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Computer Science A
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Unit 6 Activity Lab - Tech Privacy & Security



THE MIND BEHIND LINUX

https://www.ted.com/talks/linus_torvalds_the_mind_behind_linux

In this TED Talk, Chris Andrews interviews Linus Torvalds, the developer of the Linux operating system, which powers the internet. It is in millions of computers and billions of Android phones.

What is Torvalds' work environment like?

The audience laughed when they saw a picture of “Linux world headquarters.” It was a single lone desk, draped with wires, in a drab green windowless office.

Do you think that this type of environment would allow you to work better or more efficiently?

I would not like to work in that prison-like cubicle, nevertheless, when I get really busy, I can get totally absorbed in my computer screen, and have to consciously schedule time for breaks to get fresh air and look at the sunshine.

If you could design your perfect workspace, what would it look like?

My perfect workspace would have natural light and a nice forest or garden view. I would also like lots of toys like a pool table and even a swimming pool. Pets would be nice to have also. Great food and energy drinks on tap would be awesome too.

How does Torvalds describe what led to the development of Linux?

Torvald's was not setting out to change the world. He was just trying to find an efficient way to solve his immediate technical problems.

What does Torvalds describe as the 'big point' for him?

He believes Edison's philosophy that genius is 1% inspiration and 99% perspiration. He wants to focus on immediate "fix the pothole so I don't fall in" problems, rather than pie-in-the-sky visions. Torvald was also very concerned about "good taste" and efficiency in programming.

What is Git and what was Torvalds' role in the project?

Git was a collaboration management system that ironically, Torvald developed so that he didn't have to work directly with other people.

How does Torvalds describe himself, as both an adult and a child? What impact do you think this has had on his career? What personal qualities helped and/or hindered his work?

Torvald describes himself as a people-avoiding uber-nerd both as an adult and a child. His extreme focus and tenacity helps him to make high quality, efficient software.

What is open source software? What is Torvalds' opinion on how to determine if open source is fully realized or if there is more that can be done?

Open source software shares code with the world and allows outsiders to contribute code. Torvald cites Wikipedia as an open source success. There are more areas for this approach to improve things.

THE CURLY FRY CONUNDRUM

https://www.ted.com/talks/jennifer_golbeck_your_social_media_likes_expose_more_than_you_think

The Curly Fry Conundrum: Why Social Media Likes Say More Than You Might Think

Computer scientist Jennifer Golbeck pointed out that in the past, web pages were developed by technically trained people and professional organizations. Since the 2000s average people have been creating content. Facebook has 1.2 billion users per month. They share data intentionally and unintentionally that commercial interests could exploit.



How did Target know to send advertisements and coupons for baby supplies to a 15-year old girl, two weeks before she ever told her parents that she was pregnant? Do you feel that situations like this are a violation of privacy?

By surveying thousands of users, marketers like Target can infer a woman might be pregnant if she suddenly starts taking vitamins or shopping for diaper-size bags. Yes, I think it is a big violation of privacy to publicly mail that type of information to someone, especially to a minor.

What is homophily? What does this have to do with social media and how information spreads through networks?

Homophily is the postulate that people prefer to associate with others who are like themselves; who share the same interests, opinions, and preferences.

Why does Golbeck feel that it's an issue that users have very little control over how their social media data is used? What example does she give?

Users have little control over the data they give away, because they would have no way to anticipate the algorithms that are being used to evaluate them. She gives the example of how people's intelligence is being inferred by whether they prefer curly fries.

Does this seem like a problem to you?

