BIM for Urban Scale and civic participation

How we have to adapt urban planning for a bottom up citizen participation system in the ICT age.

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Introduction

Nowadays we are much closer to IC (Intelligent City). The virtual city or the city of the information consist of three main dimensions: the first dimension is related to people in the city, a second one to the collective intelligence, and the third dimension concerns about artificial intelligence [1].

Scales of the Architecture.

In the IC, and thanks to the advances of the Information Technologies applied to Architecture, we can expect that with the development of BIM (Building Information Technology) used for a collaborative and multidisciplinary team [2], the work of each one of the participants is more and more identifiable and global at the same time. Today, the idea of creating buildings is possible with the information data, not only in the parametrical design from the control of the shapes but also in the control of the logarithm of information in terms of parametricism [3]. Nowadays multidisciplinary teams make buildings defining first the algorithms of the design and second the algorithms of the elements are a closer challenge.

Scale of the City.

The development of the GIS (Geographical Information Systems) together with the development of the SDI (Spatial Date Infrastructure) are mechanisms that give shape to the IC and have made changes to the city planner profile in order to make a more
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effective, collaborative and coordinated work. The urban planning of the IC presents three main characteristics:

1) The information created by the city is getting higher every day. The urban planners must act as programmers of that city and must know their laws to coordinate the complex algorithm that governs the city.

2) The fluid movement of the information and the access in RT (Real Time) to the information produces every time clearer the inevitable process of planning and urban participation.

3) The accessibility is an object to achieve. The users must comprehend the urban laws before being executed the urbanization and participate in this process. For that, both the process of urban planning and the results must show in transparency the used information as well as the 3D design result with the help of BIM for cities called CIM (City Information Modelling).

Figure 1: Captions of Urban simulation through CityCAD

Scale of the Citizen.

The advances in the ICT (Information and Communication Technology) in the everyday use of society and the increasing number of users with DI (Digital Identity) make social relationships and the use of the city services have always a virtual register before taking place outside in the street. In this sense, the user passes from being a simple user to become a participant in the creation of information. Apart from this, the users are adding new information to the IC through their own
movements and actions, information that can be used by the urban planners for future urban planning or for the improvement of the urban dynamics of the city. In this piece of work what we try is to give an answer to two main matters: The first one is how the institutions can adapt the citizen demands of the IC in urban matters and use this information for planning. The second issue is how urban planners can make a more effective and transparent work, parametrically controlled for cities with a more sustainable future.

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References
