

# Welcome to CS338

## INTRO TO OPERATING SYSTEMS



IMAGE: <https://i0.wp.com/philipalacey.com/wp-content/uploads/2018/07/Operating-Systems-Assignment-Help.jpg?resize=300%2C201&ssl=1>

# Welcome to CS338

## INTRO TO OPERATING SYSTEMS



IMAGE: [https://www.target.com/p/operation-board-game/-/A-10855290?ref=tgt\\_adv\\_XS000000&AFID=google\\_pla\\_df&fndsrc=tgtao&CPNG=PLA\\_Toys%2BShopping\\_Local&adgroup=SC\\_Toys&LID=700000001170770pgs&network=g&device=c&location=9015339&ds\\_rl=1246978&ds\\_rl=1248099&ds\\_](https://www.target.com/p/operation-board-game/-/A-10855290?ref=tgt_adv_XS000000&AFID=google_pla_df&fndsrc=tgtao&CPNG=PLA_Toys%2BShopping_Local&adgroup=SC_Toys&LID=700000001170770pgs&network=g&device=c&location=9015339&ds_rl=1246978&ds_rl=1248099&ds_)

# Welcome to CS338

## INTRO TO OPERATING SYSTEMS

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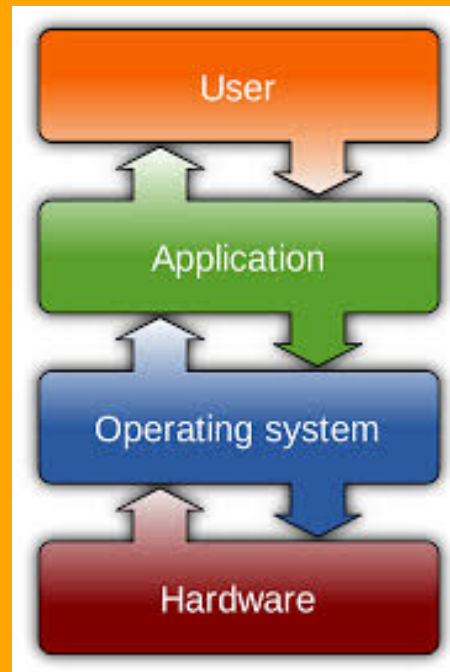


IMAGE: [https://upload.wikimedia.org/wikipedia/commons/thumb/e/e1/Operating\\_system\\_placement.svg/1200px-Operating\\_system\\_placement.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/e/e1/Operating_system_placement.svg/1200px-Operating_system_placement.svg.png)

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# TODAY'S 75min 4p-5:15p

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- ◆ Tell You About You (20m)
  - ◆ Course Overview (20m)
  - ◆ Tell Me About You (30m)
  - ◆ First Day Survey (5m)
-

## ◆ Tell You About You (20m)

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- ♣ Case Engineering
  - ♣ Cleveland
  - ♣ Gen-Z
  - ♣ Are You Our (My) Last Best Hope?
-

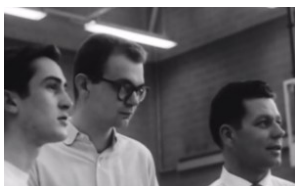




Clyde Street



## Donald Knuth, basketball and computers in sport



### Introduction

Donald Knuth received a [scholarship](#) in 1956 to attend the Case Institute of Technology in Cleveland, Ohio. During his time at the Institute, Donald was manager of the basketball team. His interests in observation, notation and computer programming were recorded in an IBM documentary.





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## Paul Buchheit

From Wikipedia, the free encyclopedia

**Paul T. Buchheit** is an American computer engineer and entrepreneur who created [Gmail](#). He developed the original prototype of [Google AdSense](#) as part of his work on Gmail. He also suggested [Google](#)'s former company motto "[Don't be evil](#)" in a 2000 meeting on company values. That motto was initially coined in 1999 by engineer Amit Patel.<sup>[2][3]</sup>

**Paul Buchheit**





Gmail's creator, Paul Buchheit, at his desk at Google in 1999 Courtesy Paul Buchheit

"I had started to make an email program before in, probably, 1996," he explains. "I had this idea I wanted to build web-based



# Craig Newmark Philanthropies



I'm an old-school nerd, doing what I can to respect and support the people who fight to protect the values that America aspires to: fairness, opportunity and respect.

