Challenge 3: Robot Zoo and Feeding Frenzy
due: Oct. 16, 2006

In this challenge you will build a robotic animal that will search for food. If your animal cannot find food, it will cry for help.

Objective: Create a robotic animal that displays some appropriate behavior (wagging tail, slithering, waddling, etc). Program your animal to search for "food" (black tape marks) on the floor. When the animal finds food it should stop and "celebrate" by playing a happy sound. If the animal cannot find food in 30 seconds, it should "call for help" by pausing and playing a sad sound. You will need to use events to trigger one of your reactions. You should also tally the total number of pieces of food you have found using containers.

Setup: An 6' by 6' area will contain several randomly placed tape squares (3"x3") that indicate food. You're robot should be able to navigate the field to search for food. (You can redirect your animal if it leaves the field.)

Rules:
1. You must program your robot using ROBOLAB.
2. You must use events somewhere in your program. (-5 for no events)

Scoring: Your score will be determined by both performance (10 points) and creativity/aesthetics (10 points). Smaller test areas will be used to prove the capabilities of your robot. A final game of "survival of the fittest" for food will determine the winners of bonus points (like musical chairs).

Performance

If your robot:	You will get _____ points
Can find food, cry for help, and count food	10
Can find food and cry for help	8
Moves and makes noise	6
Moves	3
Don't have a robot	0

Winners of "survival of the fittest" receive bonus points: 1st place – 1 point, 2nd and 3rd - .5 points.

Creativity/Aesthetics:

If your robot:	You will get _____ points
Looks and acts like an animal	10
Looks like an animal	8
Has some animal-like movement	6
Looks and acts like a car	3
Don't have a robot	0

"Best in show" will be determined by class vote, with the winner receiving 1 bonus point and 2 runners-up receiving .5 points.