Future Users, Future Cities: Dweller as designer

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Abstract. *As technology advances, users get more detached from the way things work and are produced. Users end up being pure consumers and leave their positions as decision makers behind. Before the architecture and buildings processes were industrialized, most practitioners of the so-called vernacular architecture were in fact the dwellers of what they built and they easily met the specific personal needs since they were in total control. Some "architectural theorists have turned to vernacular construction with the conviction that such buildings and settlements express the interconnectedness between humans and the landscapes they live in." (Beesley and Bonnemaison 2008). Considering the present day intense building activity, such relationship of dweller and architecture seems not possible excepting a very few examples to later referred to. This paper will instead focus on the possibility of the non-architect users of architectures as decision makers in order to reach designs that meet the requirements of their addressees.*

Keywords. *user driven architecture; architecture without architects; architecture as interface; sustainability; user involvement.*

Architecture without architects

"Architecture Without Architects is a book by Bernard Rudofsky originally published in 1964. It provides a demonstration of the artistic, functional, and cultural richness of vernacular architecture." [1] Rudofsky "discusses spaces and buildings made without the involvement of architects. Rudofsky is interested in buildings produced through 'communal enterprise' before architecture 'became an expert's art'. […] Some of his examples are buildings made by builders without the direct involvement of users; others are a collaborative effort between builders and users." (Hill, 2003) The participation of the dweller to the design and construction processes requires a slack leeway and the […] "flexibility by technical means suggests two further types of user creativity: constructional, a fabrication of a new space or a physical modification of an existing form, space or object, such as removing the lock from a door; conceptual, a use, form, space or object intended to be constructed, such as a door." (Hill, 2003) The conceptual user creativity encourages the user to be creative mentally and provide practical data to be used in a more responsive architecture. Concerning this Rudofsky says, "vernacular architecture does not go through fashion cycles. It is nearly immutable, indeed unimprovable, since it serves its purpose to perfection." (Rudofsky, 1964)

"Bernard Rudofsky was neither an architect nor

a theorist in the usual sense. At the start of his career he completed a number of houses in Italy and Brazil, where he employed the formal language of the Modernists although his writings appear to indicate that Rudofsky was primarily engaged as a critic and culture theorist from the 1940s. He did not just write about architecture and design, but also on topics such as clothing, shoes, eating and bathing. The common element behind all of these activities, though, was the human body, and his lamentation of the loss of sensual awareness. No lifestyle should be preformed, preordained or preconceived. The interaction of the human being with the environment he has shaped has to be characterized by an individual attitude towards the life of a responsible citizen." [2]

It is obvious that not everybody has the ability to build and design; not everybody can become an architect… Yet this fact should not lead to the conception that the architect should be in full control of the entire process. There is more potential for a truer localization of architectural design if users are involved in the design process. If the architect takes control of everything, local design trends to be introduced by him / her face the danger having to be global since there are governing fashionable styles dictated by "high architecture" of the elite bourgeois or hegemonic macro trends that directly / indirectly force architects to follow. "Historically, in professional practice, many architects retained their position by servicing powerful clients and accepting their values. When the powerful ignored, misunderstood, or repressed the needs of others in the society, the views of the less powerful did not play a role in the definition of architectural knowledge or practice. Insofar as the traditional perspective is followed, it excludes the powerless, or the "other, " and has proved unable to effectively encompass social justice, the politics of diversity, or the politics of empowerment. […] Involving the user, the ordinary citizen, the public, not only would require more time and energy but would demand substantial changes to existing practices. […] Clearly a culturally critical position is needed." (Piotrowski and Robinson, 2001)

As a contrast, "in vernacular architecture (Figure 1) from the primitive age or even in several parts of the world nowadays, there is no segregation between the architect and the community because normally the architect is indeed a member of the community. […] Thus there is no differentiation between both cultures and there are no conflicts of interests since they have the same way of life, use the same symbols and codes, and apply the same strategies. The result is usually that every part of vernacular architecture, be it its technology, connections with nature or with the social system is all culturally related. Although the typology of the building is merely simple and less dramatic, its immense level of ingenuity is beyond belief." (Paramita, 2009)

