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# Intro to Web Development

Technology, Culture + Society  
Integrated Digital Media (<3 IDM)

Monday + Wednesdays IDM room 311  
Section B - 8:00 am  
Section C - 10:00 am  
Instructor: rebecca (marks) leopold  
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[@rebeccaleopold](https://www.twitter.com/rebeccaleopold) on most platforms

## syllabus + class admin:

**class repo:** [https://github.com/IDMNYU/webDev\\_C\\_Fall2021](https://github.com/IDMNYU/webDev_C_Fall2021)

**class wiki:** [https://github.com/IDMNYU/webDev\\_B\\_Fall2021/wiki](https://github.com/IDMNYU/webDev_B_Fall2021/wiki)

if you do not already have a github account:

!! <https://education.github.com/pack> !!

**what do you think of when you  
hear the terms: remote + local**



## Great Wall of China Signal Towers

400 BC - fire/smoke or drum beats

200 BC - 220 AD - Han dynasty - flags, lights, gunshots



First message sent from Washington D.C. to Baltimore  
Samuel Morse 1844

... --- . . . . . / ... . . . . . - / ... . . . . / - - . - - -

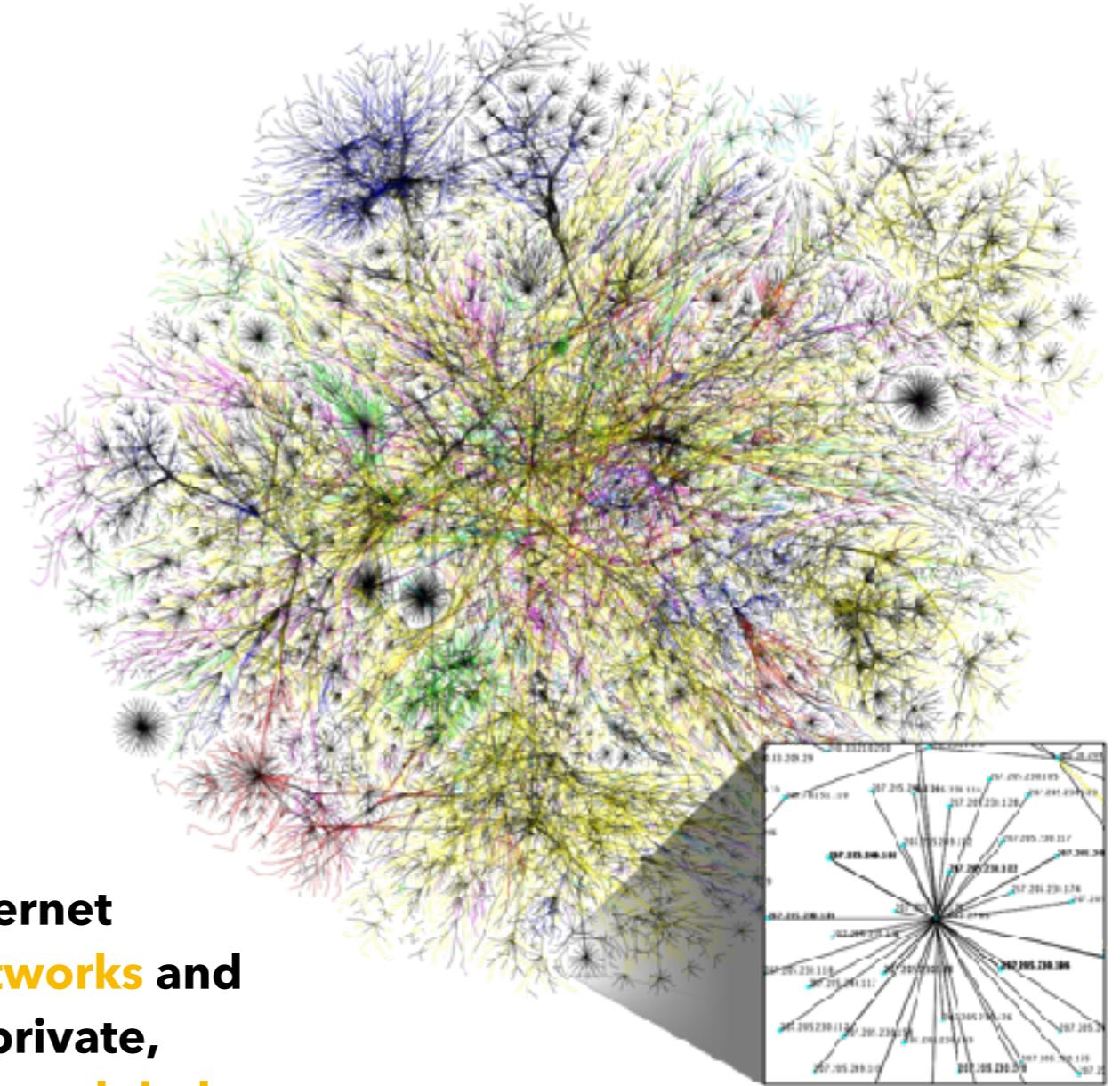
- - - / - . - - . . - . - - - . - - - . - - - . - - -

