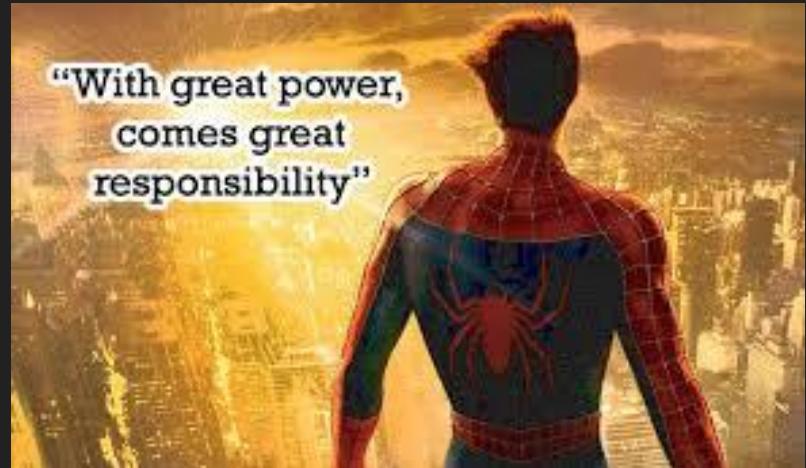


Contemporary Issues & Ethics

What are Ethics?

- Morally Right vs. Wrong
- Above and beyond the law
 - **Wrong** is not always illegal
 - **Severely wrong** typically is illegal
- Technological improvement moves faster than the law
- Computers are powerful tools, and “with great power comes great responsibility”
- Ethics for Computing professionals
 - ACM [Code of Ethics](#)
 - IEEE [Code of Ethics](#)



Some Modern Issues

Intellectual Property

Privacy, Security & Confidentiality

Conflict of Interest

Software Risk

Ethics of Hacking

Internet Control: Freedom of Speech

Misinformation & Manipulation

Bias, Fairness & Discrimination

Intellectual Property

- **Patent:** a governmental protection on your unique idea.
Can cover your idea nationally or internationally
 - **Design Patent:** covers the way something looks
(including design features and workflows)
 - **Utility Patent:** covers the way something works or is used

Intellectual Property

- **Copyright:** protects your exact software as a work in the same way books are copyrighted (weak protection for software).
 - A work has copyright from the minute it is written, needs to be registered to have protection from the government
- **Copyleft:** the ultimate open source, this states that any code built on top of code that is copyleft must also be open sourced and also copyleft.
 - GNU General Public License is the most famous use

Intellectual Property

- **Trademark:** Exclusive use of a word, name, or symbol. Primarily useful for protecting your brand, not your code (but corporate brands are important too)
- **Trade Secret:** Undisclosed methods for performing some task. Strong protection as long as it's secret, but no protection if someone else discovers your solution.



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FAQ | PHONES

Apple and Samsung face off in court over design patents once again

Remember that epic legal battle between the two tech giants? It's still going on. Here's what you need to know.

BY SHARA TIBKEN | MAY 10, 2018 5:00 AM PDT



Conflicts of Interest

- Oversight can always lead to conflicts
 - Studies can be sponsored by companies and can have favorable findings, is that a conflict? Does that mean companies can't sponsor research in their own field?
 - Should the best product/service not be used because it could result in a conflict of interest? What if the conflicting party abstains from voting?

Koch-backed study says tariffs would cost American households thousands of dollars

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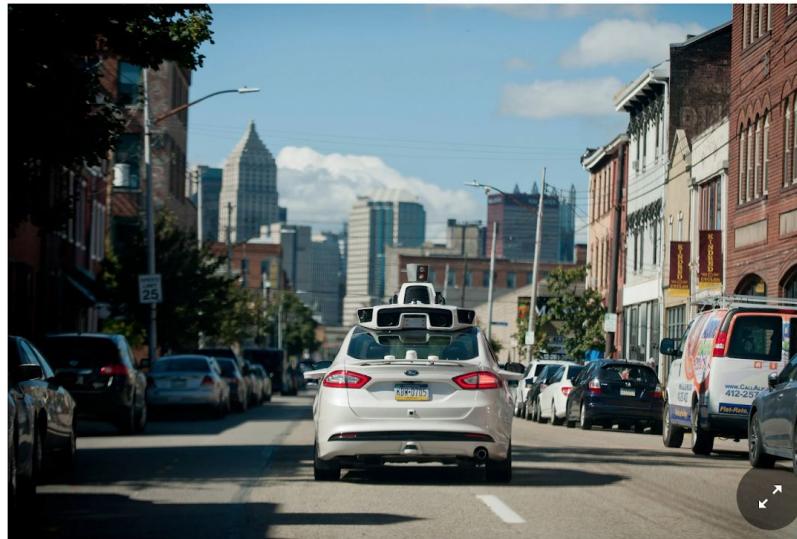
A new report commissioned by the lobbying arm of Koch Industries Inc. says that tariffs would cost the average U.S. household more than \$17,000 by 2030.

