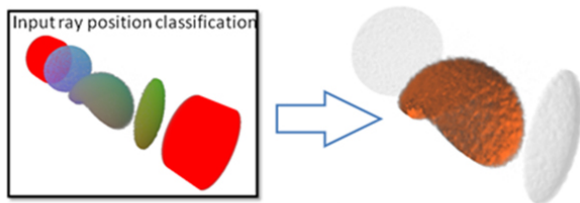


Enhanced Magnification for Reduced Movement in Virtual Reality Environments

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Volume RayCasting



Although Virtual Reality (VR) environments have seen slower adoption rates than expected among the medical community, throughout the last years, several new techniques and devices (e.g. Oculus Rift) have been developed that might boost the popularity of VR. However, the use of 3D environments is not exempt of some shortcomings, such as the difficulties of adaption to 3D, that sometimes produces motion sickness, or the increase in effort the user has to undergo when interacting with a 3D system, as compared to using a simple mouse on a desktop.

Our proposal is tailored to focus on the second problem. More

concretely, we propose a magnification technique that is able to reduce the movements required to explore a concrete part of a volumetric dataset as compared to other zooming techniques. Our technique, builds the zooming result in the same virtual position of the initial interaction while still maintaining a contextual view on the region of interest and its surroundings. This way, the user reduces the amount of movements required to explore a model and efficiency is increased. An informal user study was carried out that confirmed our hypotheses.