Assignment 1215
With this last assignment (which also serves as a preview of CMSI 371), no formal due date prior to the portfolio has been set. However, you are encouraged to turn it in well before the end of the semester in order to get feedback on it.

Outcomes
This assignment will affect your proficiency measures for outcomes 1i, 2a, 2f, 2b, 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3b, 3i, 3j, 3k, and 3l.

Not for Submission
By November 29
1. Read Chapter 5 in Shneiderman/Plaisant (Chapter 6 in older editions).
2. Read Chapters 3–4 in Norman.

By December 6
3. Read Chapter 7, and skim through Chapters 8 and 9, in Shneiderman/Plaisant.

For Submission
Sierpinski Gasket: Web App
Modify the webgl-sierpinski sample web app so that the user can also translate (pan) and scale (zoom, sort of) the view of the 3D gasket:
• Dragging the mouse results in translation if the user is holding down the Shift key.
• Dragging the mouse results in scaling if the user is holding down the Alt/Option key.
The sample code has been structured so that you should not need to know a lot of OpenGL (yet) in order to accomplish this task. However, you will need to learn how to transfer your app to an actual iOS device, because the iOS simulator cannot simulate three simultaneous (and autonomous) touches.

Sierpinski Gasket: iOS App
Modify the ios-sierpinski sample iOS app so that dragging three fingers on the screen results in a color change, with one finger each corresponding to the red, green, and blue components of the 3D gasket's color.
As with the web app, the sample code has been structured so that you should not need to know a lot of OpenGL (yet) in order to accomplish this task. However, you will need to learn how to transfer your app to an actual iOS device, because the iOS simulator cannot simulate three simultaneous (and autonomous) touches.

Sierpinski Gasket: Dream App
Having now experienced the 3D Sierpinski gasket in two distinct technologies (but having noted, I hope, the similarity of the graphics code), how would you design a user interface into such a 3D gasket viewer?
You may assume that multitouch is available (regardless of platform). The feature set (utility) of the app is the union of what the sample code has, the additional features in this assignment (for both platforms), and the following:
• The ability to customize the “depth” of the gasket (i.e., how many subdivisions to make)
• The ability to load and save different gasket view settings (translation, scale factor, color) under different names
Supply both a design (with mockups) and a rationale for your design choices. Address outcomes 1i, 2a, 2f, and 2h in your rationale.

How to Turn It In
• Upload the Sierpinski gasket web app to your my.cs.lmu.edu web site (go to secure.cs.lmu.edu if you don’t have one yet).
• E-mail the Sierpinski gasket iOS web app to me.
• Submit a hardcopy of your Sierpinski gasket iOS dream app design and rationale. You may e-mail me an electronic version as well to be sure, but that must be in addition to the hardcopy.
• Please submit hardcopy of your source code too, for both apps.