



Applications of VR technology in urban design research and practice

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The term, virtual reality is generally defined as “the technology that provides almost real and/or believable experiences in a synthetic or virtual way” (Furht, 2008). It falls into two major groups: simulated VR (SVR) and recorded VR (RVR). While SVR is generated by 3-D computer simulations on real or virtual spaces (Al-Kodmany, 2002), RVR composed by videos recorded in a real place with an omnidirectional camera or collection of cameras (Puyana-Romero et al., 2017; Yamamoto et al., 2018). SVR enables researchers to create any environments for controlled experiments, allowing interactive virtual experiences (Kim and Kim, 2019). On the other hand, RVR cannot generate a space that does not exist or just planned, and rarely allow users to interact with the VR spaces. However, RVR reduces the shortcoming of traditional image information, such as limited angle of view and coverage, lack of sense of realism and distorted sense of space, while benefiting almost all the advantages of those sources. In the virtual environment, users can also control the start, stop, speed of progress, and direction of viewing of the video at will, giving them a sense of realism that is very close to that in the actual world (Wijnants et al., 2015). In this special lecture, I will introduce various applications of both RVR and SVR in urban research and practice.