

THE HAGUE UNIVERSITY OF APPLIED SCIENCES

IMAGE ACQUISITION AND PROCESSING
LAB

Final Report

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1 Introduction

we work from the lab assignment [\[1\]](#). They state:

The students will work in groups of two and have to attend all lab-sessions in order to pass the course. During the lab-sessions, the students are asked to take images and write software to process them. Students are asked to bring their own laptops with an USB3.0 port. All assignments can be worked out on school-computers with the cameras supplied, but working independently on your own laptop is recommended. Students will receive a virtual machine (Virtual Box) with all software preinstalled on Ubuntu 22.04 LTS.

This report describes the exercises and how they were solved by the students.

The students used the virtual machine and project tamplate provided by the teacher.

2 Assignment 1

Setup

For this assignment we connected the Camera to the Virtual Machine. And to the project template a case was added to the "switch (key)" statement. This case was used to take a picture with the camera. The picture was then saved in the folder from which the program was run.

```
1  case 's':  
2      cout << "Saving..." << endl;  
3      // save image using openCV API  
4      imwrite("blahai.png", image);
```

Listing 1: save image to file

We pointed the camera at an object and adjusted the aperture and focus to get a good looking picture with a shutter time of 100ms. See image ??

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Object in front of Dark Background
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Demosaicing Filter

References

Theinert, F. (n.d.). *Reader image acquisition and processing*. The Hague University of Applied Sciences.