

In recent years representation of objects based on point primitives receives more interest. This thesis presents possibilities of processing of point-sampled models. It gives an overview of algorithms that can be used in solving problems like deformation or animation of point-sampled models. There is also described how such models can be obtained. In the following part Level Of Detail is presented with regard to point-sampled models. There are given basic methods and factors used for the LOD selection. Furthermore, there is proposed and implemented transfer of parts of the selected LOD generating algorithm to GPU. This keeps CPU available for other parts of the algorithm or even other tasks. DirectX 10 is used for the GPU programming. DirectX 10 uses the new model of graphic pipeline that enables the transfer of more parts of algorithm to GPU.