ECPS 203 Discussion Week1

TA: Emad Arasteh
emalekza@uci.edu
ecps203@eecs.uci.edu

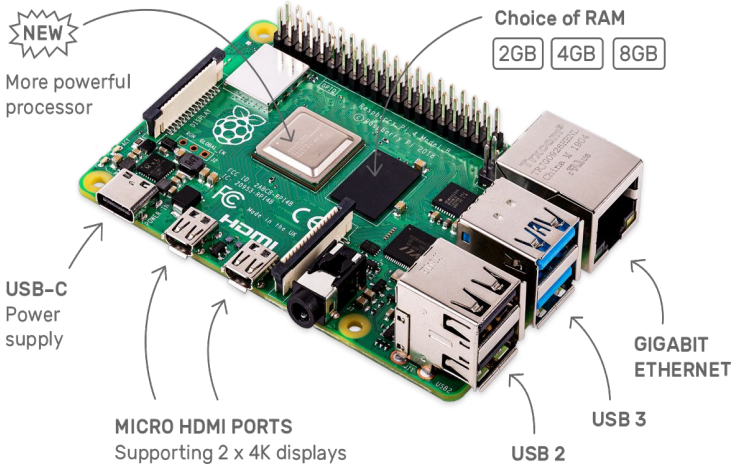
Office Hours: Fri, 10:00-11:00am
EH 3404 Zoom 989 2181 4881

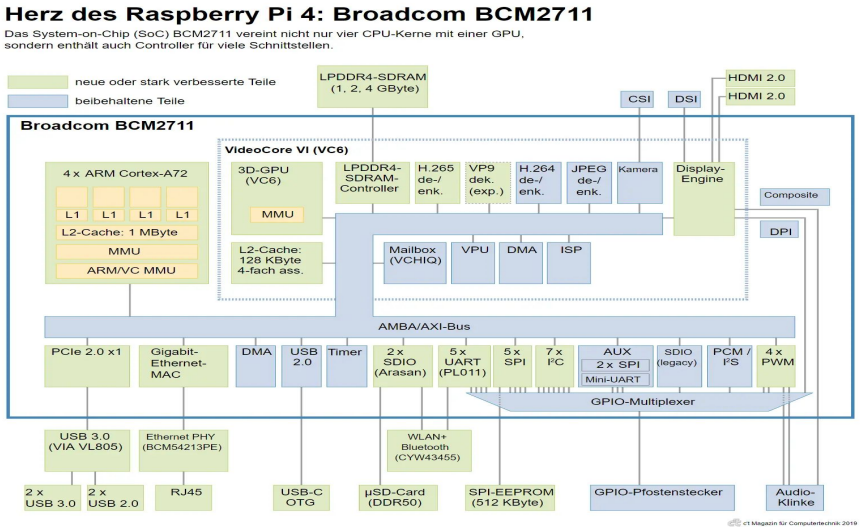
Center for Embedded and Cyber-Physical Systems
University of California, Irvine

UCIrvine
University of California, Irvine

Motivation

- Embedded systems have become **ubiquitous**
- Embedded systems are rapidly growing in **complexity**, whereas their **time to market** are drastically shrinking
- Design and verification (D&V) of embedded systems is challenging





Outline

- EECS servers
- How to communicate with servers?
- Linux system environment
- Demo
- Assignment 1
- Homework submission
- Questions

EECS Servers

EECS Server Status

Server	Load Average (updated: 09/27/21 00:05)
bondi.eecs.uci.edu	0.53 0.51 0.46
crystalcove.eecs.uci.edu	1.84 1.33 1.12
laguna.eecs.uci.edu	0.82 0.79 0.77
zuma.eecs.uci.edu	0.18 0.12 0.06

