CSCI-UA-4-005

Intro to Web Design + Computer Principles

Introduction + Overview

Professor Emily Zhao

M/W 12:30PM – 1:45PM

There are two primary aspects to this course:

1) Learning how to **build websites** and prepare the various elements that comprise them

→ ***What is a website?***

2) Understanding concepts behind computers in general and **the web** in particular

→ ***What is the internet?***

Agenda

- ***What is a website?***
- Introductions
- Classroom Agreements
- ***What is the internet?***
- Syllabus overview

What is a website?

→ What purposes do they serve?

What is a website?

→ What purposes do they serve?

NEWS

EDUCATION

BUSINESS

ENTERTAINMENT

SOCIAL NETWORKING

→ Do you have any favorite websites?
→ What kind of websites do you want to make?

→ Where are you from?
→ What are you majoring in?
→ How are you feeling about the class?

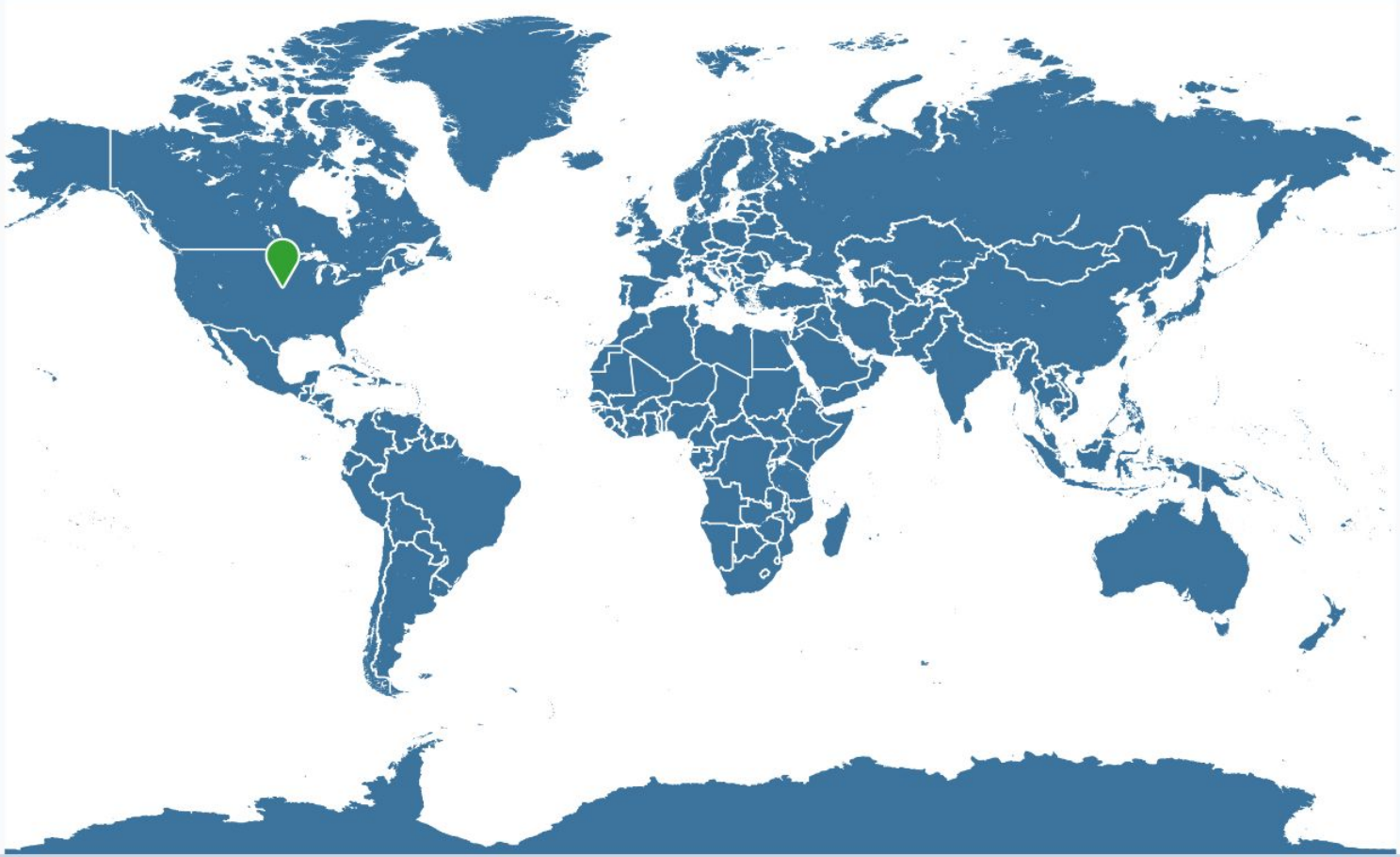
PollEverywhere

01-introduction-overview

0 surveys completed

0 surveys underway

Where are you from?



How are you feeling about this class?

