EE/CpE 415-423 – 416/424
2002 Fall – Spring 2003
WEEKLY STATUS REPORT

Group No.: 3	Date: February 3, 2003		Report No:
Project Title:	Source Code Reuse Mechanism		
Group Leader:	Noel Villegas	Advisor:	Professor Kiss
Sponsor/Client:	BAE Systems		
Number of Hours Spent:	40		
Project on Schedule:	YES		

Weekly Status:
The half of the team working on the sine library has started on the domain analysis and implementation of the library. We have identified the primary algorithms we intend to implement (McLaurin, LUT, polynomial interpolation) and we have divided the subtasks among the group. Noel will work on the general policy based design, the McLaurin expansion, and the error analysis. Aiyana will work on the Look Up Table, the policy based design, and the debugging/benchmarking code. Sandra will develop the feature models and work on the polynomial interpolation scheme. We are currently on revision 0.2 of the code and are progressing rapidly. The first code review will be Tuesday.

We met with Professor Kiss last Friday, January 31, 2003. We discussed the SCDD 1.1 revision as well as what needs to be in remaining sections. The sine development team spoke to Professor Kiss about verification of results with the library and it was agreed that we would accept a 'known good' standard such as the Standard C library implementation of sin() or a Matlab implementation for AB comparisons. Professor Kiss gave us an in depth look into the stages of the Kalman Filter process. The team discussed the derivation of terms in the loop equations as well as how to verify the accuracy of our results. Prof. Kiss suggested inserting a debugging coefficient for each of the error terms which we can set to zero while testing out the code. Also, we found some risks such as verification of results for large N (number of states), requiring uncorrelated random variables, which we will mitigate by some means. This limits the scope of the project but allows it to be finished in the time allotted.

Greg and Juan are continuing work in the planning stages for the Kalman Library. Greg expects that by the time we're done testing and verifying the sine library, the algorithms for the Kalman Library will be identified and coded. We have identified the Matrix Template Library as the replacement for the inadequate GMCL.