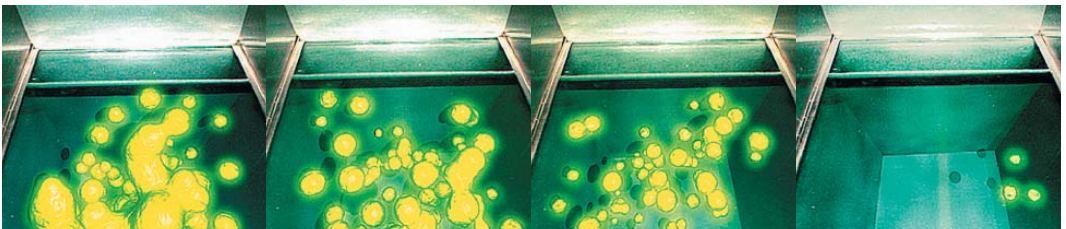
In an Information Society in which data moving at the speed of light compress space (over time), the concept of space/time is permanently called into question, and in a subjectively more serious way than was once the case with Einstein's only conditionally accessible Theory of Relativity. Abstract space/time models from various disciplines of the arts and sciences mutually condition and influence each other—for instance, models from physics have continually contributed to a scientific understanding of how thought, feeling and perception function, and vice versa. “Own time” refers not only to (physical) time's dependence upon an individual's position in space and speed; it also describes the phenomenon of individualized perception of time being dependent upon an individual's personal emotional and mental constitution and cultural circumstances. Architects are especially interested in psychological aspects of the perception of space and time. One of the sensible and promising premises (of this seminar) was thus, first and foremost, to utilize (emotional) experience to a greater extent than (intellectual) understanding as the relevant vehicle in the perception of space and, via emotionalization, to engender sustainability (and insight).

From inception on, the project's content was supervised by the Futurelab. Thanks to a shared conviction that the seminar ought to be process-oriented, the ongoing dialog was carried on in a very productive and stimulating way. Joint workshops have led to interdisciplinary encounters, whereby the synergistic experiences that have emerged—encompassing insights from the realm in which spatial constructions (architecture), technology / informatics and art overlap—have feedback effects upon (inform) these disciplines.

A condition of the project was the indispensable joint creation of a theoretical basis that, as a shared point of departure, is precisely what makes it possible to competently approach concrete issues (space-time / theory of relativity; space-time / philosophy of art, age / the passage of time; cultures of time; computer space / cyberspace; the perception of space). The central questions raised by the individual projects were bundled together and a functional system was developed from its complex fundamental theme of “compression,” one that was based on a methodological–mathematical approach.

### GENERATIVE PARTICLE CONTINUUM

Ina-Maria Kapitola, Marion Woerle, Christian Glauert





The condensation takes place according to a clear mathematical / rhythmic system. Behind the apparent chaos that emerges lies a clear system.

(The structural development of the digital network also conforms to laws. F. X. Baier: "We have discovered that sense constructions have a life of their own, that wherever open processes come into existence, they function as reality generators.")

Image and sound determine each other in the installation and are directly connected to one another.

- |                            |                  |
|----------------------------|------------------|
| Number of particles        | Number of sounds |
| Cell division              | Partial tones    |
| Impact speed               | Impact dynamics  |
| Contact among particles    | Overtone buzz    |
| Three-dimensional movement | Quadrophonia     |

Every impact of every particle is specified by the fundamental conditions that have been made operational. The particles leave behind traces in space that optically form a network structure in the elevator shaft. The direction can be followed visually for a short time. The speed of the particles is dependent on the distance covered per second. Here as well, there is a vertically oriented dramaturgy—as the traces of the movements get longer, bizarre structures form. Impacts deform the particles, contacts reform the form, and every form of communication informs the individual.

We are totally at the mercy of the condensation of the space-time continuum. The installation is designed to communicate the intensity of this progressive development. The malleability of time is clearly manifested by the increase in the number of particles and by the malleability of the particles themselves.

The perception of time on the respective level of the building is also influenced by the increase in audiovisual information. On the top floor, when the condensation—and thus the stress as well—is at its peak, the distance the elevator travels ought to seem shorter to passengers.

||||||| **DIFFUSION** |||||

**Department of Artistic Design of the Technical University of Vienna  
Department of Media Design / Digital Art of the University of Applied Art, Vienna  
Project Directors: Thomas Lorenz, Petra Gemeinböck, Christine Hohenbüchler,  
Nicolaj Kirisits**

Students who participated in the *Diffusion* project developed animation sequences or films—some of them interactive—that react to the location at which they are shown and deal with the development of temporal aspects of space.

Large-format projection screens are mounted on three sides of the façade of the Ars Electronica Center in Linz. There is a separate video projector for each screen so that the images on the three screens can be coordinated or played independently.

