

This thesis describes an implementation of 3D Chainmail Algorithm for volume data deformation. This algorithm is chosen after a comparison of several approaches to volume data deformation. This is not an algorithm suitable for physically plausible deformations, it is a compromise between performance, plausibility and simplicity. In another part of this thesis the algorithm is closely described. There is also analysed the possibility of algorithm parallelization using advanced Microsoft Parallel Extensions library. A part of this thesis is devoted to VL framework, which is in our program used to display volume data. The final program is tested on both real and artificial data. The target platform is Microsoft Windows operating system.