

Course Introduction

Amir Masoumzadeh

CSI 402 – Systems Programming

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Who we are

- Instructor: Amir Masoumzadeh
 - amasoumzadeh@albany.edu
 - UAB 422, Wed 2:30pm–4:30pm, or by appointment
- TA₁: Younes Karimi
 - ykarimi@albany.edu
 - UAB 410B, Mon 10am–12pm, or by appointment
- TA₂: Muralidhar Gopinath
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 - UAB 410B, Fri 2pm–4pm, or by appointment

What is systems programming?

*System programming (or systems programming) is the activity of programming computer system software. The primary distinguishing characteristic of systems programming when compared to application programming is that **application programming** aims to produce software which provides services to the user directly (e.g. word processor), whereas **systems programming** aims to produce software and software platforms which provide services to other software, are performance constrained, or both (e.g. operating systems, computational science applications, game engines and AAA video games, industrial automation, and software as a service applications).*

- *Wikipedia (1/23/18)*

Learning objectives

- understand and articulate what system software does
- code general-purpose C programs
- use the many tools Linux provides including commands and system calls
- understand and talk about system details (e.g., be able to read research papers in systems area)

Learning modules

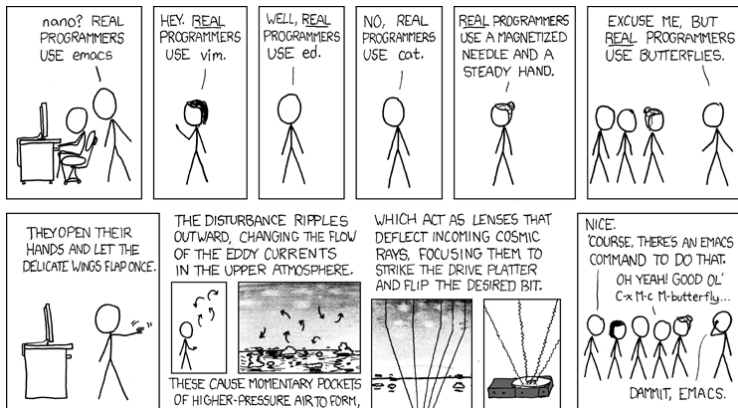
- ① introduction
- ① shell/Bash
- ② C programming
- ③ POSIX/Linux programming
- ④ some fundamental system programs
- ⑤ misc./advanced topics

Set up your environments

- Linux
 - your own machine
 - running a Linux? Awesome!
 - install Linux as a virtual machine (using VirtualBox software)
 - Mac OS works too for the most part
 - university machines
 - we will have our own (virtual) machine for this class
 - alternative: itsunix.albany.edu

Set up your environments (cont.)

- editor
 - nano, Vim, Emacs, ...



Set up your environments (cont.)

- teams (for in-class activities)
 - pair up (teams of two) so that one of you can bring a laptop to the class
- your 1st activity
 - browse <https://www.socrative.com/> and navigate to students
 - you can download "Socrative Student" app alternatively
 - enter **CSI402** as room name
 - enter **<1st-email-id>-<2nd-email-id>** as your name
 - e.g., a team of TA and I will be named as **ykarimi-amasoumzadeh**
 - submit requested info

Set up your environments (cont.)

- Git and GitHub
 - lecture slides, assignments, ...
 - let's take care of it!
 - Sign up for GitHub (if you don't have an account, otherwise use your current account)
 - Open Blackboard on your devices and navigate to **setup** folder
 - Complete the **GitHub ID** item

Homework assignments, exams, ...

- in-class activities
 - bring your laptops (if possible)
- homework
 - released, submitted, and graded on GitHub
 - start early, ask questions!
- 4 exams
 - #1: module #1
 - #2: module #2
 - #3: module #3
 - final: 50% module #4, 50% cumulative

Policy highlights

- no tolerance for cheating, seriously!
- homework: up to 2 days late, 10% penalty each day
 - should email us for late submission
- graded in-class activities: top 90%
- final grade: weighted combination of
 - 35% homework
 - 15% in-class
 - 50% exams