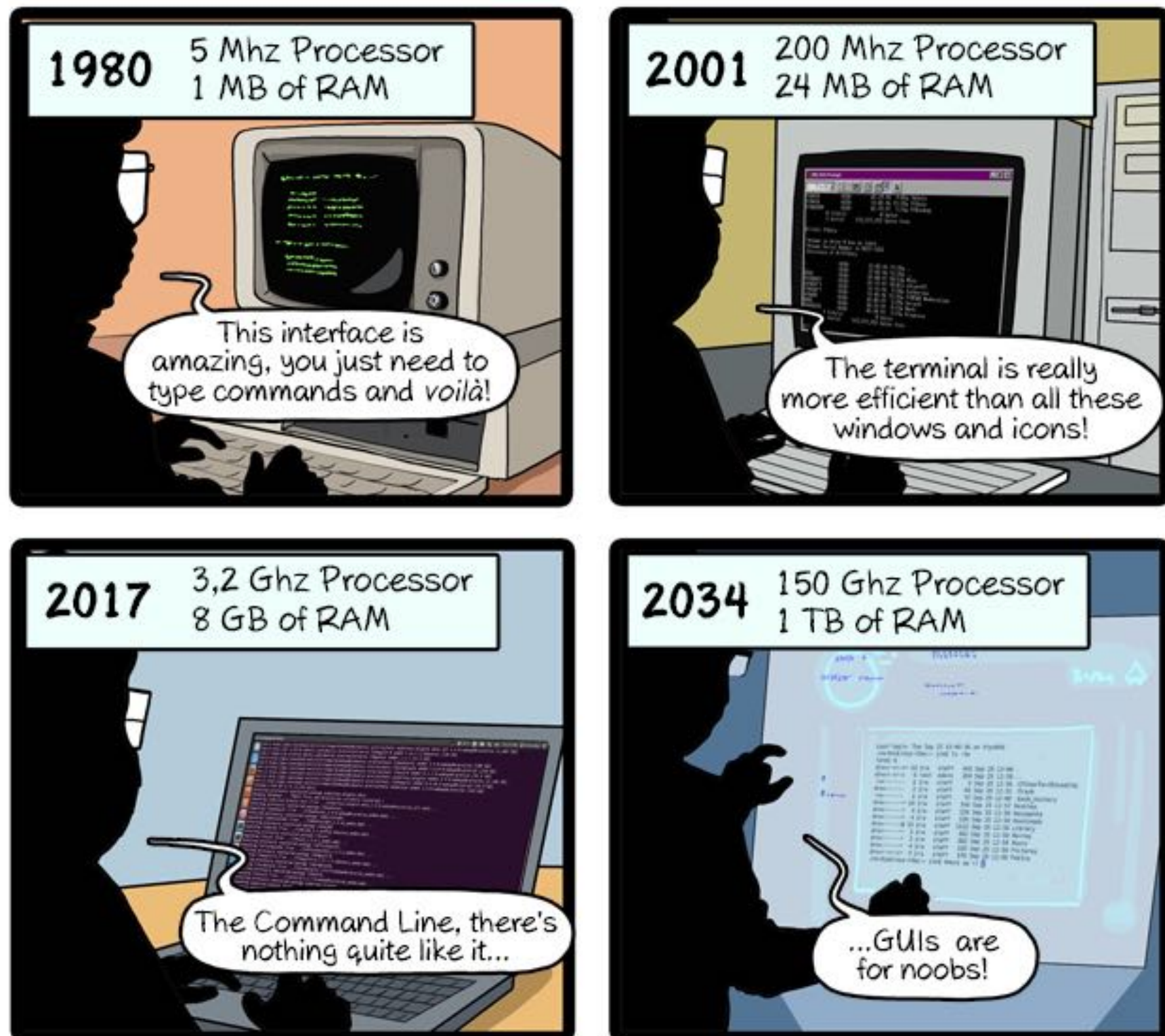


Interacting with the Shell

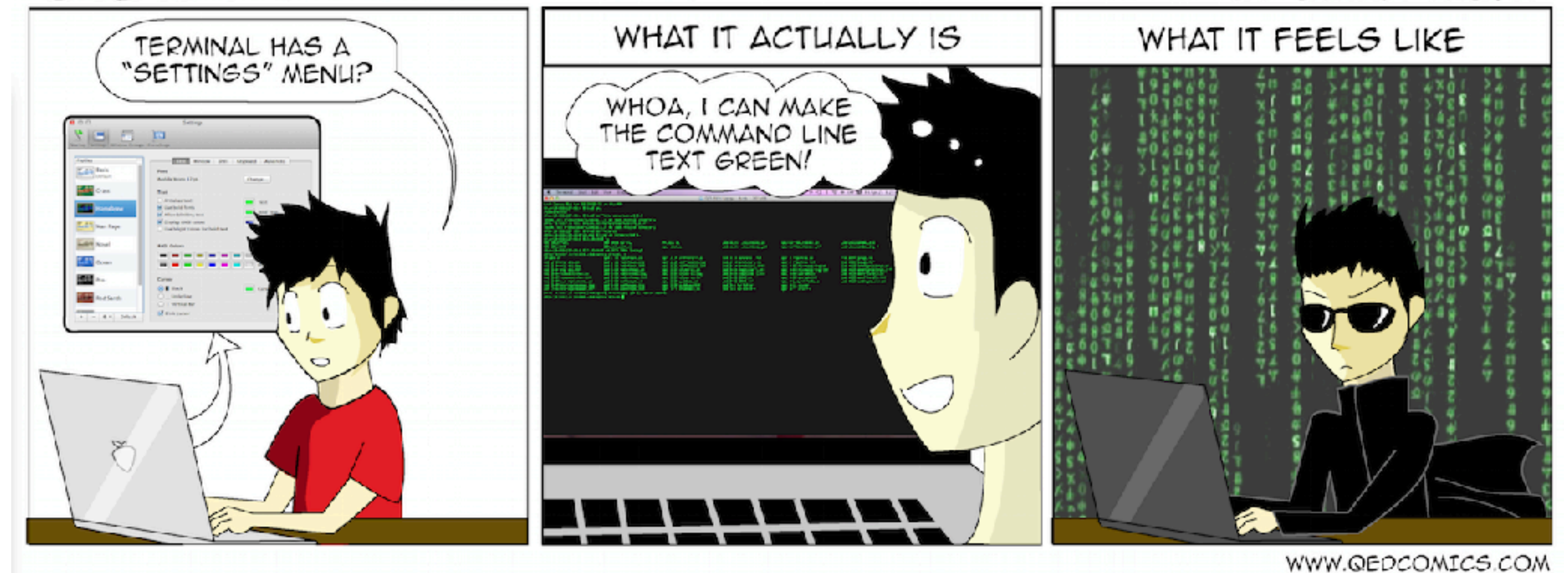
Fall 2018

PCfB Class 2

September 7, 2018



CommitStrip.com



“Pulling” GitHub updates

Practical Computing - NAU ›

GitHub Updates

1 post by 1 author ▾

[add tags](#)

Move



me (jtl276@nau.edu [change](#))

12:46 PM (1 hour ago)



