COP 4610 Project 2

TA: Christopher Draper

chd16@my.fsu.edu

Groups

- Groups of 3
- Group sign up on Canvas

Development Environment

- You can complete the project on a virtual machine or on the lab machines
- VM (highly encouraged due to COVID situation)
  - + easier development (can reboot VM instead of rebooting actual machine)
  - + can save OS snapshots
  - - VM overhead
  - - must setup VM and install Xubuntu/Ubuntu yourself

Development Environment

- Lab Machines
  - + Xubuntu/Ubuntu already installed
  - + no virtual abstraction (if you're into that sort of thing)
  - - must reboot entire machine when kernel crashes
  - - Must follow covid restrictions
  - - Lab access may be limited
  - - Only allowed if no group member is able to run a VM
- If you would like to use a VM but don't have a powerful enough personal machine, you can setup a VM on one of the lab machines

Setup

- You need root access
- Use Xubuntu or Ubuntu kernel version 4.15.0
  - Run `uname -r` and confirm your kernel version is correct

Lab Machines

- To get an account on the lab machines, contact me immediately
- MCH 208
- We have at most 6 available machines

Remote Access for Lab Machines

- Find ip address of MCH machine with “ifconfig”
- First ssh into linprog, then ssh username@MCH_ip_address
- May have to run “sudo apt-get install openssh-server” on MCH machine if it is not already installed

Virtual Machines

- Use Virtual Box
- Create a new machine
  - 64 bit Ubuntu
  - Give it a virtual hard drive with the starting size at least 30GB
    - Use **fixed** virtual disk not dynamic
- Install Ubuntu kernel version 4.15.0
  - Use **64 bit** AMD Ubuntu 16.04.6
    - ISO on Canvas
    - Double check kernel version with ‘uname -r’ after installing
  - Xubuntu not tested with project but should also work
- Create snapshot after setup and periodically during development
- Rollback to snapshot for easy recovery

Project Breakdown

- Part 1: Tracing System Calls (~ hours)
- Part 2: my_timer Kernel Module (~ days)
- Part 3: Elevator Kernel Module (~ weeks)