CSc 452: Principles of Operating Systems

Lecture: TTh 2-3:15 GS906
Supplemental Instruction: F 10-11 GS906
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Index Card

Preferred Name (pronoun)
Official Name
Degree status (e.g. 4th year CS BS)
Why are you taking this course?
Something interesting about yourself

Course Objectives

Students will learn the principles behind modern operating systems, including the abstractions they commonly provide, how to use them, and how to implement them. Students will also learn how operating systems efficiently multiplex the hardware resources among many simultaneous activities while providing isolation and security between activities.

Course Non-Objectives

Windows 10 certification

Me

- Grew up in Binghamton NY
- ScB in CS from Brown University 1987
- MS/PhD in CS from Berkeley 1991/1994
- Worked in industry
- At UA CS since 1995
- 3 startups
- Still consult for Akamai
- Wife and 2 sons
- 12+ vehicles
- 1 dog

Topic 1: Introduction

Reading: Chapter 1; Dijkstra EWD1303

- Why are operating systems interesting?
    - They combine many areas of computer science: languages, architecture, data structures, algorithms, concurrency, communication.
    - An OS coordinates the (often conflicting) needs of users and programs.
    - An OS is a magician: it makes a computer even better (many processors, more memory, fancy storage, connected to other computers). *Virtual machine*.
    - Large, complex systems: results in interesting problems of management, conflicting requirements.
- What is an OS? No accepted definition, but generally it is the software that bridges the gap between the hardware and application programs. It is a fancy library that can protect itself from the software that uses it, without relying on language support to do so.