OVERVIEW
In this project, a real-time terrain visualization system should be realized for interactive exploration and navigation of large-scale textured grid-digital elevation data.

DESCRIPTION
To manage the size complexity of large-scale grid-digital elevation data we define a block based partitioning and multi-scale subsampling on the input data set to store the data as blocks of different resolutions on disk. Adaptive triangulation is based on a recursive triangle subdivision rule, with macro-triangles defining fixed sized triangle-mesh patches based on sophisticated indexing rules.

The goal of this project is to develop an efficient implementation of the multi-level block-partitioning of the terrain height-field and the precomputation of triangle-patch indexing rules. A visualization system demonstrating the developed algorithms and data structures will provide fly-through interactivity to the user.

WORKLOAD
40% Theory, 60% Implementation (C/C++, OpenGL, GLUT, QT)

CONTACT
Prof. Dr. R. Pajarola, pajarola@ifi.unizh.ch