ECS 98F - Course introduction

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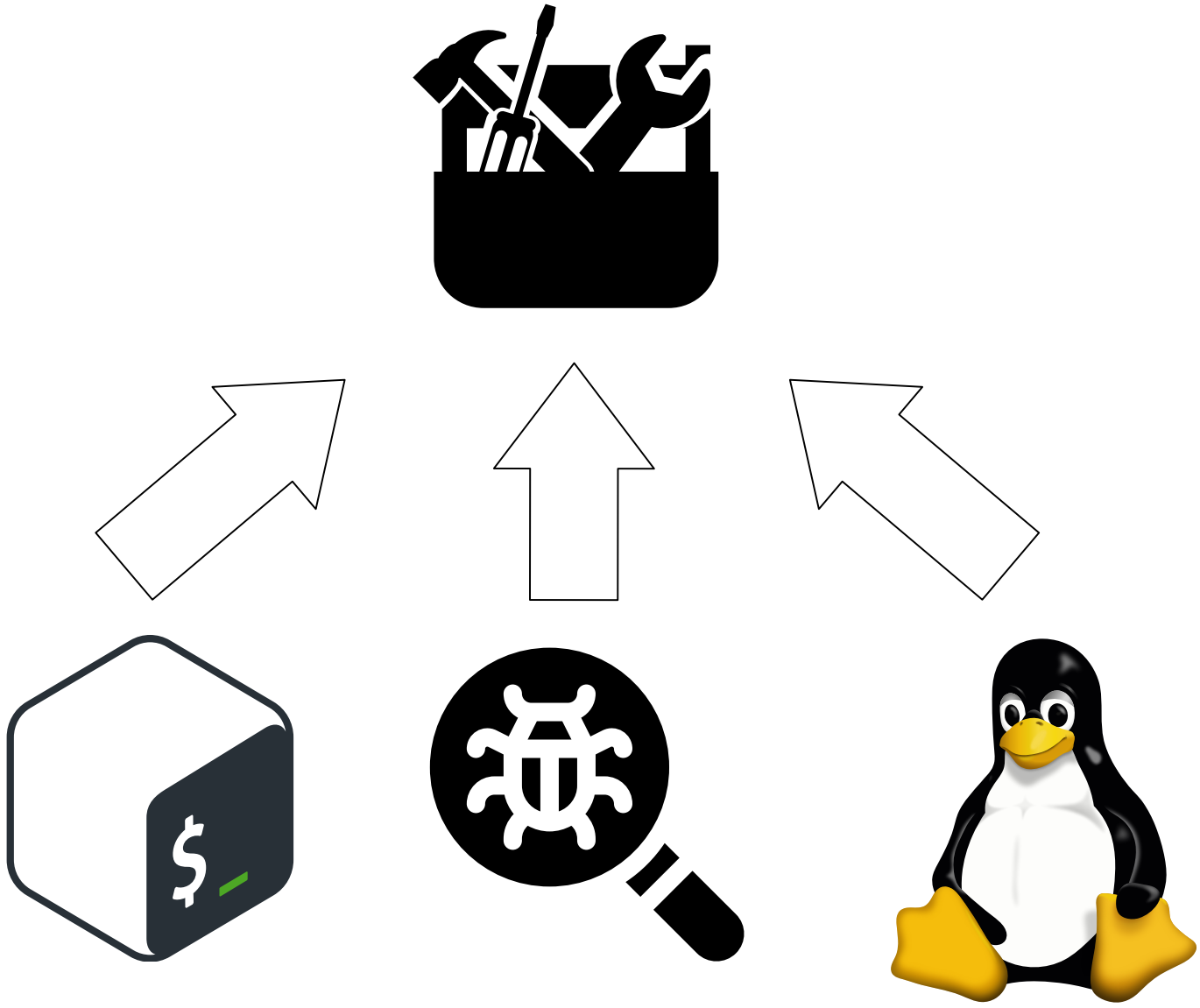
UC DAVIS
COMPUTER SCIENCE

