MULTISENSORY EVALUATION TO SUPPORT URBAN DECISION MAKING

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ABSTRACT

Community noise measures are conventionally based on various indicators derived from sound pressure levels. However this approach usually encounters difficulties in evaluation of experienced quality of soundscapes. Furthermore, communication of the technical noise information through maps and numbers is far away of depicting complex sonic environments. Virtual Reality technology offers possible improvements in these issues introducing realistic experience of sound and its context. 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 multisensory evaluation technique has been applied to a case study in historic neighbourhood Triana of Seville (Spain). This initial study is concluded with a demonstrative virtual reality application and with insights on possible future directions including the experiment protocol that should be designed with objective and subjective psychological measures.

RESUMEN

Tradicionalmente los estudios sobre ruido se han basado en indicadores numéricos derivados de los cálculos de niveles de presión sonora. Sin embargo de esta manera resulta complicado evaluar de forma subjetiva la molestia que ocasiona el ruido. Las nuevas técnicas de realidad virtual ofrecen la posibilidad de mejorar este aspecto puesto que representan con mayor realismo un ambiente en todo su contexto. El objetivo de este estudio preliminar es el de demostrar la capacidad de una metodología de evaluación multisensorial que permite conocer la percepción ciudadana ante determinados entornos, muy útil en los procedimientos de información pública. Dicha metodología ha sido aplicada a un caso estudio en el barrio histórico de Triana (Sevilla) para obtener finalmente una aplicación en realidad virtual de la misma.

1. INTRODUCTION

Contemporary urban governance requires a multi-actor collaboration in decision making processes in order to achieve a more democratic governing practice. Traditional top-down practices in urban and environmental context are giving their place to negotiation, cooperation and co-production processes. Beside the governmental and private partners, the general public and its organizations should be involved in urban decision making process. Urban decision making requires a compromise and a good understanding between the actors so as to achieve successful resulting decisions. The involvement of general public in decision making process enables a better understanding of users' needs and expectations, and also helps to build trust, increase user satisfaction and facilitates acceptance of new interventions in urban area [1]. In