

THE GOOD & EVIL OF THE INTERNET AND WHY YOU SHOULD KNOW ABOUT THEM

WEEK 6

OLLI WINTER 2020 COURSES

Mondays, January 27—March 2

• 9:30—11:30 a.m.

• @Cooperage

• Dr. Farid Farahmand

OSHER
LIFELONG
LEARNING
INSTITUTE

A Quick Check-in.....

- Thank you for completing the survey

THE GOOD & EVIL OF THE INTERNET AND WHY YOU SHOULD KNOW ABOUT THEM

OLLI WINTER 2020 COURSES
Mondays, January 27—March 2
9:30—11:30 a.m. @Cooperage
Please help us improve our lectures.....

What is the week number?

	1	2	3	4	5	6	
Week 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Week 6

A Quick Check-in.....

- Check the web page:

Course Title: The Good & Evil of the Internet and Why You Should Know About Them

OLLI WINTER 2020 COURSES
Mondays, January 27—March 2
9:30—11:30 a.m. @Cooperage

Course Instructor:

- Dr. Farid Farahmand (farid.farahmand@sonoma.edu)
- Web page: <http://web.sonoma.edu/users/f/farahman/>
- LinkedIn Page: <https://www.linkedin.com/in/farid-farahmand-8239b19/>

Course Webpage:

- <http://web.sonoma.edu/users/f/farahman/OLLI/default.html>

Course Information:

We start this course with a brief history of the Internet and the World Wide Web technologies, their evolutions, how they operate, and how they are used. We then explore contradictions of these technologies. We first explain the tremendous innovations they have created over the past several decades. We then point out how these technologies are increasingly being embraced as instruments of control, monitoring, cybercrime, and oppression by powerful institutions and governments. We look at how the leading high-tech companies, including Amazon, Google, and Facebook focus on providing greater conveniences for users, and how such data personalization techniques can contribute to more isolation, less tolerance, and limited diverse perspective. Using live demonstrations, we conclude by showing examples of cyber-attacks.

A Quick Check-in.....

- Thank you for completing the survey

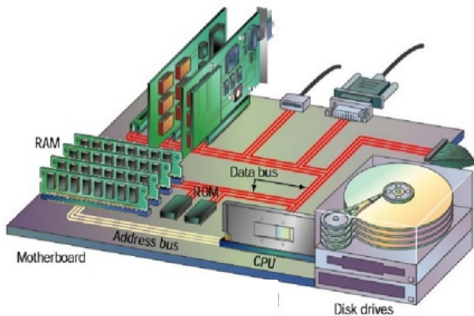


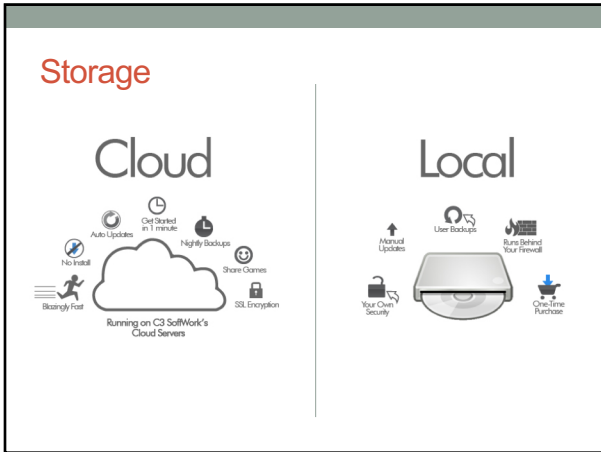
- Uploaded the slides
- Let's hold on to your questions for the first 45 min

