

## Spatial cognition as a tool for the design of mediated spaces

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### Introduction

The research direction of this paper is guided by the potential of space to go beyond its sheltering function and achieve an active state of communicating with people. The vocabulary structuring this communication was found within the field of cognitive psychology, offering a fertile ground for architects to analyze and evaluate the quality of existing spaces and then improve them with the use of digital media.

### Background

Cognitive scientists agree that people do not understand the absolute mathematical space that architecture creates. Instead, the human mind re-constructs a mental image of space and keeps it updated through experience. The methodology analyzed in this paper seeks to diagnose those spatial characteristics of the built environment that register in and affect the memory of people.

### Method

The proposed methodology, structured for architects, takes place in three stages; the first stage directs the architect into researching the history of the examined space, from conceptualization, to implementation and up to the present state. The second stage involves empirical observations with in-filed research where the architect observes the effect that time and people have on the examined space. The architect also observes the actions and the behavior of people in space through time. The

third stage guides the architect to carry out interviews and/or questionnaires in order to find out 'first-hand' how people experience and remember the examined the space. The validity of the proposed methodology was successfully tested within an existing space at the Massachusetts Institute of Technology (MIT), the Lobby of Building 7.

### Results

The impetus that triggered this research project is the potential for architecture to achieve 'immaterial' renovations of space. The purpose of those renovations is not just to cover functional and aesthetic needs but also to reinforce the mental links that people create with space by targeting their impression and their memories. The diagnosis' findings are analyzed and examined in such a way so as to produce a mapping guide for the application of specific digital media, (light effects, audio-visual projections, holograms, and so on) and the orchestration of time-related events in space.

### Conclusions

The goals of this research, which can be evaluated through their potential to improve the relationships between the architects, the people and the built environment, are: to create architectural products that have a greater, in effect and duration, impression on the users, to provide architects with a methodology for continuous, low cost renovations and, from a wider point of view, to open up the way toward thinking and practicing a participatory, synergic design process. By bringing together architecture and cognitive science and by establishing the presence of the human user in the mind of the architect, I am confident that this project provides the plateau for the development of a vocabulary with which space will be in the position to communicate actively with people.

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