

no_LAb_in_feld

Is common-ground a word or just a sound? (Lou Reed, 1989)

Christian Fröhlich, Urs Hirschberg, Martin Frühwirth, Wenzel Wondra

Institute for Visual Design, Architecture Department, Graz University of Technology, Austria

<http://ikg.tugraz.at/>

Abstract. This paper describes the concept and the current state of development of a new laboratory for digital experimentation in architectural education and research. The novel forms of collaboration and learning for which it is intended and the quick pace of innovation in digital technology on which it depends both require an appropriately flexible spatial and technological framework. And it requires a particular mindset. The no_LAb_in_feld is not just another laboratory. It is a place, a community, a high-tech construction site, a permanent work in progress. It is the prototype of a next generation design studio.

Keywords. Design studio education: creative collaboration; digital playground; hybrid interactive installations; augmented reality.

Introduction: Let's try things out!

Studio teaching is the dominant form of education in architecture schools around the world. The studio system is based on the widely accepted notion that design cannot be learned strictly as a method. While there exist many varieties of studio teaching, what they have in common is the project oriented, hands-on approach that emphasizes learning by doing. The experience that can be gained that way is the indispensable counterpart for the equally important theoretical studies in any architecture curriculum.

However: The very nature of architecture limits the amount of experience we can get from traditional studio education. So it is not surprising that many architects reminisce about how they longed to get out of architecture school in order to be able to try things out.

Digital technology has changed this. Now the academic realm can be just that: the best place to try things out, to pursue fresh ideas in a hands-on fashion. The advent of digital technology changed not so much the building industry (buildings are

generally still time-consuming and costly to build), but it changed what it means to try things out. Simulations, visualizations, rapid prototyping and interactive installations have given the notion of "trying things out" a whole new dimension. One of the guiding principles Nicolas Negroponte proposed for the work at the MIT media lab (which, as is well known, had its roots at the school's architecture department) was "Don't dissect a frog – build one" (Negroponte 95). He was among the first to realize what a boost digital technology can give to the typical designer's working mode of creative tinkering, which has since gained a much greater importance in scientific research.

Nowadays the cross-disciplinary working with digital media has become very common and there are many media laboratories, also at architecture schools. Architects were not among the early adopters, but by now digital technology has permeated architectural practice as well as education. The effect, however, is not nearly as great as one might expect. Computers, it has been pointed out, have come to replace traditional tools in architecture on a one-to-one substitution basis

(Eastman 1991). Present day software is powerful, but it is designed to support the patterns of traditional working methods. The point is: digital technology is the ultimate clay (Gagliardi, 2002), it is what we make it. Given the tremendous potential for producing and sharing it opens up in architecture and given its unprecedented availability, there is not nearly enough experimenting with hardware or software done during the typical architecture curriculum.

Lab or no_LAb?

When the new chair for “representation of architecture and new media” was founded at our institute, one of the first decisions was to create a media lab where such experimenting could take place in an optimal setting. Right from the start the intention was to include the students as equal partners in this process. The new generation of students – grown up with all kinds of digital media – define the no_LAb with their different skills and expertise, creating a peer-to-peer teaching and learning situation everyone can benefit from. The lab thus was more than a physical space. It was also a vision that was developed by the people that would be its users. A competition for the name was held among the students. Based on various proposals and an interesting merging of

ideas the competition led to no_LAb_in_feld – a name and a logo that is catchy and cool and different. The name no_Lab suggests that it's not



Figure 1. no_LAb_in_feld spy-view: the LAB is ready for set-up

just a lab – it's not what you think. The full name no_LAb_in_feld, is derived from Inffeldgasse, the street where the institute is located, and suggests the open field of possibilities. The students also created a variety of merchandising articles – mugs, T-shirts and CDs of course, but also gloves, napkins, overalls, ginger bread and toilet paper. In regular intervals, release parties are held at the no_LAb to present the latest productions.

These events aren't only important for the pedagogy, they're important for the no_Lab, which, by now, truly is not just a lab. It's also a label and a community.



