
Exploring Virtual Geographic Environments

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Abstract

Virtual geographic environments (VGE) are environments pertaining to the relationship between post-humans and 3-D virtual worlds. Post-humans are defined as a combination of humans in the real world with 3-D avatars in 3-D virtual worlds. Five types of space, namely Internet space, data space, 3-D graphical space, personal perceptual and cognitive space, and social space are used to explore the characteristics of VGE. The evolution of VGE is illuminated via three stages: virtual crowds, virtual villages, and virtual cities. Taking VGE as study object, virtual geography can be defined as a discipline to study the characteristics and laws involving VGE as well as the relationship and interaction between VGE and real geographic environments. Different from VGE, georeferenced virtual environment systems allow distributed users to congregate virtually on the Web and interact with 3-D graphical worlds to explore the Earth's geographic phenomena and processes in an immersive or semi-immersive way. They can be divisions or whole virtual laboratories embedded in VGE. In this paper, a georeferenced virtual environment system prototype, called VirtualPark, is developed for managing and disseminating information regarding the Shing Mun Country Park in Hong Kong, and for facilitating public participation in policy-making, protection of ecological systems, and the development of the tourism industry.
