COSC 6344 – Visualization – Project Proposal

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Title: Image Based Flow Visualization (IBFV) for curved surfaces

Description: I'll be working on the IBFV technique to visualize flow of vector fields on curved surfaces. In this technique, I'll make use of a series of noise textures convoluting them with the vector flow field to generate patterns. Unlike Line Integral Convolution (LIC) we will not be computing streamlines for IBFV. We'll warp a grid based on the flow in the vector field and then map it to the texture.

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Timeline and milestones:

Week 1 – 10/29	• Submit proposal • Setup environment • Get data from professor
Week 2 – 11/5	• Interface setup • Generation of iso-surface for flow visualization • Generation of noise textures • Viewpoint determination
Week 3 – 11/12	• Grid warping • Texture Mapping • Convolution
Week 4 – 11/19	• Rendering of textures based on parameters • Testing
Week 5 – 11/26	• Project presentation
Week 6 – 12/3	• Final testing • Submission