Plans for Next Semester

Driven Project – Virtual Potentiometer

The Drivven Project has taken some time to get off the ground, but as the Semester’s end draws near the team is working well together and seeing tangible results. The group plans to take our current skeleton of a project and take it to the finished product by May.

The project has been broken down into separate key pieces that once completed can be brought together to create a final product. Those key pieces include getting the TCP/IP up and working to communicate with a PC, get the I/O (Encoders, buttons, selector switch) working with the Digi ConnectCore 9P 9360 development board, getting the Color LCD to display graphics and build a bitmap library for it and also build a ECU emulator that we can test our controller, before we try it with a real Engine.

Currently the TCP/IP portion of the project is completed as well as hooking up one of the Encoders and seeing it function correctly with the board. The next stage in the development process will require us to hook up the 3 remaining encoders, finish connecting the 2 buttons and the 8 position selector switch.

The team will also have to get the LCD working, because of a setback trying to get a cable that works with our current 5.7” LCD, we will attempt to use the boards VGA connector, connected to a regular CRT or flat panel computer monitor, to learn and demonstrate our graphics knowledge as well as allow for the development of a graphics library.

Once these main parts are completed the team will put all of them together and write the main functionality of the ECU Controller. The main Controller programming will require some development of a user friendly interface that is both intuitive and functional. We will need to develop a system for configuring the device as well as figure out how to save that software and configuration to the device’s FLASH ROM.

After the main software has been written we need to develop some peripheral software, most likely in LabView to emulate the engine ECU and test for correct functionality. Once testing is complete we will take the controller to the Engines lab and test it again on the real thing.

Once we have a complete project, if time allows we will investigate doing custom PCB development and creating a professional housing for the controller. We will also work on publishing papers with both Digi as well as other automotive publications that might be interested in our product.

Currently we have no needs for additional software to be installed on any lab computers.