

CS 159.3 PROGRAMMING PROJECT 2: MYSH

1. GOALS

The goal of this programming project is to test the student's proficiency in systems programming concepts including but not limited to getting user and system information, signals, and process execution.

2. SPECIFICATIONS

Write a program in C that does the following:

- (1) write a program that behaves like a simple unix shell /bin/sh
- (2) program executes whatever the user types in the prompt
- (3) program logs only the last 40 commands in the .mysh.history file in the current directory
- (4) the shell prompt must be:
 - ★ `username,time>` for non-root users
 - ★ `username,time#` for root users
- (5) program must catch the signals (SIGINT, SIGQUIT) and exit
- (6) program must catch the signal SIGHUP, print "Shell Interrupted." redisplay the prompt and resume operation
- (7) include a Makefile that allows for the following targets: clean, all, default and mysh.
- (8) include a rudimentary man page
- (9) include a README file that describes the nature of the program and how to compile, and run the program (description in plain language)

3. NOTES

- ★ Program must be compiled with the -Wall and -Werror flags.
- ★ Program must abide by the class' coding standards.
- ★ Program is due on February 1, 2001 @ 12:30AM.
- ★ Name of the source file must be "mysh.c".
- ★ All the files must be tarred and compressed. The file name must be "<family name A>-<family name B>.tar.gz". For example, chua-yu.tar.gz.
- ★ Only maximum total bonus of 10 points can be attained.
- ★ No bonus will be given if the program breaks or ends abnormally - regardless of the options or early bird submission.
- ★ Late submission will be deducted 10 points for each day (Sundays and Holidays Included).
- ★ Final submissions must be emailed to the instructor (Mr. Yu for CS 159.3 B and Mr. Chua for CS 159.3 A).
- ★ Students should not edit or create a new tar.gz file in penoy. If in the case of undelivered mail, the date of last creation the the tar.gz file will be used as the basis of the project submission.

4. GRADING

- 20% Program compiles, links and executes properly
- 10% Program includes the Man pages and a working Makefile
- 25% Program successfully executes commands from the shell
- 20% Program displays the proper prompts
- 20% Program has proper .mysh.history file
 - 5% Program must follow proper coding and documentation standards
 - 5% BONUS: the program should support PATH environment variable
 - 5% BONUS: the program executes a startup script called .mysh.profile in the user's home directory when started
- 10% EARLY BONUS: for those who can submit the program by December 30, 12:30 am

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