*Diffusion* investigates the possibilities of a synthesis of physical and virtual spaces with respect to their narrative or fictive context. The setting for these events is the urban space itself together with its "objects," inhabitants and seemingly endlessly network-linked levels of digital data. Digital video compositions and computer animation are meant to bring about experimental space-time transformations and encounters.

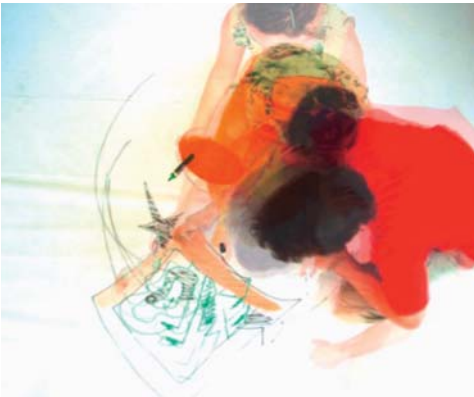
The mobility of those partaking of this installation, the physicality of the projection and the

simultaneity with which volume that can be perceived over a great distance as well as in the installation's immediate proximity constitute the parameters of a project that differs from and expands upon the set-up of conventional projection situations. The conclusion thus suggested is that the concept of the cinematic film with its linear narrative structure cannot be simply and directly adapted to the on-site situation. Non-linear narrative forms, models of interaction, the extension of the concept to include other sense organs, the simultaneity of different frames and scales of measurement (proximity—distance) as well as the constant parallelity of spatial and temporal thinking are only a few aspects that characterize these tasks. The array of three screens makes it possible to approach the project in different ways. The projection surface can be understood as a cube and thus as a virtual domain, which endows the events depicted with a special depth perception all their own. On the other hand, it could just as easily be treated as a continuous media surface or as three separate scenes that react identically or differently to the viewer and to each other. But one could also interpret them as a skin that enwraps the building, makes it appear transparent or reflects its surroundings, as a three-dimensional body with an “interior” and an “exterior,” as camouflage or as an instrument to measure events that occur elsewhere.

The works on display reflect these diverse possibilities and each reacts in its very own way to the situation that presented itself.

## Ana Log

Barbara Larndorfer / Björn Wilfinger



*ANA LOG* is an action in public (urban) spaces in Linz: squares with an unobstructed view of the Ars Electronica Center's newly installed media façade. The nightly projections expand the visual reach of the AEC as a museum and mediator of electronic art, and encourage space-time experimentation. The body of architecture upon which the projections appear mutates into a structural eye-catcher, which further enhances the site's dominance within its urban architectural setting. The *ANA LOG* project utilizes the projection surfaces of the media façade for the public staging of a three-hour event that turns the building into a sort of master of ceremonies of an action at the nexus of analog

and digital domains, the second and third dimensions, and real and virtual space. A person is invited to design a tiny expanse of his cityscape. 1:1 copies of the façade's projection surfaces will be installed as screens on the pavement of three squares. Anyone who is interested in doing so can design the screens with analog media, whereby collectively produced analog images are created on the three action surfaces. This process is recorded in pulse frequency by means of digital imaging and, overlaid into a single image, projected in real time onto the media façade. During the action, the protagonists are part of the image. Graphic as well as physical interactions are possible. To accomplish the design of real space, human beings congregate in virtual space, conquer it, and leave behind traces in both realms.



**Tic.Txt**  
Asli Serbest

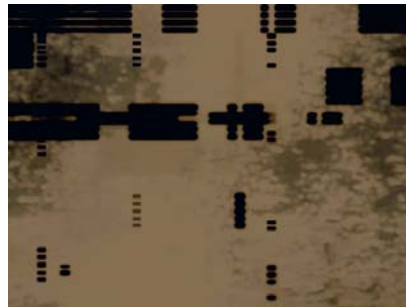
*Tic.txt* deals with the imperceptible objects that populate the environment of the three projection façades. The objects, which are positioned on one side of the façade, are projected onto the other two façades, whereby the aim is the visual dissolution of the building.

The system has two elements: images and words. They exist only when they are intermixed. The images display objects whose surfaces consist of graphic text that transforms itself into legible individual words. There simultane-

ously arises a spatiality through the change of the image's form by means of graphic folding. The course of events is controlled in such a way that each phase of dissolution (images into words) is followed by the creation of a constantly new initial image. The words are in a state of continuous flux since the viewer can interactively allocate a text to the objects. This takes place via SMS or by filling out an online form. This assures the constant influence of external events.

**bønk**  
Florian Gruber / Clemens Hausch

*bønk* is an audio-visual real-time composition tool, an urban sequencer that records the visual and acoustic signs of life of the environment and forms rhythmic structures in accordance with them. Via videotracking, the stone slabs in front of the Ars Electronica Center become interactive input media, whereby projection and loudspeaker feed back into the urban setting an abstract arrangement of its own dynamics.



