CSCE 313  
Lab 2  
Video and Image Transformation  
Due Date: 2/17, 11:59pm

**Design Requirements**

For this lab, use the DE2 board to load and display an image to the VGA output, as well as to display a transformed version of the image where the transformations are rotation and scaling.

In the mode selected by pressing KEY3 (the initial state), the DE2 should display the unaltered image to VGA, along with text, visible somewhere on the frame, that says “original image”.

In the state selected by pressing KEY2, the DE2 should continuously rotate the image clockwise in increments of 10 degrees as fast the processor can perform it. There must also be text, visible somewhere on the frame that gives the current performance in frames per second averaged over the previous 9 frames (print N/A for frames 1 through 8).

In the state selected by KEY1, the DE2 should shrink the image in 10% increments down to 10% of the original size, grow the image in 10% increments to its original size, and repeat. This should be performed as fast the processor can perform it. There must also be text, visible somewhere on the frame that gives the current performance in frames per second averaged over the previous 9 frames (print N/A for frames 1 through 8).

**Additional Requirements**

Your code must render every pixel of each calculated output frame and must use bilinear interpolation to compute the color of each pixel.

**Project Submission**

Each group must submit a tar archive of all project files to Dropbox.