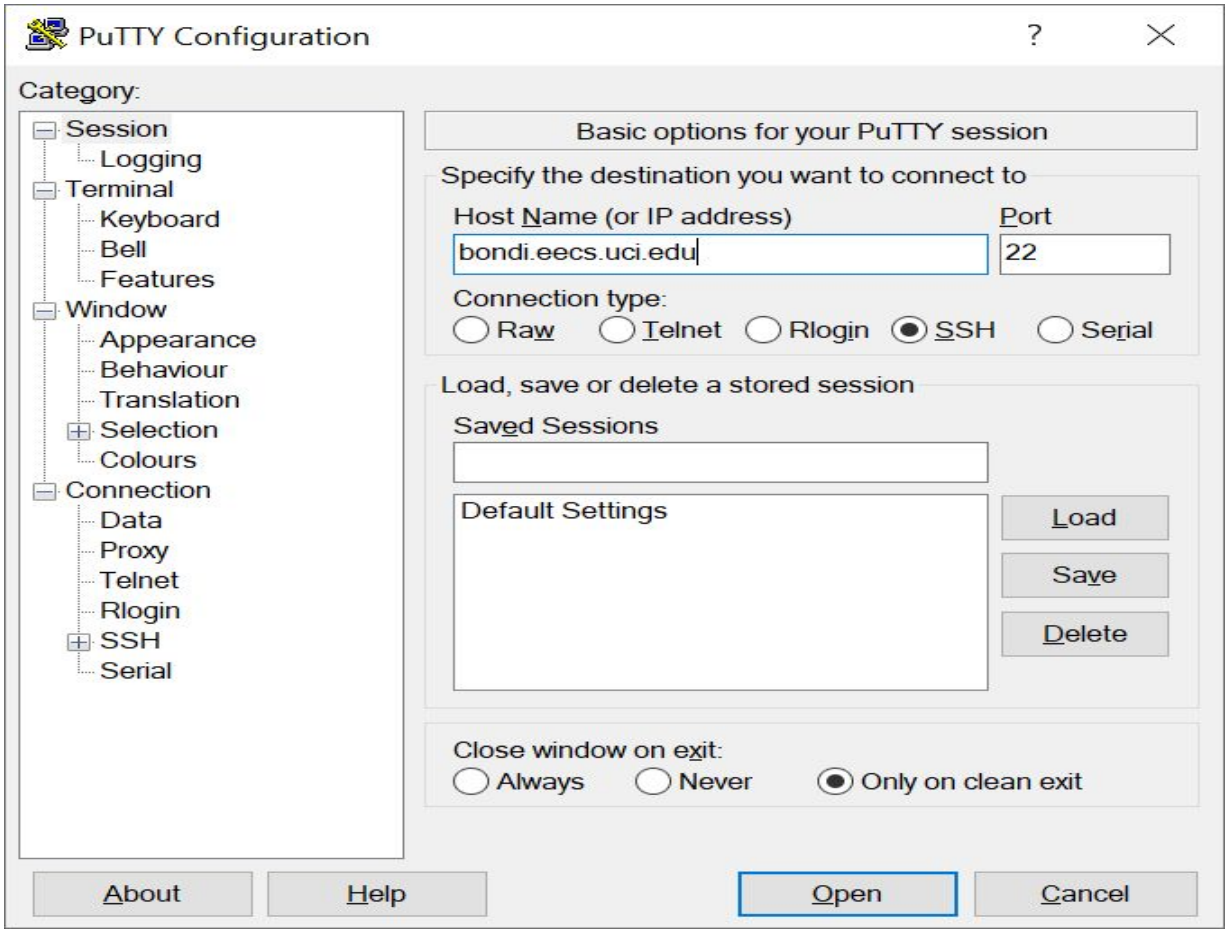
- These servers are only accessible from on-campus or using a VPN
- For more information, check EECS Server Information Page: http://www.ece.uci.edu/

How to communicate with servers?

