A Brief History:
The Internet, Technology and Design

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What is the Internet?
Watch this:

DON'T FEAR the INTERNET
On the October 29, 1969, computers at Stanford and UCLA connected for the first time.
1969: Unix

Telnet, 1969. Terminal command line control
1971: Email

Ray Tomlinson, made the decision to use the “@” symbol to separate the user name from the computer name (which later on became the domain name).
Michael Hart realized that the future of computers wasn’t in computing itself, but in the storage, retrieval and searching of information. Launched a global effort to make books and documents in the public domain freely available electronically in a variety of eBook and electronic formats.
1974: TCP/IP

A protocol that link disparate Arpanet-Like networks together. Arpanet switched to TCP/IP in 1983.
1977: PC Modems

Developed by Dennis Hayes and Dale Heatherington
1978: Bulletin Board System (BBS)
1979: Multiplayer Games

MultiUser Dungeons (MUDs) were entirely text-based virtual worlds, combining elements of role-playing games, interactive, fiction, and online chat.
1980: usenet

1982: The 1st Emoticon

Kevin MacKenzie invented the :-) emoticon in 1979, but Scott Fahlman in 1982 proposed using :-) after a joke, rather MacKenzie’s original.

:: -)
1984: The Domain Name System (DNS)
1989: AOL

Began as the Apple-sponsored AppleLink program.
1989: WWW

Tim Berners-Lee. Originally published in MacWorld magazine, and then redistributed in May 1990. Originally called “Mesh”.
1993: Mosaic

First graphical web browser for the general public, Funded in part, along with other commercial net projects, though the advocacy of Congressman Al Gore.
1994: Netscape Navigator

Mosaic's first big competitor.
1998: Google
1998: P2P File-Sharing
The dotcom collapse resulted in huge losses and the closing of hundreds of companies, some of which had never turned a profit.

Paved the way for collective web content generation/social media.
2003: VoIP

Skype
Digg, a social news site, launched on November of 2004, paving the way for sites such as Reddit, Mixx, and Yahoo! Buzz.
2004: The Facebook

[ Welcome to Thefacebook ]

Thefacebook is an online directory that connects people through social networks at colleges. Saves up Thefacebook for popular consumption at Harvard University.
2005: YouTube
2006: Twitter
Hulu began as a joint venture between ABC, NBC, and Fox.
2007: iPhone and Mobile Web

Previous History Content: https://www.webpagefx.com/blog/web-design/the-history-of-the-internet-in-a-nutshell/
world wide web

Protocol
- **Client** browser requests a page from a Web **server** using a **URL**. **URL**s are resolved through **DNS** servers. Server sends page to client browser via **HTTP**, which displays the page based on HTML and CSS.

Structure & Semantics
- **HTML**: text “marked-up” with tags that are rendered/interpreted by your browser. Some elements define **structure**, like headings and paragraphs, while other **semantic** elements describe extra info, like where to place emphasis in a sentence.

Form/Appearance
- **CSS**: controls the appearance and position of structural elements, text and images

Behavior
- **JavaScript**: Advanced interaction controls, special effects. Processed by the browser.
WWW – HTML

HTML provides the **Structure** of the content.

Basic anatomy of an HTML Page:

```html
<html>
<head>
<title>This is a title.</title>
</head>
<body>
  <p>This is the content of the Web page.</p>
</body>
</html>
```
common HTML tags

<h1> through <h6> Head 1 through Head 6
<p> paragraph
<ul> unordered list (bullets)
<ol> ordered list (numbered)
<li> list items
<em> emphasis (italic)
<strong> bold
<div> division (container)
<span> range of selected text
<table> array of data
<tr> table row
<td> table data
<a> anchor (links)
CSS provides the **Style** of the content.
Basic anatomy of a CSS document:

```css
selector {
    property: value;
}

such as:
body {
    background-color: #d5d7ff;
    text-align: left;
    font: 11px "Lucida Grande", Verdana, sans-serif;
}
```
Kinds of CSS Selectors

- **TYPE** is applied to specific HTML tags
  - h1, p, ul, ...

- **CLASS** is applied to any range of text
  - .blue, .boldRed, ...

