

Lecture 01 Operating Systems Introduction

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CSE3201: Operating Systems

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Outline

- 1 Course Requirements
- 2 Lab Classes
- 3 Course Outline
- 4 What is an Operating System (OS)

Required Knowledge on

- Data Structure
 - Stack, Queue, Lists, hash tables, tree, heaps, etc ...
- Microprocessor and Interfacing
 - Assembly programming
 - Mapping of high-level procedural language to assembly language
- Competent Programmer
 - We will use C programming language
 - The dominant language for OS implementation.
 - Need to understand pointers, pointer arithmetic, explicit memory allocation, etc.

Assignment (LAB)

Lab: CSE 3211

- Four or More Assignments
 - They Are Challenging (excluding the first one)
 - Because operating systems are challenging
- We will build an Operating system on ARMv7 architecture
 - Specifically on a platform STM32F446re – Cortex-M4
 - Starting from bare-metal programming assignment
 - It will be a challenging task – let us do as much as possible
 - We will follow the techniques discussed in the class
 - An assignment on FreeRTOS
- Estimated Time for each assignment
 - Three weeks (roughly)
 - Each Assignment is divided into several labs (2 or 3 lab classes)
 - Don't under estimate the time needed to do the assignment
 - If you start a couple of days before the due date, you will be late
- Attendance is required in the lab classes

How to and Assessment

- Assignments are completed and Submitted Individually
- Optional: choose partners only for discussion
- Discuss with assigned teachers if you do not understand
- Do not copy codes from others
- Assessment is based on your work in the lab
- Need Lab demonstration.
- Complete each assignment and submit to google class
- 5% of total assignment value per day late
 - Assignment only accepted up to one week late 8+days late = 0
 - No extension will be given due to any strike, political unrest condition, holidays

Course outline

- Processes and threads
- Concurrency control
- Memory Management
- File Systems
- I/O and Devices
- Security
- Scheduling
- For Detail: See course plan in the Course website on google classroom...

Operating System

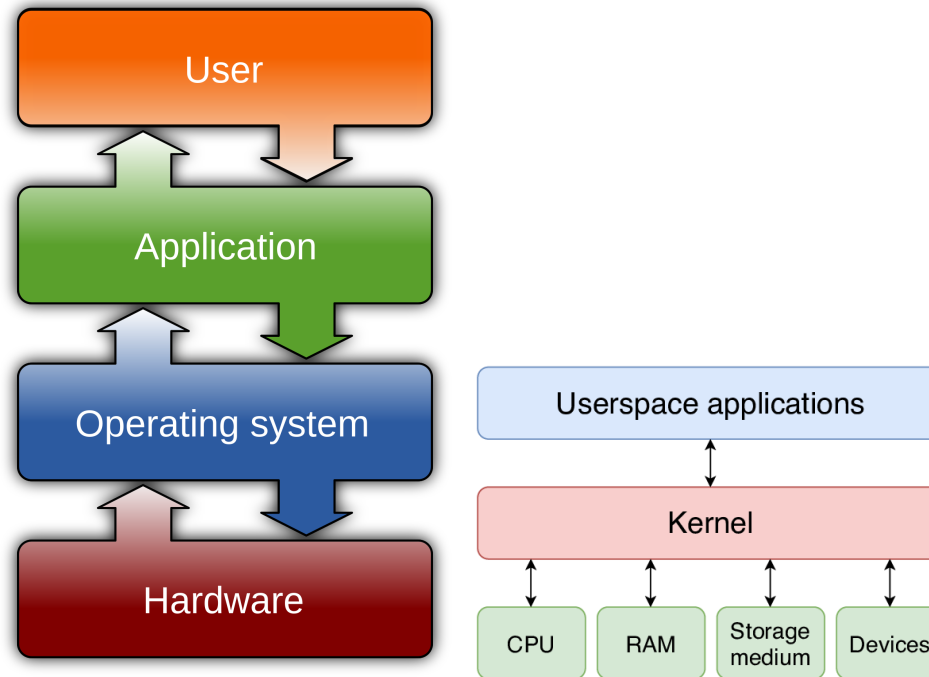


Figure 1: OS Interfaces

Operating System

