CMSC412 Discussion

9/5/2012
Overview

● Introduction
● Running project remotely
  ○ Xming
  ○ prinrun
  ○ qemu -curses
  ○ debugging
● Project overview
● Tips / Warnings
Read the source!
Start early!
Introduction

- Full-time TA: Eric Norris
- Half-time TA: Johnny Wu

- Office hours held in linuxlab
  - Office hours will be posted on Piazza

- Discussion only once a week
  - Primarily for projects
Running GeekOS: X11 forwarding

"ssh -X" or putty "Enable X11 forwarding" to <cs412***>@linuxlab.csic.umd.edu

svn co https://svn.cs.umd.edu/repos/geekos/network -- username sv-geekosro

cd network/build

make run
Read the source!
Start early!
printrun (change Makefile.linux)

dbg : all
gdb geekos/kernel.exe

# qemu:
# wget www.cs.umd.edu/~ntg/qemu/qemu
# chmod a+x qemu

#note: if in linuxlab then:
#BIOSLOCATION:= -L /usr/local/qemu-0.10.5/share/qemu
printrun: qemu all
   ./qemu -no-fd-bootchk -m 10 --vga std -curses
)
include depend.mak

---

dbg : all
gdb geekos/kernel.exe

qemu:
   wget www.cs.umd.edu/~ntg/qemu/qemu
   chmod a+x qemu

#note: if in linuxlab then:
BIOSLOCATION:= -L /usr/local/qemu-0.10.5/share/qemu
printrun: qemu all
   ./qemu -no-fd-bootchk -m 10 --vga std -curses
)
include depend.mak
printrun

Then run "make printrun"

Runs without X11 forwarding (faster) and output will be copied to a file "build/out.txt"

Lose control of terminal though...

Second terminal (to same machine)
   pkill -9 -u <username> qemu
qemu -curses

make

qemu -curses diskc.img

(Also lose control of terminal)
Debugging

2 terminals:
  "make dbgrun" and "make dbg"

Makefile.linux uses X11 forwarding, to disable, add -curses option to make dbgrun:

```plaintext
make: dbgrun:
  echo "target remote localhost $QEMU -curses -no-fd-boot -no-acpi diskc.img -hdb diskd.img"
```

Project 0 Overview

● System calls (syscalls)
  ○ Use syscalls to give user program access to kernel side operations
  ○ Call wrapper function on user-side (e.g. Print)
  ○ Which raises interrupt handled in trap.c
  ○ Which calls appropriate handler (syscall.c)

● Book-keeping
  ○ User.h, kthread.h

Due this coming Monday (9/10)
Read the source!
Start early!
Warnings: Not much disk space

If working in linuxlab, don't use firefox
Otherwise will likely quickly exhaust disk

Have at most 1 built version of the project

Make sure your .Trash is empty

Read the source! Start early!
Tips / Warnings:

Specs being changed (hopefully improved)

Projects may be slightly different than before, but the gist should be the same

Don't copy code.

Expect to read and modify a lot of code!
Start projects early!