Arif Hasan and Orangi Pilot Project in Karachi, Pakistan

A unique and scarce example for an architect who is socio-politically aware and involves user participation in the architectural design process is Arif Hasan, a Pakistani architect, who managed to organize local people in improving the slums of Karachi. Emphasis of the Orangi Pilot Project (OPP) approach he conceived, was on management of the improvement plan by the dwellers themselves, where local community is fully involved in the process of planning, implementation and maintenance of the plan. Arif Hasan taught local people how to build simple

*Figures 2 and 3
Photos from the Orangi Pilot
Project, Courtesy Orangi
Pilot Project Research and
Training Institute.*

precast structural elements by designing uncomplicated moulds and how to put various precast elements together in order to construct a sound and relatively decent looking houses. This way the entire processed gets owned by the locals who carry their involvement towards the future and achieve the sustainability of the project. Doing this establishes social and political continuity and gives the people of the city an identity and a pride in its history. [3]

"The Orangi Pilot Project (Figures 2 and 3) refers to a socially innovative project carried out in 1980s in the squatter areas of Orangi Town, Karachi, Sindh, Pakistan. It was initiated by Akhtar Hameed Khan, and involved the local residents solving their own sanitation problems. Innovative methods were used to provide adequate low cost sanitation, health, housing and microfinance facilities. The project also comprised a number of programs, including a people's financed and managed Low-Cost Sanitation Program; a Housing Program; a Basic Health and Family Planning Program; a Program of Supervised Credit for Small Family Enterprise Units; an education Program; and a Rural development Program in the nearby villages. Today, the project encompasses much more than the neighborhood level problems. The research and development programmes under the institutions developed by the project now covers wider issues related to the areas all over Karachi. Orangi was a squatter community, and did not qualify for government aid due to their "unofficial" status.

With endogenous research, the community was able to make an affordable sanitation system for the treatment of sewage, which helped to reduce the spread of disease. The system was created and paid for by the local community, who would not have had access to a sewer system otherwise. The programme proved so successful that it was adopted by the communities across developing countries. After the success of the initial phase, the program was expanded into four autonomous groups." [4]

Architecture as interface design assignment

Following the above interest on user driven architecture, the authors of this paper (one having been educated as an architect at MIT, Boston, USA), who conduct a course coded VA325 and named "Interface Design" in Sabanci University, Istanbul, Turkey decided to initiate an assignment where 3rd and 4th year visual communication design students with no prior architecture education were supposed to design architectural / urban interfaces as users of those. VA325 is an introduction to the study and design of interfaces in general. Students are expected to submit various design projects during which they will be able to test themselves in developing a set of user scenarios, interaction models, navigational / flow diagrams and prototypes for interactive applications. The learning objectives are; constructing

innovative ideas independent of physical, cultural, official constraints and integrating daily life experience into their design philosophy.

Design is a vital process in developing a product (here, a 'product' does not only comprise industrial design objects, but any type of design outcome, such as graphical design). Besides manufacturing, management, marketing or aesthetics, design is the core feature of a tool that designates what that tool does and how usable it is, which in turn determines its success. In his book, Bill Buxton (2007) underlines the significance of sketching in design process where it is important to generate as many ideas as possible in the quickest and clearest ways in order to be able to choose the best alternatives. The key point in the design process is the efficient and correct evaluation of user experiences.

User experiences, as its name suggests, are the aggregations of feedbacks from users who experienced a product or a condition. Depending on the context, these feedbacks consider personal cognition, sensory skills, habits or emotions on a subject through case studies, surveys, interviews, focus groups, experiments, and individual experiences. In the design process, it is highly important to foresee how the user would react while using the product in order to increase usability. This way, a product can be revised before design stage ends and manufacturing begins (For example, if there is a wrong assumption in the design and users either complain or don't understand how one or more parts of the product work, then the design can be modified accordingly - and timely). Designers' experiences are as important as users' experiences because the designer is also a user. These experiences, combined with practical knowledge, help to gain intuition over design.