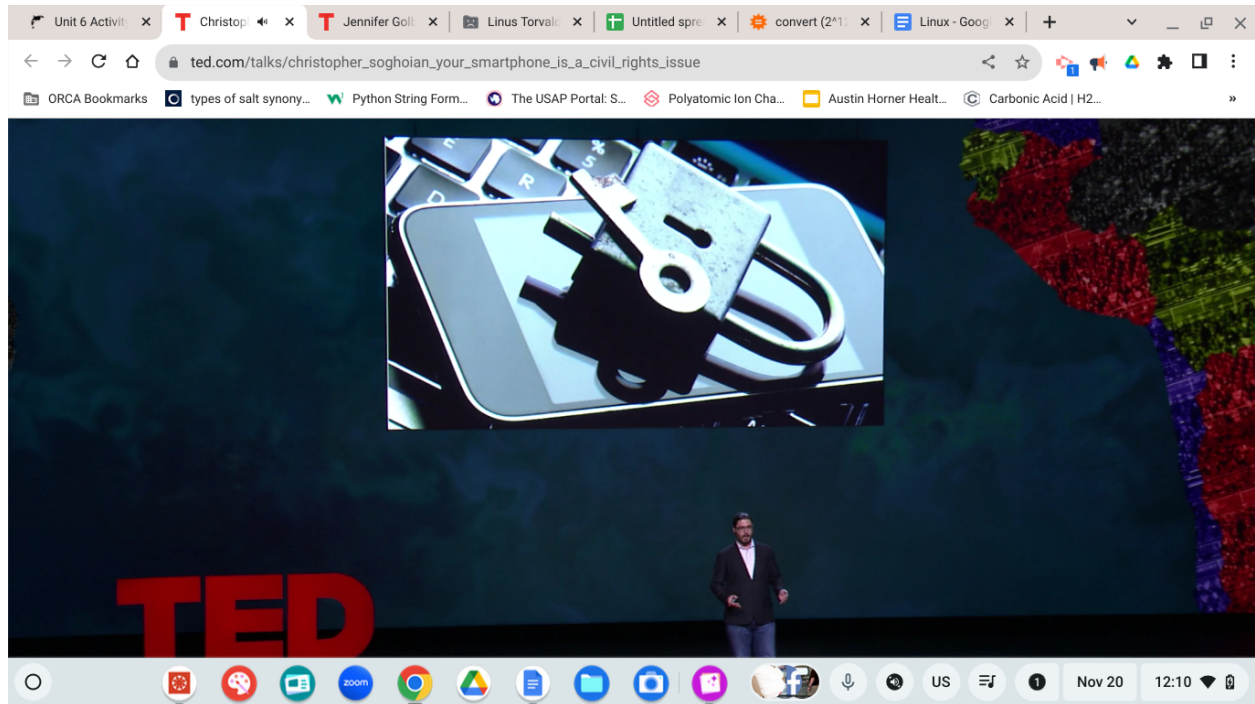
This is a problem because employers and the government could make inaccurate predictions and inferences about a person without their knowledge and be misguided by circumstantial evidence into prejudiced conclusions.

Why does Golbeck feel that taking the policy and/or law path to rectify this issue with data ultimately won't work? What path does she believe might work for solving this problem? Explain

She says she could make a company to exploit people's data for hiring purposes. Science, she believes, not legislation is the answer. Her efforts to raise awareness of this phenomenon will help.

Does anything that you learned about in this video make you rethink your use of social media? Why or why not? Explain.

Privacy is an important issue. People should have confidence that their personal information will be respected and protected by every reasonable safeguard. Nevertheless, I don't think it is healthy to be paranoid about evil forces misusing your data. A person should assume there is no privacy and never do anything that they would be embarrassed about if it were to become public. It is necessary for people and companies to be aware of this data mining, so that social discrimination and predatory crimes don't happen.



Your Smartphone is a Civil Rights IssueLinks to an external site. (MP4 linkLinks to an external site.)

What privacy and security features are offered by the iOS operating system on Apple smartphones? What about on Android smartphones? Why might someone choose one operating system over the other? Which of the operating systems is more appealing to you? Explain.

According to Soghoian, how does the encryption that Apple provides potentially pose as a civil rights issue? How might future civil rights movements be impacted by surveillance and privacy issues? Explain.

How does Soghoian describe the average Apple user? Do you feel that Soghoian's description of iPhone users is accurate? What about his description of how African Americans are perceived in the United States? Explain.

Why is covering up your webcam with a sticker the best thing you can do for your privacy? Do you do this or feel it is necessary? Why or why not?

The point of this last video is that there is a digital security divide. High-end Apple iPhones encrypt their content by default, whereas the more affordable Android phones do much less to secure user data. The author is concerned that this could be used for social discrimination and by governments to suppress dissidents. I am not too concerned about this problem since most things people share are on the order of silly pet videos. Nevertheless, if someone is concerned about invasion of privacy, covering the webcam of their device could prevent unauthorized people from spying on their private life. If people need to truly keep information secret, it is not too hard to devise an unbreakable code if only the sender and receiver have the protocol for decryption. The important thing is at no time is the coded message in an electronically interceptable form; it needs to be misaligned, salted with fake information to obscure patterns, and scrambled. Security is only as good as its weakest link.