[Learn More](#)[Craig Newmark Bio](#)

Debate Team

Age 18



na.ssl-images-amazon.com/images/I/6153eJXZgkL.jpg IMAGE: <https://photos.clevescene.com/wp-content/uploads/2015/10/download1.jpg> IMAGE: [https://schillarchitecture.com/wp-content/uploads/2016/03/20150621\\_212606.jpg](https://schillarchitecture.com/wp-content/uploads/2016/03/20150621_212606.jpg) IMAGE: <https://kimcranehomes.com/wp-content/uploads/sites/20/2015/06/9-1024x766.jpg> IMAGE: <https://images->



factors they believed were important to Generation Z, such as social equality, multiculturalism, and digitalization, and found that overall, London, Stockholm, Los Angeles, Toronto, and New York City topped the list. However, the rankings changed with respect to each of the categories considered. Oslo, Bergen (both in Norway), Stockholm, Gothenburg, and Malmö (all from Sweden) were champions of gender equality, yet Seoul, London, Boston, Stockholm, and Los Angeles best met the digital wants of Generation Z. However, given that members of Generation Z tend to be financially pragmatic, all the aforementioned cities shared a common disadvantage: high costs of living. Therefore, the Nestpick index for Generation Z could change in the upcoming years as these people grow older and have different priorities.<sup>[98]</sup>

### Education [\[ edit \]](#)

According to a [Northeastern University](#) Survey, 81% of Generation Z believes obtaining a college degree is necessary in achieving career goals.<sup>[99]</sup> As Generation Z enters high school, and they start preparing for college, a primary concern is paying for a college education without acquiring debt. Students report working hard in high school in hopes of earning scholarships and the hope that parents will pay the college costs not covered by scholarships. Students also report interest in [ROTC](#) programs as a means of covering college costs.<sup>[100]</sup> According to *NeaToday*, a publication by the [National Education Association](#), two thirds of Gen Zers entering college are concerned about affording college. One third plan to rely on grants and scholarships and one quarter hope that their parents will cover the bulk of college costs. While the cost of attending college is incredibly high for most Gen Zers, according to *NeaToday*, 65% say the benefits of graduating college exceed the costs.<sup>[100]</sup>

"Generation Z" is revolutionizing the educational system in many aspects. Thanks in part to a rise in the popularity of entrepreneurship and advancements in technology, high schools and colleges across the globe are including entrepreneurship in their curriculum.<sup>[101]</sup> A 2018 study found that while Gen Z values education, their personal brand is seen as more important: successful Youtubers and social media influencers have shown that the right image can be

The Strauss and Howe retelling of history through a generational lens has received mixed reviews. Many reviewers have praised the authors for their ambition, [erudition](#) and accessibility. For ex., former U.S. Vice President [Al Gore](#), who graduated from [Harvard University](#) with Mr. Strauss, called *Generations: The History of America's Future, 1584 to 2069* the most stimulating book on American history he'd ever read. He even sent a copy to each member of Congress.<sup>[4]</sup> The theory has been influential in the fields of generational studies, marketing, and business management literature. However, it has also been criticized by several historians and some political scientists and journalists, as being overly-[deterministic](#), non-falsifiable, and unsupported by rigorous evidence.<sup>[62][63][9]</sup>