*bønk* adapts its basic audiovisual orientation to environmental parameters like the number of passers-by, their walking pace, the exterior noise level and lighting conditions. The passing pedestrians now model the image and sound in real time. The results are variations of existing or totally new audiovisual compositions for which *bønk* provides the body of aesthetic rules.

**Growing City**  
Klaus Ransmayer / Winni Ransmayer

The projection attempts to depict Linz as a growing city by overlaying computer animation and time-lapse imagery. Completely abstract representations of the skyline produce a futuristic scenario that is amplified by the alternation of day and night situations.





**hauskleid**

Elisabeth Steinegger / Matthias Würfel

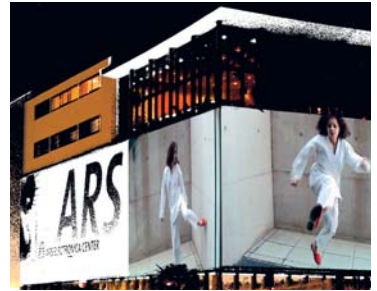
The visual design of the façade reacts to the Ars Electronica Center and its physical setting. The basic elements of this setting are water, wind and light, which are utilized here as design elements. For passing motorists, the quality of the film lies in the momentary aesthetic experience it offers.

A long day at work with all of its burdensome influences is reflected by the multifaceted structure, movement, brightness, tempo and color of the “working dress.” Knocking off for the day means donning the “party dress.” Now it’s time to celebrate, and the euphoria steadily increases.

**sphinx**

Julia Schmörlzer / Klaus Pichler / Irene Bittner

A person is cloned in the three niches of the projection screen cube. The confusing situation drives her to despair. She tries to flee, to break out, gets aggressive. Resignation follows ... AAAHHH! THE IDEA! As escape is impossible, the person presses her face against the walls of the glass cube. She takes over the space, she settles in, makes herself comfortable with a building as her body. The figure becomes a HYBRID. A body house.



**r-slides**

ruth brozek

A person walks through an architecturally-statically dominated space beyond the realms of tourists and highly styled, garishly commercial shopping districts. The city as residential domain, the unadorned gray periphery as the setting of everyday life. The diametricality of the dynamic in the clash of mobile mankind and urban architecture. The cityscape as realm of action, escape route, the daily rounds of the daily routine, urban space as sphere of motion.

Metaphorically, of course, this can be deconstructed on a number of levels—from the act of fleeing between home and workplace to the question of where one feels at home, there’s a lot to be factored into the assessment. The fusion of multiple layers of imagery. Several strata (clips) are superimposed upon each other, are shifted up against one another, dovetail, overlay. New images and excerpts arise.



## Interactive Playground

Fachhochschule / University of Applied Sciences – St. Pölten, Austria  
 Supervisors: Thomas Zöchbauer, Thomas Breidenfeld

The works by students at the Fachhochschule St. Pölten can be subsumed under the motto: “computer visions as the main idea running through the installations being showcased here, and the process of encountering public space and architecture as a basis for subsequent human-computer interactions.” 16 students of media technology at the FH St. Pölten dealt with this theme for two semesters.

### Beam me up!

Students: Lukas Litzinger, Adam Kogler, Ingrid Kail, Bernhard Nekham, Andreas Stocker, Michael Leitner, Rita Mantler, Gabriele Kugler, Christian Lakatos, Kerstin Kopsche, Alexander Kastner



The façade is brought to life by a technically and artistically innovative installation—implementation and interaction of human beings with their environment.

The human being is registered as a coordinate within the public space. He encounters himself in this virtual world as an independent character on the façade and can interact with him or motivate him to do so.

Image recognition and interaction transpire in a completely automatic process, which is meant to playfully enhance the installation’s attractiveness. The upshot is that there is nothing

left to interfere with a process of blending with virtual space. Due to the wide variety of interactions and combinations of the individual elements of this virtual world, the façade is always a lively place.

The technical and design elements of the image recognition feature were realized through intensive collaboration between the FH St. Pölten and the Futurelab.

The tools used to implement this installation were Flash MX, Softimage XSI and Eyesweb.



### Incredible Elevator!

Students: Gerald Schöllhammer, Mario Reitbauer, Markus Prinz, Richard Hastik, Christoph Schöfe

The Ars Electronica Center’s exterior elevator features an interactive animation display. At the push of a button the lift passenger decides what happens in the *Incredible Machine*. The work’s visuals were done in comics style by FH students using Softimage XSI, Director, After Effects and Flash MX.

This project was designed to enable the students to grasp the framework conditions that apply to multimedia installations in public spaces. The physical situation, the collaboration with experts, the deadline pressure to produce results with a high degree of public impact, and the experience associated with such projects provide optimal preconditions for training in the field of media technology.

Translated from German by Mel Greenwald