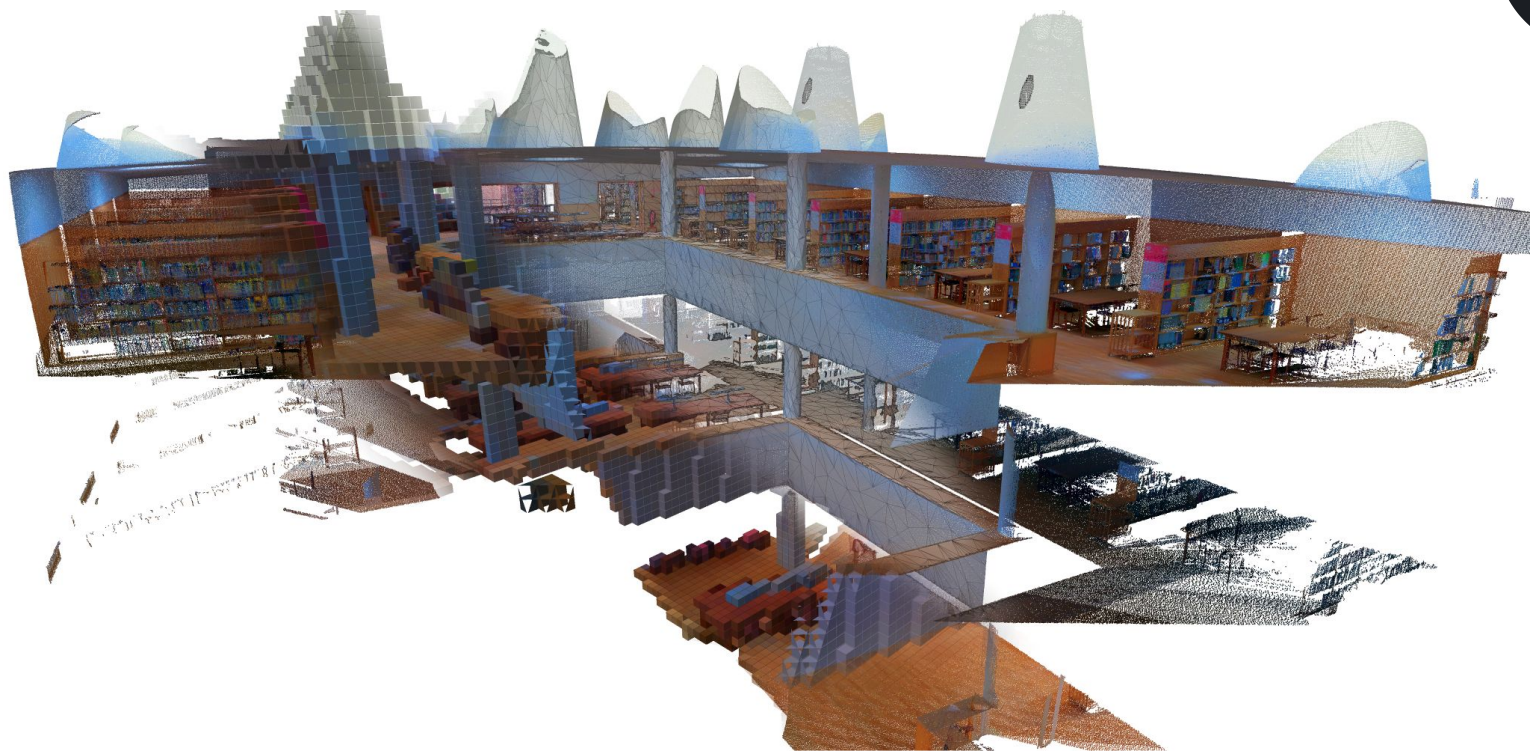


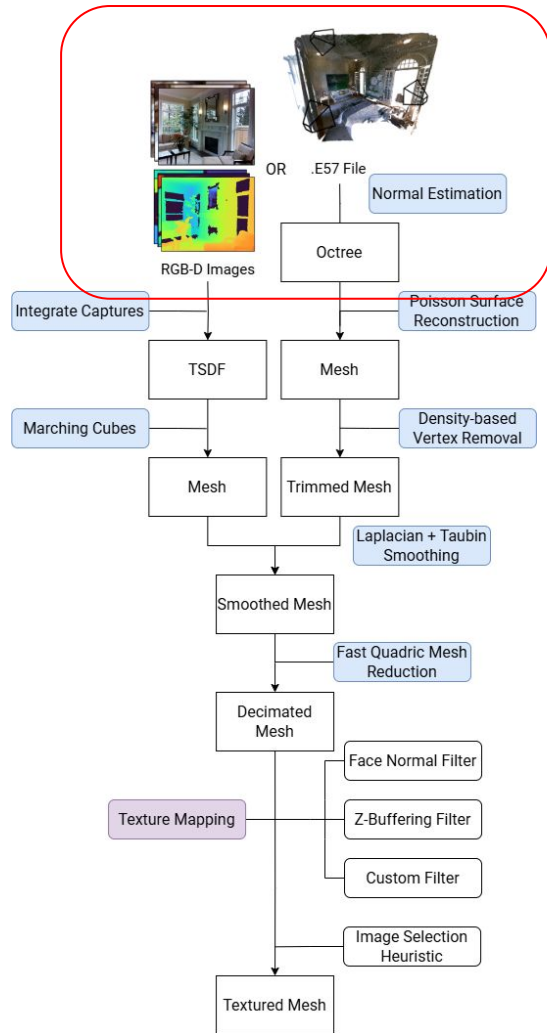
3D Reconstruction Tutorial