- Secure Shell or SSH
  - network communication protocol that enables two computers to communicate
- Windows
  - Use PuTTY (terminal emulator)
  - Use FileZilla (secure copy file transfer)
- Linux/MacOS
  - Use terminal
  - scp (secure copy protocol)
- Enable X11 forward to run graphical applications

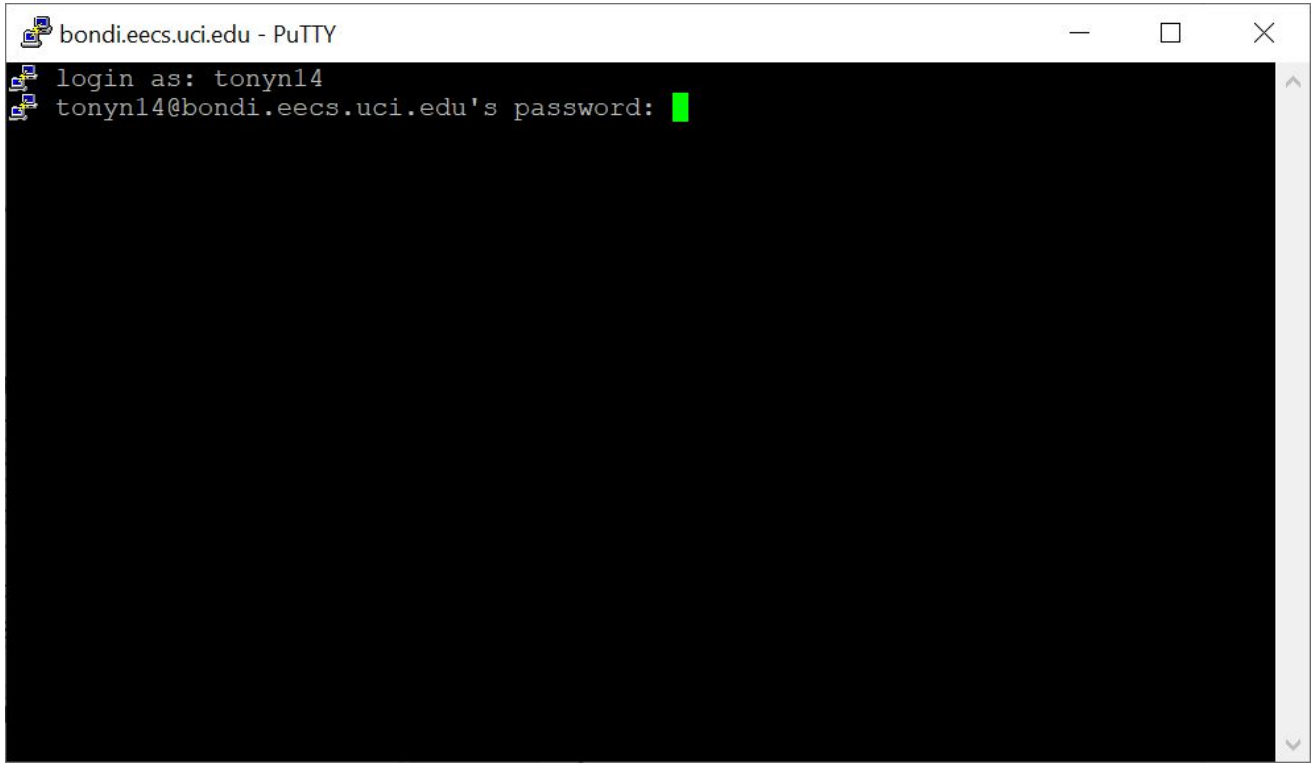
PuTTY (1)