- **COMPOUND** can be applied to specific tags and classes depending on context
  - h1.blue (only applies to .blue classes inside an h1 tag)
some CSS properties

color
text-align
line-height
font-family
font-size
font-style
font-weight
background-color
background-image
list-style-type
margin
padding
border
Access/Accessibility

Net Neutrality

“Information wants to be free”

Digital Divide

equipment, infrastructure, education

Disability

Physical and cognitive
Web Standards

• Govern the “interoperability, accessibility and usability of web pages and web sites”

• When a page complies with standards, it validates as proper HTML, CSS and JavaScript, and meets accessibility and semantic guidelines.

http://en.wikipedia.org/wiki/Web_standards
“Ten movies streaming across that, internet, and what happens to your own personal internet?"

Sen. Ted Stevens (R-Alaska)
net neutrality

Implications of losing Net Neutrality
The Federal Communications Commission is not cool with AT&T’s offer that lets customers stream the carrier’s DirecTV service without it counting against their data plans. The commission has also launched an investigation into a similar offer from Verizon.

In a letter sent to AT&T on Thursday, the agency said it’s reached a preliminary conclusion that the carrier is violating net neutrality rules, which prohibit internet service providers from favoring their own content over a competitor’s service.

Since September, AT&T has let its wireless customers stream its DirecTV video service over the AT&T wireless network without counting that data against their monthly data caps. This week AT&T made the $35 a month streaming service available to all wireless customers. The FCC also sent a letter to Verizon asking it questions about a similar offer where Verizon lets customers stream its Go90 video service and doesn't charge for data usage.
"A core issue to net neutrality is how ISPs should be classified under the Communications Act of 1934, if they should be Title I "information services" or Title II "common carrier services". The classification affects the Federal Communication Commission's (FCC) authority over ISPs: the FCC would have significant ability to regulate ISPs if classified as Title II common carriers, but would have little control over them if classified as Title I.

Because the Communications Act has not been amended by the United States Congress to account for ISPs, the FCC has the authority to designate how ISPs should be treated in addition to what regulations they can set on ISPs. The makeup of the 5-member FCC has changed with each new administration, leading to the state of net neutrality flipping back and forth over the last two decades."

https://en.wikipedia.org/wiki/Net_neutrality_in_the_United_States
"In 2005, the FCC adopted network neutrality principles "to preserve and promote the vibrant and open character of the Internet as the telecommunications marketplace enters the broadband age." Between 2005 and 2012, five attempts to pass bills in Congress containing net neutrality provisions failed. Opponents claimed that these bills would have benefited industry lobbyists instead of consumers. In response to legal challenges from ISPs challenging the FCC’s ability to set net neutrality principles, the FCC in 2015 issued the Open Internet Order which reclassified ISPs as Title II services and giving them authority to enforce net neutrality.

In 2017 as part of the Trump Administration, Ajit Pai proposed to repeal the neutrality policies, returning to the previous classification of ISPs as Title I services. The draft of the proposed repeal, published in May 2017, led to over 20 million comments to the FCC. Despite a majority of these favoring retaining the 2015 Open Internet Order, the FCC still voted in favor of repealing the Order, which went into effect in June 2018 despite efforts in Congress to stay the repeal.[5] As a result, over 20 states launched a joint lawsuit against the FCC, while California passed its own state-level net neutrality law that is being challenged by the federal government.”

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Privacy/Security

- Personal control of shared info
- The right to know how a company is collecting and using your data
- Use of your data to send you personalized ads, determine behaviors, identify location, health issues...
Control/Censorship

“The first principle of a free society is an untrammeled flow of words in an open forum.”
—Adlai Stevenson, 1962

“Once a government is committed to the principle of silencing the voice of opposition, it has only one way to go, and that is down the path of increasingly repressive measures, until it becomes a source of terror to all its citizens and creates a country where everyone lives in fear.” —Harry S. Truman, 1950
Cyber Intelligence Sharing and Protection Act—Gives Internet companies carte blanche to spy on their customers.

Would hurt the economy, remove privacy rights, and ultimately hurt security, rather than enhancing it.

http://www.savetheinternet.com/
Browsers

• Which to choose: speed, data sync…

• Desktop and Mobile apps

• Ad blockers

• Trackers

• Anonymity/VPN
Net Art

• Hyperallergic: “Best of 2015: Our Top 10 Works of Internet Art”