Join by Web

PollEv.com/emilyzhao

Join by QR code

Scan with your camera app

Emily Zhao
(she/her)

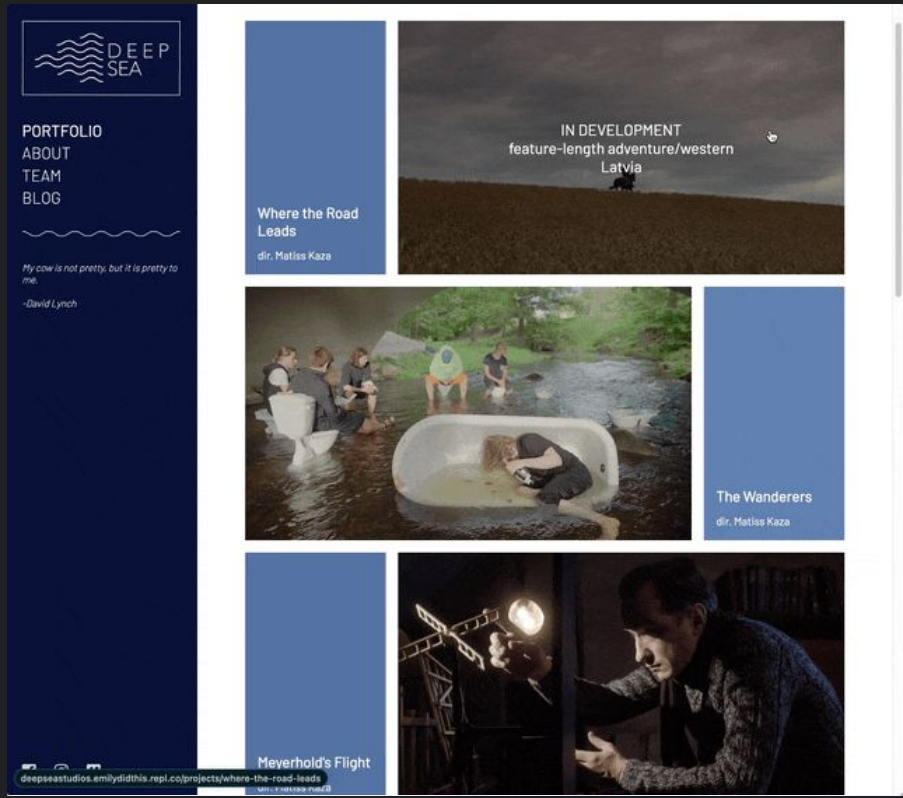
Background

- BFA in Film + Television Production
- MPS in Interactive Telecommunications (aka Art + Tech)

Where I've Taught:

- Scholastic
- GirlsWhoCode
- Tisch ITP/IMA:
  - 100 Days of Making
  - Intro to Computational Media
- CAS Computer Science
  - Intro to Programming
  - Intro to Web

I love making websites!



Intro to Web Design & Computer Principles – Fall 2023

Professor

Emily Zhao
email: emilyzhao@nyu.edu
office hours: calendar link

Common Course Syllabus

General information regarding the course, topics covered, required textbooks, course tutors, etc. can be found on the common course syllabus.

Course Description

There are two primary aspects to this course. The first is learning how to build websites and prepare the various elements that comprise them. The second is understanding concepts behind computers in general and the web in particular.

Topics Covered

What is the internet?
Unix command line
HTML
CSS
Raster graphics
Vector graphics
Design and accessibility
Page layout
Responsive design
Interactivity with JavaScript
Audio and video
Forms
Version control
Web hosting and domain names

Class Format

The class will meet twice a week for one hour and fifteen minutes. Generally, each week will consist of lecture material, class interaction, and a project-based assignment.

i6 Account

In addition to your NYU Home Account, we will be using a web hosting account on a Unix server which will be assigned to you automatically based on your enrollment. This is called an "i6" account and we will use it to host our websites. Common questions about i6 accounts are answered on this FAQ page. If you forget your i6 password and would like to reset it, go to this page for instructions on how to do so.

Computers and File Backup

As class time will include live coding and individual exercises, you are encouraged to bring a laptop computer. There are also multiple student technology centers on campus. Make sure to save copies of your projects and back them up to other media, such as an external drive or use a version control system like GitHub.

Textbooks

Required

Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics
5th Edition
Jennifer Robbins
ISBN: 978-1-491-96020-2

Optional

Responsive Web Design with HTML5 and CSS
4th Edition
Ben Frain
ISBN: 978-1-803-24271-2

* How are you able to view this website from your computer?