- Type in server name



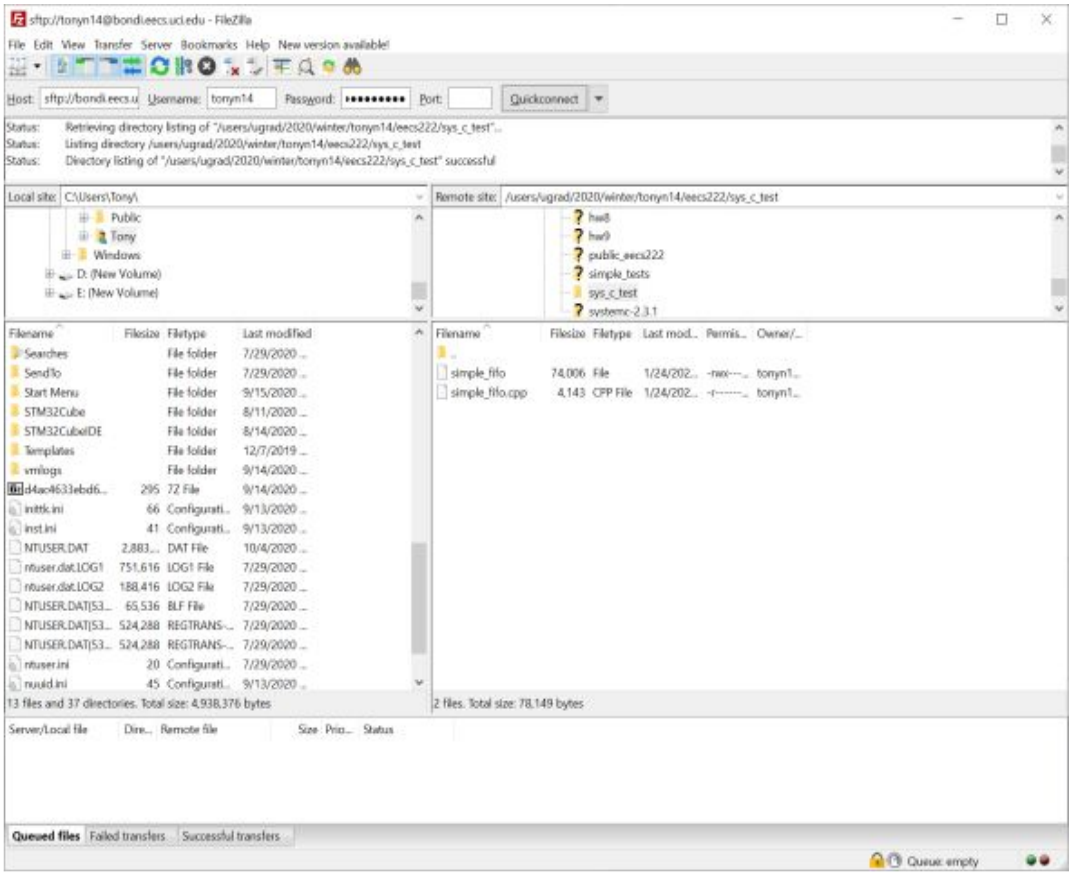
PuTTY (2)

