P09222 Formula ECU
NI-DAQ Implementation Plan

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During our initial analysis of the state of the NI-DAQ system, we found that P08222 left an extensive continuity for our team to reference and expand upon. With the assistance of Professor John Wellin (Mechanical Engineering), we were able to get the data acquisition system loaded and operational in LabView. One of the immediate issues encountered was a disconnect in the ability to log recorded data from the simulations. The data was still being routed to a folder which no longer exists in the system (prior team member's personal files). We were able to change the directory and reroute the logged data to a new folder.

Another issue we encountered dealt with .tdms files, a more advanced way to store data in LabView. These files require a "translator" to properly open them, particularly in Microsoft Excel. The .tdms "translator" is located on the previous generation's SVN server along with the rest of the P08222 files. The next step in the debugging process is to deal with the .tdms logging issue as well as get the NI-DAQ to properly interface with the T.I. test board.

Once the T.I. demo board is up and running properly, we will be able to hook it up to the NI-DAQ and run simulations to get a more accurate idea of what additional work, if any, will be needed on the NI-DAQ. In order to ensure the NI-DAQ is responsive, we hooked the inputs/output ports to a function generator and oscilloscope, respectively. So far, everything is responding as expected. Below is a preliminary schedule for finishing up the NI-DAQ implementation during winter quarter 082:

END OF WEEK 1	- Complete understanding of all NI-DAQ input/outputs and how to analyze simulations
END OF WEEK 2	- Fix .tdms logging issues - Meet with Formula Team to get simulation specifications
END OF WEEK 3 or COMPLETION OF T.I. BOARD PROGRAMMING	- Setup NI-DAQ to properly interface with T.I. board so that team can begin simulations