

SUMMARY

The project deals with developing a 3D scanner using the Ball Pivoting Algorithm for surface reconstruction. The project used the active non-contact method of 3D scanning technique. The entire system consists of various stages namely image acquisition, pre-processing, processing, point cloud generation, mesh model generation and surface rendering.

The system's objective was to develop and use a surface reconstruction algorithm that would make efficient utilization of memory and time. The algorithm was developed in Matlab and is a general one in the sense that, its accuracy depends heavily on the image acquisition system. So greater is the accuracy of the acquisition process, more is the final accuracy of the system.