

Architecture

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## **BENEFITS OF INTERACTIVE ENVIRONMENT IN PUBLIC SPACE DESIGN**

**Abstract:** *The article describes positive impact of interactive environment for public space and society. It explains how interactive architectural elements influence society and their role in communication between space and people.*

**Keywords:** *interactive environment, public space, architecture, communication, society.*

The main key words of the modern life is the motion and the information.

Nowadays it has become more obvious because of the development of information sources and ability to get any information fast and easy, and our habits to live in well organized space full of devices becoming more fantastic day after day. The further the technologies and development go – the more requirements they meet and more questions they have to answer. The static architecture is limited in its ability to interact with the changing circumstances and what is more important, with the users. It is frozen in one state while nowadays there is an ability to make it fluent, changing, communicating with people. People need an immediate response from the surrounding area and the modern technologies are able to provide it. Now the built environment can understand itself and better perform its function. It can

understand people within it and outside, furthermore it can help them to understand themselves better. [1]

Interactive design of the public environment engaged social and cultural dimensions of space. A lot of projects have utilized the medium to engage in political arena through participation. Designers often seek for chances to use spatially defining interaction as a mechanism to understand, shape and promote social interaction. The physical space can be used to include or exclude people from one another, to facilitate, dissipate, or focus crowds. In this way, in the realm of physical architecture, interactive public spaces can have a profound effect on social interactions. It is important to point out that a lot of projects in public sphere play big role in testing the durability of materials as well as the tie frame of particular interactive strategies within the context of unpredictable participants [2]

With the development of new technical capabilities, "smart objects" start being able to receive a lot of information from the external environment. The people's behavior is a significant part of this environment. A lot of these components are designed to capture information from the environment, such as temperature, light levels, wind speed and noise. Some components are able to receive simple messages from the man. They feel our presence radiated heat or movement and react in some way. [3]

Interactive architecture is a recent phenomenon that is related to the development of new technologies. Interactive architecture transformed into stream of information, claims its continuous metamorphosis in space and time, it affirms the permeability between the body and the technology, between the subject and the space. This reminds us the conception of the Flesh of Merleau-Ponty, as the interactive architecture effaces the border between object and the subject. The body is considered as an interlacing of vision and of movement. [4]

In majority of situations architecture should speak to people about its function or to send messages of what is happening right outside, in a predefined place, or with some special condition of the environment in particular, like the

velocity of wind, the density of people on a square in front of the building, the content of the message is limited only by the architect's imagination. There are a lot of tools in modern architecture and design for the efficient exchange information between architecture and users. When the message is clear it deals not just with intelligence but with emotions and feelings. The architecture responds to demands that appear and even more – it leaves a desire to continue a conversation between a user and an impression this building made. Sending appropriate message and having a continuous dialogue with users is one of the main aims that architect should keep in mind during the progress of designing, choreographing the movement and actions of the built environment to create a clear and appropriate response on a foreseen request the way it will be understood correctly. This enables a building or a space to be a fully-valued part of environment and society, an active participant. [5]

Ben Van Berkel said that the value of our architecture is to inspire the users to generate ideas and images, therefore to make it attractive to people, to make them stay longer and come back to places that the architects create for them. [6]

There are a lot of various options in built space for interactive applications, targeted entertainment of any kind: from simply providing pleasure to social engagement to educational benefits. The implementation can be realized in many occasions, including municipal, commercial, institutional, and residential situations. In context of public space, sculpture, fountains, and building envelopes have adopted interactivity as a central component that the works must include to capture an audience. By this moment, a lot of museums have already adopted interactivity with respect to the demands of presenting and viewing exhibits and artifacts. Interactivity combined with spatial adaptability brings huge benefits and enhances the changing displays and perception of the visitors.

Beauty comes from inside and at the same time is superimposed on the outer side of the product. Buildings are the complex adaptive systems, communicating with both external and internal environment. [7]

As communication technology unfolds, the designed environments will be so inextricably tied to the people's living trends that both will ultimately and simultaneously respond to, and define each other in a corresponding manner. There is a huge progress now days in the fields of development and prototyping designs for a public space that can be used for motivating people. The reasons for why something is done or not done are implicit in how the project is described. Motivation may be about

- commercial interest (how to get someone to buy something);
- personal issues (how to get them to exercise or stop smoking) ;
- social or political issues (how do you get people to gather around a cause).

Interactive design of the public environment engaged social and cultural dimensions of space. A lot of projects have utilized the medium to engage in political arena through participation. Designers often seek for chances to use spatially defining interaction as a mechanism to understand, shape and promote social interaction. The physical space can be used to include or exclude people from one another, to facilitate, dissipate, or focus crowds. In this way, in the realm of physical architecture, interactive public spaces can have a profound effect on social interactions. It is important to point out that a lot of projects in public sphere play big role in testing the durability of materials as well as the tie frame of particular interactive strategies within the context of unpredictable participants.[8]

There are significant examples of public spaces with interactive component, for example the ADA space, a product of neuroinformatics and similar to the Fun Palace an artifact for edutainment and creativity development of users. Compared to the Fun Palace and his mechanical changeability, the responsive features of ADA were widely based on optical signals by luminous surfaces and texts on digital screens. ADA is perceived hermeneutically.

Noticeable is the terminology with which ADA is described and characterized by its developers: ADA is a living organism, creature, and intelligent space is closing in on artificial intelligence fundamentalist jargon that was rejected by Dreyfus. More interesting though are statements about architecture being a boundary system and a more or less porous margin between an inside and an outside. Thereby, Paul Verschure, responsible for the design of ADA, affirms that this position on the tension between two spaces is of importance as a new layer in build space for perception, learning and thinking. In responsive architecture the space envelope exceeds its meaning as element of enclosure and exclusion. [9]

As a different approach to implementation of interactive solutions can be considered the MOJO iCuisine Interactive Restaurant / Moxie Design (2009-2010) . This project is the first realized, fully interactive restaurant in Taiwan. The moJo iCuisine interactive dining table is a modular table being able to seat two diners. It is equipped with touch sensors and an attractive visual interface. The interface is projected by way of an overhead installation; specifically designed to be viewed from two opposite orientations.

Touch sensors allow diners to interact in several different and interesting ways. For example diners can touch and toss the circular menu, directly order dishes from the kitchen, change the digital table cloth, view advertisements, play games, fill out opinion forms and check or pay bills. When a user orders a dish the kitchen will receive it in real time, allowing the chef to make it immediately while concomitantly being charged on the bill.

Interactive tables are overlaid with vivid and colorful changing graphics providing for delightful and impressive moments. The interface itself also creates a flourishing and colorful landscape that ensures a memorable dining experience.

The Hyper surface use electronic data flow rather than paper, saving both space and resources; in addition to enhancing relationship development between users. Communications and interactions between people create infinite

possibilities for space. Through the hyper surface designed in this project, the restaurant becomes a space that people can communicate with each other. Also, the communication between the user and the restaurant is also an interactive relationship.

On the edge of interactivity and dynamism there emerged an idea of slow-acting space, first designed by Michael Bell. It can be described as non-stop, slow and anti-static space. The purpose of this space is to slow down the perception of surrounding space enough to give an opportunity to understand where you are. The effects used to achieve this perception are not necessarily functional, but they affect the functionality. They may not have come from the place' specific features, but they describe the place. They are not constructive, but they are related to the structure. [10]

The importance of Interactive Architecture in fast developing society with new fascinating technologies is hard to overestimate from different points of view. It brings physical, social, psychological and economical benefits. There are no doubts it will find more and more implementations in modern Architecture.

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