Weekly Status Report 2009.03.17

Group One.
Group Members: Hanzheng Zou  
                        Hongyi Zhao  
                        Zhao Huang  
                        Zhiqian Yuan  

Project: Smooth walker.
Date: 2009.03.17

Background

We realized that there are two ways to eliminate the walking vibration. One way is to design a new gait from scratch, another is try to get the default walking gait in the build-in system and modify the freedom of the joints to more reasonable ones.

In the last two weeks we struggled a lot in making a brand new gait, even with the Graphical modeling tool, we had to count gravity factors and supporting points in the design. So this week we decided to analyze the default gait first, and then make a new gait based on the default gait.

Done this week.

- We extracted a walking gait from the MotionCommander example by printing the joint's angle values into the web-console. We modified the MotionCommander to let it print out the angle array each time when it was done with one motion.
- We put the joint arrays into the Graphical Modeling tool to help our gait designing.

The gait is in the iteration: RightFront-->LeftRear-->LeftFront-->RightRear.

- We implemented this gait using Open-R by setting the joints values at different time. And it worked! Now we have our own gait, and the dog can keep walking forward! It is not a good gait but a good start for later work.
To do in the next Week

- The gait that we have right now is still not “smooth”, we should continue try to make it walk stable by coordinate the leg's movement.

- Think about how to estimate the Head-shaking.

- We found out that a “CVS” is quite important in the code development. We will try to make our CVS if it doesn't take too much time.