

August 21 (Monday)

Organizational Meeting.

1. The "GreenShot" is posted on the github

Note: Bring your Laptop Computer to the class.

<https://github.com/hualili/CMPE244>

Course and Contact Information

Instructor:	Harry Li, Ph.D. Professor, Computer Engineering Department State University
Office Location:	Engineering Building 267A
Telephone:	(408) 924-4060 (650) 400-1126
Email:	hua.li@sjsu.edu
Class Days/Time:	Mondays and Wednesdays, 4:30 pm – 5:45 pm, Aug
Office Hours:	<u>Mondays and Wednesdays, 3:00 pm – 4:00 pm</u>
Classroom:	Engineering Building Room 295
Prerequisites:	CMPE 180A and CMPE 180D, classified standing, c Artificial Intelligence or Computer Engineering or S majors only.

2. Emphasis on POSIX O.S. Linux Open Source O.S. & Device Drivers Programming and Development. Scalability & Vertical Solution.

Course Description

Experiments dealing with advanced embedded software programming concepts, interfacing techniques, hardware organization, and software development using embedded systems. Individual projects.

3. Course Format: In-Person.

Hands-on Class. Prototype System

Option 1. NVIDIA Jetson Nano. GPU (128)
4 GB Version GPU JetPack

Option 2. Broadcom Pi3B+, Pi4.

Option 3. RISC-V FPGA Dev. Board.
+ FreeRTOS

Selection Decision in 1 week

Option 4. NXP LPC1114 or
LPC1779, RTOS. NXP
Dev. Forum.

Has limited Processing power.
May Not meet the need for our Project

4. Textbook & References

Set I: Datasheet(s), CPU Datasheet, Developer Guide; Set II: NVIDIA Developer Forum. Set III: PPTs, Sample Code, Handouts in the Class github.

Course Materials

Instructor's teaching materials and online resources.

1. Professor's git: <https://github.com/hualili/CMPE244>
2. Jetson NANO Jetpack download <https://developer.nvidia.com/embedded/downloads>

Other Equipment / Material

1. Hardware Equipment: You may choose any one of the following options. For detailed selection information, I will cover it in the introduction session of the class. Option 1. Nvidia Jetson NANO Board with minimum 2 GB RAM; or Option 2. Pie 3B+, or Pie 4; Option 3: Nvidia Jetson Tx2 developer kit; or Option 4: LPC1769 CPU Module: https://www.mouser.com/NXP-Semiconductors/Embedded-Solutions/Engineering-Tools/Embedded-Processor-Development-Kits/Development-Boards-Kits-ARM/_/N-cxd2t?P=1z0jm4m&Keyword=LPC1769&FS=True&gclid=Cj0KCQjwqKuKBhCkARIsACf4XuHyN8WfqTQ24WGtoMdKd6n-kl7c-YNz-r1hTcPt0ErdZN62jrMQmgaAtXZEALw_wcB or Option 5: Samsung ARM11 developer platform.
2. Linux Host Machine (Ubuntu 18.04).

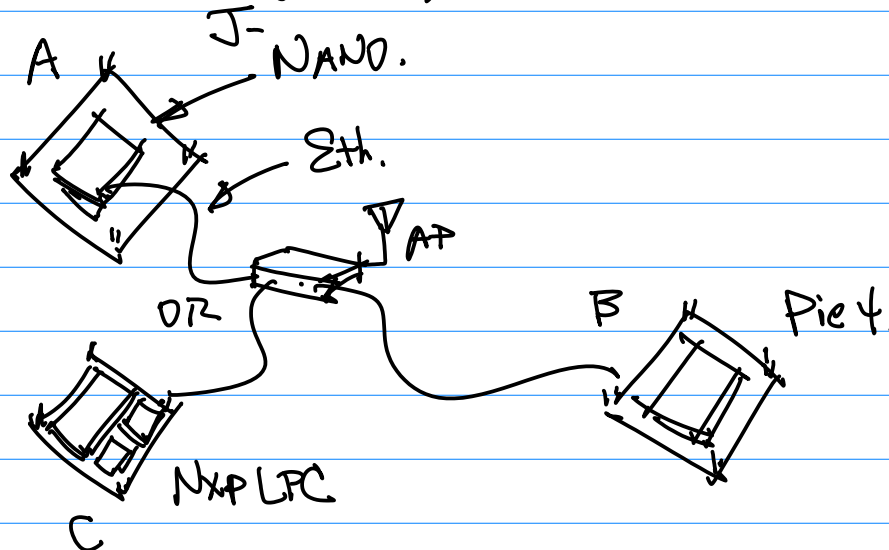
- 2021F-114-handout-gpi... Add files via upload
- 2021F-114b-pwm-nano... Add files via upload

yr. Semester ID

Naming Convention:

A & B
A & C

Note: Regarding The Selection of A Target Platform:



5. Grading Policy

Phased
Project Assignment (Two Projects)
15% (pts) for the assigned projects.
15% for the Semester Long Project

Assignments and projects:	30%
Midterm Exam:	30%
Final Exam:	40%
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Total:	100%