INTERACTION TO IMPROVE QUALITY OF DESIGN

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SUMMARY

Some of the most important moments of our Information Age are the opportunities to meet in cyberspace to share ideas, topics and to develop new relationships and participation faster than the past. The key element of this participation is interaction. Interaction allow us to participate on a subject or a project according to human needs. Recognizing the importance of this, Interaction will make a significant effort to enable participants to find people with similar experiences and interests and also to have thought -provoking, energizing developments. My recent study focuses the participant interaction and its wide range of more usability for today's world than the past by means of computer networks as a smart tool of data transmission: Interaction among people (with or without computers), interaction between people and built environment, interaction with computers to communicate faster and more visual, interaction with a software, interaction in (architectural) education, interaction in professional world. The model which was developed will achieve to describe the close relationship between users and computers networks. The model provides a virtual platform for users to participate in. Sharing ideas, participating on a project, enhance our creative way of thinking and usability of built environment.

Keywords

Interaction, Participation, Network, Collaborative Design, Information Technology

INTRODUCTION

Experiences has shown, however, that putting your thoughts online is not the same as putting your body on the line in the places like the Roman forum, Hyde Park Corner (Mitchell, 1999a). Virtual spaces is far replaced the real spaces. But users who have no place to meet in physical space, can often find a virtual meeting rooms on World Wide Web. According to Calhoun (Calhoun, 1998), These virtual meeting places allow users to widen to establish a virtual community of indirect social relationships.

Computer applications for user participation in design decisions is being developed in some universities and research institutes. For example, according to Maver (1999), Software development within the ABACUS group specific to the investigation of user participation in design centered on two programs: CUPID (Computers for User Participation in Design) and PARTIAL (Participation in Architectural Layouts). CUPID is a series of computer games to understand to characterize participatory design. PARTIAL is suite of programs to allow user participation in design.

It is clear that in the future, business organizations will exist in virtual environments for collaborative design to develop real "user friendly" environments with a connection to users via Internet. In the information age, technology give an opportunity to promoting participation among people through education, science, culture and communication.

AIMS OF THIS STUDY

Web-based Interaction without time and area limits is the most important tool for a good communication between users and designers that the Information Technology provides. Designers using features of IT will be able to achieve higher communication (visual, text or/and voice: multimedia) with participants to share design concepts with the integration of user's decisions. Designer can more easily presenting the all implications of a 3-d environment being designed and can develop it together with others from anyplace and anytime. In addition, the design can be simulated to examine the potential profits for human needs. Final decisions should develop according to rules in the local municipality. But this needs to develop a system which can accessible from geographically distributed places to share experiences and this system should support by expert systems in order to provide some professional information to users. Establishing this system for the interaction among users, designers and rules is the first goal of this study. This information super highway should support the effective and accurate data transmission to close the gap between users and designers.

Design is a unique organization with needs and requests of users. This is the important data (details) to achieve a successful design. But using past experiences is also another important data. Therefore, The system will allow to attend other people to share their own experiences with the project

participants (users and architects, urban planners, constructors, engineers and also candidates of designers) or obtain opinions from the people who needs special care. That need a system definitely supported by IT. In the system, Designer can quickly reach probably a hundred of people in a shorter time than visiting one-by-one by car or walking.

DESIGNER ⬌ PARTICIPANTS/ VIRTUAL COMMUNITY

THE SYSTEM

The data which obtain from the participants will be examined accurately in computers. Figure 1 shows the system which is in progress.

