SOEN 287
Web Programming

Bahareh Goodarzi
Fall 2018

TODAY'S AGENDA

1. House Keeping
2. Web
3. Internet
4. What happens when you "surf"?
5. What this course is all about

COURSE INFORMATION

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❑ Office hours: Thursday: 12-13 or by appointment

COURSE WEB PAGE

- Available via portal (Moodle)

- Has:
  - Course outline
  - Office hours
  - TA information
  - Tutorial exercises
  - Slides
  - Assignment handouts
  - Important dates
  - ….

THE TUTORIALS

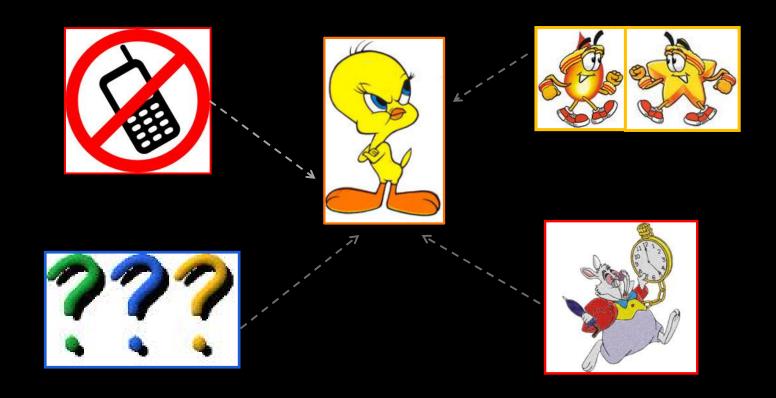❑ Start week of September 10
   (No tutorials this week)

❑ TA: TBA

❑ Purpose:
  ▪ Additional exercises and examples
  ▪ Get explanations and help on the assignments
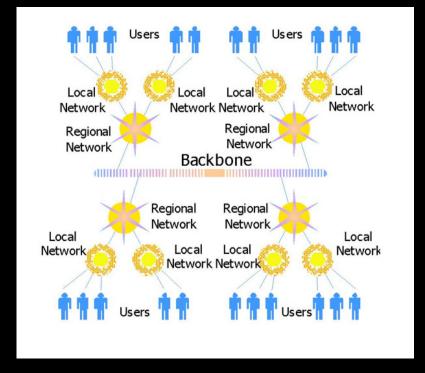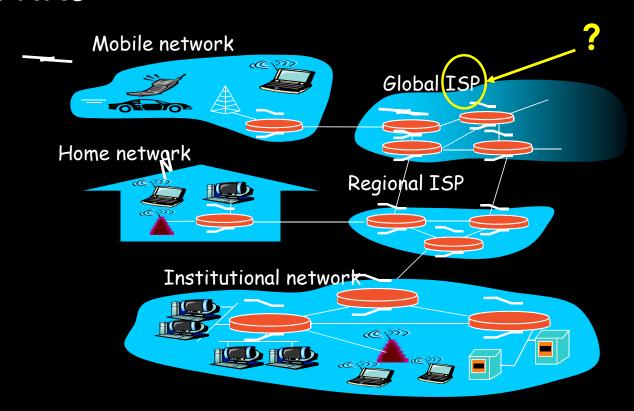
ANNOYING CLASSROOM BEHAVIOR ...

WHAT IS THE INTERNET?

- "The Internet is a global network connecting millions of computers. More than 100 countries are linked into exchanges of data, news and opinions."

  http://www.webopedia.com/TERM/I/Internet.html

http://newtecharticles.com/from-where-internet-comes-how-internet-works/

IN FACT THE INTERNET IS A NETWORK OF NETWORKS

Mobile network

Global ISP

?

Home network

Regional ISP

Institutional network

WHO OWNS THE INTERNET?

- "No one actually owns the Internet, and no single person or organization controls the Internet in its entirety. "

- "The Internet is more of a concept than an actual tangible entity, and it relies on a physical infrastructure that connects networks to other networks."

  http://www.webopedia.com/TERM/I/Internet.html
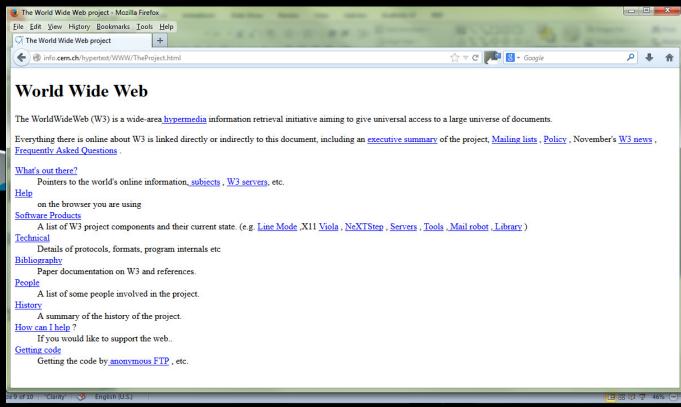
WHAT IS THE WWW?

- WWW = World Wide Web, the Web or W3

- The **World Wide Web** is a system of interlinked <u>hypertext</u> documents accessed via the Internet.

- **Hypertext** documents can be either *static* (prepared and stored in advance) or *dynamic* (ever changing in response to user input).

SIR TIMOTHY BERNERS-LEE: CREATOR OF THE WORLD WIDE WEB IN 1991.

