

Operating System Projects

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Objective

- Understanding the architecture of practical OS
 - *Based on Linux kernel*
 - Process and thread
 - System call and interrupt
 - Memory management
 - Storage management
 - ...



- **Linux kernel versions later than 3.0**
 - Recommends ubuntu 13.04 (linux-3.8.8)
- **Books**
 - Robert Love,
Linux Kernel Development, 3rd edition, Addison-Wesley.
 - Wolfgang Mauerer,
Professional Linux Kernel Architecture, Wrox.
 - Daniel P. Bovet and Marco Cesati,
Understanding the Linux Kernel, 3rd edition, O'reilly.



Schedule

Week	Title	Projects (due)
1	Introduction to Linux kernel	
2	Tasks, scheduler, system call and interrupt	0. Environment setup
3-7	Memory management and virtual memory	0.5. Start up (module)
8	(Mid-term exam)	1. Virtual memory
9-12	Block device and device mapper	2. Block device
13-15	Virtual file system and ext4fs	
16	(Final exam)	3. File system



Grading

- **Assignment:** 90% (team)
 - Project 0, 0.5: 20%
 - Project 1~3: 70%
- **Presentation:** 10% (person)
 - Weekly progress reports (*every week*)
 - Final presentation
- **Bonus points**
 - Brilliant ideas in projects or presentations