Multisensory Modeling for Enhanced User Perception

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Summary:

In addition to visual representations, multisensory modeling lets users define and perceive objects via other senses, i.e., audio and touch. Flexible multisensory mapping allows users to mix and match senses (visual, audio-visual, visuo-haptic, audio-haptic, and audio-visual-haptic). Users can identify sense(s) that would ensure optimal perception, cognition, and engagement. This research analyzes and compares user perception in unimodal versus multimodal explorations. Virtual reality (VR) technology was added to measure user immersion levels in a multimodal environment. User experience in VR and non-VR modes was also evaluated. Findings show that multisensory mapping enhances user perception. Multimodal strategies can create a diverse, accessible, and inclusive environment.

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