- Type in your **UCInetID** and password



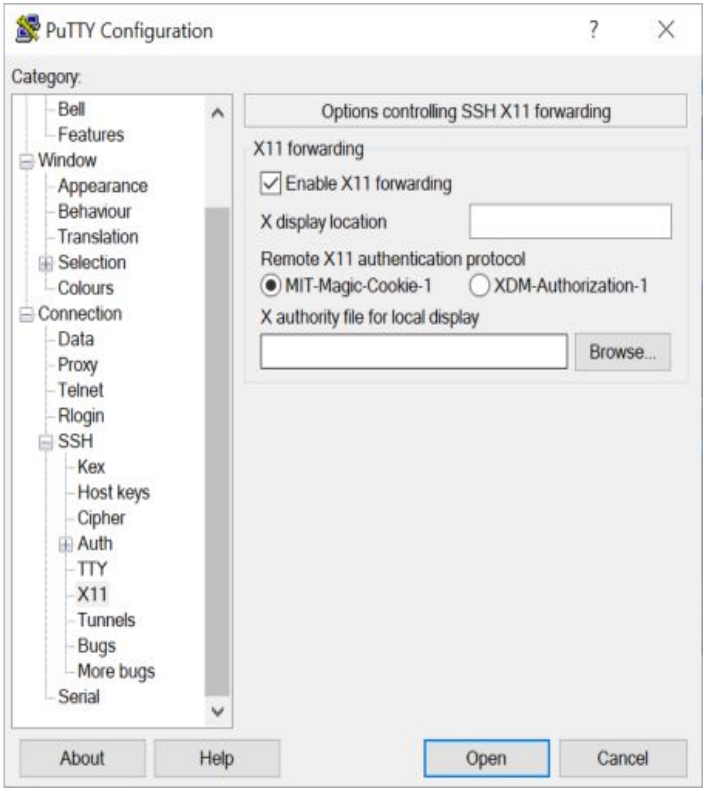
FileZilla

- To transfer files between your host machine and EECS servers



X Window System

- To display images from remote server, we need to run **X Window** server on our local machines
- For Windows
  - Install Xming
  - Enable X11 forwarding in PuTTY
- For Linux
  - Add -Y flag to ssh (ssh **-Y**)



Linux

- Demo

Linux System Environment (1)

- Linux Working Environment: Text-based (vs. Graphic User Interface - GUI)
- Text editing
  - **vi** standard Linux editor
  - **vim** vi-improved (supports syntax highlighting)
  - **pico/nano** easy-to-use text editor
  - **emacs** very powerful editor
  - many others…
- Pick one editor and make yourself comfortable with it!

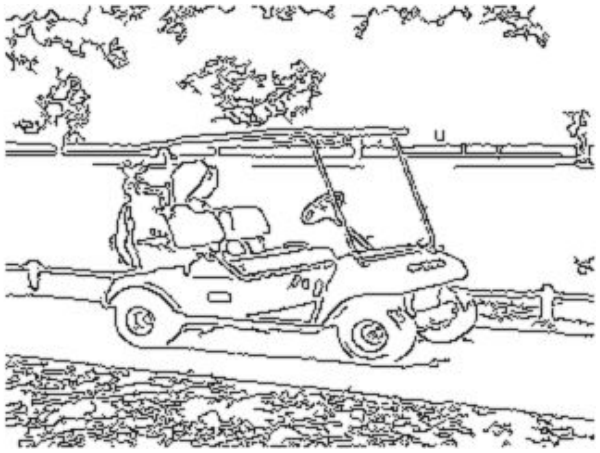
Linux System Environment (2)

- Most common Linux system commands

- **echo**	print a message
- **date**	print the current date and time
- **ls**	list the contents of the current directory
- **cat**	list the contents of files
- **more**	list the contents of files page by page
- **pwd**	print the path to the current working directory
- **mkdir**	create a new directory
- **cd**	change the current directory
- **cp**	copy a file
- **mv**	rename and/or move a file
- **rm**	remove (delete) a file
- **rmdir**	remove (delete) a directory
- **man**	view manual pages for system commands

Assignment 1

- Canny edge detector
- Source code already implemented in C
- Todo:
  - Copy the source code
  - Fix syntax error(s)
  - Compile and run successfully
  - Write down function-call tree
- Submit before the due date!
  - **October 6, 6pm** - hard deadline



Function-call tree (call graph)

- Study the application and write the relations between functions e.g.
  - main()->a()
  - - a()->b()
- Write your function-call tree in form of a simple text file named **canny.txt** and submit it

```
void a() {
  b();
}

int main() {
  a();
}
```

Homework Submission

- Goto the **parent** directory of hw1
- Submit **canny.c** and **canny.txt**
- To submit, type:
  - ~ecps203/bin/turnin.sh (tilde key)
- To verify your submission, type:
  - ~ecps203/bin/listfiles.py

Questions?