**EE404/591 – Real-Time DSP**

**FSC Project 1:**

**Real Time Image Processing**

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**Introduction/Lab Objectives**

The objective of this lab is to apply simple real time image enhancement techniques to live

video stream captured from a webcam attached to the PC via the Universal Serial Bus

(USB).

**Results and Analysis**

A screenshot of a cell phone

Description generated with high confidence

A.

A screenshot of a cell phone

Description generated with very high confidence

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| --- | --- |
|  | |
| Transformation: | * Quantized\_SF\_1 |
| Parameters: |  |
|  | |
| Transformation: | * Quantized\_SF\_2 |
| Parameters: |  |
|  | |
| Transformation: | * Quantized\_SF\_3 |
| Parameters: |  |
|  | |
| Transformation: | * Quantized\_SF\_4 |
| Parameters: |  |

**Lab Evaluation**

We encountered no major difficulties for this lab. The most difficult section had to be implementing our own assembly code for our Hybrid equivalent functions. However, with the guidance of previous labs, this section was manageable. It also seemed slightly difficult to figure out what photos to save for our report. To deal with this we relied on the submission sheet rather than the lab manual.

We found no errors in the lab manual everything else was straightforward.

As for improving this lab, it was difficult to revisit after spring break. Maybe something about that could be improved.

**Conclusion**

From this lab, we learned how to apply real-time image processing techniques to view the histogram and potentially improve the quality of a photo by means of transformations.

It was very cool to be able to see both images before and after a transformation and more importantly the histogram. The least liked portion involved some of our initial assembly code.