LCOM - Project Requirements - 2025

Objectives & Constraints

The goal of this project is to develop a visual application to run in the LCOM/Minix environment using at least three different I/O devices, studied along the semester. The I/O devices to be studied are the Timer, the Keyboard, the Mouse and the Graphics card. Additionally, we will discuss the Real Time Clock (RTC) and the Serial Port[1].
The project is expected to be done by teams of 4 elements. Each element of the team needs to actively participate. Grades will be given individually.
Additionally, please take into consideration that:

- **There is no restriction about the topic for your project**. Please take into consideration the capabilities and limitations of the devices you have studied and chosen. Take some time to discuss your ideas with your practical classes professor or teaching assistant. Some examples of past projects are: games, electronic calendar, text editor, drawing/painting application. These are just examples, creativity is greatly encouraged.

- **Every team will have to submit their idea,** via Moodle (Project Proposal)**, by 11th of April**.

- Each team is expected to handover in their final project delivery (via the GitLab repository) the following artifacts:
  - application code
  - project documentation
  - report about the project (5 page max)
  - video demo (5 min max)

- **Deadline 23h59 - 30 May 2025**. The version of the project considered will be the last commit before the deadline. All the artifacts should be committed to the repository by then (code, documentation, report, video demo).

About the report

The report, in a maximum of 5 pages, should answer the following questions:
- What was our goal? What is our application?
- How did we structure the project? (use an architecture image to support your description)
- What devices did we use and for what purpose?
- What are the differentiating features of our project? (What is special about your project/approach?)

Grading criteria

Demonstration and discussion - 40%
Usage of three I/O devices successfully - 30%
Code structure (modularity, documentation, tool usage) - 20%
Report + Video - 10%

[1] Please note that these will not be studied in the practical classes thus using them is not mandatory to achieve the maximum grade. However, teams that successfully use them will be given extra credit.

Technical details

To allow your project to run within the LCF environment, you'll have to define the following function:

```
int(proj_main_loop)(int argc, char* argv[]) {
        /* your main loop code here */
        return 0;
}
```

Also, make sure the Makefile is correctly configured for your project and is committed to the Git repository. After executing make, you can run the project by executing:

```
minix$ lcom_run proj
```

If you run into problems, you may stop the project by executing:

```
minix$ lcom_stop proj
```