These processes are highly appreciated in VA 325 course, in which the main focus is designing user interfaces. The term 'user interface' defines the collection of methods, rules and patterns of usages of a physical / virtual system that provides the interaction between user and used. The graphical user interface of an operating system based on the desktop

metaphor, control panel of a washing machine, or multitouch display of a mobile phone are just few examples that most people face.

While these design discussions are from the perspective of visual communication and design field, we can find considerable relations between product / graphic design and architecture / urban planning. In the sense of design process, it is crucial to first plan a building before starting the actual construction since the budgets involved are extremely high and a architectural design not suitable for users is a major failure not to be repeated.

In architecture (micro scale) users can be named as residents and in urban planning (macro scale) as citizens. Different than a person experienced on a particular product, which requires that person to be deliberately introduced to the product, being experienced in architectural and urban context is more natural, since most people spend most of their time in buildings and urban settings, sleeping, eating, working, learning ,sleeping, etc. Thus, we are constantly exposed to urban and architectural experiences. Considering these experiences, we can talk about urban and architectural interfaces. While urban interfaces include urban functions like road networks, public transportation, restaurants or parks; architectural interfaces comprise walls, rooms, doors, windows, stairs or furniture in a building.

During the VA325 course, these points are used to provide a different way of looking at architectural and urban experiences to create new conceptions about the usability of a city or a building (Figures 4, 5, 6 and 7). Though visual communication design students taking the course are not educated on architecture or urban planning, they are asked to invent new ways of interacting with a building and the city or improve existing ones, by taking advantage their own "non-professional" architectural and urban experiences. Without limiting students to structural regulations, in addition to prompting them to be realistic; approaching daily life experiences in a critical way was encouraged.

The aim of this series of assignments is to give

students an insight that will enable them to think cross-platform create associations among different design fields. Despite the fact that architecture, urban planning and visual communication design are all very specific design fields having different practices, we can recognize similar methodologies in the design process when observed carefully. These might not be named the same way in each area and some are contextually restricted to the particular area; yet, by creating the right analogies, each field can conceive another one.

Being educated on a certain subject, i.e. visual communication design, provides skill and experience but it also limits creativity by just focusing on a single area. If cross-platform thinking is encouraged during the design process, more innovative ideas can emerge using knowledge in a multi-dimensional manner. This approach widens awareness on multiple subjects and helps in inventing novelty. The aim in doing this is not to build an actual or finished product ready for consumption. Instead, rough sketches of ideas and rapid modeling ensure conceptual envisioning without physical limitations. This educational conduct also intensifies the educational stand of the university being highly collaborative and interdisciplinary. By using cross-platform practices, the nature of the course becomes more appealing and challenging for students

