Editorial Preface

Landscape Virtual Modeling, Visual Simulation and Collaborative Knowledge Management for Urban and Regional Sustainability

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One role of the International Journal of E-Planning Research is to promote the debate of pioneering approaches in the field of urban and regional planning. In this issue, the International Journal of E-Planning Research continues the exploration of cutting edge planning themes and addresses key problems faced by urban and regional planners, policy makers, citizens and other stakeholders. The issue contains a mix of refereed research articles and book-reviews covering some of the latest developments in the field of urban and regional e-planning. The research articles address landscape virtual modeling, visual simulation for urban sustainability and the implementation of a model for collaborative environmental knowledge management in the planning field.

The first article, "Coupling Real-Time 3D Landscape Models with Microclimate Simulations", by Lewis Gill, Abigail Hathway, Eckart Lange, Ed Morgan, and Daniela Romano, explores and discusses a new method for the visualisation of spatial changes and for the quantification of its effects on urban microclimate. While the visualization of spatial changes is particularly important for citizen participation in urban design processes, the quantification of its effects on the microclimate is a key condition for the development of landscapes resilient to warmer weather. In the case study reported in this article, the authors show how the model was initially calibrated and how different changes in the initial design were tested along with the variation in weather conditions up to 2080.

John P. Isaacs, David J. Blackwood, Daniel Gilmour, and Ruth E. Falconer, in the next article – "Real-Time Visual Simulation of Urban Sustainability" – present and discuss the Sustainable City Visualization Tool (S-CITY VT), an instrument that aims to facilitate sustainability modeling and 3D visualizations and which has the potential to enhance citizen's engagement in urban and rural planning processes. S-CITY VT models the various aspects of sustainability, on a spatial and temporal basis, and provides an innovative form of data presentation through the

use of interactive and immersive 3D technologies. As the authors make clear in the article, S-CITY VT was developed to facilitate and increase the input from different stakeholders active in the urban policy arena, enabling an effective transfer of information on the relative sustainability of urban design proposals.

This is followed by the article titled "Traffic Control and CO2 Reduction: Utilization of Virtual Modelling within University Estates Master Planning", in which Richard Laing, Amar Bennadji, and David Gray explore the use of intelligent virtual transport modeling and visualization techniques and discuss how it can contribute to clarify design solutions, demonstrating at the same time the effects of these design solutions on CO2 emissions. In sum, the central aim of the research in which the article is based is to examine how design decisions, which usually are mainly focused on the aesthetic impact of the proposed formal architectural solution, can in fact have an important effect on CO2 emissions. The evidence provided in the article is the outcome of a study involving the development of a University estate, which includes, among other aspects, an animation to help planners in the consideration of travel time and distance. Its main contribution for the e-Planning literature is the demonstration of how emerging intelligent visualization software can be utilized to study the inter-relations between the development of urban infrastructures and CO2 emissions, design efficiency and aesthetic acceptability.

In the next and final article of this issue – "Collaborative Environmental Knowledge Management" – Haohui Chen and Ian D. Bishop describe the integration of a smart-phone, a world viewer and a geo-database into a collaborative virtual environment (CVE), conceived as a knowledge management platform for use in land management, a process that required a mechanism for the integration of these different technologies. The platform includes an iPhone™ application, a web portal based on Google Earth™ viewer and a data server, which together provide the conditions for fruitful remote collaboration, enabling the sharing of spatial data instantly. The CVE model described in the article was tested in a case study that involved a scientist, a farmer and a consultant, all based on different locations, working collaboratively but remotely, and can easily be extended and applied to other environmental management contexts in the field of urban and regional e-planning. The findings of this empirical experiment show that the efficiency of agricultural knowledge transfers increased, as initially expected by the authors, suggesting at the same time that the centralized knowledge database associated with the CVE is also useful for monitoring, and for agricultural research, namely for the study of farming history. As the authors argue, the CVE represents a new paradigm in agricultural knowledge management in contrast to the traditional knowledge transfer hierarchical model.

Book reviews is one way of advancing scholarship and for that reason the International Journal of E-Planning Research is committed to include on a regular basis reviews of pioneering and innovative books on e-planning themes as well as reviews of classic landmark texts in the field of urban and regional planning. This issue contains a section devoted to book reviews consistent with this editorial commitment. The first book reviewed – From Social Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing, and Mobile Technology to Support Citizen Engagement – explores new ways of engaging citizens and communities in the city life and urban policy through the mediation of new and innovative digital technologies, while the second book – Citizen 2.0: Public and Governmental Interaction through Web 2.0 Technologies – offers ample empirical evidence on how Web 2.0 technologies can be adopted to engage citizens in more meaningful ways in the (urban) governance process. The section ends with the review of a recent and

revised edition of a classic text on the history of planning, Peter Hall's book Urban and Regional Planning, a landmark in the literature on the history of planning and a reference for past generations of planning students.

All told, we trust the mix of planning problems addressed by the authors of these articles and reviews, and the new planning methods and planning e-tools examined will stimulate debate and discussion, and will increase awareness of these different approaches in the field of e-Planning.

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