Welcome

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Welcome to Introduction to HTML5

- HTML = HyperText Markup Language; a way of marking files so that browsers know how to display your content as a webpage

  - uses tags to distinguish between content & the instructions

- browsers: Internet Explorer
  Chrome
  Safari
  Edge

- course covers proper syntax, not styling
- focus: what HTML is & how we got from the original version to HTML5
  'magic' behind the Internet & how your webpage isn't just one file, but many pieced together by your browser using the Response / Request cycle
  syntax behind the tags
  semantics behind the tags
  getting your page on the web

- learning outcomes: syntax & semantics
  accessibility
  getting started

History & Evolution

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The Evolution of HTML

- **HTML**: a way that browsers can translate documents into viewable webpages
  was intended to facilitate many different content types

- .html files open in internet browsers
- HTML 1 (1990): a way to electronically connect documents via hyperlinks → a 'web' of connections
- **Mosaic (1993)** = first graphical browser

  - started arguments: pioneers → content based vs. innovators → pictures & layout too

  - caused the internet usage to BOOM!

- **browser wars**: Netscape, Internet Explorer, etc challenged Mosaic
- **proprietary tags** = tags that would only work on their (a certain browser)

  → (eg. <marquee>): scrolling text

- other (non-proprietary) tags: <font>

  <bgcolor>

  - went against the spirit of HTML

  - designers wrote nonstandard code to force browsers to do what they wanted

  - incompatibility issues → "Best viewed on" messages

- proactive groups of the internet: Internet Engineering Task Force (IETF)
  - focus on how different networks should collaborate
  World Wide Web Consortium (W3C)
  - deals w/ HTML: evolution of HTML & tags & browsers to un/support
  The Web Accessibility Initiative (WAI)
  - ensure people accessing the web have the same ability to view content

- evolution of browsers:

HTML was simple, content was primarily text-based	(1990-94)
Mosaic emerges w/ images & ... Internet BOOM!	(1993)
Cross-browser compatibility falls apart	(1995-99)
Browsers move toward separating content from style	(2000-05)
Using HTML files w/ css becomes the new standard	(2005-08)

- evolution of HTML:

1993-developed by Tim Berners-Lee to link document	(HTML 1.0)
1995-developed by IETF RFC to include stylized text & tables	(HTML 2.0)
1996- CSS 1	
1997-developed by W3C & included browser specific features	(HTML 3.2)
1997- a move back to normalizing pages across platforms	(HTML 4.0)

1998 · CSS 2
1999 · introduced different document types (HTML 4.01)
2012 · back to HTML & multimedia & semantics tags (HTML 5)

HTML5: a cooperation between W3C & the Web Hypertext Application Technology Working Group (WHATWG)

- established guidelines: new features should be based on HTML, CSS, the DOM, & JavaScript
  reduce the need for external plug-ins (eg. Flash)
  more markup to replace scripting
  device independent

- new standards are written to handle new requirements & browsers adopt the new standards

How It Works

How It Works: The "Magic" of Page Requests

- request-response cycle = what happens when your computer (client) requests a page & the server responds w/ the appropriate files

  - typically requires multiple rounds of communication between the client & the server

- clients = machines for personal use (eg. phones, laptops, etc); (ideally) always connected to the network
- servers = machines that hold shared resources

- LAN = Local Area Network

  → (eg. office building)

- WAN = Wide Area Network

  → (eg. university)

  → (eg. the Internet): the largest WAN

- URL = Uniform Resource Locator
- components of a URL: protocol
  domain
  document (optional)

- protocol = how to connect

  → (eg. HTTP) = Hypertext Transfer Protocol

  → (eg. HTTPS) = Secure Hypertext Transfer Protocol

  → (eg. FTP) = File Transfer Protocol

- domain = the server

  → (eg. google.com): domain name → google; top-level domain → .com

  → (eg. wikepedia.org): domain name → wikipedia; top-level domain → .org

  - domain name = identifies the entity you want to connect to

  - top-level domain: determined by Internet Corporation for Assigned Names & Numbers (ICANN)

- every single client needs its own IP address
- DNS = Domain Name Server; will lookup IP address based on the URL typed in

- **document** = the specific file/document needed

  - if no document is specified → default doc is returned

    → (eg. index.html): convention default document name

- the **request**: once the IP address is determined → browser creates a HTTP request
- the **response**: server returns files, not webpages → then browser handles those files

  - if the server can't fulfill the request → sends back files w/ error codes

    → (eg. 404): file not found

    → (eg. 500): server is down

- When you type into the address bar: browser looks up the domain in the DNS
  DNS returns the IP address
  (the request/response cycle is initiated)
  browser sends an HTTP request to the server located at that address
  server finds the requested file & sends it back as a response
  browser takes the response & renders the HTML code as a nice graphical presentation

Tools & Tips

Looking at Your Browser Options

- test site on multiple browsers
- http://www.html5accessibility.com/
  - reviews accessibility of browsers
- browsers should support: keyboard functionality
  HTML5 tags
  features for assistive technology

Editors: How to use an editor to create a HTML file

- decide on: organization
  naming convention
  - dash-names
  - CamelCase
  an editor
- troubleshooting:
  → (eg. browser shows tags): check that file extension is .html
  → (eg. weird characters): type code by hand > copy & paste
- starter code: doctype
  head tags
  body tags

Q. html5 tags have the same semantic meaning, regardless of the browser being used
Q. font breaks the tenet of the separation of content & layout
Q. Arpanet was the predecessor of the internet