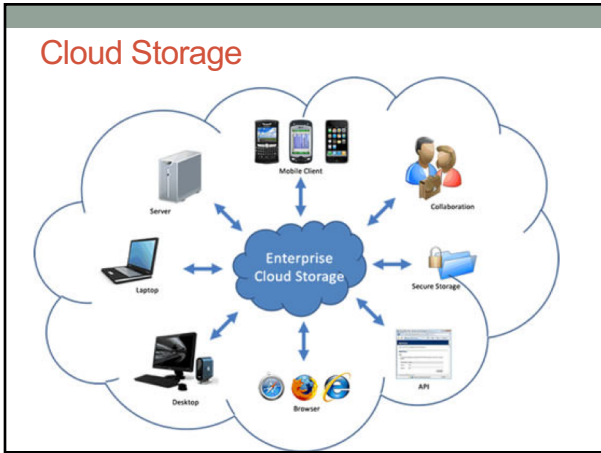
What We Cover Today

- Quick review.....
 - Big Data
- This week
 - Computer memory and cloud storage
 - 5G and big players
 - Securing your computer
 - Discussion

Computer Memory – Storing everything Locally






















Cloud Providers

Cloud storage for free

 2GB	 15GB	 5GB	 5GB	 50GB	 10GB	 2TB
 10GB	 10GB	 15GB	 2GB	 5GB	 10GB	

<http://blog.odrive.com/blog/2014/9/30/50-shades-of-free-cloud-storage>

Cloud Storage

- Video: <https://www.youtube.com/watch?v=HZ-2gYd1Ces>
- Google Data Center: <https://www.youtube.com/watch?v=XZmGGAbHqa0>

Evolution of Mobile Systems

1G	<ul style="list-style-type: none">• Voice Signals Only• Analogue Cellular Phones• NMT, AMPS
2G	<ul style="list-style-type: none">• Voice & Data Signals• Digital Fidelity Cellular Phones• GSM, CDMA, TDMA
2.5G	<ul style="list-style-type: none">• Enhance 2G• Higher Data Rates• GPRS, EDGE
3G	<ul style="list-style-type: none">• Voice, Data & Video Signals• Video Telephony / Internet Surfing• 3G, W-CDMA, UMTS
4G	<ul style="list-style-type: none">• Enhanced 3G / Interoperability Protocol• High Speed & IP-based• 4G, Mobile IP

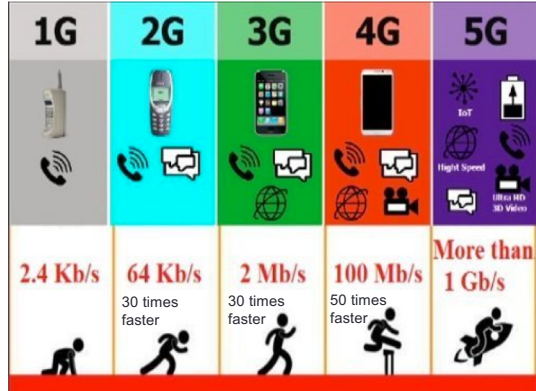
Cell Phone Generations

4 Cell Phone Generations Compared

	Standards	Technology	SMS	Voice Switching	Data Switching	Data Rates
1G	AMPS, TACS	Analog	No	Circuit	Circuit	N/A
2G	GSM, CDMA, EDGE, GPRS	Digital	Yes	Circuit	Circuit	236.8 kbps
3G	UTMS, CDMA2000, HSPDA, EVDO	Digital	Yes	Circuit	Packet	3.84 kbps
4G	LTE Advanced, IEEE 802.16 (WiMax)	Digital	Yes	Packet	Packet	up to 1 Gbps

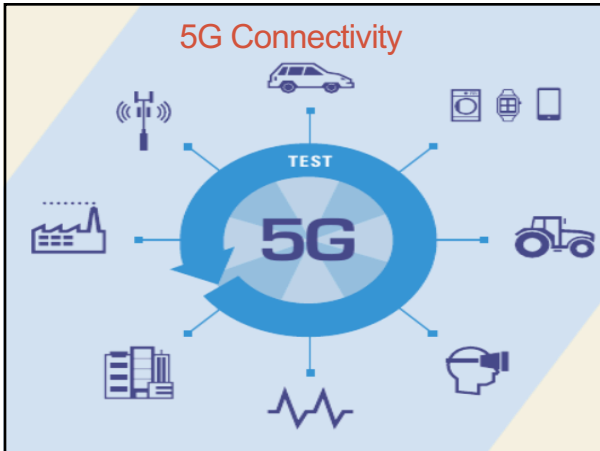
Cell Phone Evolution





5G Evolution

- Was supposed to appear in the market by 2020
- Features:
 - Faster speeds (a minimum of 1 Gbps and perhaps up to 10 Gbps)
 - Lower power requirements
 - Support for huge numbers of new devices
 - Faster dialing speeds
 - Faster access to cloud
 - Allow putting devices everywhere
 - Facilitates face recognitions, and IoT
 - and more....