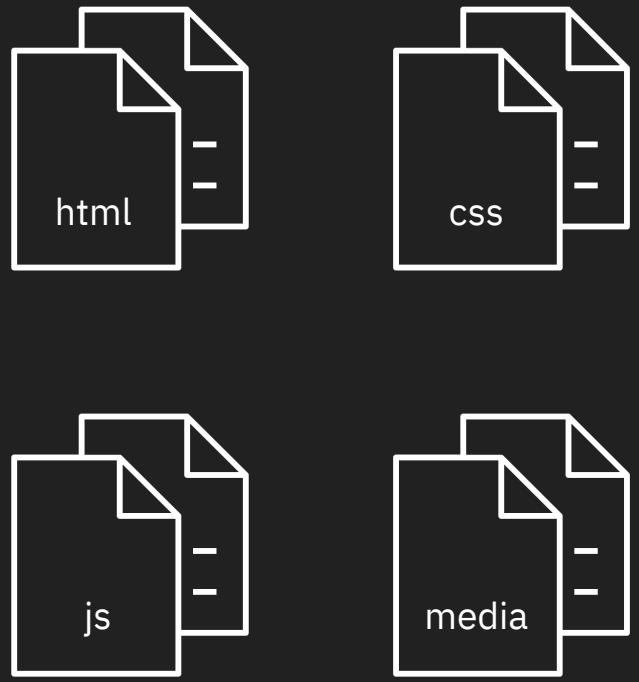
→ What is a website, technically speaking?
→ What is the internet?
  – How do we get access it?
  – How do we put websites on the internet?

What is a website?

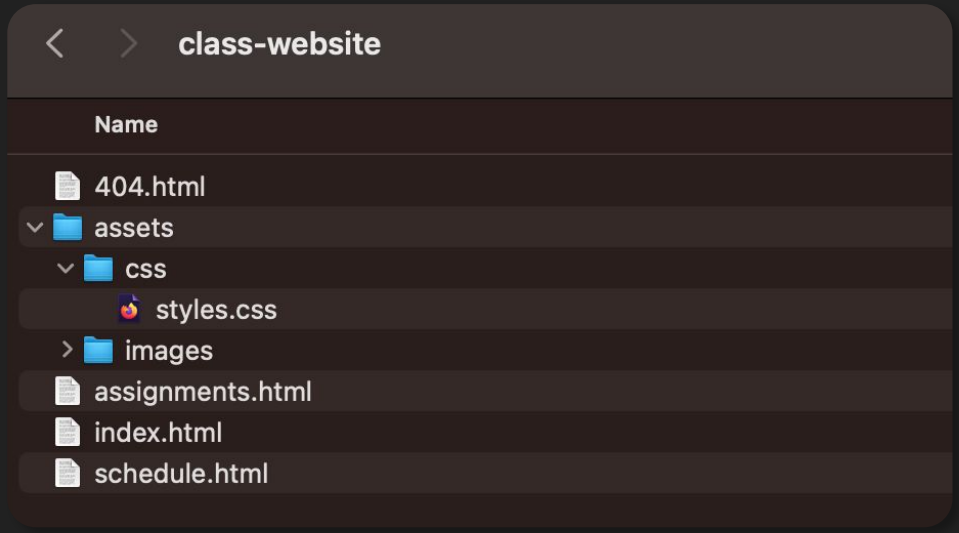
→ What is it made out of?

What is a website?

A collection of various types of files that together create the content, visual appearance, and functionality of a site



Here are all my files associated with the class website:



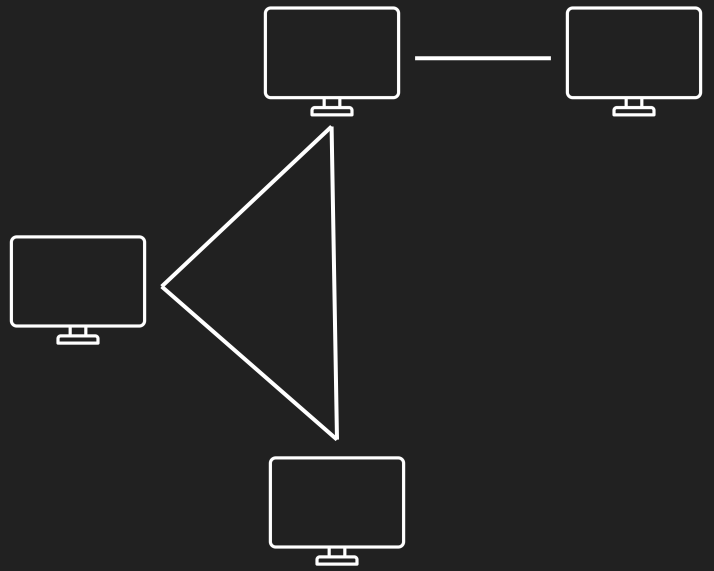
Browser

- allows users to retrieve and display web pages containing various types of content, such as text, images, videos, and interactive elements, both locally and via the web
- users can navigate to the internet by entering web addresses (URLs) or clicking on hyperlinks, and they then fetch and render the requested web pages

What is the internet?

