CSGE602055 Operating Systems
CSF2600505 Sistem Operasi
Week 00

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Agenda

The Lecturer

- UILA: since 1984.
- GNU/Linux user: since 1994.
- VauLSMorg (vlsm.org): since 1996.
- Blog: `rahmatm.samik-ibrahim.vlsm.org/`
  - Blog: `2016/08/panggil-saya-rahmat.html`
  - Blog: `2013/10/kumpulan-hal.html`
- Twitter: `@rms46`
- Facebook Page: `facebook.com/RMS46F/`
- Contact: via SCELE - Operating Systems REG/MTX/INT/EXT
  `https://scele.cs.ui.ac.id/course/view.php?id=124`

Terms of Conditions

1. My name is Rahmat. There shall no other name then Rahmat!
2. Thou shall not be late for the lecture!
3. Thou shall not swear and not be noisy in the classroom!
4. Remember the Operating System time slot. Prepare for a quiz!
5. Honor thy lecturer's privacy. No Puss in Boots, please!
6. Thou shall not play games in the classroom!
7. Thou shall not net chatting in the classroom!
8. Thou shall not borrow from your neighbor during a quiz or examination!
9. Thou shall not wrongly answer the quiz or examination!
10. Thou shall not covet your neighbor's quiz or examination sheet!

Honor thy lecturer's privacy.

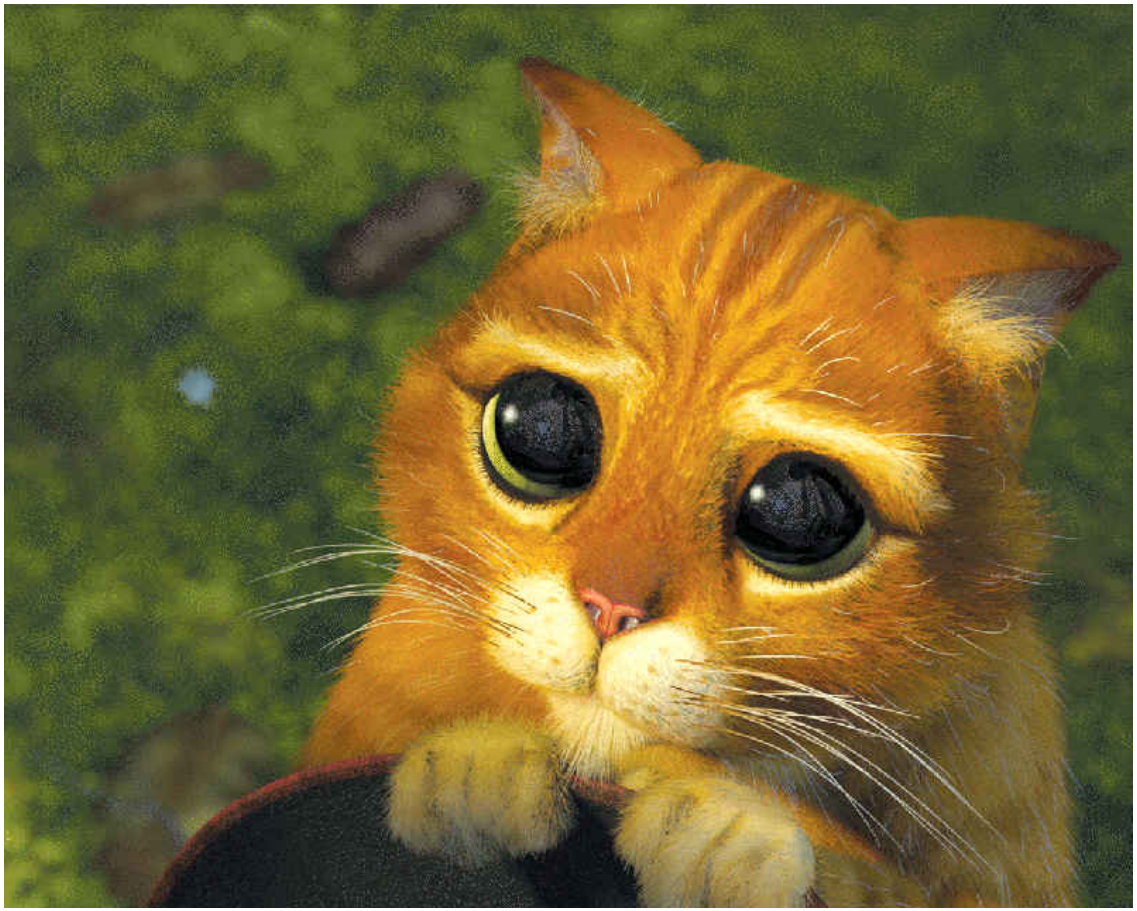


Figure : No Puss in Boot, please![1].

[1]This is a fair use of a DreamWorks/Paramount Picture character.

Goal

Coverage

This is an introduction to a modern operating systems course. It will cover general overview, computer architecture review, operating system overview, software licenses, GNU/Linux CLI, versioning, scripting, C language overview, protection, security, gnupg, processes and threads, addressing and pointers, memory management, virtual memory, synchronization, mutual exclusion, deadlock, CPU scheduling algorithms, file systems.

Student-Centered

This course is student-centered where responsibility is in the hands of the students. Students are expected to be prepared for the class meeting.

GNU/Linux

Students will have a thorough understanding of how GNU/Linux provides services by using a Command Line Interface.