More about 5G

- Video:
https://www.youtube.com/watch?v=2DG3pMcNNlw&list=P_LmHdJRGZS3izGZtBj9p8-xM5sX7PdaJxM&index=33

5G Evolution – Players

....the future is moving toward 5G

- ISPs
- Operators
- Suppliers & Vendors:
 - Nokia
 - Cisco
 - Ericson
 - Huawei

What is the issue with Huawei?

- Owns vast number of 4G equipment
- Has a greater domination in 5G market than its competitors – leading the 5G tech race!
- During the last decade or so it has stormed into the consumer market as a smartphone manufacturer and now owns 16% of the market.
- Five Eyes countries have accused the company of major network security breaches
- For these countries having a dominant company that owns all the networking equipment is rightly troubling
- So what is the solution:
 - Find an alternative company
 - Stop the company!

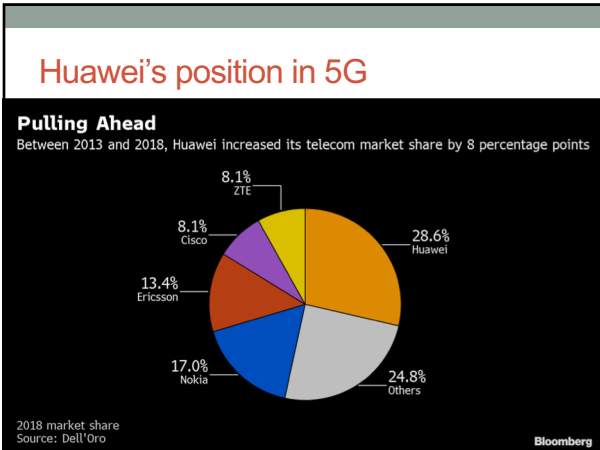
How Huawei is growing....

Huawei's smartphone shipments grew 50.2% in Q1 2019 to cement its position as the world's #2 smartphone vendor

Company	Q1 2018 (%)	Q1 2019 (%)
Samsung	23.6%	22.8%
Apple	15.5%	12.8%
Huawei	11.7%	18.8%
MI	8.4%	8.9%
Oppo	7.6%	8.7%
Others	33.2%	28.0%

Q1 2018: 337m units Q1 2019: 314m units

Source: Canalis estimates, Smartphone Analysis, May 2019



What is the issue with Huawei?

The Senate passed a bill that would prohibit the use of federal funds to purchase equipment from Huawei and provide \$1 billion for rural telecom companies to replace equipment from the Chinese tech giant that [the U.S. has blacklisted](#).

Bipartisan lawmakers on the House Committee on Energy and Commerce, including Chairman Frank Pallone Jr., D-N.J., ranking member Greg Walden, R-Ore., and Reps. Doris Matsui, D-Calif., and Brett Guthrie, R-Ky., sponsored the bill.

<https://abcnews.go.com/US/senate-passes-bill-providing-billion-rural-telecom-networks/story?id=69281415>

How to protect your computer and your data

Protect yourself & your data

- Pay attention to your passwords:
 - Use strong passwords (BOA_CharlsandMag92)
 - Don't use trivial names
 - Don't
- Emails:
 - Do not email important information in one single email: add password
 - Don't click on email attachments you don't know the sender
 - Be careful with any email that isn't addressed to you personally
 - Don't ever send important information via email – call them
 - Avoid Phishing Emails - Be Alert to Impersonators
- Keep your software updated
- Manage your social media settings
- Make sure your WIFI has a strong password
- Use Antivirus software such as [Bitdefender](#), [Norton](#), or [Kaspersky](#) and more.....
- Logout if you use any public computer for checking your email
- Back up your important files
- Don't save important information on the cloud!

