MP-2

Digital Camera Design

# Design Test Analysis

1. System diagram of interconnection between system modules.
2. Modification in TPG core and Camera\_app.c

# Grayscale Camera

1. Description of the paring of signals and configuration inside system.ucf
2. How we set Output\_enable
3. Why is there no color?

# Color Conversion Software

1. We modified the function camera\_loop() inside of the camera\_app.c file.
   1. Added a color\_lut to tell us if we are on a RED, GREEN or BLUE pixel
   2. Found the other two colors by averaging nearest neighbors of our pixel
   3. Convert to YCBCR format with the matrix multiplication provided in the lab document.
   4. Then finally either a YCR or YCB to be saved into the MM2S pointer.
2. Describe YCbCr in fmc\_imageon\_enable()
   1. This is a 4:2:2 encoding
   2. The first 4 bytes are the Y value
   3. The next two bytes are Cb and the next two are Cr respectively.
3. Our performance on the first go around was 0.5 fps. We measured this in the most accurate way possible. Simply by using our super intelligent brains to start and stop a timer on a watch.

# Image Processing Pipeline

1. Diagram of image pipeline
2. Performance and measurement

# Make the camera great again

# Participation

# Conclusion



