Team 1 Weekly Report 2

2/5/2009

James, Eric, Alex, and Tarek
Overview

The S-90 Off-Road Vehicle is nearly ready for test-driving. Minor mechanical touches remain, while some electronic tuning remains.
Completed Mechanical Work

- Brake was strengthened by increasing force created in the mechanism.

- Seating mechanism has been finalized after a visit to the client.

- Head-Switch Mechanism has been designed and building has begun.
Completed Software Work

- PWM signal from the RC controller/receiver was normalized in order to be input into the microcontrollers.
- Braking system has been calibrated and the joysticks and wireless controls can now apply different levels of braking.
- Shutdown routine is now programmed to pull the throttle back to idle and apply the brakes.
Completed Electronics Work

- Speed controllers for the braking and the steering motors are wired.

- The Circuit board has been consolidated to one bread board.

- A lot of wiring has been completed.
Project Review

Successes

- Body work has been going smoothly and is nearly ready to be primed and painted
- Left, Right and braking functions have been successfully integrated in program and can be used with joystick and remote.
- Emergency Shutdown mechanism and program have been designed.
Project Review

Hang-ups
- Calibrating the on-board timers that reconstruct the PWM signal in order to integrate it with the rest of the program
- Wire shearing

Future Concerns
- PCB Design
Future Work

1 Week
- Tuning the speed governor and interfacing it with the other systems on the go-kart (Eric)
- Mounting of more electronics (Alex)

2 Weeks
- Gearbox control completed (James and Alex)
- Primed and Painted (Tarek)

1 Month
- PCB finished and mounted (Eric)
- Body Work Complete (Tarek and James)
- Wiring finalized (Alex)
- Test-Driven
Budget

- Spent this week: $204
  - Electronics: $131
  - Hardware: $73
- Total Expenditures: $2300
- Expected Spending: $140
  - Gas: $40
  - PCB: ~ $100
- Expected Final Amount: $2440
Hours Worked

**Estimate for this week**

- James: 25 hr
- Tarek: 15 hr
- Eric: 25 hr
- Alex: 15 hr
Questions?