CQS GroepT Racing Team

www.cqsgrouptracingteam.be
Leuven, Belgium
Summer Internship, Olin Year 2

Introduction: CQS Group T Racing Team consists of ~30 master students from Group T Leuven Engineering College. The team develops a hybrid and electric drivetrain: *Pegasus* (biethanol) and *Odyssee* (electric) cars participate in the 24h24' for 2CVs at Spa-Francorchamps (Belgian Grand Prix).

Aim: For 2.5 months, I worked in the Electronics department of *Odyssee*. My main job consisted of 2 tasks. The *first* was to create and **restore wireless communication** between Odyssee and the pitlane when the car is in a race. This enables the team to receive real-time data from the car and optimize their racing strategy.

Design: I worked with *Xbee* modules that can transmit data bytes using the **RS232 protocol** between the car and the pitlane.
Wireless data was read, saved, analyzed via **LabView**, **mySQL**, and **Java**. Incoming GPS data was analyzed through bit-shifting and we plotted GPS coordinates real-time on Google Maps. In July when Pegasus participated in a 2CV race at the Circuite de Bresse, we successfully tested the wireless communication and GPS sensor!

Aim: **Re-design** the **data-analysis program** and user-interface to be modular. Suppose the team wants to add new sensors to the car or make adjustments? How can they more easily do this instead of hard-coding sensors in?

Design: I developed the interface, architectural, and and procedural design for the Java program.

The experience taught me about automobiles and electric motorization. It inspires me to continue in the automotive industry and help those 'going green'.

Electric vehicle, *Odyssee*


GPS Data Set-up


Xbee transmitter module