WEEKLY WORK SUMMARY - WEEK 8

(December 4th - 8th, 2006)

At the beginning of the week, feedback was received from Freescale regarding the issues the project team had been experiencing with CodeWarrior. Previously, a document was sent to Freescale describing the issues with compilation of pre-existing code superceding a specified file limit. Their response was disbelief in the errors which we had reported to them and a simple message that it wasn't their position to provide support to a research team who had been given ZigBee kits for *free*. This reply was quite unsatisfactory and a meeting was immediately called in order to discuss the future of the project.

Following a discussion between the project team and Dr. McCarthy, it was decided that a switch over to 'Plan B' was the best option available. Some alternative ZigBee solutions were researched[1] and it was decided that the alternatives offered no advantages over the Freescale ZigBee NSK[2]. With limited avenues to persue, it was decided that the project team would investigate *any* wireless tranceiver kit that would fulfill the necessity for wireless communication between a weather station and a data-logging PC terminal.

Mid-week, a license was received from Freescale which was another copy of the *Full Professional Edition* license which was previously installed without success. However, upon installation of the licence .dat file, the code which had previously been halted during the compile process now successfully compiled. This major breakthrough with the CodeWarrior issues was later discovered to be resultant from non-uniform installation of the license files. Previous installation of multiple versions of CodeWarrior[3] upon the research PC had resulted in the misleading assumption that the problem being encountered was independant of license installation, when in fact the conflicting file structures of these installations masked the installation of licenses into incorrect directories.

After a short celebration, the project team went to immediate work upon testing out the extent of license functionality. Previously, the student had encountered difficulties when compiling the Freescale CodeWarrior project demo code entitled `Accel_v3.0.mcp`. However, this code now correctly compiled and uploaded successfully to the ZigBee SRB-13213. Further testing verified that the code installed to the SRB functioned correctly and testing of further demos ensued. Once a satisfactory number of the demos were determined to function correctly, code previously written by the student[4] was uploaded to an SRB and verified that LED and speaker outputs of the board could be controlled by the previously written C code.

This week's successes signify a return to the original project plans. The current aim of the project team is to assemble some working demos of their own before Christmas break. These demos will be based upon the pre-existing code which was circulated with the Freescale ZigBee NSK. It is hoped that some kind of BER (Bit Error Rate) test can be created to map out ZigBee *hotspots* within range of the RFCAD lab. Developments of the team's progress will be uploaded to the website upon return from Christmas

[1] UZBee, PIC-compatible ZigBee units, ...

[2] Networking Starter Kit: NCB-13213, SRB-13213 (x2), CodeWarrior IDE

[3] CodeWarrior for HC(S)08 v5.0, CodeWarrior for HC(S)08 v3.1

[4] `Brad_v1.0.mcp`, a modification of `Accel_v3.0.mcp`

break. Now that the 30-day license installation has proved successful, another copy of the license must be procured from Freescale's licensing department for the new year's project work.

Bradford Peyton
ZigBee Sensor Networks Project
