

SOUNDSCAPE APPROACH FOR A HOLISTIC URBAN DESIGN

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Abstract

In the last decade we are witnessing a paradigm shift in our understanding of urban space; now it is defined with human experience rather than physical quantities. The full spectrum of human experience is usually summed up with the term ‘atmosphere’ and encompasses the influence of color, light, texture of materials, temperature, humidity, odor, and sound on individuals.

Within this trend soundscape research has developed its tools, like soundwalking and laboratory listening experiments coupled with sound recordings, in order to achieve a multidimensional holistic approach to understand soundscapes and necessities of local people.

However laboratory experimentation, usually focusing on audio characteristics of a place, underestimates the cooperation between sensory modalities which plays a complex role on overall satisfaction of end users. Therefore, an ecological assessment of environments should take into account the multisensory and interdependent nature of human perception.

In this preliminary study it is aimed to demonstrate the potentiality of a multisensory (audio-visual) evaluation technique, involving the end users during the design process and administration. The presented technique employs immersive virtual reality and auralization technology for a realistic presentation of environmental stimuli in laboratory conditions and captures various objective and subjective psychological responses of individuals to evaluate satisfaction due to presented environment. The multisensory evaluation technique has been applied to a case study in historic neighborhood Triana of Seville (Spain). This initial study is concluded with a demonstrative virtual reality application and with insights on possible future directions on multisensory evaluation supported soundscape and urban design.

1. Introduction

As space and spatial issues became the new paradigm of architectural theory at the end of the twentieth century, all disciplines are getting more involved with space,

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