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GEOSPATIAL VIRTUAL ENVIRONMENTS, TOWARDS A NEW PARADIGM IN GEOVISUALISATION

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Abstract

Most of the research in the field of Virtual reality and Visualization of environments has been done on the technical side, focusing on the technical limitations and trying to build systems that just work efficiently. But the nowadays availability of powerful computing machines and a variety of software packages (from 3D GIS to 3D computer games production) does not limit our imagination and meets our needs. We propose a methodology for geographic information visualization in virtual environments for participatory plan preparation. The methodology was tested in a virtual reality prototype, Virtual Landscape viewer, developed for a project that will significantly change the landscape in an area in the north of the Netherlands, the Meerstad project. The prototype integrates different geospatial datasets and the stakeholders are able to fly over the landscape and to “zoom in” to access detailed and different georeferenced data. In “landscape change projects”, the stakeholders group is numerous and heterogeneous by nature, with different sensibilities and with different interests and concerns about the project. It is fundamental to display the correct information in a correct way to assure that all have the same understanding of the goals and consequences of the project. Geospatial Virtual Environments provides an effective way of presenting large amounts of complex information to a wide audience, including those with no Geographic Information Systems (GIS) or mapping experience. The system was designed taking into consideration cognitive principles and is able to integrate high quality mapping of the current situation, 3D representations of the future and (geo)multimedia (regarding real world information). The people involved can understand the proposed plans and proposed changes. This new approach was built based on a geo-information infrastructure which supports open plan processes and participation and is able to integrate all available sets of data.

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