1 Introduction

You will work in teams of two to write C/C++ code for your Coldfire board to implement various projects you propose. There will be no limitations on the topic unless you don't have approval from your TA and Professor Annavaram.

2 What you will learn

This project will help you integrate the embedded coding concepts and different I/O functionality into a single project. You may pull in code from the basic demo lab/projects that we performed earlier.

3 Background Information and Notes

3.1 Sample Codes

Sample codes will be posted on Blackboard with examples on how to use various features of your MCF52259. The sample codes also have examples on reading from the accelerometer, ADC, and implementing timers.

3.2 Serial Communication

Notes and examples on Serial Communication will be posted separately on Blackboard.

3.3 Testing Multiplayer/Communication

Due to limited number of LCD boards and Xbee, we cannot give each group 2 sets of LCD/Tower/Microcontrollers. If you want to use the modules, you may contact the TA to borrow a set.

4 Past projects

Game projects:

Pixel Racer (Kind of like fall down)
Pong
Racing game where you avoid obstacles and the car goes faster and faster
Tron
Snake
Frogger
Someone used the accelerometer to actually turn the microcontroller board into an instrument to play different notes
A maze game, where you tilt the board to move the ball
Classic Donkey Kong

Some other embedded projects: please download one page proposals from Blackboard.

5 Important Dates/Submissions

1) 5 PM., Sunday, 10/28/2012 – One page proposal describing introduction/motivation, implementation requirements, final results and etc., per team on Blackboard.
2) 5 PM., Monday, 11/19/2012 – One page interim report describing project progression.
3) Thursday and Friday (12/06/12 ~ 12/07/12) – Final Project Demo in the TA's office.
4) 5 PM., Sunday, 12/09/12 – Final project report pdf on Blackboard.