Data Processing, Surface Reconstruction, and Texture Mapping

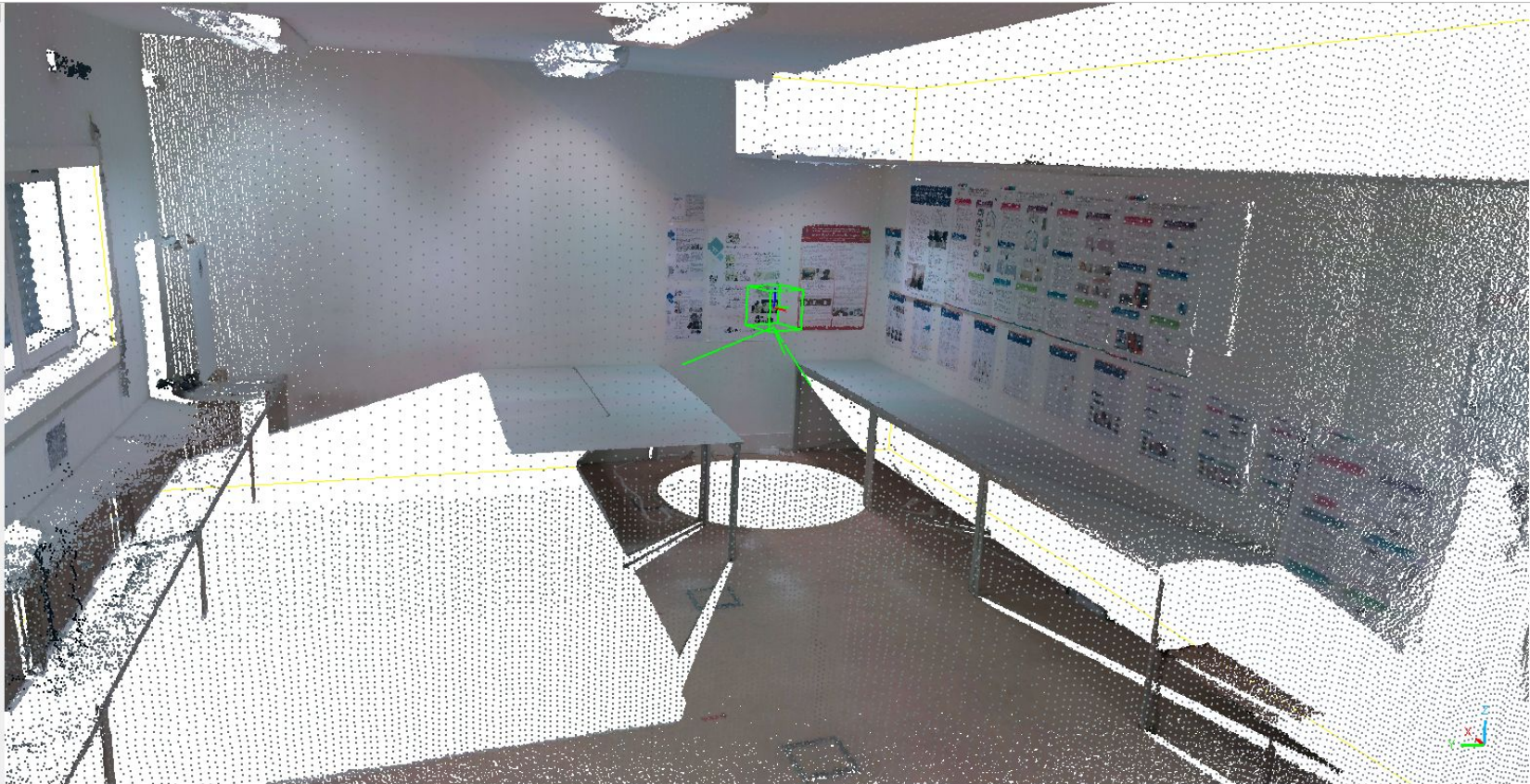
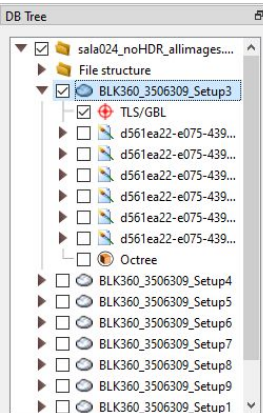