Class objectives

Your developer toolbox



Class objectives

Career preparation

2020 Systems Development Summer Intern - (SEA)

Amazon
Seattle, WA

Over 1 month ago Internship

Basic Qualifications

BASIC QUALIFICATIONS
- Demonstrated proficiency in Linux, hands on and related debugging
- System admin experience on Linux or Unix systems
- Demonstrated proficiency with scripting languages such as Bash, Python, C, C++, Java or Ruby
- Currently enrolled in a Bachelor's degree program in Information Science / Information Technology, Computer Science, Physics, or a related field

Class objectives

Future coursework

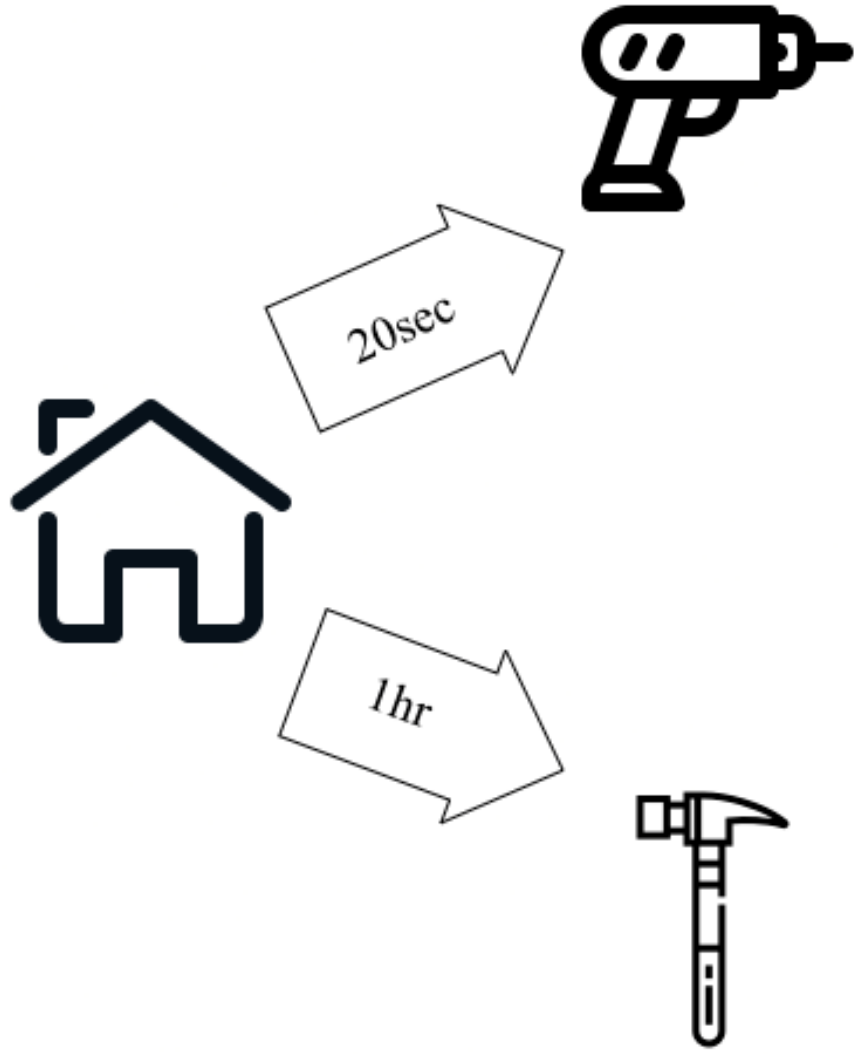
E.g., ECS 50

> **Unix Based Operating System**
>
> You will need a Unix based operating system when we get to the assembly portion of this class (around week 2 or 3). Neither a Mac nor Windows OS nor an emulation of a bash command line will work for this and you'll learn why later this quarter.
>
> You have a few options for gaining access to a Unix operating system, but whichever one you choose I recommend **getting it set up now** as you are bound to run into problems. It's a good time to work through those problems now while you don't have any pressing due dates as opposed to figuring them out in the middle of the quarter.

