System Interface Design – Wii Remote Project Analysis

Baseball:

The first test we ran was simulating throwing a baseball. This test gave us some valuable information on how the polling of the Wiimote works. You can see from series 1, the first test, we threw the baseball very fast. As it turns out, the Wiimote did not even register most of the motion because of the speed. We slowed down the throws for the second trial, and even more for the third. This let us record more of the full range of motion. Our X-Axis is the horizontal motion which ended slightly forward of the beginning. The spike on the X graph is the windup portion of the throw. The Y axis, vertical motion, shows a slight dip for the initial windup, a jump when bringing the ball over the body, then returning to roughly the initial height. The Z axis, side to side motion, did not have too much to record. The dip and jump corresponds to similar places on the Y graph.

Bowling:

For this experiment the Wiimote was actually facing a different direction which showed us that the axis were not the same as in the first test. What we have as the X-Axis is actually what we'd consider the Y-Axis, and vice versa. You can see from the values of the X and Z graphs that there was very little vertical and side-to-side motion for our bowling movements which was true to our actual motions. The few downward jumps were mistakes, or “noise” in the data capture. The Y axis, in this case horizontal, covered a wider range of values as we moved across the floor. The first series again caused us some problems where the data was not being transmitted either because of distance or speed at which we moved away.

ND Drawing:

It is clear from our graphs that series two was much different from the others. For this experiment we drew an ND on the board and traced it from far away which resulted in very little movement in any direction for the Wiimote. The second time we moved closer and exaggerated the movements which show a much bigger change in position for X, Y, and Z. For the third test we did another far away trace, moving slower, but the changes in position were still too small to have produced much movement data.
Baseball Z-Axis

Z-Axis
Bowling X-Axis

Bowling Y-Axis
ND Drawing Z-Axis

Time

Series1
Series2
Series3