**“What hath God wrought?”**

**what is the inter / net?**

**The Internet (or internet) is the global system of interconnected computer networks that uses the Internet protocol suite (TCP/IP) to communicate between networks and devices. It is a network of networks that consists of private, public, academic and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies.**

**The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail and file sharing.**



the internet was  
invented to enable  
access to remote  
computers

**who invented the **internet**?**



the Defense Advanced Research Projects Agency  
(aka DARPA)

**the Defense Advanced Research Projects Agency (aka DARPA)**

organized and funded **ARPANET**

"most of the significant advances in computer technology—including the work that my group did at Xerox PARC—were simply extrapolations of Lick's [[Joseph Licklider](#)] vision. They were not really new visions of their own. So he was really the father of it all""

—Robert (Bob) Taylor  
head of ARPANET + founder of Xerox Parc



## 1969 - Arpanet (Advanced Research Projects Agency)

first message sent from UCLA to Stanford via **TCP/IP protocol**

stanford machine had 128 Kb of memory and 24 Mb of disk space



System crashed before rest of the message was transmitted



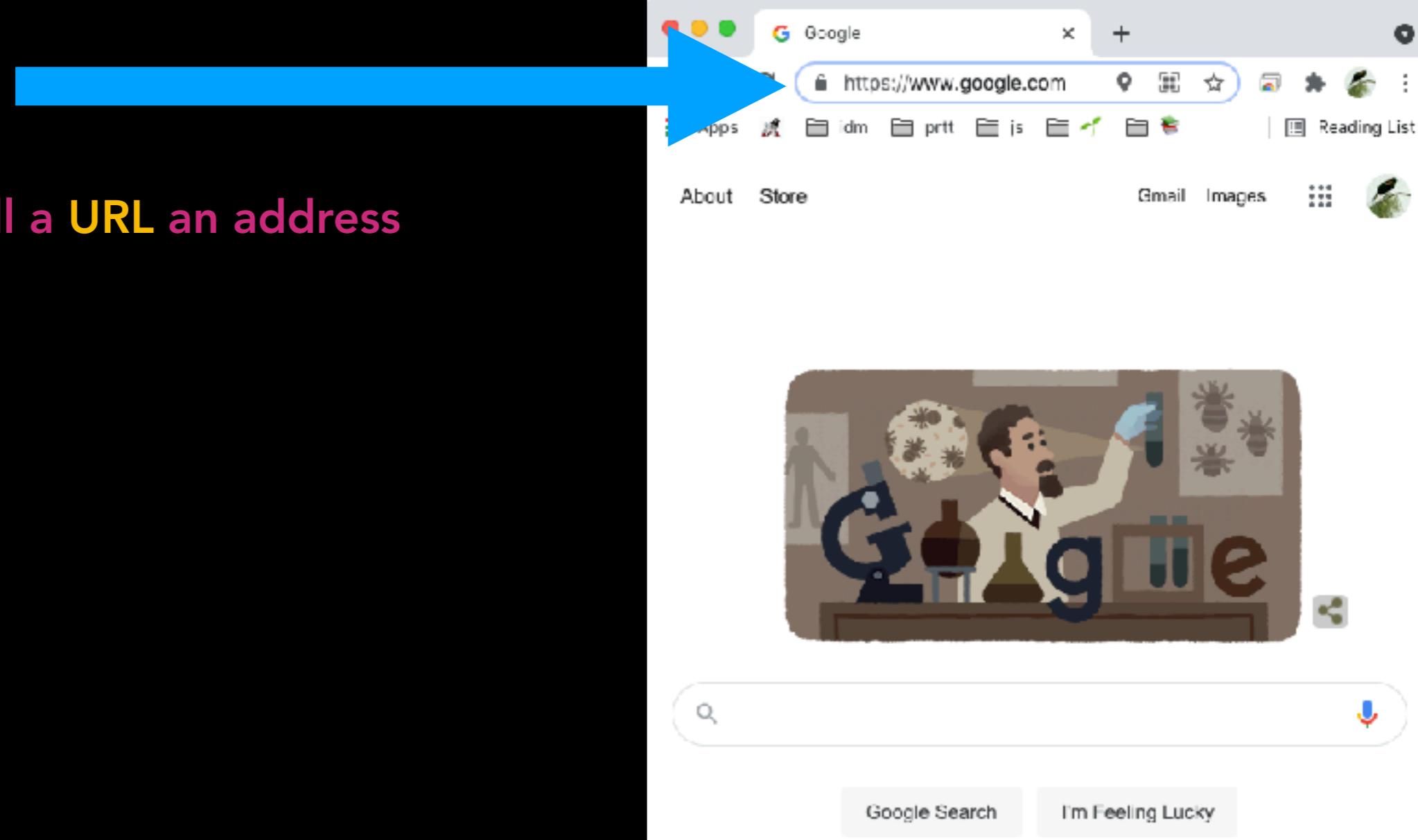
1974 - Arpanet network map

**what is the web?**

www

The World Wide Web is an  
information system where  
documents and other  
resources are identified by  
**Uniform Resource Locators**  
which may be interlinked by  
hyperlinks, and are  
accessible over the internet.

