

Multi-Focus Probes for Context-Preserving Network Exploration and Interaction in Immersive Analytics

The [chair of Visual Analytics](#) offers a Master thesis with the topic “Multi-Focus Probes for Context-Preserving Network Exploration and Interaction in Immersive Analytics” in the area of “Immersive Analytics”.

Background

Immersive visualization of network data enables users to physically navigate and interact with complex structures, but managing transitions between detailed local (egocentric) views and global (exocentric) overviews remains a major challenge. As a proof of concept, the multi-focus probe technique [1] allows users to instantiate multiple egocentric subgraph views while maintaining persistent links to the global network context. Each probe acts as a portable local focus, enabling fine-grained inspection and editing of distant or occluded regions.

Objectives

The general goal of the master thesis is the evaluation of the multi-focus probe technique. Subsequent tasks are the re-evaluation of the existing implementation as well as an extension of the interaction and editing vocabulary. The previous steps shall run in accordance and lead to the conceptualization, development, implementation, and evaluation of a user study to empirically evaluate the proposed technique.

References

[1] E. Zimmermann and S. Bruckner

Multi-Focus Probes for Context-Preserving Network Exploration and Interaction in Immersive Analytics
arXiv Preprint, 2025

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Mapping tasks to interactions for graph exploration and graph editing on interactive surfaces
arXiv Preprint, 2015

<https://arxiv.org/abs/1504.07844>

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