Figure 2. (left) no_LAb_in_feld as seen from the entrance: the projection lined up with the door has become a trademark. (right) Event staged in the no_LAb: the large projections on the wall make the space ideal for seminars and presentations of all kinds.

No_LAb Specs

The no_LAb is situated at the end of the long, open office space of our institute, accessible through a glass-door through which one can see whatever is being projected in the room before even entering the institute. While it is located at the far end of the institute, the space is not a dead end: the door straight across from its entrance connects it to the large computer lab, accessible to students 24 hours a day through a separate entrance. This sandwich position between the institute and the computer lab – the connection is direct, no hallway involved – is ideal. It gives the lab a peripheral and a central position at the same time. It also makes it visible. While the no_LAb is only accessible to students involved in our classes or studio, the students in the traditional computer lab can catch glimpses of the types of activities taking place in it. The same goes for the people visiting the institute.

no_LAb [inter-]action

The activities vary greatly. Installations involving projectors, computers, cameras and such often get mounted on the metal tracks running along the ceiling of the space. The whole lab has been transformed into an interactive installation on several occasions. Motion sensors would trigger distortions on projected live-video-feeds, virtual mirrors, the current visitors' faces swimming in animated fishtanks, sound installations – this isn't the place to describe these projects in detail, but it's important to point out that this type of work, rather than in some gallery or shop, can be developed, assembled and installed in the no_LAb.

Even when there are no such activities, it's difficult to describe what the lab looks like, because it is so frequently rearranged. It houses our fastest computers, a complete sound system, digital

video equipment and projectors. Most of the furniture gets moved around a lot. The speakers and the audio/video equipment tend to be the most sedentary, so is a row of workstations along one end of the room. There are currently six high-end desktop computers plus two laptops permanently in the lab, equipped for digital video editing and compositing and real-time 3D animation work. Also people often bring their own laptops and equipment to hook them up to the lab's facilities.

The long sidewalls can be used for various types of projections, two in parallel, floor to ceiling or on facing walls. This makes it a perfect space for seminars and presentations. Despite the high end equipment, the space doesn't feel like a computer lab: wooden boxes that can be piled up or used to sit on, panels that can be used as tables or display boards, and some extravagant student-built furniture make for an unusual setting. It also contains old sofas and comfortable chairs and is a popular place to enjoy a cup of coffee.

digital playground



Because it can double as a living room, the no_Lab is suitable for teaching workshops in which students are asked to produce something within a limited amount of time, like one evening or for the next day. This fast and intuitive mode of working is popular and has produced very interesting results. For this format it's important that the technology in the lab is state of the art and works reliably. In a different type of class, stu-

Figure 3. no_LAb in use: during a live audio-visual-performance for "graz2003-cultural capital of europe". no_LAb in between: physical and virtual spaces. rotor blades_ in real and in projections.

dents turn the lab into an interactive installation in which everyday objects like cords, mirrors, telephones and paint-rollers act as computer interfaces. As described above, the no_Lab is a different space, depending on the activities that take place in it. It will be important to keep the equipment in the space up to date. But it will be equally important to keep the space open and easy to rearrange so that it continues to engage the creative and open spirit of the students. To “blur boundaries” (Engeli, 2001) and to constantly “discover your mental tools again” (Maeda, 2000) are the underlying goals of the pedagogy.

The no_Lab is also a place for research projects: augmented reality in design, new tools for design exploration, hybrid interfaces, visualization of collaborations and social networks are some of the topics. Along with these research interests we consider the development of the no_Lab in itself a central research topic.

Ultimately the goal of the development of spaces like the no_Lab must be to make the technology completely transparent, to make it so efficient and at the same time so unimposing that one can forget it's even there, except as a broadening of the field of possibilities we can engage in our work. But even with computers becoming wearable and wireless, we're still very far from such an ideal scenario.

As we keep changing and expanding the equipment in the lab, it's important to keep this ideal scenario in mind, but to adopt a pragmatic approach at the same time. The key element of the no_Lab must be the concept of providing incentives and possibilities for the students to start explorations on their own and to offer attractive technical facilities in an environment that does not look like a computer room, but rather like a (digitally enhanced) playground – no_Lab_in_feld.

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