Supporting Volumetric Data Visualization and Analysis by Combining Augmented Reality Visuals with Multi-Touch Input

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Motivations

Research Areas (RA)

Traditional Tools Available

RA1: Interaction paradigm and mapping between tablet input and AR space.



RA2: Workspace awareness.

RA3: 2D Annotations placement in a 3D space. Ego vs Exocentric

RA4: Supporting human communication (e.g., pointing).

Vision

Interacting in AR space is difficult: Use another devices for interactions.

Multi-Touch Tablet \rightarrow

Open Datasets



Current Implementation

Currently, each user can open, move, rotate and scale datasets using the provided tablets. They are all sharing the same physical space and represented by a small colored cube rendered above their head.





Each multi-touch tablet permits data interactions and sketching annotations. Users are represented by virtual colored glyphs floating above them which may encode more personal data. If a user manipulates a dataset on the tablet, the dataset highlights with the encoded color. Pointing cues and 3D position selections are augmented with virtual rays seen by all the users.







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