

# Detailed Object Reconstruction Using HoloLens



**Goal:** Detailed reconstruction of objects on a HoloLens

## Description:

Microsoft 's HoloLens is able to track the movement of a user through the scene and can also capture a 3D mesh of the surrounding environment with its cameras. However, the mesh provided by HoloLens is rather coarse and does not capture fine details. As such, it is not sufficient when scanning fine objects.

The goal of this project is to build a 3D object scanner using HoloLens that can also capture fine details. Using the coarse mesh provided by HoloLens as initialization, multi-view stereo refinement techniques such as [1] should be employed to refine the 3D model (of a selected subset of the scene).

[1] Vu et al., “High Accuracy and Visibility-Consistent Dense Multiview Stereo”, PAMI 2012

## Requirements / Tools:

Required: C++ / C#, Windows 10, experience with Unity

## Supervisor:

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