Literature Survey: w4995-002 Project
Application Development in an Embedded World

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The goal of this project is threefold:
1. Gain some experience developing applications for an embedded microcontroller
2. Compare and contrast the effectiveness of the language features of Standard C and Dynamic C in the context of application development for two very different operating environments. This may involve devising or using some key metrics for making size, performance and cost comparisons.
3. Compare and contrast the operating characteristics of an application (compression) under two different operating environments, memory models and microprocessor features.

Literature Survey

RFC 1952, Gzip file format specification
> This is the file format specification for gzip files. It describes the data structures and storage requirements for data compressed using the PKZip algorithm.

PKZip Deflate, Store algorithm specification (PKZip algorithm 8 and 0)
> Algorithm and key data structure specification for the Deflate and Store functions that comprise the gzip utility.

T. Bell, I. Whitten. "Text Compression," Prentice Hall, 1990
> This is an authoritative text on various compression mathematics, algorithms and optimizations.

Dynamic C language reference
> Specification for the semantics, syntax and constructs of the Dynamic C language

Dynamic C Application Frameworks Guide
> Describes the concepts behind real-time programming for microcontrollers, real-time kernels and interrupt handling and memory management accessible via the Dynamic C language for the Rabbit 2000 Microprocessor and the Zilog z180 family of microcontrollers.

AN202-Rabbit Memory Management in a Nutshell
> Overview of memory management and addressing modes in the Rabbit 2000 microprocessor

AN203-Porting applications to the Rabbit 2000 microprocessor
> Guidelines for porting applications to the Rabbit 2000 microprocessor; Outlines some basic metrics for measuring how well an application can be ported over to the embedded system environment.

AN103-Rabbit Microprocessor User's Manual
> Microprocessor architecture and instruction set specifications.

B. Boehm, "Software Cost Estimation using CoCoMo II." Prentice Hall, July 2000.
> Seminal work by Dr. Barry Boehm regarding software cost estimation for various system development efforts ranging from enterprise application development, to real-time embedded software systems. Establishes key metrics for assessing software size, cost and relative effort