1. Introduction
The goal of this assignment is to become familiar with current haptic technology and to spend some time using the Phantom haptic device.

2. Background Research
Write an essay that picks a current haptic product (either force or touch) and argues that the product is one of the best examples of successful application/implementation of the idea of haptic feedback. Describe the features of the device and the applications where it is useful. Compare/contrast the product you pick with other available devices that you think are less successful. Limit the length of your essay to 2 pages, 11 point font (diagrams and figures don’t count in the 2 page limit).

3. The Phantom
Sign up for an appointment in the Vis Center (REVEAL lab, 8th floor KU Building on Quality Street downtown) by calling or emailing Steve Bailey (sbailey@engr.uky.edu 257-1257 x82044). Spend at least one hour playing with the Phantom haptic device and its software for virtual carving. Get Steve to take your picture with the haptic system to confirm that you’ve done this part of the assignment.

4. The Collision Detection Problem
What is the collision detection problem? How does this problem, generally, play a role in haptic interfaces to VR systems? Suppose you are working with a specific VR system that is designed to enable interaction with virtual objects that operate under simulated gravity and can be grabbed via a hand avatar (connected to a haptic glove device) and can be placed on a virtual tabletop. Explain all the places where collision detection is important. Explain how this problem is solved computationally and what the implications of the various solutions are for the haptics devices making use of the solution.

5. What to Turn In
Submit by email your essays and your digital photo with the Phantom.