

## Software Lab:

Modeling:	
Mathematics:	
Programming:	
Science:	

# Hololens 2 App for On-Site BIM-Model Demonstration

## Description

*While the construction industry's planning sector provides much usage of state-of-the-art BIM models, the application of BIM considering the on-site construction progress is still in its infancy. A lack of modern methods for checking the as-built construction progress prevents exploiting significant time and cost-saving opportunities in large construction projects. On the other hand, Mixed Reality (MR), an ever-advancing technology that combines real reality with virtual reality, offers an optimal application possibility. This project should provide an early approach to using the latest mixed reality hardware (MS Hololens 2) to provide construction managers with an easy way to evaluate target vs. actual (as-planned vs. as-built) comparisons.*



Mixed Reality illustration at TUM campus



MS Hololens 2 [1]

## Task

*Your task is to develop a Hololens 2 application, which is able to load multiple BIM models, display certain layers of materials and semantic information. In addition, your approach should show diverse methods for accurate model placement and a feasible on-site demonstration workflow.*

### GENERAL INSTRUCTIONS:

- Get familiar with the Hololens
- Get familiar with Unity, MRTK, and C# Environment for deploying Hololens apps
- Create UI for model loading and simple modifications
- Implement different ways for model placement
- Highlight various materials and semantic information
- Showcase your application by demonstrating a general workflow

## Supervisors

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## References

[1] <https://www.microsoft.com/de-de/hololens>