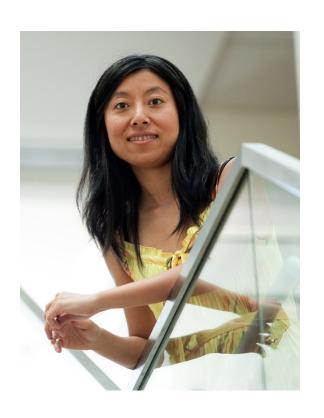# CS161 Computer Security

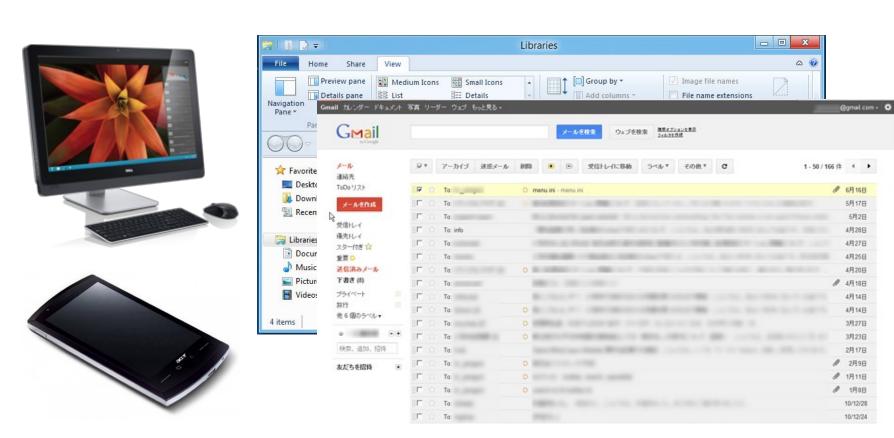## Overview

Teaching Team

What is Computer Security?

Personal Data & Files

Banking Funds

Personal Privacy

Location Privacy

What is Computer Security?

- Allow intended use of computer systems

- Prevent unintended use that may cause harm

Why Should You Care?

- It impacts your day-to-day life

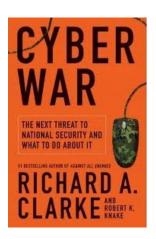1.35 billion monthly active users as of

Why Should You Care?

- It impacts everybody's day-to-day life
  - Millions of computers compromised
  - Millions of passwords stolen

What Is This Class About?

Learn About Security

Make a Difference

How Can You Make a Difference?

- Be a more security-aware user
  - Make better security decisions
- Be a more security-aware developer
  - Design & build more secure systems
- Be a security practitioner & researcher
  - Identify security issues
  - Propose new security solutions

What Will You Learn in This Class?
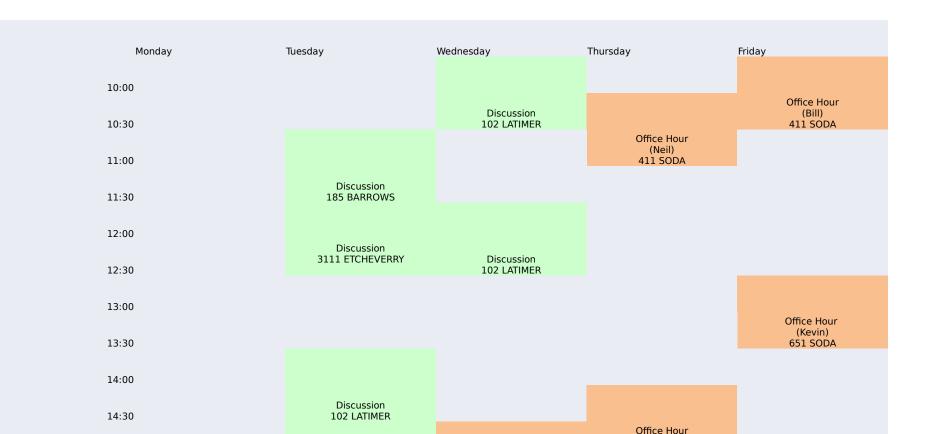
- Security vulnerabilities
- How to exploit them & defend against attacks
- Fundamental security concepts & principles
- How to architect secure systems
- Security problems & solutions in application areas

Topics Covered in Class

- Secure coding
- Secure architecture concepts & principles
- Web security
- Cryptography
- Network security & malware
- Mobile security

Course Format

Course Format

	Monday	Tuesday	Wednesday	Thursday	Friday
10:00			Discussion 102 LATIMER	Office Hour (Neil) 411 SODA	Office Hour (Bill) 411 SODA
10:30					
11:00		Discussion 185 BARROWS			
11:30					
12:00		Discussion 3111 ETCHEVERRY	Discussion 102 LATIMER		
12:30					
13:00					Office Hour (Kevin) 651 SODA
13:30					
14:00		Discussion 102 LATIMER		Office Hour	
14:30					

Projects

- 3 Projects
- Hands-on experience for material covered in class
- Done in groups of two
  - Pick partners soon!

Project Schedule

- Project 1: Software Security
  - Out: 2/3, Due: 2/24
- Project 2: Web Security
  - Out: 3/10, Due: 3/31
- Project 3: Network Security
  - Out: 4/14, Due: 5/8

Homeworks

- 3 Homeworks
- Very similar to the problems in the exams
- Done individually

Homework Schedule

- HW 1: Software Security
  - Out: 2/17, Due: 2/26
- HW 2: Security Architecture Principles & Web Security
  - Out: 3/19, Due: 4/7
- HW 3: Crypto & Network Security
  - Out: 4/9, Due: 4/21

Grading

- Homework: 15% (5% each)
- Projects: 45% (15% each)
- Midterm 1 (3/4): 20%
- Midterm 2 (4/29): 20%
- **No Final**

Other Notes

- Piazza – Primary point of contact
- Course text book – None!

Next Steps

- http://inst.eecs.berkeley.edu/~cs161/sp15/

- Identify group partners

- Discussion sections start 1/27

- First project 2/3