The Internet

a global network of interconnected computers that communicate and share information with each other

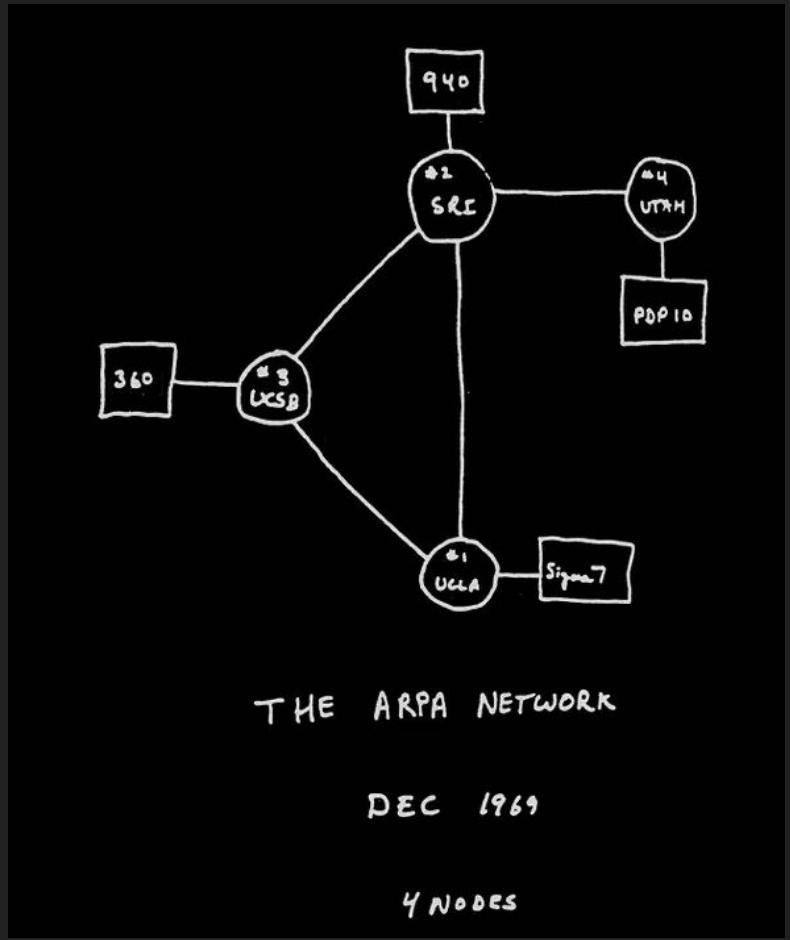


ARPANET

Advanced Research Projects Agency Network

The first prototype of internet developed in the late 1960s

To allow researchers from UCLA, Standard Research Institute(SRI), UCSB, and the University of Utah to work together and share resources



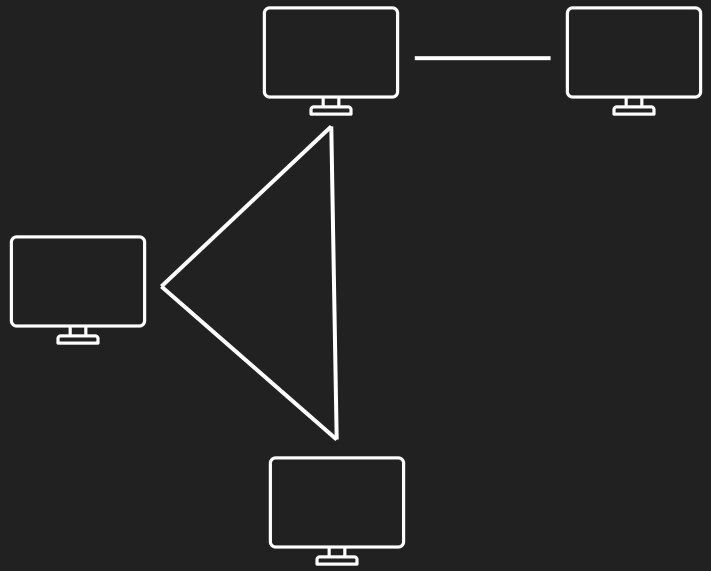
Networking

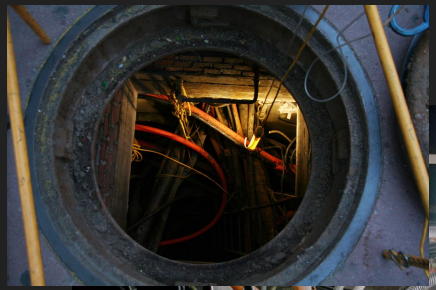
Establishing common standards to facilitate communication through different systems

What’s the difference between the internet and the web?

The Web

- born in 1989 by **Tim Berners-Lee**
- originally called the **World Wide Web** (www)
- a **subset of the internet**; just one of the ways information can be shared
- documents are shared using a protocol called **HTTP** (HyperText Transfer Protocol)
  - Other protocols include: POP3/IMAP/SMTP, FTP, SSH