Class objectives

Productive programming

- Knowledge of tools increases programmer productivity
- Appropriate tools lead to more correct solutions
- Tool variety increases problem solving perspectives



Class objectives

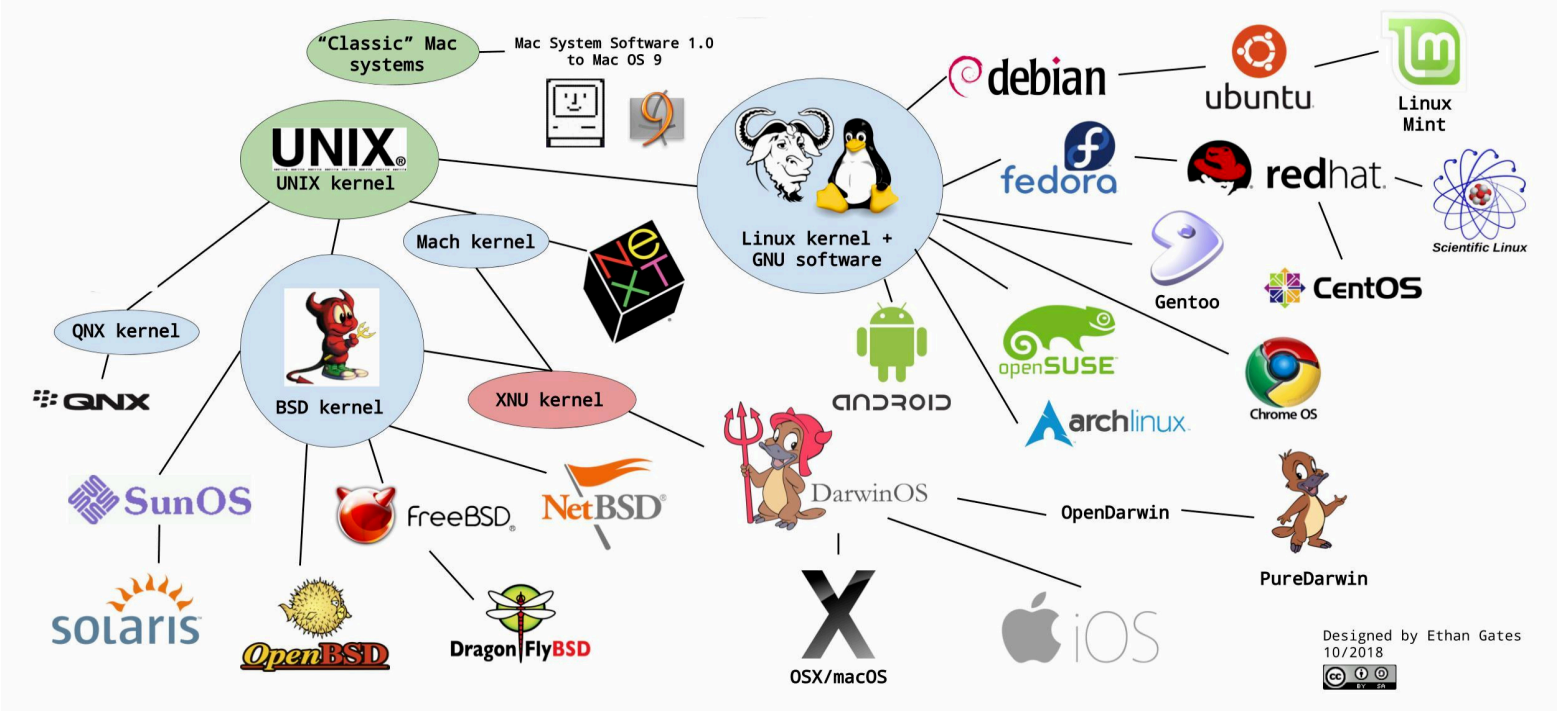
Demo

- Productivity
- Correctness

Unix environment

