

problem definition

metamorphose parameters

- symmetry – upper and lower along x axis
- variation – shifts along x axis, local symmetry along y axis
- shape vs. contour –
 - shape – emergent form
 - contour – intersecting lines (laws of their own)
- form vs. texture –
 - form – line drawings, iconic 'Escher' shapes
 - texture – realism, i.e. visual effects and 'Escher' flavor

solution parameters

local transformations

- local shape morphing
- local contour adaptations
- local alpha blending (color and texture)
- local (multi) texture modifications

global transformations

- shape shifting (in x-y plane)
- contour corrections – constraints?
- alpha shifts – color and texture
- (multi) texture modifications

interaction aspects

- separate control panel vs context sensitive 'touch' interaction
- shape selection – drag and drop (from fixed set)
- sequence (shape shift) modification
- (local) shape modification – 'spreading'
- special effects – global morphing, style modifications, ...

platform options

- basic (geometry) image software – e.g. CGAL
- 'pure'OpenGL – C++
- high level library – OpenWorlds
- free technology – IExplorer + blaxxun VRML plugin
- research software – DLP+VRML+Java

computer graphics issues

- shape definition – contour maps, compound shapes
- image transforms – fixed choice, algorithmic

prototype tracks

shape definition

- contour maps – extrusion (scale) profile (scale modifications)
- polygon mesh – fixed sequence indexedfacesets (coord transforms)
- compound shapes – morphable proto (morph propagation)
- textures – including multitextures (alpha blending)

transformations

- time-based (linear) interpolators
- discrete representation of morph states
- scripts – constraints & preferences

interaction

- shape selection – touchsensor, (blaxxun) drag & drop
- mouse & keyboard – standard sensors (and handlers)
- direct manipulation – 'graphical' editors