

Title: Contour lines to heightfield conversion

Author: Jonáš Klimeš

Department: Department of Software and Computer Science Education

Supervisor: RNDr. Josef Pelikán, Department of Software and Computer Science Education

Abstract:

The task of this project is to design and test algorithms for semiautomatic contour lines conversion to height field. This work tries to solve following problems: automatic connection of disconnected contour lines, adjacent paths finding, semiautomatic ordering of contour lines with user assistance, creating of terrain height field using Catmull-Rom splines or radial basis functions.

A part of this thesis is an experimental application, which implements these algorithms and displays the process of conversion. Program input are in form of contour lines in SVG vector format. Output 3D meshes are in Wavefront OBJ format.

Keywords: contour lines, height field, terrain