

## CS490 Windows Internal

### Project 1 Tool to View Process Detail

**Due: Oct 29, 2012**

#### Requirement:

Windows provides task manager for users to view process information, but it's not powerful enough. Your task in this project is to implement a command line tool to display process information like the command in linux system: ps.

Here are the parameters for ps command:

```
***** simple selection ***** ***** selection by list *****
-A all processes                    -C by command name
-N negate selection                 -G by real group ID (supports names)
-a all w/ tty except session leaders -U by real user ID (supports names)
-d all except session leaders       -g by session OR by effective group name
-e all processes                    -p by process ID
T all processes on this terminal    -s processes in the sessions given
a all w/ tty, including other users -t by tty
g OBSOLETE -- DO NOT USE           -u by effective user ID (supports names)
r only running processes           U processes for specified users
x processes w/o controlling ttys   t by tty
***** output format ***** ***** long options *****
-o,o user-defined  -f full          --Group --User --pid --cols --ppid
-j,j job control   s signal         --group --user --sid --rows --info
-O,O preloaded    -o v virtual memory --cumulative --format --deselect
-l,l long         u user-oriented   --sort --tty --forest --version
-F extra full     X registers       --heading --no-heading --context
***** misc options *****
-V,V show version  L list format codes f ASCII art forest
-m,m,-L,-T,H threads S children in sum  -y change -l format
-M,Z security data c true command name -c scheduling class
-w,w wide output   n numeric WCHAN,UID -H process hierarchy
```

You can use command “man ps” to check detailed usage of these parameters in Linux system.

The ps command you implement should at least support the following parameters:

(1)-C (2)-p (3)U (4)-l (5)-m (6)-H

#### Submission:

- (1) Source code
- (2) Compiled program  
(The test environments will be Windows 7 system and Windows Server 2008 system, so make sure your program works well on these two platforms)
- (3) Document that reports your implementation, especially the Windows API you use.
- (4) Package the material above and email [luckyvega@163.com](mailto:luckyvega@163.com) before the deadline.