we colloquially call a URL an address



the URL for this web page is: <https://www.google.com>

 Carbon neutral since 2007

**what is a web page?**



**HTML**



**CSS**



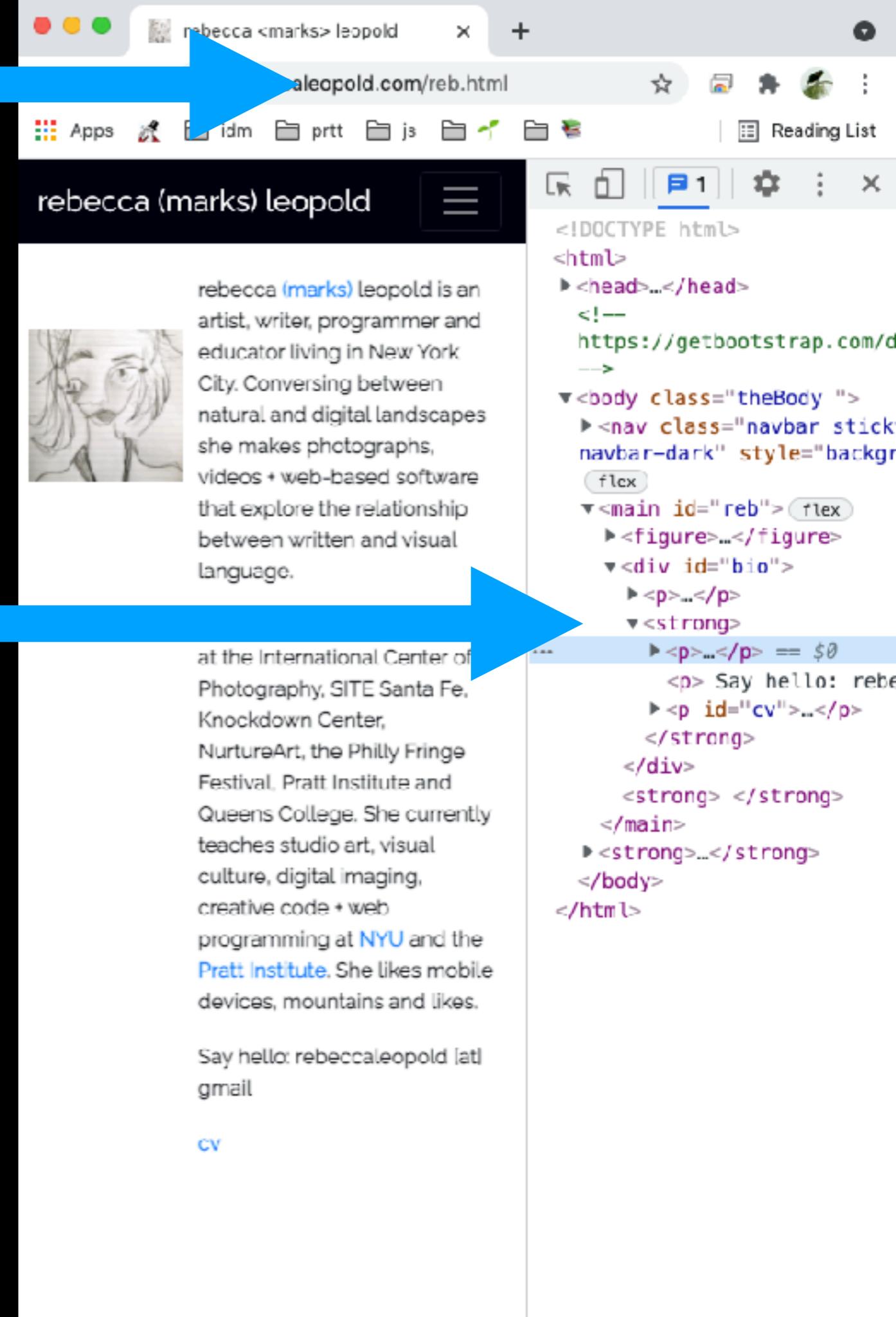
**JS**



**Web content may be any  
type of downloadable media  
(text, img, video, pdf) but  
web pages are hypertext  
documents formatted in  
Hypertext Markup Language.**

this page ends in the extension dot **HTML**. As it is an **html** file, much like a Microsoft Word document is **.docx**. Though unlike Word - **html files are open source protocol** and can be read by any browser software.

and here is some of the **HTML "code"** under the hood



A screenshot of a web browser window showing the source code of a website. The browser bar at the top shows the URL `rebeccaleopold.com/reb.html`. The main content area displays a bio page for 'rebecca (marks) leopold' featuring a portrait photo and text about her work. A large blue arrow points from the left text to this bio section. Another large blue arrow points from the bottom text to the right-hand sidebar where the HTML code is displayed. The sidebar shows the DOM structure with various HTML tags and their attributes, including `<!DOCTYPE html>`, `<html>`, `<head>`, `<body>`, `<main>`, `<div id="bio">`, and `<strong>`.

```
<!DOCTYPE html>
<html>
  <head>...</head>
  <!--
    https://getbootstrap.com/d...
  -->
  <body class="theBody">
    <nav class="navbar sticky navbar-dark" style="background-color: #333; color: white; padding: 10px; font-size: 1.2em; border-bottom: 1px solid black; margin-bottom: 10px;">...</nav>
    <main id="reb"> <flex>
      <figure>...</figure>
      <div id="bio">
        <p>...</p>
        <strong>
          <p>...</p> == $0
          <p> Say hello: rebe...
          <p id="cv">...</p>
        </strong>
      </div>
      <strong> </strong>
    </main>
    <strong>...</strong>
  </body>
</html>
```