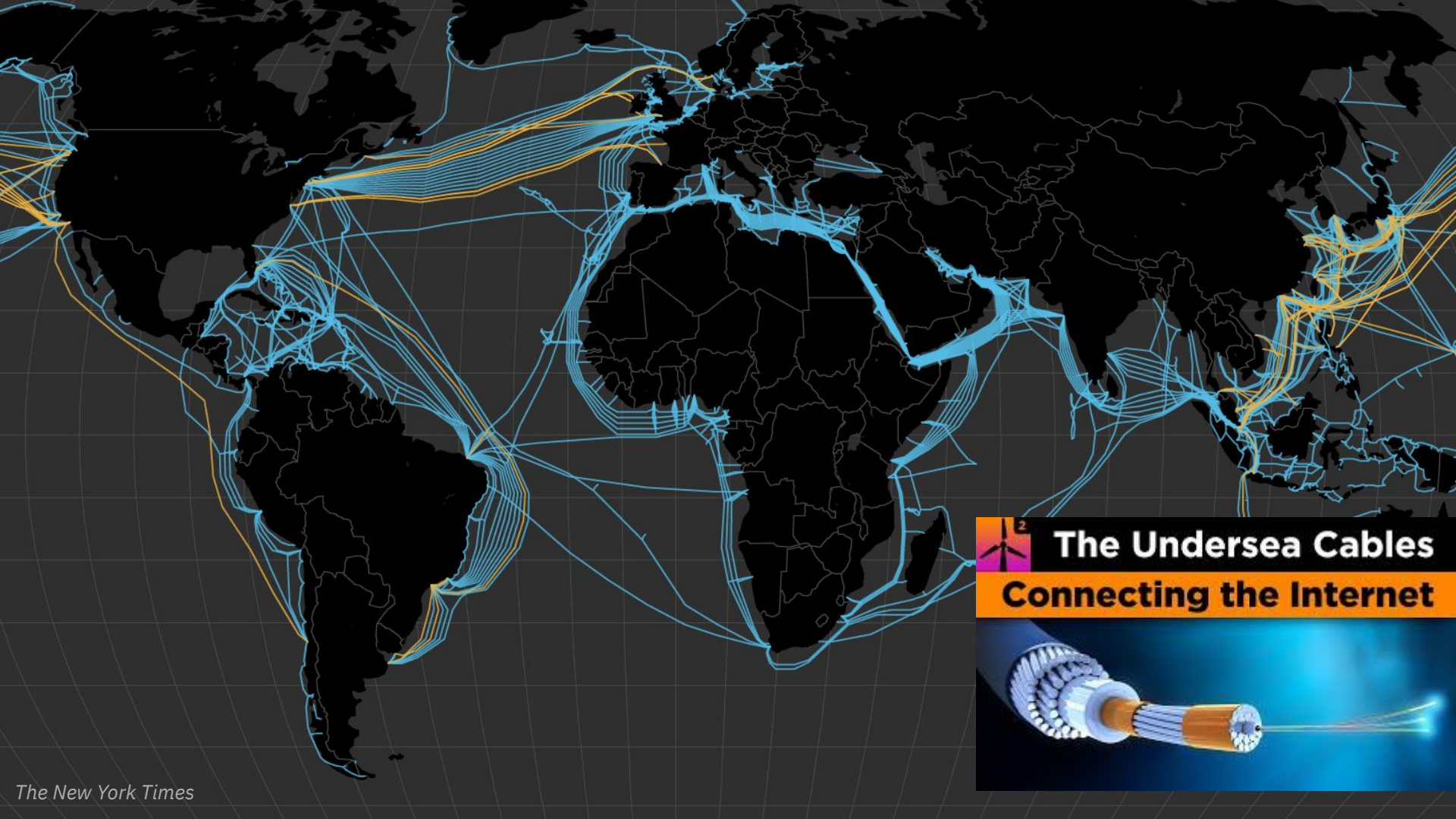




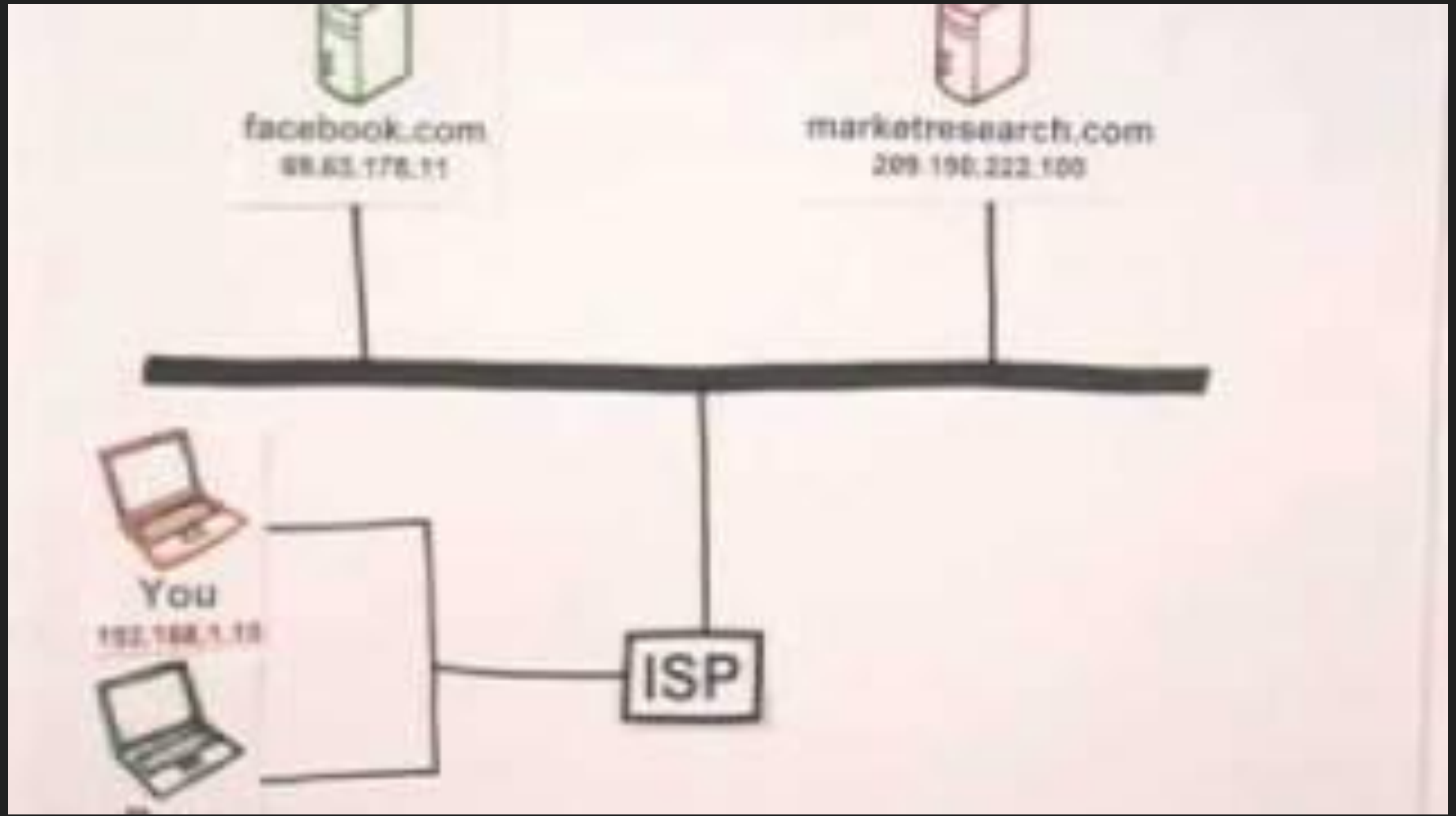
The Internet is not magic, it's a physical thing.
It has buildings, hubs and infrastructure.
Our international connections pass through cables that run across ocean floors... Inside those conduits and cables, the Internet is, ultimately, pulses of light traveling along strands of glass. Light and glass that is laid down by the workers you pass by every night... It is both extraordinary and ordinary.

