CS-701 Software Design

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Dr. Vickery

Administrivia

- <u>Recommended</u> Textbooks
  - Stevens: Advanced Programming in the UNIX Environment
  - Das: Your Unix, the Ultimate Guide
- QC Online for course material
  - Need Vanguard account
  - Be sure to enter correct email address
- One midterm exam and a final exam.
- "Several" projects. No groups.
- Contact me by email: vickery@qc.edu
- Office hours in SB A-222
  - Tuesdays and Thursdays after class.

Course Overview

- Master the traditional development tools for software development.
- Produce standard project documentation.
- Practice application development in a Unix environment using the C programming language.

Development Tools

- Programmer's Editor
  - Vim ("Vi Improved")
- Compiler toolchain
  - Gcc (GNU cc)
  - Make
- Debugger
  - Gdb (GNU debugger)
- Version Control
  - RCS (Revision Control System)

Sample Program

- showenv.c

```
#include <stdio.h>
#include <stdlib.h>
int main(int argc, char *argv[], char* envp[])
{
 while ( *envp )
 {
  printf( "%s\n", *envp++ );
 }
exit( 0 );
return 0;
}
```

Discussion Topics

- Goal: To be able to build an executable version of this program and run it using the following two commands:
  - make showenv
  - showenv
- Editing
  - What's missing from this source file?
  - Spacing, indenting.
- Program logic and run-time environment
- Compiling, linking, and running