BRITTANY GREESON/THE NEW YORK TIMES

Conflicts of Interest

- Competition and intellectual ownership
 - Who owns your ideas?
 - Usually it's the company you work for
 - What about ideas you have but don't work on?
 - What about if they are directly related to your work?
 - Indirectly related?
 - Not at all related?

Google Self-Driving Car Unit Accuses Uber of Using Stolen Technology



An Uber vehicle mapping the streets and topography of Pittsburgh last year in preparation for the use of driverless cars. Jeff Swensen for The New York Times

By Daisuke Wakabayashi and Mike Isaac

Feb. 23, 2017



Uber & Waymo

“I can no longer trust the words of the lawyers for Uber in this case,” Judge Alsup said. “If even half of what is in that letter is true, it would be an injustice for Waymo to go to trial.”

Conflicts of Interest

- Who owns your ideas (you or the UC)*?

UC Probably owns it	I probably own it
I invented a camera using special equipment in my professor's lab	I invented new earbuds in my garage (or in the Creat'R lab*)
I wrote a report for my professor's federally-funded science project	I wrote a journal article for a class assignment
I created software under a University sponsored project	I created a new smartphone app at home (or in the Creat'R lab*)
I invented a new cancer treatment in a UC lab using stem cells from a commercial source	I created a new bicycle gear in my dorm room (or in the Creat'R lab*)

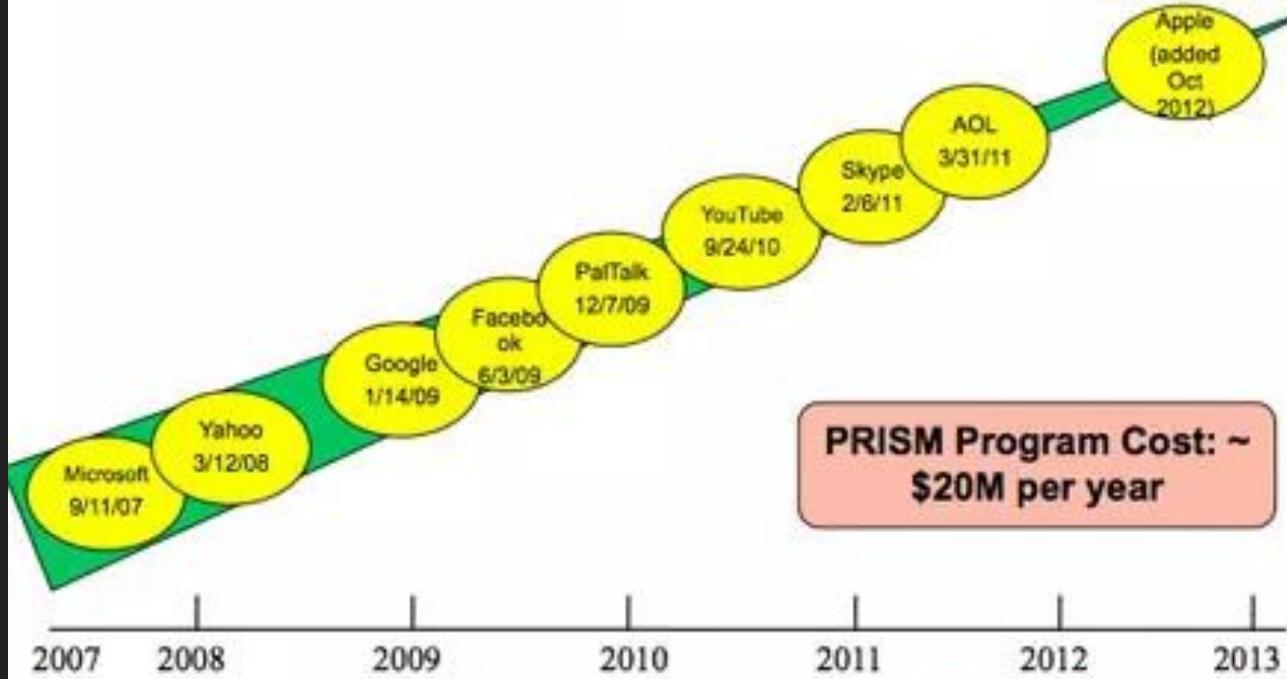
* If there are any questions contact UCR TTO: judy.swineford@ucr.edu

