Instructions for peer reviewers

--How to grade a project--

This document contains information about what to especially focus on when reviewing a project. A peer reviewer shall **1)** Import the provided project in Visual Studio (optionally in some other tool), compile, and execute the project including the TCP server. **2)** Read the provided report.

Note! The author of the project must include instructions on how to setup and execute the project step by step. A missing instructions manual can give penalty points to a project.

Grading

A peer reviewer shall grade a project by following a set of categories listed below. Each category can give a number of points depending on how well the project follows the description of the category and how well it follows good programming practices and good common sense engineering. The reviewer shall set a score for each category and the total maximum score is 100p.

Categories

Project compiles. 0-10p.
Without modifications, the project should compile. Penalties can be given for compiler warnings and for compiler errors, files missing or other critical features.

Edge detection producing a filtered image. 0-10p.
10 points are given in case the project produces a filtered image by using the edge detection algorithm. The before-after picture should also be included in the report and the edge detection algorithm should be integrated into the rest of the system. Penalties can be given for bad programming practices and for missing parts in the report.

Encryption algorithm produces an encrypted array of type `pixel_t`. 0-10p.
10 points are given in case the project produces an encrypted array of pixels by using the encryption algorithm. The input and output string from the encryption should be demonstrated by a simple example and included in the report. The encryption algorithm should be integrated into the rest of the system. Penalties can be given for bad programming practices and for missing parts in the report.

TCP client able to connect to TCP server and sending data. 0-10p.
The TCP client shall be implemented in FreeRTOS and it shall be capable of sending some data to the TCP server on the PC via Ethernet. Demonstrate this function by providing the code and include in the report a screenshot of this function. Penalties can be given for bad programming practices and for missing parts in the report.

Successful communication between all FreeRTOS tasks. 0-10p.
In case all parts of the system has been integrated and they can communicate with each other, 10 points can be given. This means that there should be a good way of propagating information between the integrated actors. Penalties can be given for bad programming practices.

All components integrated and TCP server receiving an encrypted frame. 0-10p
The whole system is technically working: System reads image input, filters, encrypts and sends data to TCP server. In case this works, 10 points can be given. Penalties can be given for bad programming practices or missing parts in the chain.

Project does not crash within an hour of execution. 0-5p.
5 points are given in case the system stays stable for at least one hour of execution.

All deliverables in report. 0-10p.
All deliverables should be included in the report (deliverables listed in the video lectures). Penalties can be given for incomplete deliverables, missing deliverables or missing references, figures or other material needed for the deliverable.

Provides the required framerate. 0-5p.
Provide a solution and prove that your system does provide the required framerate for the filtering and encryption. Note that a windows simulator cannot provide real-time performance, but motivate this and argue for the performance of the system.

Successful and motivated FreeRTOS scheduling. 0-5p.
Argue and motivate for your scheduling methods. Can you show that your system will not deadlock because of scheduling priorities, and can you show that the system will not fail in some other way by your choices? Are there motivations for this in the report?

Overall programming style. 0-5p.
Use good programming practices for the C language and +5 points can be given in addition.

Optional scores including motivation. 0-20p.
Did you especially like some other part of the solution? You can provide maximally 20 extra points for parts not listed in the above categories.

Now sum up all the points you have been given the project and register this score on the Coursera page.
Maximum score: 100p.
After the score has been registered on Coursera, no further actions are needed by the reviewer.


Thank you for your participation!
-Simon & Farhoud