### *Generations: The History of America's Future, 1584 to 2069* [\[ edit \]](#)

After the publication of their first book *Generations*, Martin Keller a professor of history at Brandeis University, said that the authors "had done their homework". He said that their theory could be seen as pop-sociology and that it would "come in for a lot more criticism as history. But it's almost always true that the broader you cast your net, the more holes it's going to have. And I admire [the authors'] boldness."<sup>[64]</sup> Harvard sociologist David Riesman said the book showed an "impressive grasp of a great many theoretical and historical bits and pieces". *The Times Literary Supplement* called it "fascinating" and "about as vague and plausible as astrological predictions".<sup>[14]</sup> *Publishers Weekly* called it "as woolly as a newspaper horoscope".<sup>[4][13]</sup>

### *The Fourth Turning* [\[ edit \]](#)

In his review for the *Boston Globe*, historian [David Kaiser](#) called *The Fourth Turning* "a provocative and immensely entertaining outline of American history, Strauss and Howe have taken a gamble". "If the United States calmly makes it to 2015, their work will end up in the ashcan of history, but if they are right,

Colleague: "Teaching's important. Let's face it. You're not going to win a Nobel Prize. But your students might do some amazing things."

Doctoral Student: "Your colleagues will be dead." Your students might remember you.

Mom: "Those aren't YOUR achievements." But you can sometimes say you helped. Maybe sometimes it's true.

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# ♦ Course Overview (20m)

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♣ Tue Thu 4-5:15p Lectures 5:30-6:30p Hours

♣ Wed 4:50p-6:05p Labs White Building 411

- ♥ 1x 45m Final (25%)
- ♥ 1x 30m Midterm (15%)
- ♥ 1x 3pp Paper (20%)
- ♥ 10x 2m Quizzes (20%)
- ♥ 6x Lab + 14x HW (20%)
- ♥ Xtra pts awarded in class
- ♥ Grade +/- based on how, not how much

♣ Text: Silberschatz et al. recent edition online, other resources

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- ♣ This course is Linux-oriented
  - ♣ This course will introduce c
  - ♣ This course will sample text material
  - ♣ This course will look FWD and BACK
  - ♣ This course will look at career paths too
-

- ♣ This course is Linux-oriented (can be newbie)
  - ♣ This course will introduce c (assuming other programming)
  - ♣ This course will sample text material (trees vs. forest)
  - ♣ This course will look FWD and BACK (eras, papers)
  - ♣ This course will look at career paths too (higher hopes)
  - ♣ If you are a non-major
  - ♣ If you are a super-user
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# Questions about Course Structure?

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- ♣ No Lates. Appeals: 1st Free, Second Costs, Limit Two
  - ♣ Missed Work Rescaled at Instructor Discretion
  - ♣ Follow Privacy, Integrity, Ethics Policies
  - ♣ Comply with FERPA, esp on Recommendations
  - ♣ Instructor is Fallible
  - ♣ Weather and Illness
-

## ♦ Tell Me About You (30m)

♣ Linux? Windows? Mac? Other?

♣ Oldest OS? Coolest OS? Best OS?

♣ Oldest Hardware? Coolest Hardware?

♣ Lowest level programming? Highest level systems orchestration?

♣ What Do You Want to Do: in 1 yr? in 5 yrs? in 20 yrs? @EOL?

♣ Introverts? J-Types? N-Types?

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## ♦ First Day Survey (5m)

♣ Each response 0, 1, 2, or 3 (a lot)

♣ One line: e.g., 1. 0, 2. 1, 3. 3 (testing your syntax discipline)

- ♥ 1. (0-3) I am comfortable with threads vs. processes
- ♥ 2. (0-3) I am comfortable with timeslices and priority queues
- ♥ 3. (0-3) I am comfortable with cache replacement strategies
- ♥ 4. (0-3) I am comfortable with block io and dma strategies

- ♥ 5. (0-3) I am comfortable with semaphores
  - ♥ 6. (0-3) I am comfortable with virtualization
  - ♥ 7. (0-3) I am comfortable with linux process monitoring
  - ♥ 8. (0-3) I am comfortable with kernel system calls like fork in c
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