A bit of history

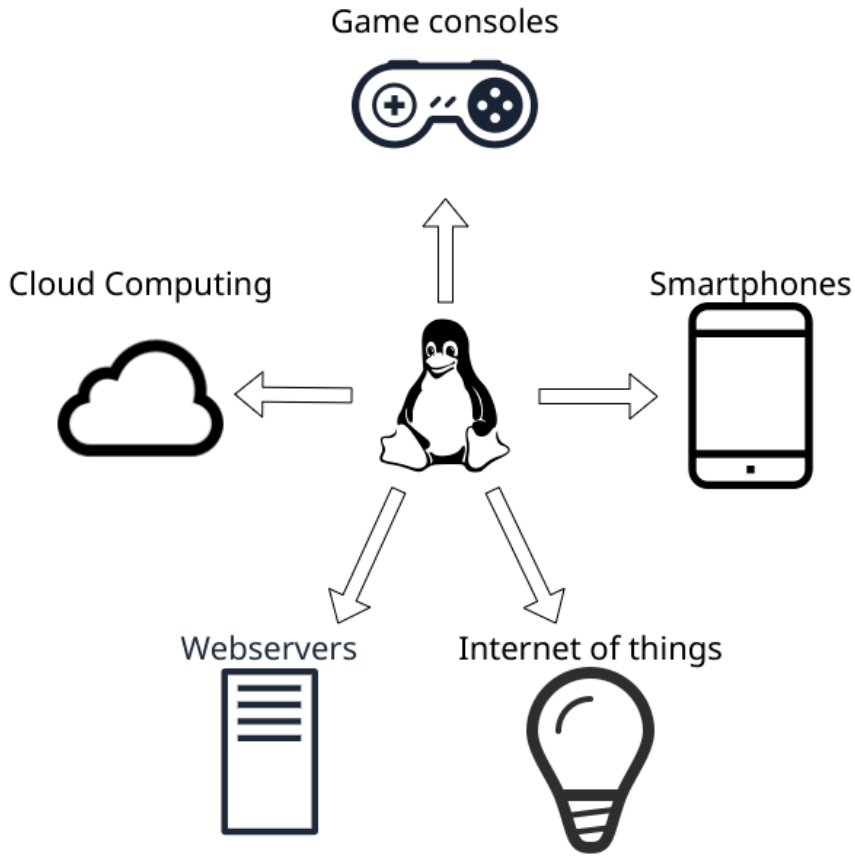
- Unix is a family of operating systems developed at Bell Labs in the 70s
- Meant to be a convenient platform for programmers to develop software
- Unix/POSIX environment has become a standardized platform for developers
  - Android, iPhone
  - GNU Linux, MacOS, WSL



