Proposal for Additional Assignment
(To Achieve Honors Credit for CSC 350, Computer Organization, and Architecture)

Title: Exploration of the Architecture and Possible Application of the Parallax Propeller Multiple Microprocessor Chip.

Background Information: The Parallax Propeller is a recent advance in microprocessing technology consisting of 8 32 bit CPU cores. The propeller contains 32 kbs of memory and a 32 bit Port A. Access to these resources is shared among the cores in a round-robin fashion controlled by an internal fixed-function bus controller.

The Parallax company provides an educational Propeller Starter kit including a demo board, Propeller Manual, software, power supply, and USB cable.

(Information taken from:
"Parallax Propeller." *Wikipedia, The Free Encyclopedia*. 27 Oct 2006, 03:13 UTC. Wikipedia Foundation, Inc 14 Nov 2006 <http://en.wikipedia.org/wiki/Parallax_Propeller.>)

Assignment Goal:

To better understand the hardware structure, relationships between built in functional blocks, interfacing, programming implications, and potential applications of the Propeller Chip.

Learning Activities:

1. Obtain the educational propeller starter kit from Parallax Company. Review the propeller manual and websites describing the propeller functioning.
2. In the laboratory explore the hardware connections, interfacing, and demonstration of built-in functions and applications.
3. Program and demonstrate a unique application.
4. Report orally and in formal written form a summary of the functioning of the propeller chip and its possible potential for computer science programs.

Evaluation:

Student will maintain a log of study activities and demonstration.

Grade on the assignment will consider time logged in on the project, the completeness and accuracy of the written and oral reports.