Figure 4 and 5
VA 325 student work. "The cube" - Students: Bike Kefeli, Sinan Tuncay, Erhan Arik; fall 2008.
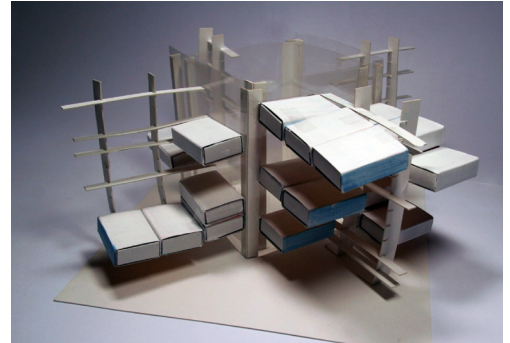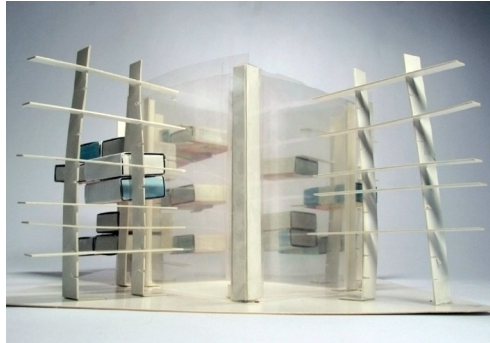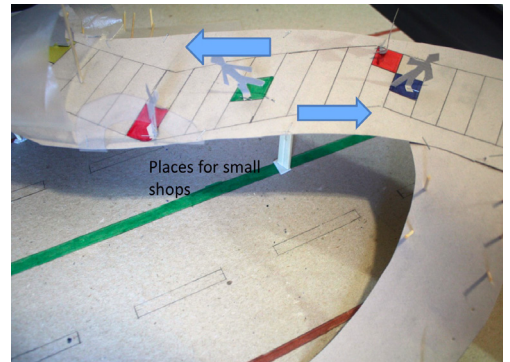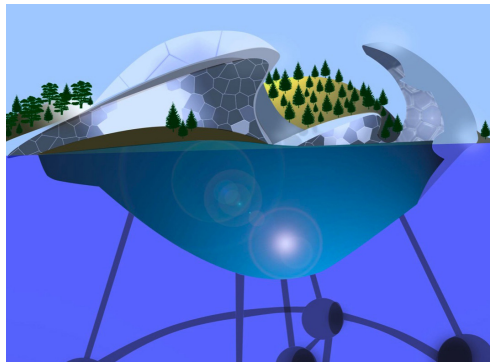

Figure 6 and 7
VA 325 student work. Students: Basak Sahin, Efe Buyuk, Tunc Korap (left); Cenay Gundogdu, Damla Koksalan (right); fall 2008.

Places for small shops

VA325 / Interface Design: Philosophy and methodology of the course

While the course is listed in the undergraduate program of Visual Arts and Communication Design (VACD) Program in the Faculty of Arts and Social Sciences (FASS), the content is arranged in such a diverse and interdisciplinary way that students of any background in the university can take the course and generate new ideas on subjects that they are not familiar with professionally, but encounter and experience daily. This is why the course does not have prerequisites and is open to any student ranging from design, management, economy, cultural studies to engineering programs.

During the course, the concept of interface is presented as a notion where each physical / intellectual tool; including door handles, car dashboards, mobile devices, languages, sociology, politics, communities, networks, etc., has ways of communicating with users and each other. Intuitive or not, the sum of all interaction methods for each tool can be considered as interface. The success of an interface is directly related to the quality and ease of experience that it can provide, where the level of satisfaction can change from person to person. As a result, the most important and difficult part of designing an interface is to anticipate the needs of users and to create a suitable ground for the user experience.

The course mainly focuses on case studies. During the lectures, many successful and failing examples of specific topics are shown and explained in detail. Students are asked to form teams (usually of three) and work on 1-3 week long projects together. Occasionally, short in-class unannounced exercises are held to improve quick prototyping skills and enhance group communication and workflow on spot. The method of practicing interface design mainly encourages students to sketch the ideas they come up with. Though the level of these sketches are supposed to be low-fidelity, cleanliness of presentation, ability to show information / design hierarchy, methods / steps of the user scenario are of primary importance. This way, students are encouraged to spare more time for novel ideas and not let their imagination get limited with "reality", instead of an ultimate solution that requires more production time and diverse / ultimate skills.

As discussed earlier, the keyword 'user experience' is in the center of the implementation of course objectives. Topics are not concentrated on graphical user interfaces and / or human-computer interaction (HCI), as one would expect from a visual communication design program, but rather on personal observations, perceptions and their translations to the design platform. Along with printed city maps, information graphics, data visualizations and social web interfaces, subjects that require a different level of specialization such as urban interventions, urban design, micro and macro scale architecture are also included in the curriculum of the course.