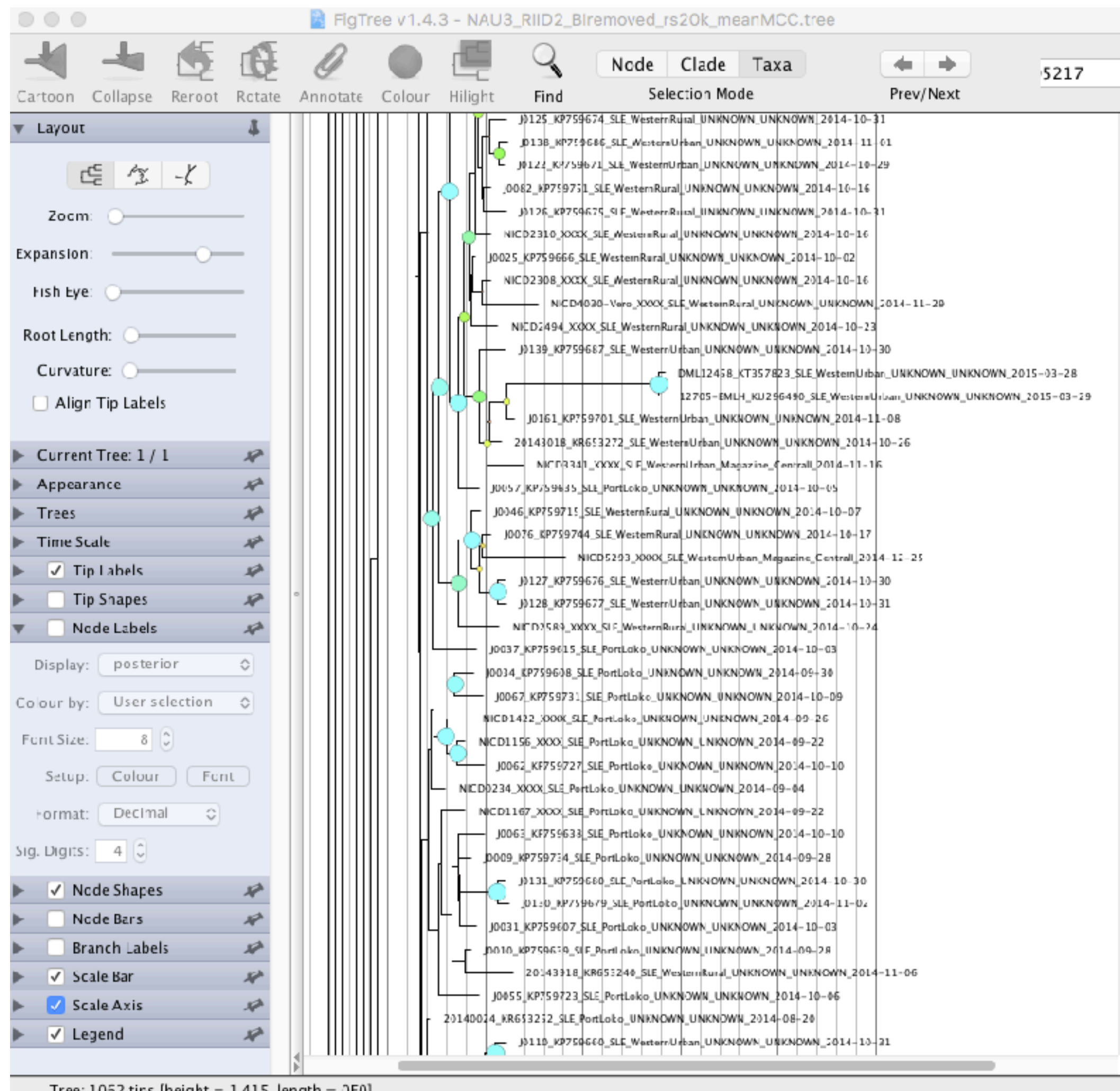
★ Hi everyone, it was brought to my attention today that GitHub Desktop will not let you "pull" updates from the course repository if you have altered versions of the files from the repository on your computer (even if they are hidden format files, e.g., ".DS_Store"). This is because GitHub is tracking the changes you make, thinking that you may want to submit these changes to the repository.

In this case, all you need to do is right click on one of the changed files, which should show up on the left side of the Desktop client. Then select "Discard All Changes". After doing this, you will be able to pull updates from the repository. However, keep in mind that your changes to the files will be lost. So, if you are in the middle of an exercise, you may want to hold off, or make a copy of your edited files outside of the cloned repository.

If you're using Linux, or want to work from the command line on a Mac or PC, please follow these [handy instructions](#) provided by Zane, my computer science undergrad. :)

