

CMPUT 410: Overview

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CMPUT 410: Web Based Information Systems

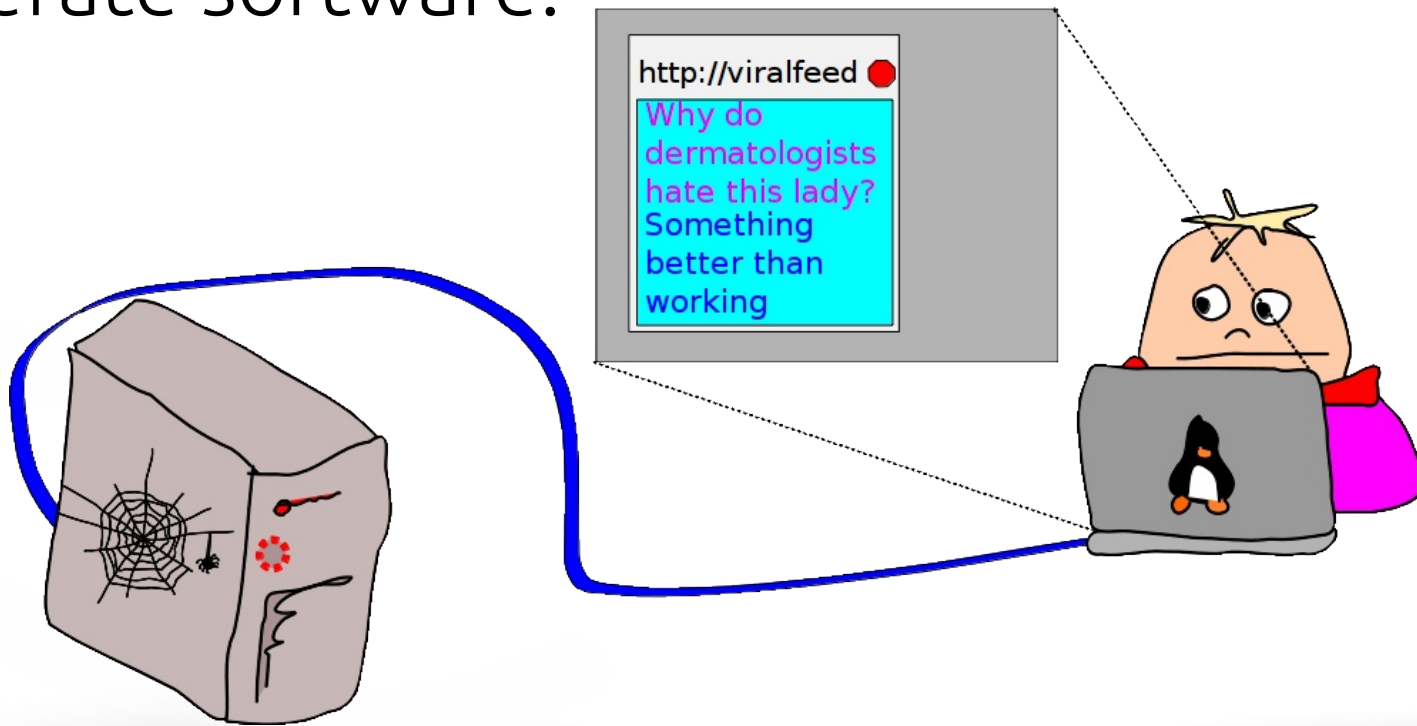
What is Web-Based?
What is the web?

Does it have to do with these?