Privacy, Security & Confidentiality

- Our information is increasingly being collected online
 - How transparently do/should companies disclose this collection?
 - What are appropriate uses for the information they collect?
 - Who controls/owns the information after it is collected?
 - Are corporations bound to turn over data to governments? Under what circumstances?



(TS//SI//NF) Dates When PRISM Collection Began For Each Provider



The ingenious and ‘dystopian’ DNA technique police used to hunt the ‘Golden State Killer’ suspect



Police used DNA information on a genealogy website to track down the Golden State Killer suspect. (Reuters)

By **Avi Selk**
April 28

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- 3** DeVos decries student-loan program as a ‘looming crisis’ 
- 4** Dozens of sites in the Mid-Atlantic and Midwest have already logged their wettest year on record 
- 5** Think Melania’s red forest is kooky? Consider the Christmas tree once hidden in a White House closet. 





Justin Volz, special to ProPublica

HEALTH INSURANCE HUSTLE

You Snooze, You Lose: Insurers Make The Old Adage Literally True

Millions of sleep apnea patients rely on CPAP breathing machines to get a good night's rest. Health insurers use a variety of tactics, including surveillance, to

Privacy, Security & Confidentiality

- **How should companies handle security breaches?**
 - How fast do they need to notify affected customers?
 - How culpable are they for lost data, especially non-billing data?
 - Are corporations required to shield our data from government surveillance?
 - Where does our responsibility for our data end and the companies begin?

Target Settles 2013 Hacked Customer Data Breach For \$18.5 Million



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Facebook documents seized by MPs investigating privacy breach

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Facebook-Cambridge Analytica data breach



GETTY IMAGES/FACEBOOK

A cache of Facebook documents has been seized by MPs investigating the Cambridge Analytica data scandal.

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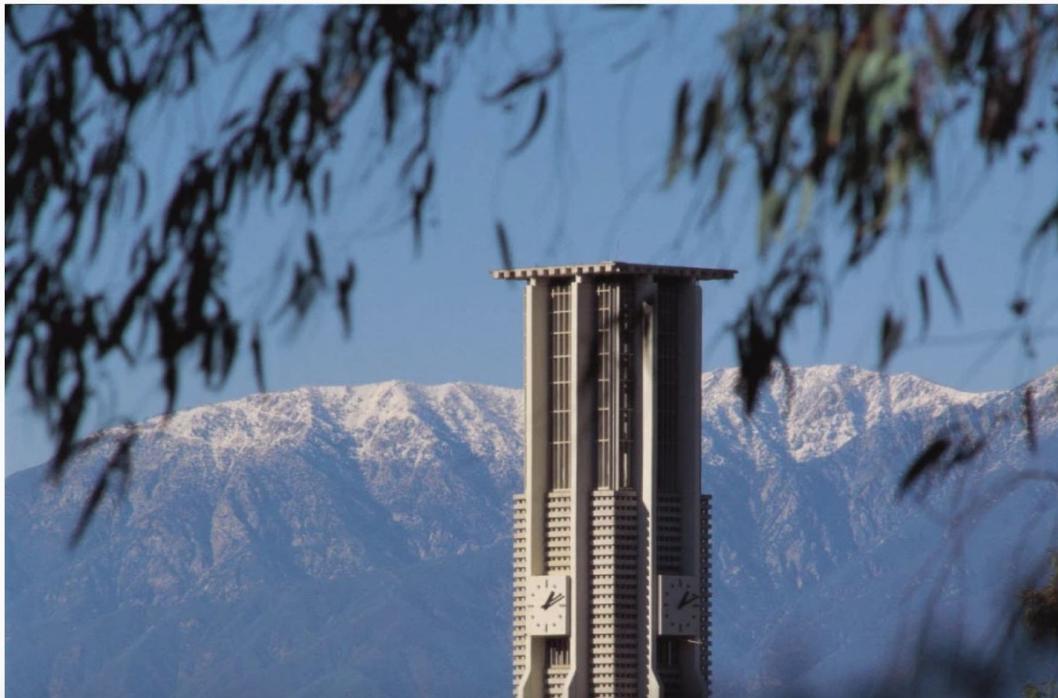


