Goal:
The goal of this exercise is to introduce the concept of vision calibration, segmented vision, and how vision flows through the Tekkotsu framework.

Detail:
This exercise is designed to be simple. The intent is to help step through the process of adding and trapping new colors and objects, not to identify complex objects. More advanced vision may be a part of your term project.

The requirements are:
• Create and apply a custom segmentation.
  • You are not allowed to complete this assignment using default color mappings.
  • It must be done through either of the training tools.
  • When viewing the Seg Cam, your segmentation must be obvious.
• Create a behavior that can move the head of the AIBO to face a pink ball, a blue defensive goal, and an orange offensive goal using the customized segmentation.
  • Recycle your old project(s) to have the AIBO startup in a lying down position with its head up high enough that it can clearly see objects a few feet ahead of it.
  • After the head button is pressed, the head should follow the 1st object the AIBO recognizes.
  • Report to the console the color of the object it recognizes (it may scroll).
  • Stop all movement and outputs when the head button is pressed again.

Hints:
• If you haven't yet, read through the vision tutorials to help walk through the calibration and sampling process.
• Be sure to remember to comment out setup code dependent on a prior segmentation.
• Don't ignore the background or lighting as part of the segmentation.
• A failure in the loading of the vision system will result in a “Castlevania noise”, but telnet to AIBO anyway…it might have thrown a message to the console first.
• Keep the focus small, use the ball and the two goals from last year's Seminar.
• Use the ChaseBall Behavior and the BallDetectionGenerator classes as code reference.
• Writing a custom detection generator is not a requirement of this exercise (although if you find it helpful it's certainly encouraged).