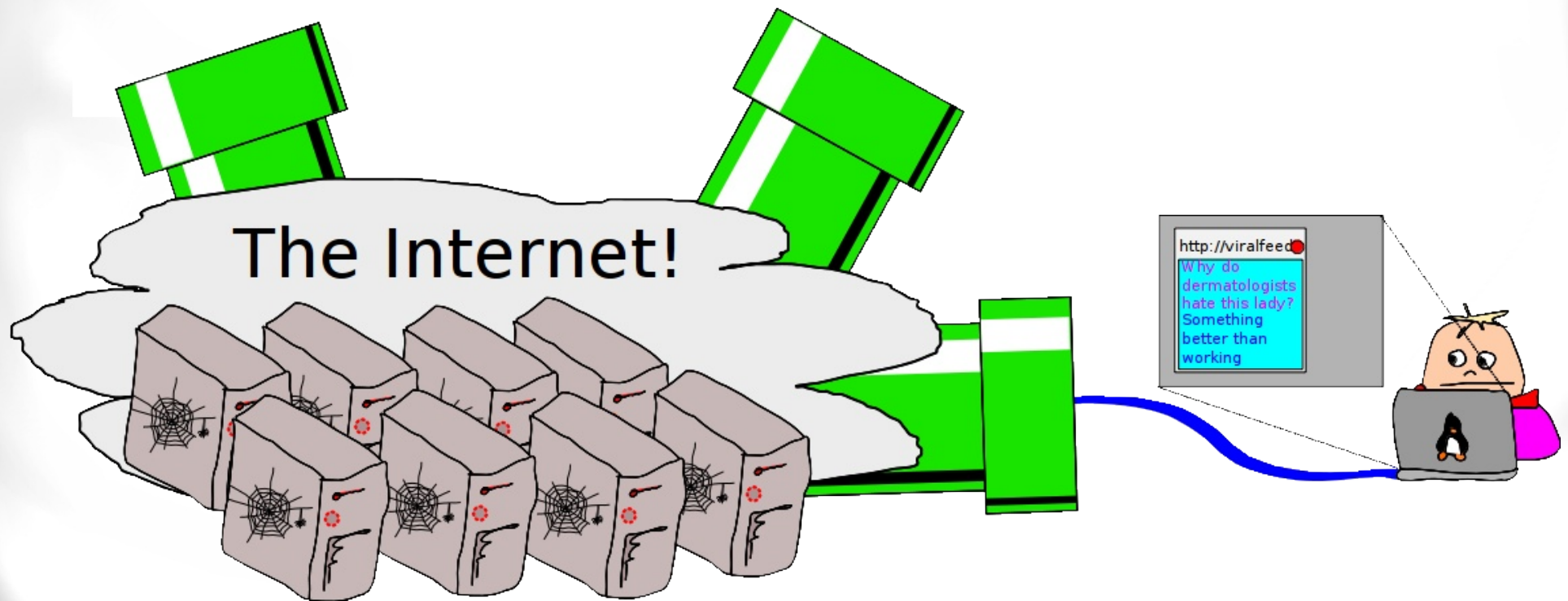
- | | | |
|---------------|-------------|--------------|
| •HTTP | •HTML | •REST |
| •Web Servers | •XHTML | •SOAP |
| •Web | •CSS | •WSDL |
| Browsers | •Javascript | •XML-RPC |
| •Web Services | •AJAX | •CGI |
| •Dynamic | •XML | •Django |
| Webpages | •JSON | •Flask |
| •Web | •Websockets | •Application |
| Applications | •Git/Github | Web Servers |
| •Frameworks | •Video | •Security |
| •TCP/IP | •Audio | •Performance |
| •DNS | •SVG | •Web Mining |

Overview

- We use the web to request, search, navigate, and share information.
- Furthermore we use the web to access and operate software.



But really it is more like this...



Demo 1 Firefox

- Instructions to Abram
 - Open up Firefox
 - Go to a simple webpage like
 - <http://www.cs.ualberta.ca/>
 - Use the developer tools to show the requests
 - Show the source code etc.

Demo 2 Firefox

- Instructions to Abram
 - Open up Firefox
 - Go to a simple webpage like
 - <http://www.cs.ualberta.ca/>
 - Open up Wireshark
 - Show the packets

Demo 3 Slashdot by Hand

- Instructions to Abram
 - Open up terminal
 - dig slashdot.org
 - telnet that ip
 - GET /
 - GET / HTTP/1.0
 - GET / HTTP/1.1
 - Remember to use Host: slashdot.org

The Web Isn't Just for People!

- Go search for Edmonton wikipedia
- Click on the location
- Get the decimal GEO Location
- Show <http://www.earthtools.org/webservices.htm>
- GET <http://www.earthtools.org/timezone/<latitude>/<longitude>>
- GET
<http://weather.noaa.gov/pub/data/observations/metar/decoded/CYEG.TXT>
- GET
<http://weather.noaa.gov/pub/data/observations/metar/decoded/CYEG.TXT>
- GET <https://github.com/abramhindle.atom>

Primary Components

- Webservers
- Webclients: Web Browsers
- HTTP
- HTML

Wait.. what's the HT part?

Hypertext and Hypermedia

By now the word "hypertext" has become generally accepted for branching and responding text, but the corresponding word "hypermedia", meaning complexes of branching and responding graphics, movies and sound – as well as text – is much less used. Instead they use the strange term "interactive multimedia": this is four syllables longer, and does not express the idea of extending hypertext.

— Nelson, *Literary Machines*, 1992

Primary Components

- Webservers
- Webclients: Web Browsers
- HTTP
 - HyperText Transport Protocol
- HTML
 - HyperText Markup Language
- Hypertext
 - Text that has links in it.

Discussion

- Why is the web different from Email?
- Why is the web different from FTP or Gopher?
- Why is the web different from Telnet?
- Did we need HTTP?

About the wireshark demo.

- What kind of packets was I looking at?
- Over what sort of network?
- What sorts of layers are we dealing with?

WARNING

- It should be obvious to you by now that there are many many many technologies involved

Resources

- Wireshark <https://www.wireshark.org/>
- Firefox <https://www.mozilla.org/en-US/firefox/new/>
- GET <http://search.cpan.org/~gaas/libwww-perl-6.05/lib/LWP.pm>
- World Wide Web http://en.wikipedia.org/wiki/World_Wide_Web
- W3C http://en.wikipedia.org/wiki/World_Wide_Web
- Who runs the internet?
<http://xplanations.com/whorunstheinternet/>