The first website using the line-mode browser simulator

The World Wide Web project - Mozilla Firefox

File   Edit   View   History   Bookmarks   Tools   Help

The World Wide Web project

info.cern.ch/hypertext/WWW/TheProject.html

Google

World Wide Web

The WorldWideWeb (W3) is a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an executive summary of the project, Mailing lists , Policy , November's W3 news , Frequently Asked Questions .

What's out there?
   Pointers to the world's online information, subjects , W3 servers, etc.
Help
   on the browser you are using
Software Products
   A list of W3 project components and their current state. (e.g. Line Mode ,X11 Viola , NeXTStep , Servers , Tools , Mail robot , Library)
Technical
   Details of protocols, formats, program internals etc
Bibliography
   Paper documentation on W3 and references.
People
   A list of some people involved in the project.
History
   A summary of the history of the project.
How can I help ?
   If you would like to support the web..
Getting code
   Getting the code by anonymous FTP , etc.

de 9 of 10   "Clarity"   English (U.S.)   46%

HOW THE WEB BECAME FREE AND OPEN

"CERN relinquishes all intellectual property rights to this code, both source and binary form and permission is granted for anyone to use, duplicate, modify and redistribute it."

Declaration

The following CERN software is hereby put into the public domain:

- W 3 basic ("line-mode") client
- W 3 basic server
- W 3 library of common code.

CERN's intention in this is to further compatibility, common practices, and standards in networking and computer supported collaboration. This does not constitute a precedent to be applied to any other CERN copyright software.

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Geneva, 30 April 1993

W. Hoogland
Director of Research

H. Weber
Director of Administration

opie certifiée conforme

ait à Genève le 03-05-93

DIVISION DES FINANCES - CERN - ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE

http://info.cern.ch/hypertext/WWW/TheProject.html

WEB IS …

- a way of accessing information over the medium of the Internet.

- an information-sharing model that is built on top of the Internet.

- just one of the ways that information can be disseminated over the Internet.

TRUE OR FALSE? FALSE

=

?

So the Web is just a portion of the Internet, albeit a large portion, but the two terms are not synonymous and should not be confused.
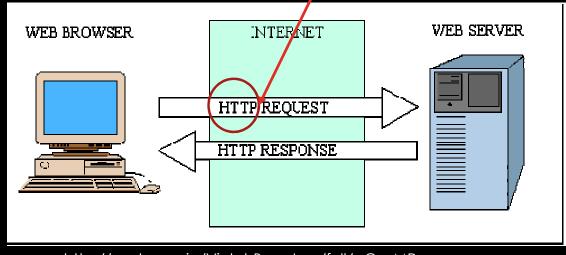
WEB....

DISCUSS

What is the link between these terms?

- Web page

- Web browser

- Web server

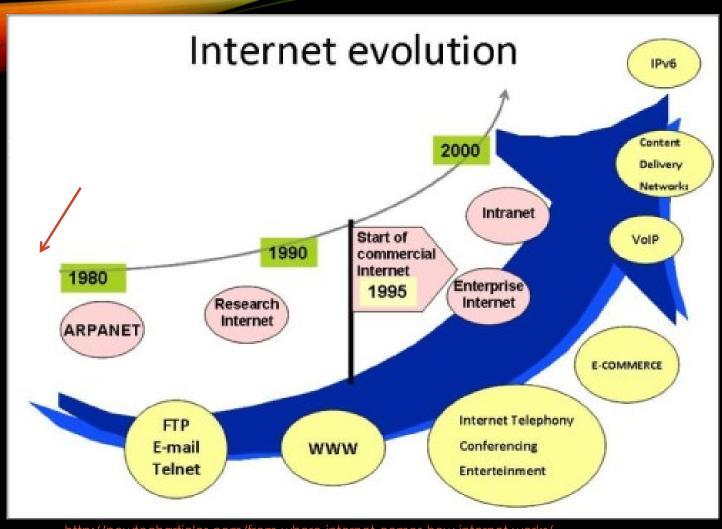WEB BROWSER   INTERNET   WEB SERVER

HTTP REQUEST

HTTP RESPONSE

http://codepen.io/Violet-Bora-Lee/full/aOxvMR

HTTP: HYPERTEXT TRANSFER PROTOCOL

- The **Hypertext Transfer Protocol (HTTP)** is …

- An application protocol for distributed, collaborative, hypermedia information systems.

- **HTTP** is the foundation of data communication for the World Wide Web.

WHAT IS NEEDED FOR YOU TO SURF THE WEB?

DISCUSS

http://www.studentnewsdaily.com/editorial-cartoon-for-students/surfing-the-web/

Scripting

Programming

Designing web page

Possible user actions

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Web Programming

Reaction to user's actions

A BASIC HTTP TRANSACTION.

① URL request http://music.uweb.edu/iommi.html

② A copy of the HTML document is transferred into the browser's cache.

③ The browser starts parsing the HTML code and asks the Web server software to send the two image files. (The "kept alive" socket is still being used.)

④ The image files are transferred into the cache, completing the Web page.

```
<html>
<head>
  <title>Iommi</title>
</head>
<body>
<img src="images/tony.jpg" width="88" height="107" align="left" />
Hello, I am Tony Iommi and here is my signature guitar.
<br /><br />
<img src="images/guitar.jpg" width="535" height="181" />
</body>
</html>
```

Browser Cache

Web Server Software

music
iommi.html
images
tony.jpg
guitar.jpg

Client

Server

WHAT IS SOEN 287 ALL ABOUT?

Scripting

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