GUI vs. Command line

Graphical user interface



Command line/Terminal

```
~/JTL_GDrive/MyPapers/WAITING_for_others/EBOV_NICD/BEAST/full/v1.8.4/combo — -bash — 86x15
...EAST/full/lin3.2.4_names_rmv2.txt -m 2  ...D/BEAST/full/lin3.2.1_names.txt -m 2  .../BEAST/full/v1.8.4/combo — -bash

mggen115:combo jtladner$
mggen115:combo jtladner$
mggen115:combo jtladner$
mggen115:combo jtladner$
mggen115:combo jtladner$ ls -l lin3.1*txt
-rw-r--r--  1 jtladner  staff      121 Aug  7 21:16 lin3.1.1_rmv1_combo_nonmono.txt
-rw-r--r--  1 jtladner  staff 20903803 Aug  7 21:16 lin3.1.1_rmv1_combo_trans.txt
-rw-r--r--  1 jtladner  staff   34027 Aug  5 15:54 lin3.1.2_add4_combo_nonmono.txt
-rw-r--r--@ 1 jtladner  staff 53923654 Aug  5 15:54 lin3.1.2_add4_combo_trans.txt
-rw-r--r--@ 1 jtladner  staff   872020 Aug  5 11:07 lin3.1.2_combo_nonmono.txt
mggen115:combo jtladner$ ls lin3.1*txt
lin3.1.1_rmv1_combo_nonmono.txt lin3.1.2_add4_combo_nonmono.txt
lin3.1.1_rmv1_combo_trans.txt   lin3.1.2_add4_combo_trans.txt
mggen115:combo jtladner$
```

Unix Shell

- Command-line interpreter
- A programming language
- Commands can be entered by a user or read from a file

Can easily change default shell

Shells open with: ☒ Default login shell
☐ Command (complete path):

Available shells on my computer

```
[mggen115:combo jtladner$ ls -l /bin/*sh*  
-r-xr-xr-x  1 root  wheel  618448 Oct 25  2017 /bin/bash  
-rwxr-xr-x  1 root  wheel   380016 Mar 27 21:03 /bin/csh  
-r-xr-xr-x  1 root  wheel 1287040 Oct 25  2017 /bin/ksh  
-r-xr-xr-x  1 root  wheel   618512 Oct 25  2017 /bin/sh  
-rwxr-xr-x  1 root  wheel   380016 Mar 27 21:03 /bin/tcsh  
-rwxr-xr-x  1 root  wheel   610288 Oct 25  2017 /bin/zsh
```


Be careful!



- The shell will not ask for confirmation before permanently deleting files from your computer
- Deleted files are NOT moved to the trash
- No Undo (ctrl-z)

.bash_profile and .bashrc

- **bash configuration files** used to set environmental variables
- “.” at start of name makes them hidden files
 - use ‘ls -a’ to view from the command line
- .bash_profile: executed for “login shells”
- .bashrc: executed for “non-login shells”

Practically speaking...

- For Mac OSX:
 - You only need `.bash_profile`
 - Terminal.app runs login shell for each new window, by default
- For Linux:
 - Use `.bashrc` for most settings
 - Execute `.bashrc` within `.bash_profile` (instructions on GitHub)

set -o noclobber

- Protects you from accidentally overwriting files that already exist

```
mggen115:~ jtladner$ cd Desktop/  
mggen115:Desktop jtladner$ ls -l >text.txt  
mggen115:Desktop jtladner$ ls -l >text.txt  
-bash: text.txt: cannot overwrite existing file  
mggen115:Desktop jtladner$
```



```
bind '"\e[A": history-search-backward'
```

```
bind '"\e[B": history-search-forward'
```

- Subtle change to behavior of up and down arrow keys
- Still scroll through command history...
 - but now if you start typing a command, you will only scroll through commands that match what you have started typing

source command

- Changes to your `.bash_profile/.bashrc` will not automatically take effect within your current session
- 2 options:
 1. Open a new terminal window
 2. `source ~/.bash_profile`

Commands covered in reading

Getting around

- cd
- ls
- pwd

Creating/deleting files

- cp
- mv
- rm
- mkdir
- rmdir

Other

- grep
- cat
- curl
- man (-k)
- history

View/edit text

- less
- nano/pico

Data flow

- >
- >>
- |

Questions?

Other useful commands

head & tail: similar to `cat` but only displays a specified # of lines from the beginning or end of the file, respectively.

wc: can provide word, line, character and byte counts for files

rename: can be used to batch rename files

Note: `rename` is not pre-installed on MacOS. Installation instructions on GitHub.

Command History

- Get into the practice of logging the commands that you use to analyze your data
- One simple approach:
 - `history | tail -n # >>commands.txt`

A couple notes...

- In the absence of spaces or other special characters you don't need to use ' ' around your search strings with **grep**
- If you've installed BBEdit command line tools, you can use **bbedit** command to open files in GUI editor from shell

Exercises

- Basic shell configuration
- Practice learned commands
- Work with your own data

- 