

Work Summary 01/16/2012

• Completed Issues

Friday 01 / 13 / 2012

1. Development of motor controls.
2. Set 9 different modes for forward, backward, turn left and right.
3. It is unable to encapsulate sensory data to cm, due to poor ambient light
4. Set up Sensors
5. Rebuild entire code from scratch
6. Implement the algorithm for walker to follow a RIGHT wall
7. Determine that speed mode 4 is the best average speed
8. Reduced reverse speed

Saturday 01 / 14 / 2012

1. Implement joystick
2. Add circle turns
3. Implement 9-degree turn algorithm
4. Implement brick wall scenario algorithm
5. Implement algorithm for walker to follow a LEFT wall

Sunday 01 / 15 / 2012

1. Replace the old power switch by a push button switch (the old one killed himself)
2. Implement joystick external interrupts
3. Add timer
4. Get rid of the noise when the walker is moving forward

• Upcoming Tasks

Dolu

1. Test out an ultrasonic sensor to see if it would be usable as the front mount sensor on the walker. Being able to declare a "brick wall" with little amount of noise.
2. Help with encapsulating the different motor speeds. We need to know how fast the walker is moving in a range of say cm/sec. The walker has 9 different speed modes, so you will need to test and measure each, creating a chart of the value.

• Further Improvements

- I. Build hanger on front for Mode 0 sensors
- II. Improve brick wall scenario, front sensor issue.
- III. Add LEDs for on/off
- IV. Test ultrasonic
- V. Test speed
- VI. Add reverse turns and improve hardware control
- VII. Vibration dampers, the walker performs better when someone is holding it because the sensors do not vibrate as much
- VIII. Improve joystick interrupts
- IX. Implement smart/learning algorithms that allow walker to be less susceptible to other environments

• Timeline update

Task	plan	state
joystick control of mode 1	2012.01.13 - 2012. 01.15	done
move along straight/curve walls	2012.01.13 - 2012. 01.15	done
make 90 turns	2012.01.13 - 2012. 01.15	done

• Reference

Test Demo: <http://www.youtube.com/watch?v=5rRaQz3SMR4&feature=youtu.be>