

SUBVISION: Mixed Reality Visualization and Monitoring of Hidden Infrastructures in Urban Environments

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The integration of otherwise invisible information into a real environment is a central feature of mixed reality (MR) systems. We aim to exploit this capability to visualize and monitor hidden infrastructures in urban environments. A first application scenario is the intuitive presentation of underground infrastructures such as power supply lines and water mains. Future extensions could also be used to address the monitoring and debugging of distributed sensor networks and other “invisible” infrastructures.

Key requirements for such systems include suitable positioning systems for the MR devices, adequate displays, as well as appropriate visualization and interaction techniques.

For initial experiments we use the GeoScope as our MR input/output device and combine it with both conventional and laser-scanning based positioning. Initial experiments focus on the development of visualization techniques that provide intuitive depth and orientation cues for obstructed installations.



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