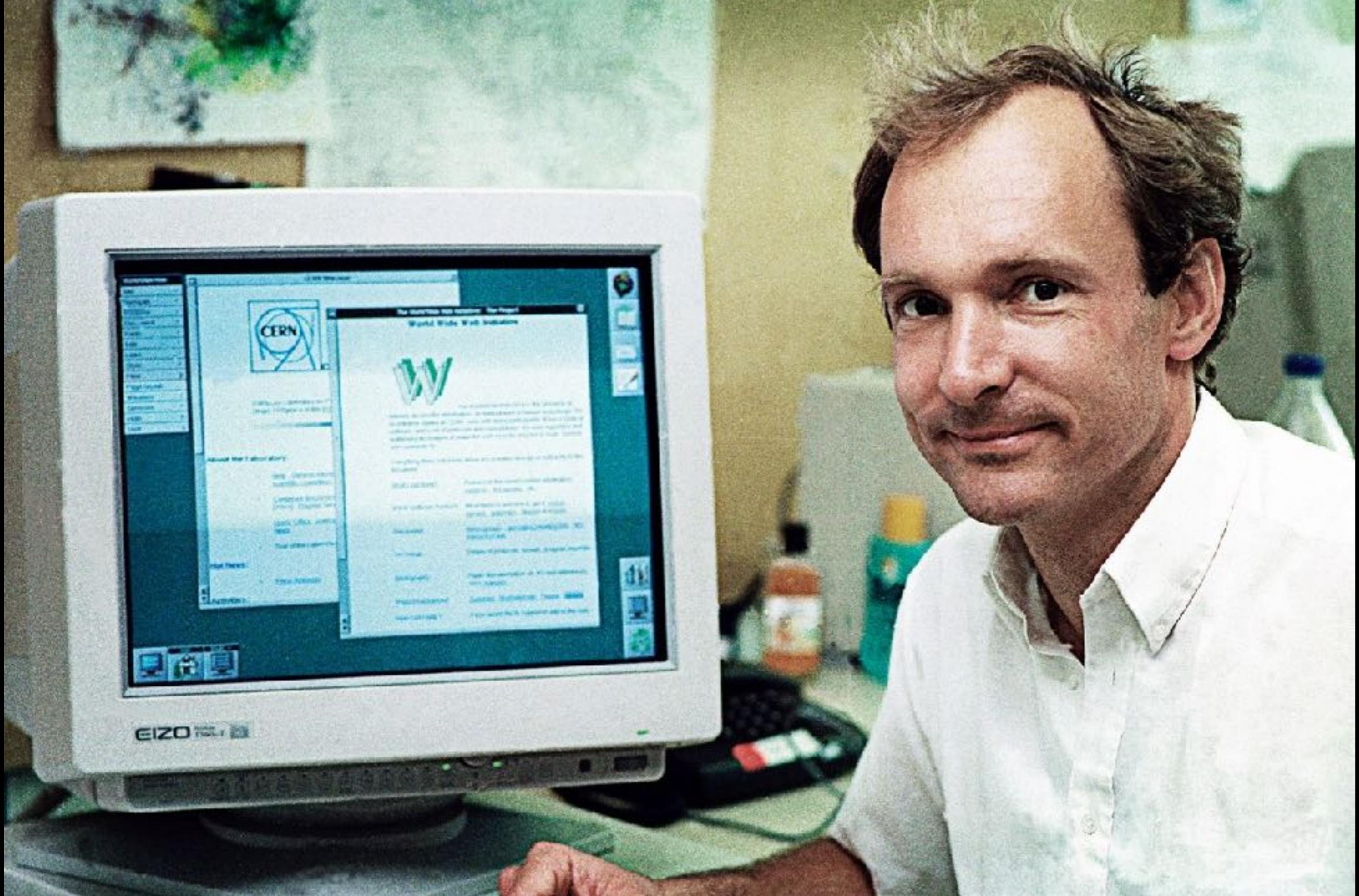


.html files almost always live on a server in a directory with other open source “code” files with the extensions: .css and .js. Server storage works much like the local storage on yr laptop (which is why we need to avoid having our class work on any kind of “cloud” as it could (and will!) interfere with your work.

**omg so now what the what is a Hyper Text Markup Langauge?**

The resources for the Web are transferred via the Hypertext Transfer Protocol may be accessed by users by a software application called a browser, and are published by a software application called a server. HTML pages + the servers they communicate with can vary from relatively simple (ie what we'll be doing) to very sophisticated web applications but in any case they must be written in proper HTML syntax in a file with .html extension (although a user might not always see it! )

