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 Connection: 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
  • 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/lab/services/vdi/
    • List of currently available nodes: http://vdi.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 linux style tools in a terminal environment in Windows
  • Doesn’t enable: magic
  • Compare to: Windows cmd interface
Non-remote options: Windows on linux?

- One barrier to switching to Linux: lots of apps are built for Windows
  - &lt;insert app here&gt; 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/
  - 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 suites your situation and application requirements

The More You Know™

- Step 1: Try and explore intuitively
  - Hey, you’re CSE majors. Where would *you* put that setting if you were designing the system?
- Step 1.5: Look in short, directly relating references
  - Man pages, quick start guides, the TOC in the manual (if exists…)
- Step 2: If that fails, search online!
  - Likely someone else has wanted to do what you want, and *also* couldn’t figure it out
  - And, likely they’ve posted to a discussion board and had some guru give a detailed response
  - Or, a FAQ has been written somewhere that tells you how

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 are the pros/cons of using Linux as your main OS?
  - 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…