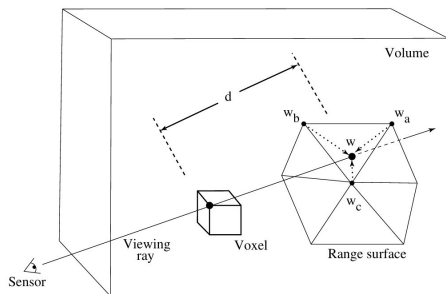
Click me!



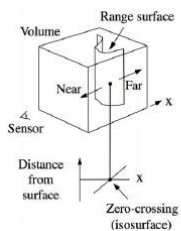


Inspecting e57 in Cloud Compare

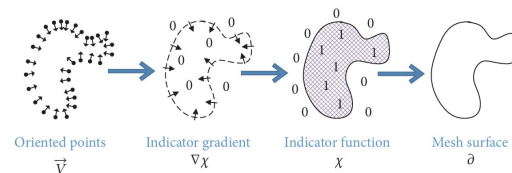
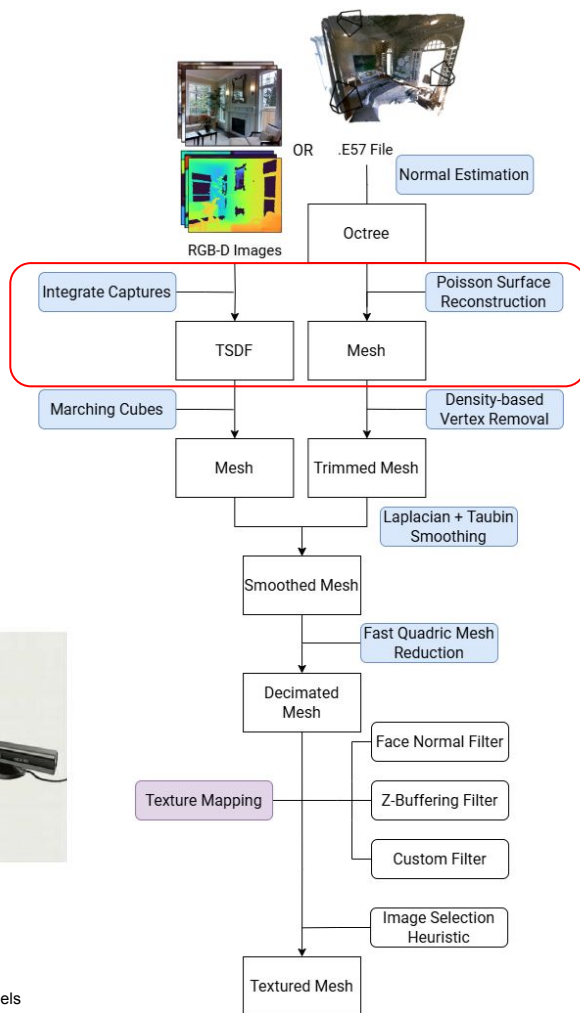
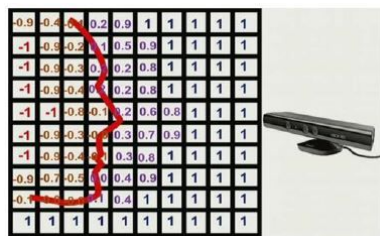