ETC

- SCELE: `https://scele.cs.ui.ac.id/course/view.php?id=124`
  - Enrollment key: "01101010"[1].
  - Check the "Announcement" regularly.
  - Topic of the week will be in the weeks section.
- ARCHIVE:
  `https://scele.cs.ui.ac.id/course/view.php?id=126`
  - Enrollment key: "11001100"[1].
  - Check it out!
- There will be **No Lab. Assistant**.
- There will be **No Teaching Assistant**.
- There will be **Grader only**.
- Go to SEKRE (B Building 2nd floor) for any administrative issues!

[1] For a limited time only!

Resources

- Any recent Operating System text book published - say - less than 10 years ago.
- OLD — (ARSIP)(017_BAHAN-AJAR-LAMA) Previous Slides.
- OSC2E — (ARSIP)(050_OSC-Silberschatz) OSC2E
- UCB — (ARSIP)(070_KULIAH-INTERNASIONAL) UC Berkeley
- UDA — (ARSIP)(070_KULIAH-INTERNASIONAL) UDACITY
- ETC — (ARSIP)(075_ETC-Video) ETC

Assessment

85 - ... = A	80 - 85 = A-	75 - 80 = B+	70 - 75 = B
65 - 70 = B-	60 - 65 = C+	55 - 60 = C	50 - 55 = D or C[1]

- Midterm: 6 problem sets @ 6 points (=36).
- Final: 5 problem sets @ 6 points (=30).
- Pre-midterm assignments: 6 sets @ 3 points (=18).
- Post-midterm assignments: 5 sets @ 3 points (=15).
- Extra: 1 point[1].
- C-2C: up to 5 points[1].
- Midterm remedy/replacement: up to 3 points[1].
- Final remedy/replacement: up to 3 points[1].
- You are allowed to bring a cheat-sheet (A4 size) to the exam room[1].

[1] Terms and conditions apply

Schedule part 1

- Week00 – Intro (OSCE2e ch1/2)(UCB 01)(UDA P1L1/2) (OLD 00)
- Week01 – IPR & Scripting (ETC 000 001 002)(OLD 02-HKI 02-scripting) (Any Related Tutorial)
- Week02 – Protection & Security (OSCE2e ch13/14) (ETC 050/1 C001-8) (OLD 01) (Any C Language Tutorial)
- Week03 – BIOS, Boot and UpStart (Any Related Tutorial) (ETC 300-323)
- Week04 – Addressing, Pointer & I/O Programing (OLD 08 10)
- Week05 – Memory (OSCE2e ch7/8) (UCB 11 12 13) (UDA P3L2) (OLD 06)
- UTS 00 01 02 03 04 05

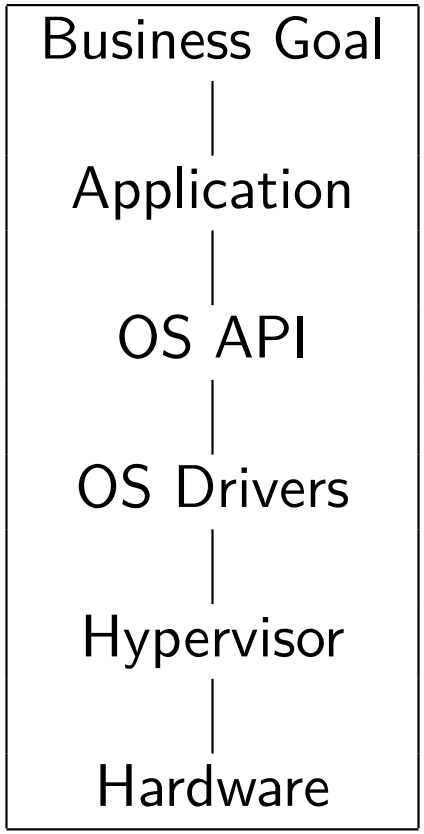
Schedule part 2

- Week06 – Processes & Threads (OSCE2e ch3/4) (UCB 02 03) (UDA P2L1/2/3) (OLD 03)
- Week07 – Synchronization (OSCE2e ch5) (UCB 7/8) (UDA P3L3/4) (OLD 04)
- Week08 – Scheduling & Sockets (OSCE2e ch6) (UCB 9/10) (UDA P3L1) (OLD 05)
- Week09 – File & Storage System (OSCE2e ch9/10/11) (UCB 17A/18/19) (UDA P4L2 P4L2) (OLD 07 08)
- Week10 – Cloud System & Virtualization (UCB 24)
- UAS 06 07 08 09 10

Week 00: Introduction

- Reference: (OSCE2e ch1/2)(UCB 01)(UDA P1L1/2)(OLD 00)
- Operating System
  - Definition
  - Managers
  - Layers
  - Interfaces
- Computer Organization Review
  - Buses, Bridges, Transfer Rate, Clock.
  - Memory: DDR, DDR-2, ...
  - Port & Memory Mapped I/O
  - CPU: privilege and user mode
  - Hardware Limitation
  - Priority: Read vs Write
  - Numbers: base 2, base 8, base 10, base 16.
- Lab
  - Google Account
  - Github Account
  - SSO (LDAP) Account
  - Scele Account

General View



- Account: Google, Github, SSO
- Scele
- Report/Wait
- Home check

Arithmetic

- Base 2: 110010101010_2
- Base 8: $01234567_8 = 000\ 001\ 010\ 011\ 100\ 101\ 110\ 111_2$
- Base 10: 012 345 679
- Base 16: $9AB\ CDEF_{16} = 1001\ 1010\ 1011\ \ 1100\ 1101\ 1110\ 1111_2$

The End

- This is the end of the presentation.