**who invented the web?**



**1989** - Tim Berners Lee invents the WWW

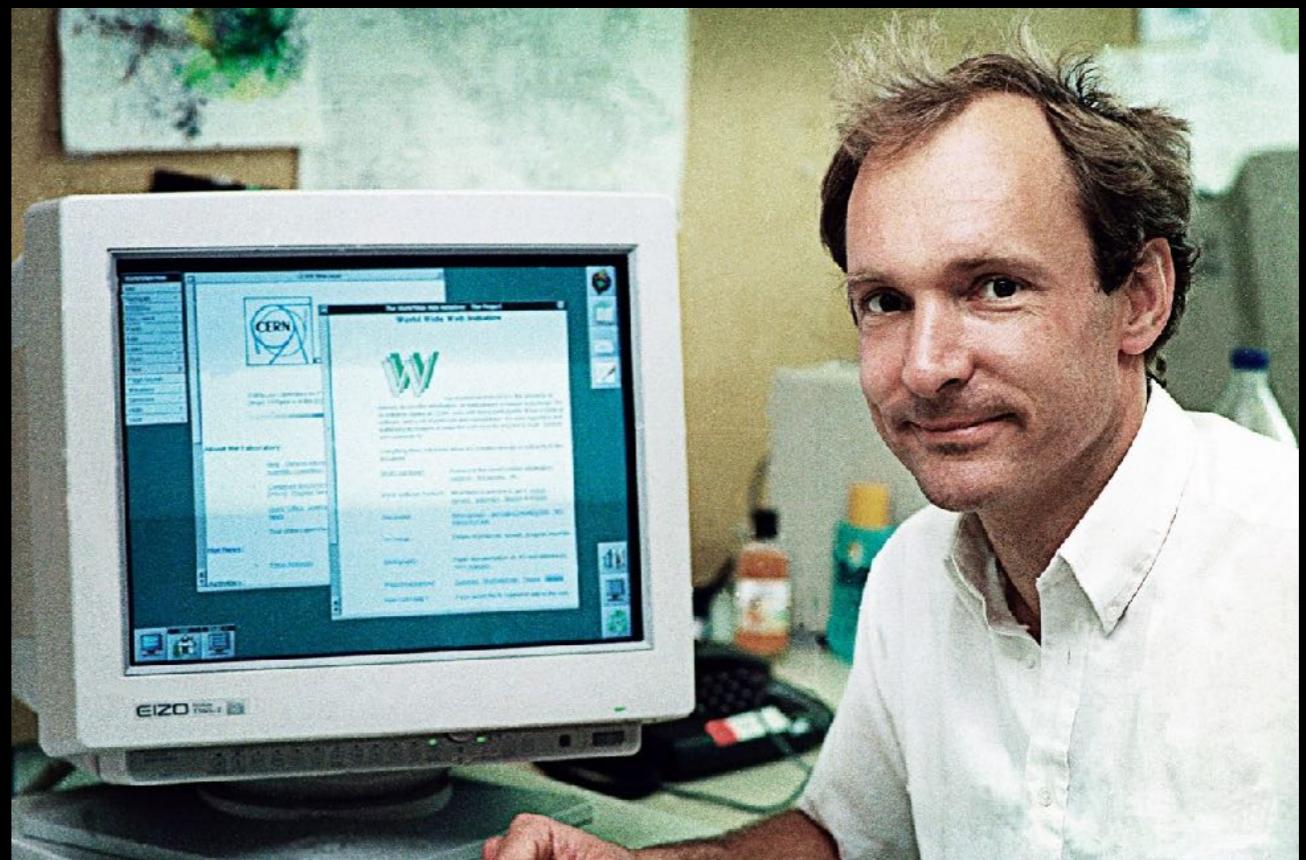
**1990** - Tim Berners writes the first web browser at CERN in Switzerland

**1991** - The browser released outside CERN + to the general public

**1993 -4** - Web begins to enter everyday use

"I still has to find a way to turn text into hypertext, though. This required being able to distinguish text that was a link from text that wasn't. I delved into the files that defined the internal workings of the text editor, and happily found a spare thirty-two bit piece of memory, which the developers of NeXT had graciously left open for future use by tinkerers like me. I was able to use the spare space as a pointer from each span of text to the address for any hypertext link. With this, hypertext was easy. "

—Berners Lee, *Weaving the Web*





1989 - First Web Server

Due to the way the computer's storage was designed, Tim Berners-Lee invents the WWW (HTTP) on a NeXT machine