

Homework 2

Robotics Seminar

CSI445/660 – Spring 2009

University at Albany, SUNY

Due: 2/11/08 @ 4:15PM

Goal:

The goal of this exercise is to help you practice implementing Behaviors as Finite State Machines in the Tekkotsu framework.

Details:

You are to use a FSM to implement a behavior that does the following:

- The behavior should start with the Aibo in a waiting state
- Pressing the back once should cause the Aibo to start walking forward.
- Picking up Aibo while it's walking should cause all motion to cease
 - Putting it back down should resume the walk
- Any obstacle in the path of the Aibo should cause all motion to cease
 - Removal of the object should resume the walk
- Pressing the back button while the Aibo is walking should cause all motion to cease
 - Pressing the back button again should resume the walk
- BONUS: Make these nested, that is, if I pick up the dog and then press his back, he will only start walking again when he is both put back down and his back is touched.

Hints and Reminders:

- Make sure you have a Tekkotsu project of your own
- For the back button requirement, remember that button pushes are events. Remember also that the button generates events on the way down and the way back up...
- To detect being picked up off the ground, use the Aibo's paw switches. You will likely need a timer transition as well....
- Use WalkNodes for walking and stopping
- Use SmoothCompareTrans for sensor readings