UC RIVERSIDE: Computer stolen; data breach...



LOCAL NEWS

UC RIVERSIDE: Computer stolen; data breach affects 8,000



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- 5 These 2 young surfers were

Software Risk

- **Almost all software carries some risk**
 - The amount of risk depends on two factors
 - Severity
 - Intent
 - The most risky software problem is intended with severe consequences, like writing an exploit into a medical device
 - Least risky software problem is unintended and benign, like converting F to C incorrectly in a baking app

VOICE: Patriot Missiles Are Made in America and Fail Everywhere

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Patriot Missiles Are Made in America and Fail Everywhere

The evidence is in: the missile defense system that the United States and its allies rely on is a lemon.

BY [JEFFREY LEWIS](#) | MARCH 28, 2018, 3:10 PM



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Software Risk

- **Software can have unintended consequences, can be misused and abused**
 - What's the worst thing the average user could do with your software? What about a malicious user?
 - What is the worst thing a malicious person inside your company could do?
 - How could your system affect its users? The people it relies on? The world at large?

POLITICS



Did Fake News On Facebook Help Elect Trump? Here's What We Know

April 11, 2018 · 7:00 AM ET



DANIELLE KURTZLEBEN



WhatsApp has been linked to lynchings in India. Facebook is trying to contain the crisis

By Rishi Iyengar, CNN Business



Editor's Note: This article was first published on July 27, 2018.

New Delhi (CNN Business) – Facebook is being battered by privacy scandals, user outrage and fake news controversies. In India, its biggest problem is WhatsApp.

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15-yr fixed	3.875%	3.927%
5/1 ARM	4%	4.708%
Loan Amount	APR	Payment
\$225,000 (5/1 ARM)	4.708%	\$1074.19/mo
\$350,000 (5/1 ARM)	4.748%	\$1670.96/mo

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U.N. investigators cite Facebook role in Myanmar crisis

Tom Miles

3 MIN READ



GENEVA (Reuters) - U.N. human rights experts investigating a possible genocide in Myanmar said on Monday that Facebook had played a role in spreading hate speech there.



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How Much Do People Really Get From a Reverse Mortgage?

Lending Tree-Reverse Mortgage



A Shockingly Lucrative Cash Back Card If You Have Excellent Credit

The Ascent

Promoted by **Dianomi**



AZL @aaronzlewis · Nov 16

In light of the latest FB scandal, here's my proposal for replacing Design Sprints:

Black Mirror Brainstorms

A workshop in which you create a Black Mirror episode. The plot must revolve around misuse of your team's product.

Pair with [@brownorama](#)'s idea of "abusability testing"



63



1.1K



3.3K



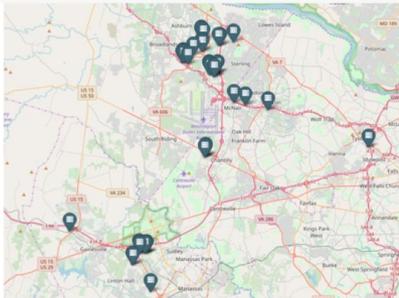
Ethics of Hacking

- The ethics of some hacking is obvious
 - Black hat hacking (botnets, spammers, etc.)
 - White hat hacking (security teams and researchers)
- Is there a place for hacking in the middle?
 - Against repressive regimes? What qualifies a regime as repressive?

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Amazon Atlas

Today, 11 Oct 2018, WikiLeaks publishes a highly confidential internal document from the cloud computing provider Amazon.