Sampling the range surface.
Taken from [1]



Taken from [2]

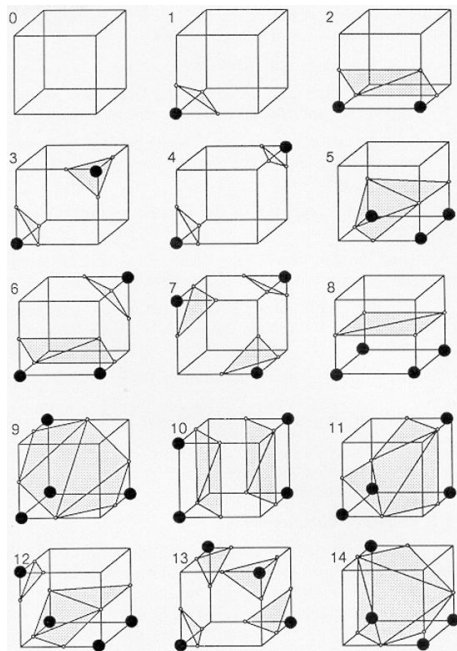


The process of Poisson surface reconstruction.
Taken from [3]

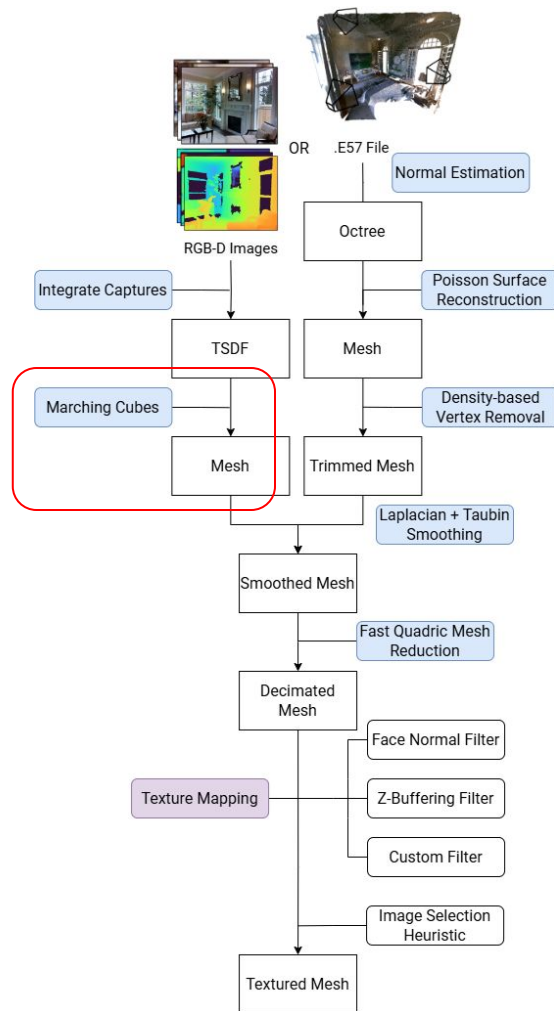
[1] Curless and M. Levoy. A volumetric method for building complex models from range images. In SIGGRAPH, 1996.

[2] <https://leechangyo.github.io/visual%20slam/2020/06/23/27.Visual-Slam/>

[3] Sheng, Buyun & Zhao, Feiyu & Yin, Xiyan & Zhang, Chenglei & Wang, Hui & Huang, Peide. (2018). A Lightweight Surface Reconstruction Method for Online 3D Scanning Point Cloud Data Oriented toward 3D Printing. Mathematical Problems in Engineering. 2018.

