Introduction

The course final project is to be a real-time DSP project using the OMAP-L138 board, the VC5505 or VC5515 eZdsp boards, C6713 DSK, or the Beagleboard. The final project is worth 20% of the course grade. You will give a short oral overview of your project and a demo of your project to the rest of the class. This will take place starting the last day of regular class and/or conclude during final exam time slot. The due date for this proposal is the Tuesday after Spring Break.

The project proposal serves to let me know that you have chosen something that is reasonable, that is, neither too complex nor too simple. The project should result in a fully functioning DSP application, chosen from say,

- Audio signal processing, e.g., digital waveform generation, digital audio effects, noise reduction, or signal enhancement
- Sensor signal processing
- Communication systems signal processing, e.g., use two DSKs to implement a simple modem, say PSK or FSK. We have a vector signal generator and a vector signal analyzer, both of which can work with baseband I/Q signals (generate/receive)
- Control systems with alternate analog I/O
- Virtual instrument, e.g., a scope or spectrum analyzer with GUI interface
- A performance study of core DSP algorithms
- Others

In all of the above it is expected that the project will result in one or more C6x or C55x C and/or assembly programs for performing the desired real-time DSP tasks. Depending on the project, a host program, with possibly a Windows based GUI, may be implemented. Consult Chapter 9 and 10 of the text for project ideas.

Contents of Project Proposal

The project proposal will be assigned a grade worth 50 points taken from the homework portion of the grade. The project proposal shall be typed and contain at minimum the following:

1. Project title, including team members (two at most)
2. Project description, including block diagrams, waveforms, signaling schemes, etc.
3. What the finished project/product will consist of
4. A prioritized list of tasks to be completed on the project
5. Distribution of tasks across team members