- Urban Omnibus

Time

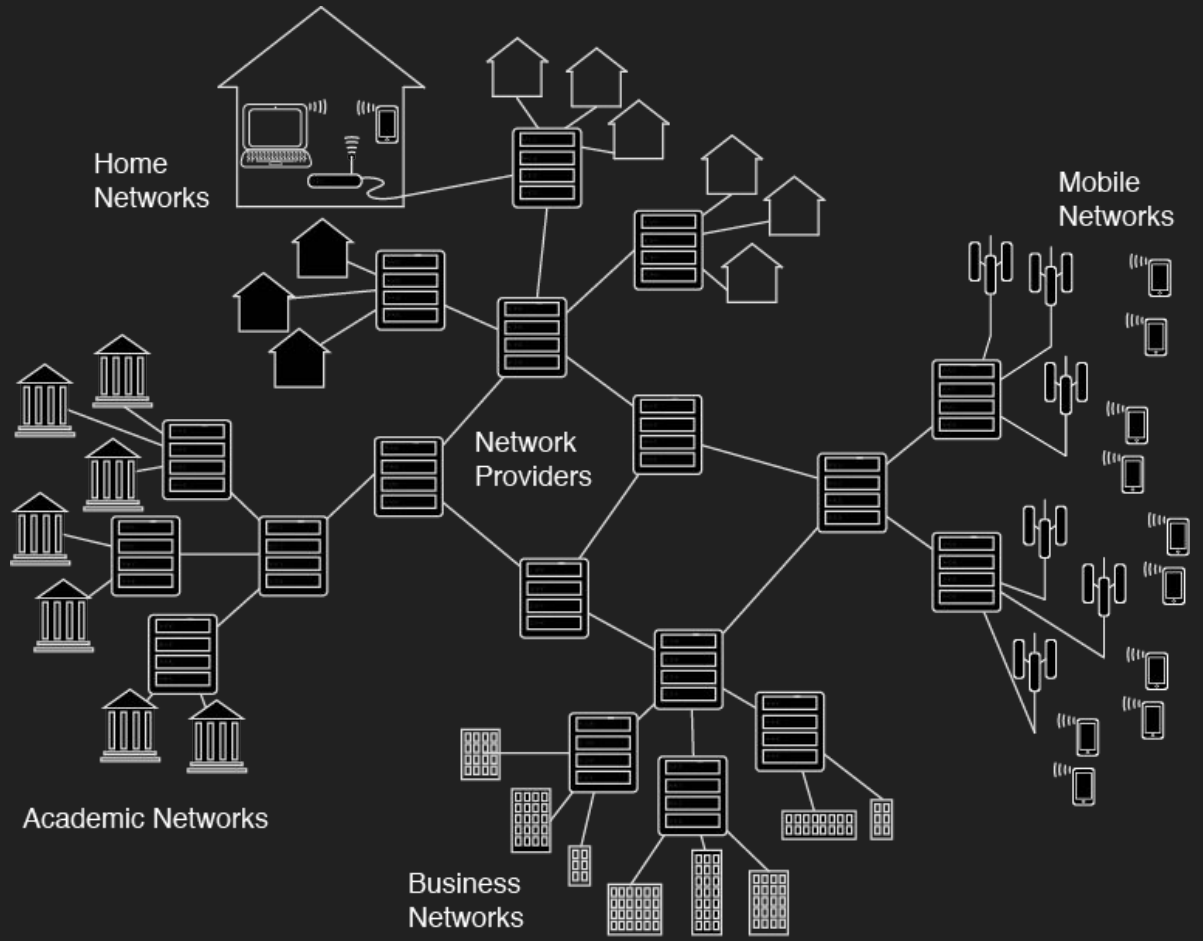


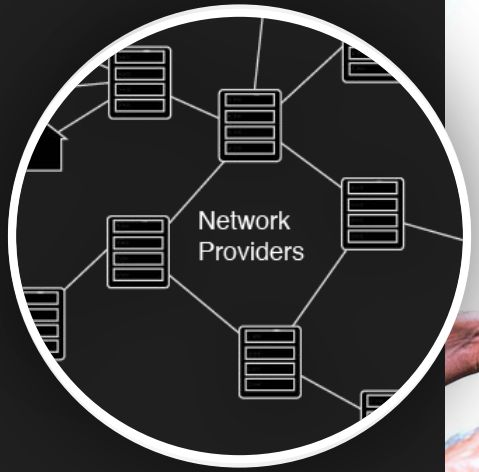
The New York Times


facebook.com
69.63.176.11
marketresearch.com
209.190.222.100
You
192.168.1.10
ISP

Key terms

- Servers
- Clients
- Internet Service Providers (ISPs)
- Routers
- IP Addresses
- URLs


Home
Networks
Mobile
Networks
Network
Providers
Academic Networks
Business
Networks



Servers

A computer connected directly to the internet

- Special computers that “serve up” documents upon request
- Web servers are called HTTP servers

The New York Times

Internet Service Provider (ISP)

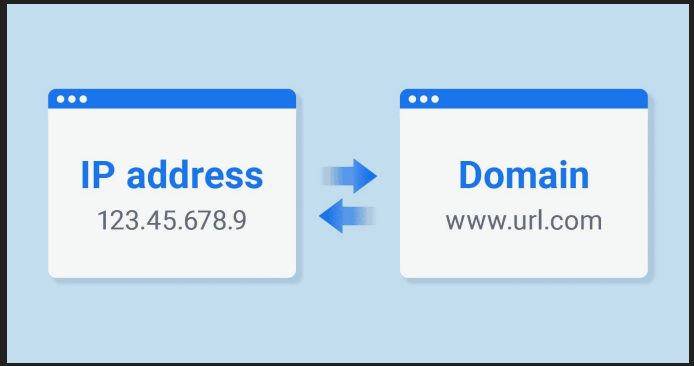
- a company that provides Internet access to users, or clients
- provides the physical infrastructure that allows users to connect to the Internet