Dealmaker: Al Yousef

Today, 28 September 2018, WikiLeaks releases a secret document from the ICC portaining a dispute over commission payment in relation to \$3.6B arms deal



ICE Patrol

ICE Patrol is a searchable archive of U.S. Immigration and Customs Enforcement (ICE) employees with LinkedIn profiles.

Internet Control: Freedom of Speech

- Should there be truly free speech on the internet?
 - What about racism, sexism, etc. on the internet? What about when it's anonymous?
 - What is the role of companies to police this speech if any? Who should make the rules?
 - If other countries have different ideas of what is appropriate on the internet, do US countries need to abide by local norms? Should they fight them?

Technology

Chinese #MeToo Student Activists Use Blockchain to Fight Censors

By Keith Zhai and Lulu Yilun Chen

April 23, 2018, 11:01 PM PDT

- Rare student movement seeks to avert government curbs
- Blockchain was used as an anti-censorship tool in the petition



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Why We Terminated Daily Stormer

16 Aug 2017 by Matthew Prince.



Earlier today, Cloudflare terminated the account of the Daily Stormer. We've stopped proxying their traffic and stopped answering DNS requests for their sites. We've taken measures to ensure that they cannot sign up for Cloudflare's services ever again.

Our terms of service reserve the right for us to terminate users of our network at our sole discretion. The tipping point for us making this decision was that the team behind Daily Stormer made the claim that we were secretly supporters of their ideology.

Our team has been thorough and have had thoughtful discussions for years about what the right policy was on censoring. Like a lot of people, we've felt angry at these hateful people for a long time but we have followed the law and remained content neutral as a network. We could not remain neutral after these claims of secret support by Cloudflare.

Now, having made that decision, let me explain why it's so dangerous.

Where Do You Regulate Content on the Internet?

There are a number of different organizations that work in concert to bring you the Internet. They include:

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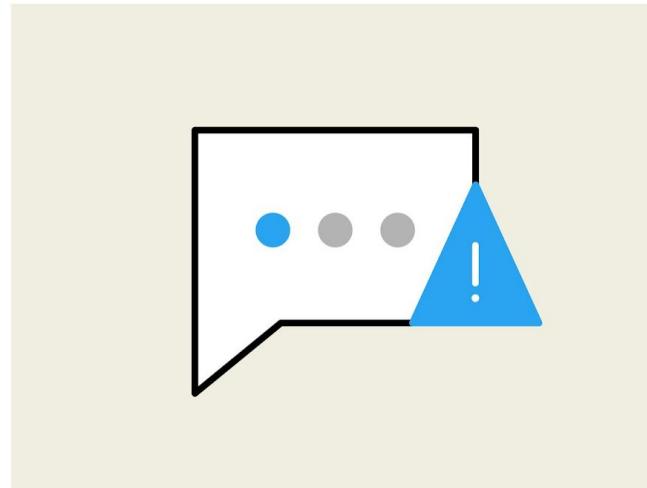
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LOUISE MATSAKIS BUSINESS 09.25.18 09:00 AM

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380 TWEET COMMENT EMAIL

TWITTER RELEASES NEW POLICY ON 'DEHUMANIZING SPEECH'

 HOTLITTLEPOTATO

Twitter on Tuesday announced a new policy addressing

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CHARLES GRAEBER

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Twitter Policy on Hateful Conduct

As explained in the Twitter Rules,

- **Hateful conduct:** You may not promote violence against or directly attack or threaten other people on the basis of race, ethnicity, national origin, sexual orientation, gender, gender identity, religious affiliation, age, disability, or disease. We also do not allow accounts whose primary purpose is inciting harm towards others on the basis of these categories.

Examples of what we do not tolerate includes, but is not limited to behavior that harasses individuals or groups of people with:

- violent threats;
- wishes for the physical harm, death, or disease of individuals or groups;
- references to mass murder, violent events, or specific means of violence in which/with which such groups have been the primary targets or victims;
- behavior that incites fear about a protected group;
- repeated and/or or non-consensual slurs, epithets, racist and sexist tropes, or other content that degrades someone.

