

## **LAB Assignment #6 for ECE 443**

Assigned: Wed., Oct. 13, 2010

Due: Wed., Oct. 27, 2010

### **Description: Add Scoring capability to the VGA code**

Add a score component to the VGA code.

- Reset the scores to 0 when the FPGA is reset
- Add 1 to the USER score every time the user successful in positioning the paddle to deflect the ball back to the wall
- Add 1 to the MACHINE score every time the ball passes to the right of the paddle and restarts on the left

Bonus:

- a) Replace the wall with a second paddle and allow a second player to control it
- b) Allow the second player to control the paddle using the keyboard (instead of a different set of buttons). You can leverage the UART code to implement this
- c) Change the score display to include a score for the second player

Implement using a tiling scheme as described in the VGA lecture slides.

### **Laboratory Report Requirements:**

No laboratory writeup required: Prepare to demo your code in class using a monitor that I will bring.