

# The Touch (aka Solving Problems You Know Nothing About)

System Administration Decal  
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# What is the Touch?

- Simply put, those who have the Touch are autodidactic.
- This means you seek knowledge yourself.
- You can teach yourself what you need to know to solve any problem.
- Draws upon your existing skills to help you learn new things

# The Touch in IT

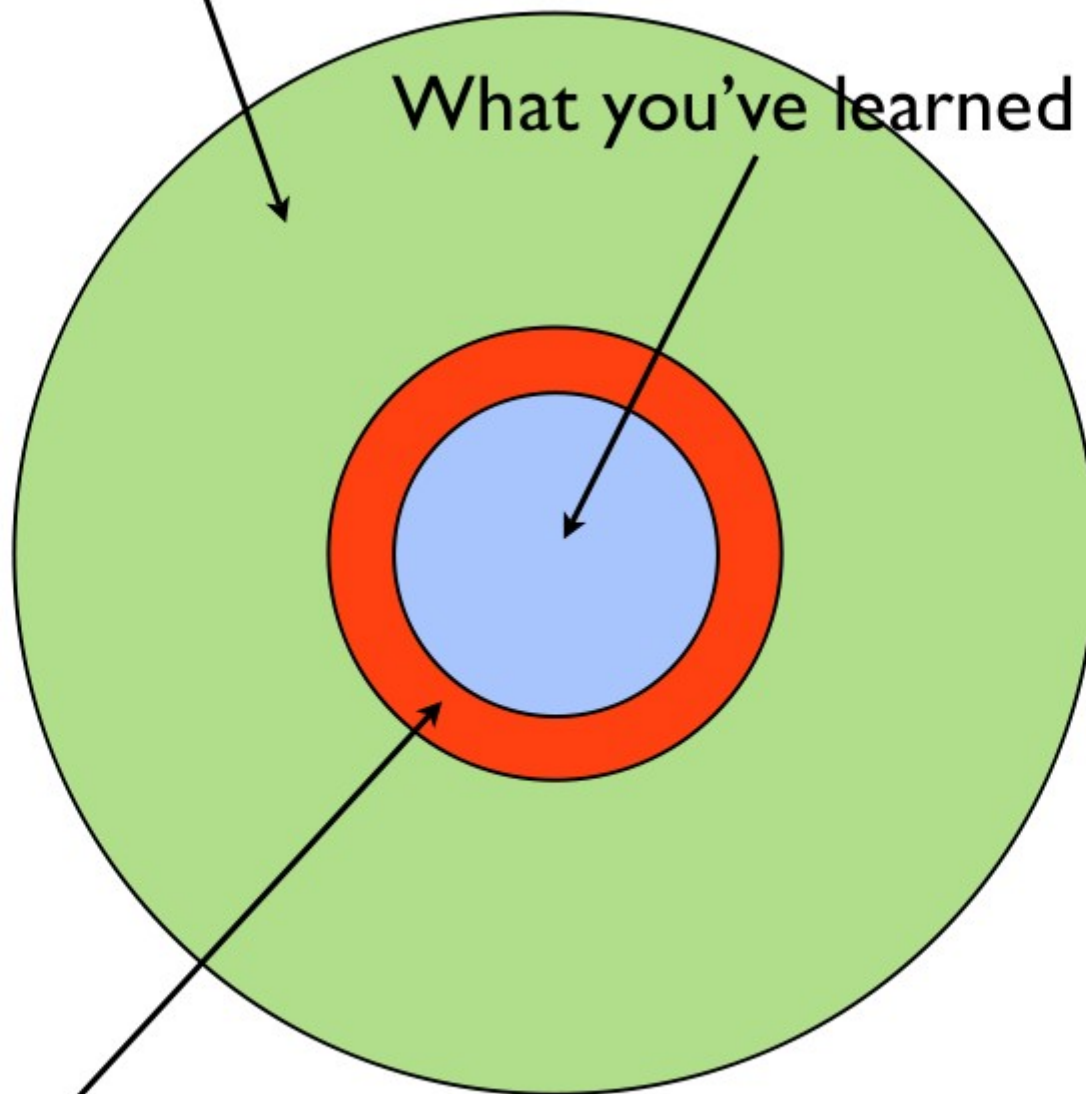
- Cryptic error messages on parents' computer: you search for the error message and see what turns up. Identify and fix problem
- Recourse methods: Windows spyware = look for odd process names and remove, install certain software and look, etc.

# The Touch in UNIX

- Don't know what a command is? Use man
- Compilation error, program error? Google!
- Searching for software (Debian/Ubuntu): apt-cache search... etc., etc.
- Those who have the touch have metalearned all about Unix—that is, they know all they need to know to be able to learn everything.

Sum of all Unix knowledge

What you've learned during DeCal



Autodidactic subset of  
Unix knowledge

# Problem Solving Tips

## 1. Learn about the problem

*If no direct solution (e.g. Google, previous knowledge):*

## 2. Generalize

*Find solutions for the set of all such problems and try*

## 3. Apply previous knowledge

*Perform familiar actions that may help with the problem (e.g. reboot, reinstall, etc...)*

# Learn

- Error messages, log files
- A narrative: someone tells you what is wrong
- Observations: your own take on what is wrong just by interacting with system
- The more concrete the description, the better

# Generalize

- *Problem:* Your email server doesn't respond.
- General things to check for all server programs: Is the program running? Is the port open? Is your firewall blocking it?
- Even more general: What did you do before it broke? Can you revert back? etc.



# Previous Knowledge

- When all else fails, do what has worked for other (unrelated) things
- e.g. Reinstall, reboot, reinitialize services, check cables, replace hardware (extreme case...)

# That's all, folks!

- That's the last lecture! You've all survived!
- Up next: Lingerin questions
- Next week: Project presentations. Come prepared with everything you need. We will supply the projector and a computer, or you can use your own computer if you need some sort of special configuration
- Office hours for this week are rescheduled; see [www.ocf.berkeley.edu/staff\\_hours](http://www.ocf.berkeley.edu/staff_hours)

# Final Projects

- I will come around and check in with groups
- I know I'm starting to sound like a broken record, but *tell me today, in person*, if you need ports opened or any other resources. I know that there are at least two groups that are doing mail servers, yet neither has requested that I open ports for them
- Also, ask any questions you may have