Figure 1. A computer network model for the system of data transmission in order to control the growth of cities and the new settlements with human (user) needs. (Tokman, 2000)
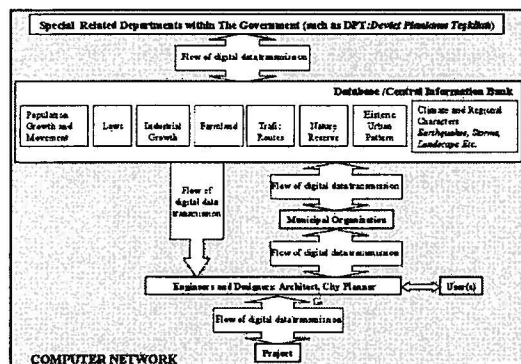
"Expending Design Through Virtual Communities"

In the system (figure 1), Users and professionals (architects, engineers, and city planners) are interacting in the center of this model. The flow of textual /graphical information via computer networks from anytime and any places have the important role in the system. The integrated databases are another important component for the collaborative environment. These databases describe as "an information bank" which includes information /statistics about population growth and movements, description of regional people and needs; laws; industrial growth; farmland; traffic routes; nature reserve; historic urban pattern and climate and regional characters. This information bank can be updated in digital environments by special departments in governments such as DPT-Devlet Planlama Tekilatı (Organization of State Planning) in Turkey (Tokman, 2000).

The power of participation in design decisions brings more choices to more different kind of human needs. If the user can join to the collaborative virtual environments easily and without time limits, designers can develop places more responsive to human needs. Mitchell (1998), establishes a new collaborative environment for architectural design studios which is called (DSOF) Design Studio Of Future. DSOF aims to join design studios (architecture and engineers) from univer-

sities and private sectors in virtual environments. The similar approach is developing as a system via computer networks in a post-doctoral study in Anadolu University but the system offer to join with not only users but also municipalities, boards, institutions, special departments within governments to design a project (Tokman, 2000). Figure 1 shows the system that Information Technology is critical enabler to collaborative environments in this study. IT permits users to get design information (drawings, examples, images, animations etc.) and to meet with virtual advisers/ participants in synchronies /asynchronies works (e-mail, chat, video conferencing). In addition, IT gives a possibility to join of the knowledge faster and more easily in collaborative environments. Because IT collapse time and distance with a strong influence which affect coordination and production.

The possible profits of the system:

- Recent databases for future references,
- Reduce the gap between design and users,
- Control built environments,
- Increase number of responsible participants,
- The strong relationship between quality of design ideas and usability (not only design process but also its using process),
- Increasing participation provide specific problems to understood and to solve.
- Easy communication and control problems in case of fire, security and also healthy care.
- Alarm the local smarts buildings in case of earthquake (when earthquake signals get the seismic computers) or storms.
- Easy control energy resources in urban areas such as smart buildings M. Mozer's (1995) "Neural Network House" in Boulder, Colorado
- Support the intelligent use of natural resources and also highly responsive to the needs of its users as an intelligent system.

The user friendly built environments of the near future will function more and more like large computers with network connections and new generation will rely on more and more this communication network.

CONCLUSION

The new millenium is still need "agoras, Roman Forums" to communicate widen and to participate in designing user friendly environments. But Today, These can be virtual meeting places from local to global. Participatory should include places of assembly and interaction for the community by means of freedom of expression. The core of participation is communication and computer networks. According to Gero (1998), There are two modes of collaboration design: asynchronous and synchronous. For collaborative design, there are some questions such as "what metaphors should struc-

ture interactions in the virtual design studio?" or "how do you deal with differences in time zones?" We can make more questions such as how do you deal with differences coming from cultures for local design decisions? what kind of system should be established in the universities to give a chance for more voices? how can establish an organization to put users and professionals together in "virtual places" so that how the gap between users and designed real places can be getting smaller? It could be needed organizational participatory changes instead of individual academic collaborations. At that point, a similar system in figure 1 should be needed to develop by universities / institutions/ governments.

User participation has an important role to make critical decisions for the people not only the healthy users but also users with special needs. Today, IT gives a chance participatory "education and design" to develop new ways of collaborative design thinking for sensitive environment. The new tools and technologies not only change the way we needs but also change the way we design. In addition, giving opportunity for students to learn/ participate and for users to join can be possible in collaborative virtual environments. These environments bring more voices and well-designed environments as a power of corporate participation.

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