If we approach this inclusion from another point of view, taking architecture as an interface allows us to see that parties involved in the process are not only designers (architects) and users (dwellers). "In addition to the architect and user, there is another animate and creative participant in the formulation of architecture: the building, sometimes reacting to the other participants, sometimes acting independently." (Hill, 2003). Some students who adopted this approach consciously or unconsciously, ended up with some designs where buildings themselves were the main actors and were designed to evolve by themselves taking advantage of the usage data coming from dwellers.

Case study

A case study is added to this paper to explain better how the assignments were developed. The aim for the particular assignment was to initiate research on urban interfaces and acquire a clear idea on relationships and interactions between buildings, monuments, façades and various urban spaces. Students were pushed to think about one of the biggest metropolises in the world, i.e. Istanbul's major problems

that made themselves and the citizens suffer the most and bring alternative solutions. Students were not given any problems, they defined them themselves. The proposition they were supposed to bring could be just organizational; in other words, the idea could involve a simple change in the function to make a particular urban detail integrate better with other functions.

A team of students formed by Sevil Kaynak, Baris Ertufan and Ezgi Didem Dagci, spotted the parking space problems in Istanbul, where the intricate transportation network with an unbalanced density composed of very narrow roads especially in the historical neighborhoods and wide highways in the newer portions of the city (Figures 8 and 9). They envisioned parking lot areas to be build on top of the existing stock of buildings as additional floors, reached through heavy-duty lifts from the street level.

The educational team composed by the authors of this paper, thought the most intriguing part of this idea was the possibility to also consolidate buildings' structural strength, very much needed for the expected major earthquake in Istanbul soon. By installing thick columns at each corner of buildings to be deployed as parking at the roof level and joining them with X-braces, the building gains extra solidity, which was already recommended (but not forced) by the authorities after the major earthquake in 1999. This seismic activity struck areas in Marmara region very near Istanbul, devastated ten thousands of buildings and killed ten thousands of people. So, this powerful casing on the building needed for the parking at the upper levels also fortifies the building against prospective disasters in Istanbul, a city where a considerable amount of buildings are not adequately constructed against earthquakes.

The project attracted our attention by not just solving a common problem of parking, but also by taking advantage of the same proposition for an even more important problem of building consolidation against earthquakes. The additional feedbacks for the project suggested connecting the upper parking floors to each other where building heights were consistent and create an upper circulation network that would let some people proceed to other areas without having to touch the ground.

Conclusion

"Architecture today need no longer be considered as a monument which smothers social life. The notion that architecture is a means of controlling and incarcerating people in solitary and inflexible permanent structures should be challenged in today's networked and fluid societies. Tendencies for oppression
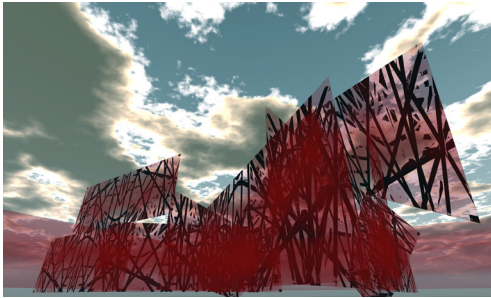
through architecture must be challenged, and to be effective, resistance must remain alive and regenerative through collaboration." (Cowan 2002) "The architectural profession employs a restrictive visual and verbal language that 'empties' architecture of its inhabitants. The text suggests that the traditional language of architectural production and discourse can be dismantled and recast to include, and respond to, the signs of inhabitation. […] The 'illegal' architect, who questions and subverts the conventions, codes and 'laws' of architecture, is most likely to value the user and transform architectural practice." (Hill, 1998) A very fresh example to this suggestion is the architecture designed by non-architect individuals within the Second life environment (Figure 10).

The main objective of making students study on a topic they are not educated is the foster multiplatform awareness in the age of over-specialization. The old practice of having users as builders is not necessarily suggested as a solution to the present distance between users and architecture. The idea is to make people aware that they can contribute to the evolution of architecture, which seems to be overwhelmingly controlled by technological advances. This contribution can be realized by providing user data on how architecture can personalized and aims the transformation of the user in order to transform the design process. Form follows user…

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