Router

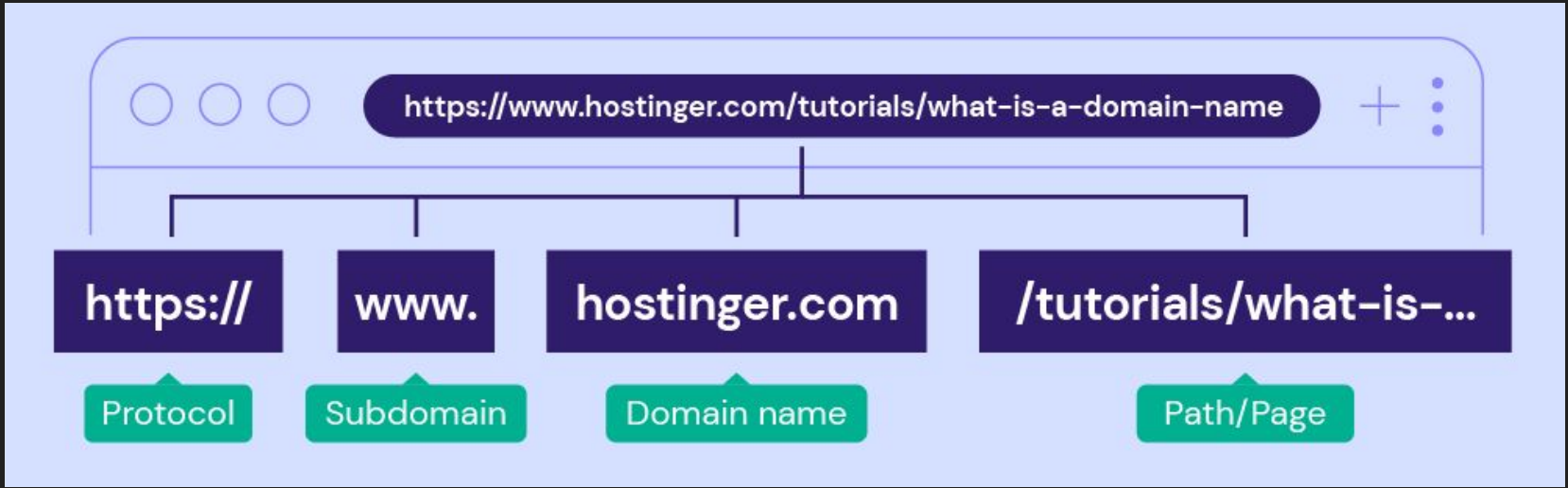
- A router is a networking device that relays data packets between computer networks
- direct the flow of Internet traffic so that packets arrive at their appropriate destination
- the address to which data is sent is normally in the form of a numeric IP address

IP Addresses

- every computer and device connected to the internet is assigned a unique IP (Internet Protocol) numeric address (i.e. 123.45.678.90)
- Domain Name System (DNS) was created so developers can refer to servers by domain names (i.e. emilydidthis.com)



URLs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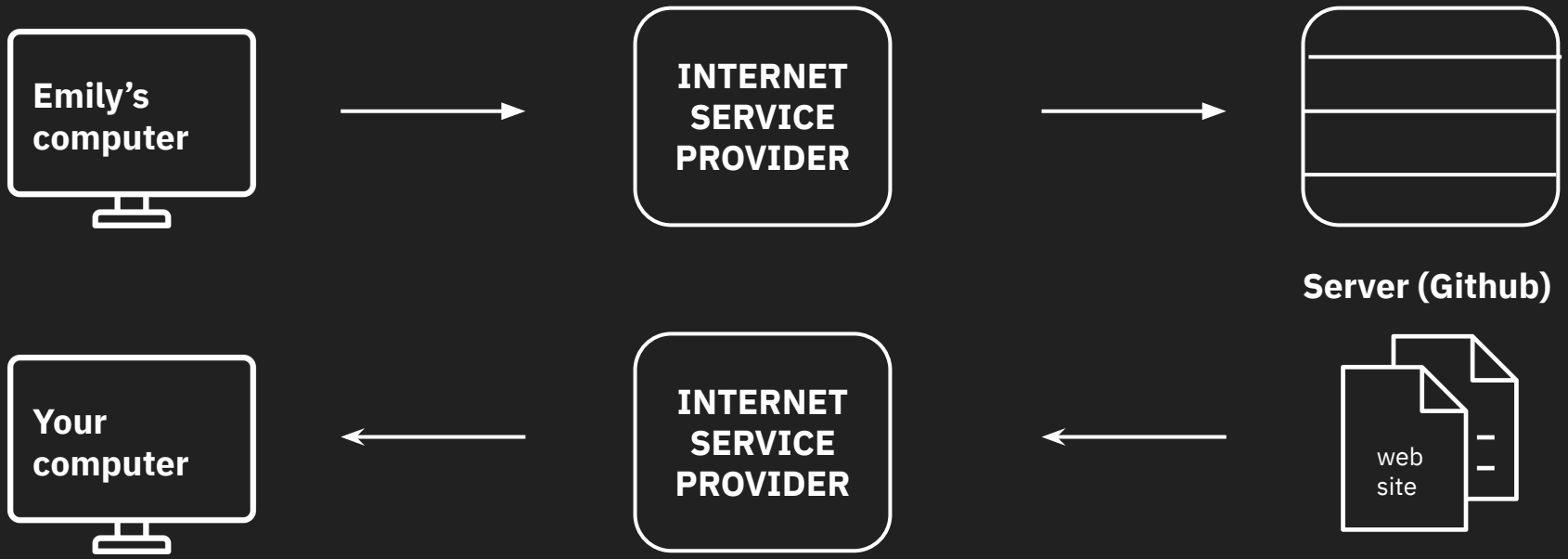
Protocol
Subdomain
Domain name
Path/Page

Wireless Technology

- WiFi
- radio and television broadcasting
- cellular communication
- global position systems (GPS),
- Bluetooth


Emily's computer
INTERNET SERVICE PROVIDER
Server (Github)
web site
INTERNET SERVICE PROVIDER
Your computer

> That two computers can “talk” to each other and exchange information is the precisely kind of magic we are liable to take for granted in today’s world of technological marvels.

- Urban Omnibus

For next time

- Peruse class website and syllabus
- Read Chapter 2
- Bring your laptop to class