Does the Quality of the Computer Graphics Matter When Judging Distances in Visually Immersive Environments?

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Abstract

In the real world, people are quite accurate judging distances to locations in the environment, at least for targets resting on the ground plane and distances out to about 20m. Distance judgments in visually immersive environments are much less accurate. Several studies have now shown that in visually immersive environments, the world appears significantly smaller than intended. This study investigates whether or not the compression in apparent distances is the result of the low-quality computer graphics utilized in previous investigations. Visually-directed triangulated walking was used to assess distance judgments in the real world and three virtual environments with graphical renderings of varying quality.

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