Project Proposal

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OVERVIEW

The project chosen is Harmonic Coordinates for Character Animation. In this project, the volume deformations are performed by creating and manipulating the cage structure around the mesh. Then, the harmonic coordinates, generalized from the barycentric coordinates, are computed and used to control the deformation and character animation.

PROCEDURES

1. Draw a cage surrounding the mesh and construct the "coordinate functions" for each cage vertex
2. Use the constructed "coordinate functions" to interpolate a cage deformation
3. Visualize the interpolated volume deformation results

TECHNIQUES

The tool used in this project will be libigl, a C++ geometry processing library based on several Eigen data structures. All the codes will be written in C++.