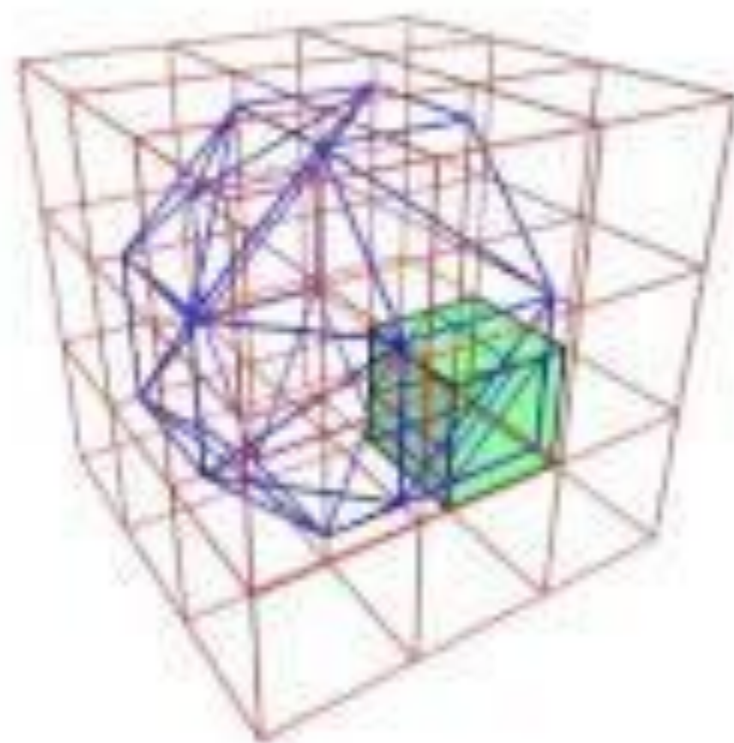


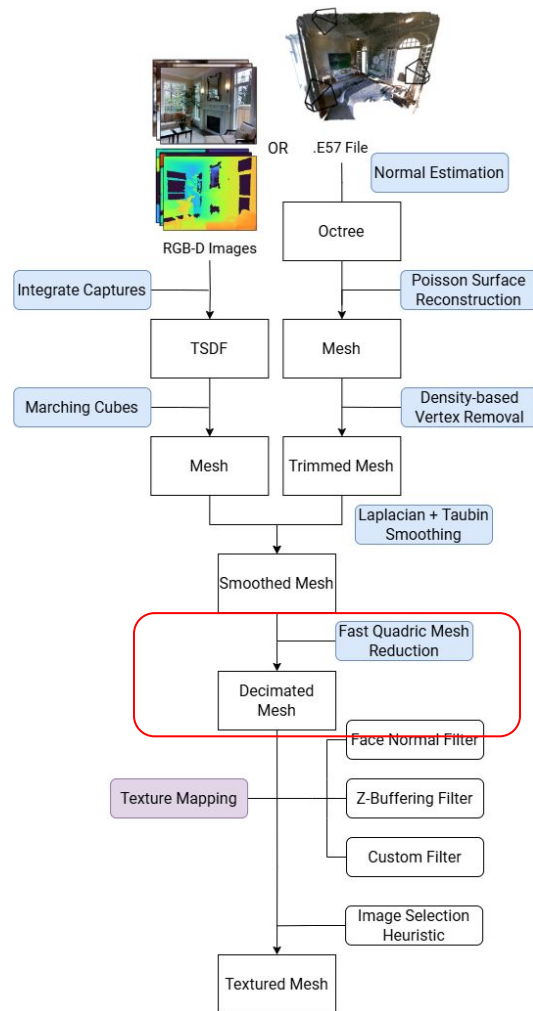
Triangulated cubes.
Taken from [4]



[4] William E. Lorensen and Harvey E. Cline. 1987. Marching cubes: A high resolution 3D surface construction algorithm. SIGGRAPH Comput. Graph. 21, 4 (July 1987), 163–169.

Implementation





Mesh Decimation