Bias, Fairness & Discrimination

- How do we avoid building algorithms with our own bias?
 - Learning systems are ripe for picking up the biases we build into our annotated data
 - We can unintentionally build in our view of the world into algorithms, which can then scale that view
 - Products we build will always be developed from our own viewpoint, which can exclude others (this is one of the reasons having diverse teams is important!)

OP-ED CONTRIBUTOR

When an Algorithm Helps Send You to Prison

By Ellora Thadaney Israni

Oct. 26, 2017



In 2013, police officers in Wisconsin arrested a man driving a car that had been used in a recent shooting. The man, Eric Loomis, pleaded guilty to attempting to flee an officer, and no contest to operating a vehicle without the owner's consent. Neither of his crimes mandates prison time.

At Mr. Loomis's sentencing, the judge cited, among other factors, Mr. Loomis's high risk of recidivism as predicted by a computer program called COMPAS, a risk assessment algorithm used by the state of Wisconsin. The judge denied probation and prescribed an 11-year sentence: six years in prison, plus five years of extended supervision.

No one knows exactly how COMPAS works; its manufacturer refuses to disclose the proprietary algorithm. We only know the final risk assessment score it spits out, which judges may consider at sentencing.

Mr. Loomis challenged the use of an algorithm as a violation of his due process rights to be sentenced individually, and without consideration of impermissible factors like gender. The Wisconsin Supreme Court rejected

Bias, Fairness & Discrimination

- Can we build products for everyone if not everyone was involved in building the product?
 - Only 11% of underrepresented minorities complete a degree in CS
 - Women earn 52% of all undergraduate degrees, 42% of math and stats degrees, but only 18% of CS degrees.
- What about people with different background or from different countries?

Uber Begins To See The Payout From Accepting Cash Payments

Posted Feb 8, 2016 by **Jon Russell** (@jonrussell)



Next Story



Crunchbase

Uber

FOUNDED
2009

OVERVIEW

Uber, a [San Francisco](/location/san-francisco/528f5e3c90d111115d1c2e4ff979d58e)-based technology startup, is innovating at the intersection of lifestyle and logistics. Uber connects riders with safe, reliable, convenient transportation providers at a variety of price-points in cities around the world.

LOCATION

...

New York Times Test

If you don't want it reported on the front page of a
major newspaper, don't do it at all

Ten Commandments of Computer Ethics

1. Thou shalt not use a computer to harm other people.
2. Thou shalt not interfere with other people's computer work.
3. Thou shalt not snoop around in other people's computer files.
4. Thou shalt not use a computer to steal.
5. Thou shalt not use a computer to bear false witness.
6. Thou shalt not copy or use proprietary software for which you have not paid.
7. Thou shalt not use other people's computer resources without authorization or proper compensation.
8. Thou shalt not appropriate other people's intellectual output.
9. Thou shalt think about the social consequences of the program you are writing or the system you are designing.
10. Thou shalt always use a computer in ways that insure consideration and respect for your fellow humans.

Net neutrality

- What is it?
 - All internet service providers (ISP) must allow equal access to apps and content, **regardless of the source.**
- What will losing it mean?
 - Large internet companies **could** favor their own business interests. Charging more for higher speeds. If content companies don't want to pay, ISPs could make them so slow they're unusable.

ALL USERS DESERVE EQUAL ACCESS TO ONLINE INFORMATION REGARDLESS OF THE CARRIER OR INTERNET SERVICE PROVIDER (ISP) USED.



DEFAULT "FAST LANES" FOR GLOBAL ENTERPRISES RESULTS IN "SLOW LANES" FOR EVERY SMALL BUSINESS AND INDIVIDUAL INITIATIVE THAT CAN'T AFFORD TO PAY THE ELITE TOLLS.



THROTTLING AND NET NEUTRALITY —

Verizon throttled fire department's "unlimited" data during Calif. wildfire

Fire dep't had to pay twice as much to lift throttling during wildfire response.

JON BRODKIN · 8/21/2018, 12:49 PM



*This would still be legal under most proposed Net Neutrality Rules

Outsourcing vs. Offshore development

Outsourcing

1. Cost savings
2. Time savings
3. Lack of in-house experience
4. Flexibility
5. Talented IT professionals
6. Focused strategy
7. Improved compliance
8. Enhanced accuracy
9. Technological advances
10. Risk mitigation