Unix environment

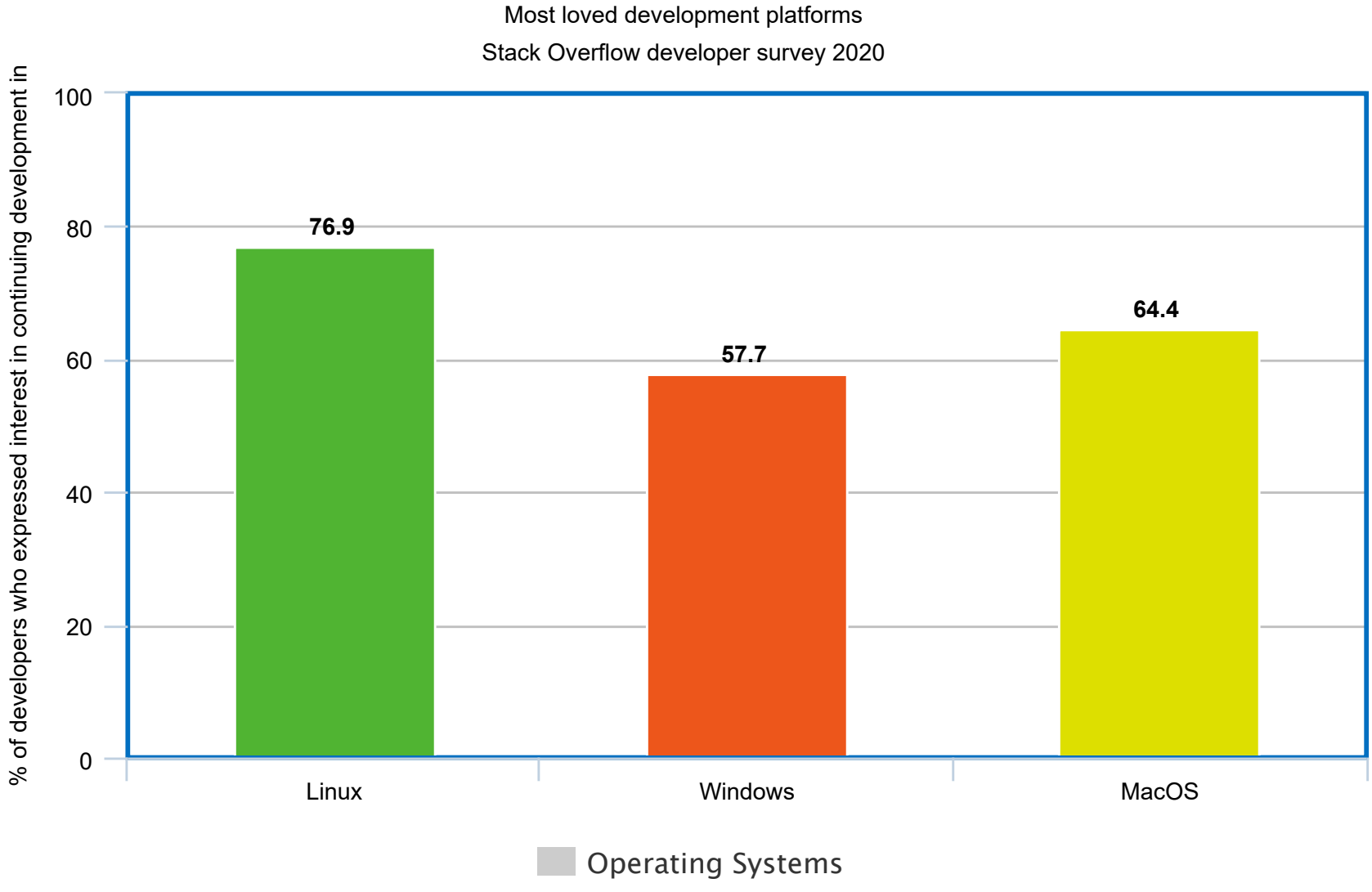
Ubiquitous environment

- Web servers
- IoT devices
- Smartphones
- Cloud compute
- Game consoles



Unix environment

Beloved Linux



Unix environment

Demo

- Package install

Course overview

Course logistics

- Course online
- 1 unit P/NP
- Completed ECS 36A or ECS 32C
- 10 homework assignments
- Pass: 70 points total

Weekly breakdown

1. Course introduction
2. Introduction to the CLI
3. Advanced CLI
4. Testing strategies
5. Debugging tools
6. Debugging strategies
7. Shell scripting
8. Regular expressions
9. Text processing
10. Version control

Course overview

First homework assignment

1. Getting into the CSIF
    - Library VPN to access campus
    - SSH into CSIF computers
2. Run verification script on CSIF
    - Submit result of script