CSE 390
Lecture 10
Do anything from anywhere – tools to free your choice of OS

Important Announcement

• There will not be a traditional final
  • Instead, the last Assignment will take the place of the Final
  • Everyone needs to complete it
  • It is a bit more involved / comprehensive than other assignments
  • Have to choose a number of "achievements" and turn in evidence that you completed them
  • If you need to make up an assignment from earlier in the quarter, you can do extra "achievements"
  • Must earn a passing mark on last assignment to "pass" the course

Lecture summary

• Remote connections – get to your application or resource from anywhere

• Local options – get your application or resource to work on your setup

• Figure out how to do what you want to do in a new environment

• Course Evals

Remote Connections: to a Linux machine

You've seen remote connections to a Linux machine in action

- Departmental attu.cs.washington.edu Linux server
- Can use ssh (or PuTTY) from anywhere – independent of location and OS

Remote Connections: to a Windows machine

What about remote connections to a Windows machine?

- RDP – Remote Desktop Protocol
  - Enables remote connections to a Windows box from anywhere
  - Also independent of OS:
    - From Linux – rdesktop command
    - From Windows – Remote Desktop Connection
    - From Mac – CoRD
- The CSE department offers 15 hosted virtual machine nodes, imaged similar to Windows machines in basement labs, remotely accessible via RDP.
- Overview: http://www.cs.washington.edu/labs/services/vdi/
- List of currently available nodes: http://attu.cs.washington.edu/vdi/
- Need to use the right domain!! CSEPCLAB\username

Non-remote options: Linux on Windows?

- Cygwin: unix style environment within Windows
  - "package manager" is part of the install file
  - Provides the unix-like directory structure
    - Home directory is /home/<WindowsUsername>
  - Your actual windows directory structure is located at /cygdrive/<driveletter>
- Enables: quick use of unix style tools in a terminal environment in Windows
- Compare to: Windows cmd interface
Non-remote options: Windows on Linux?

- One barrier to switching to Linux: lots of apps are built for Windows
  - *<insert app here>* that I use all the time isn’t ported to Linux! 😞

- Wine is an attempt at solving this
  - Provides an environment to run Windows applications in Linux
  - [http://www.winehq.org/](http://www.winehq.org/)
  - Open source
  - Not perfect, but many people have good success with major programs
    - Many successfully run WoW, MS Office, TextPad...

- Lots of online tutorials / message boards / instructions to get your favorite app working in Linux

The More You Know™

- Another barrier to using Linux as your main Desktop OS: “I don’t know how to do *<X>* in Linux”
  - Imagine you had never seen or used Windows before. Would you somehow intuitively know how to:
    - Change your desktop background/resolution?
    - Install new graphics card drivers?
    - Change system settings? (Control Panel? What’s that?)
    - Etc etc...
  - So how do you figure it out?
    - Ever read the Windows manual? (hint: there is no “the” manual)
      - “Windows 7 Product Guide” – 140 pages, considered very high level
      - “Windows 7 for Dummies” – 432 pages
      - “Windows 7 Bible” – 1248 pages
    - What do you do when you don’t know how to do something?

Mix and match

- Don’t think of Linux/Windows as a binary choice
- These tools provide a continuum of options
  - Windows
  - Windows + Cygwin
  - Windows + Cygwin + Linux VM
  - Linux + Windows VM + Wine
  - Linux + Wine
  - Linux

- Can choose the setup that best suits your situation and application requirements

The choice is yours

- To clarify: the purpose here was not to say “you should switch to Linux as your main OS”
  - But, you should know what tools and options exist, and be able to use Linux as your main OS if desired
  - You should be able to survive if someone locked you in a closet with a laptop that had Fedora or Ubuntu

Wrap up discussion:

- What tools seem the most useful that you learned this quarter?
- What tools seem like they address important areas, but need to be better?
- From your experience, are there other tools you think you’d mention in this course, tools CSE majors should be aware of?
  - Linux commands/tools, programming development tools...