CAN CAR PROJECT

This Document Version: 1.2
Author: Pascal Sartoretti/Francesco Carrino
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1 OBJECTIVES

The "Can Car" test bench simulates several CAN nodes that would be present on a real car, such as the ignition key, the headlights, the engine, the automatic gearbox, etc.

Your objective is to implement a full CAN Controller, on the "picebs3" board that control the vehicle as best as possible.
For example, "Feature 1": When the car is in neutral and when the ignition Key is turned ON, the engine should start and run at idle, the lights should be on. "Feature 2": Cruise control (a.k.a. tempomat). Etc.

The functionalities required for the "race mode" are mandatory to access some of the extra bonus points (see below). These functionalities will be discussed during the lab.

2 AVAILABLE INFORMATION

All the information about the project is available on Cyberlearn or provided directly during the lab.

3 ASSESSMENT

You must keep a list of the features you have implemented. You work will be assessed in terms of:

- **Implemented functionalities.** The judges will run a series of predefined tests, representing the features expected to work in a commercial vehicle (the same series of tests will be used for each group). You will receive a mark for the features in this list that are working.
- **Quality of your code.** The quality of your C source code and comments will be assessed.
- **Final Presentation (3-5 slides).** At a minimum, your presentation should contain the following information:
    1. Schema showing the architecture of your code (e.g., components diagram, activity diagram,…)
    2. Summary of the functionalities implemented… and not
    3. Description of the problems / difficulties encountered, and the solutions found.

  As usual, a neat layout containing all relevant information is expected. The presentation and the code (.zip or link to the git repository + reviewer rights to the Profs) has to be submitted on Cyberlearn.

3.1 Extra bonus points are available:

- A race in semi-automatic mode will be organised (a member of your group will drive the accelerator and brakes of the car, the direction will autonomously be driven by your controller). The first three groups with the fastest finishing time for one lap (with a standing start) **without a single crash** will receive bonus points (depending on the order of arrival).

- Your group may also receive bonus points for extra ideas that have been implemented.

4 SUBMISSION DEADLINE

The date of the Assessment will be communicated as soon as possible after the beginning of the project.

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