Conversion of RGB images to Intensity images

Niels de Waal (1698041), Jasper Smienk(103967)

February 16, 2018

Contents

1 Target

The assignment of TICT-V2VISN1-13 at the HU, which we have chosen to undertake consists of two different components. The first one consists of writing a image shell which has to ability to extract or modify data from a given image. The second assignment is to convert an RGB image to an intensity/grey-scale image.

We will be mostly focusing on the second assignment. This is because we are interested in comparing a few different approaches to this problem.

For the second assignment we will be doing two measuring tests. The first will cover speed across multiple methods of grey-scaling. The second test will revolve around parallel execution of the grey-scaling process.

Both can be of interest. This could be because testing multiple methods of grey-scaling, including testing the speed at which this can be done could have effects when grey-scaling becomes an integral part of a system. This could happen in a real-time face recognition system, where grey-scaling has to be done every frame.

2 Methods

2.1 Methods for grey-scaling

2.1.1 Averaging

2.1.2 Luma

2.1.3 Decomposition

2.2 Parallel execution of grey-scaling

3 Choice

4 Implementation

5 Evaluation