

Electrical/Computer Engineering Design Project Proposal

Title: *Implementation of a vehicle control system for an Autonomous Surface Craft*

Client: *Autonomous Ocean Systems Laboratory, Bachmayer@mun.ca and phone 737-6793*

Supervisor: *Ralf Bachmayer*

Description

The objective of this project is to review and implement the control and communication system designed by last year's group into an autonomous surface craft (ASC). This will include the integration of a wireless link into the system as well as the development and programming of a conversion board that interfaces the propulsion system's RS-485 based serial communication system to the ASC controller area network (CAN) bus. Besides the hardware integration the objective is to develop and implement a user interface that allows a user to do high-level trajectory planning and provides feedback about the status of the vehicle. The vehicle uses the provided trajectory data for closed loop trajectory tracking.

Information on last year's project can be found at <http://www.cs.mun.ca/~v29dds/>.

Roles

This project is going to interface with other disciplines working on other aspects of this multi-disciplinary project.

- 1. Translator board design and programming (microcontroller based, i.e. PIC or equivalent);
Electrical or computer*
- 2. Wireless system integration: Electrical*
- 3. User interface/closed loop trajectory tracking: Computer or electrical with programming experience.*
- 4. Overall system integration and interfacing with other disciplines working on the ASC.*