Web Dev Day 1: Intro to HTML

Website Development
UBC | Coding Pals

Who are we?

Gary Li

Grad from St. George's School

Favourite Food: Ramen

Hobby: Jazz drumming

Favourite Brand: Razer

Davis Clark

Grad from St. George's School

Favourite Food: Pasta

Hobby: Piano

Favourite Brand: Apple

Icebreaker

Name

Grade

Programming Experience
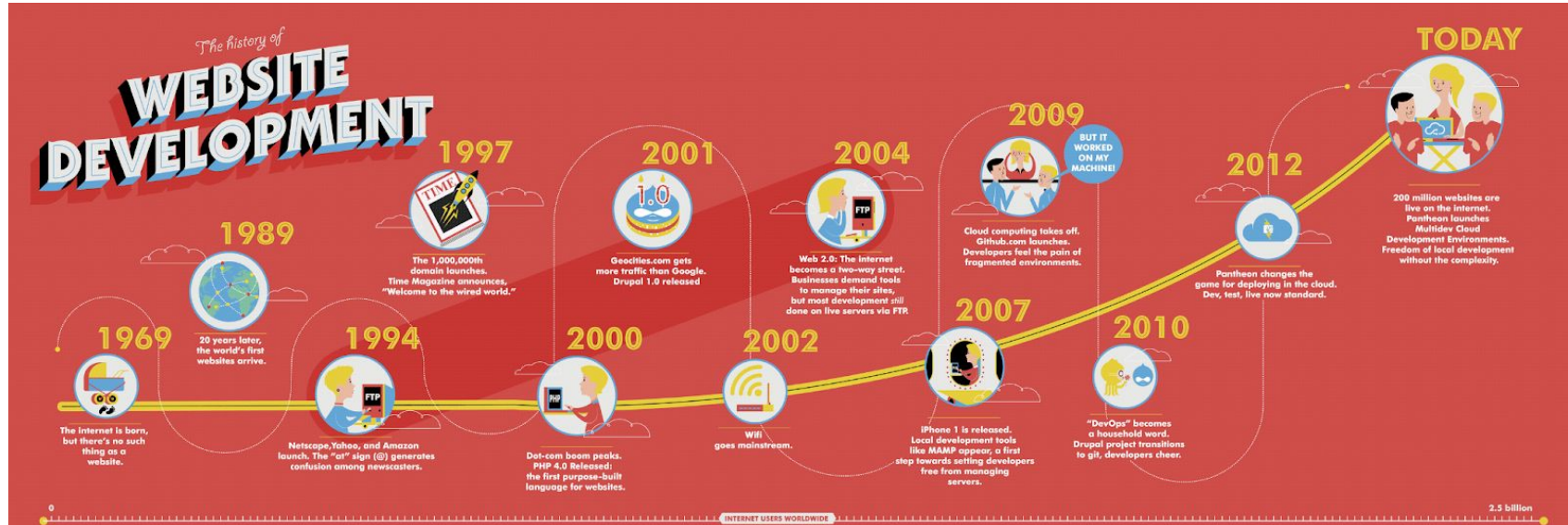
Two Truths One Lie

____

What is the Web?

The Web started as "Internet", where it was only a group of computers that were connected together to transfer information, but as more and more computers join this "Internet", the World-Wide-Web (www), a collection of websites linked together, was formed.
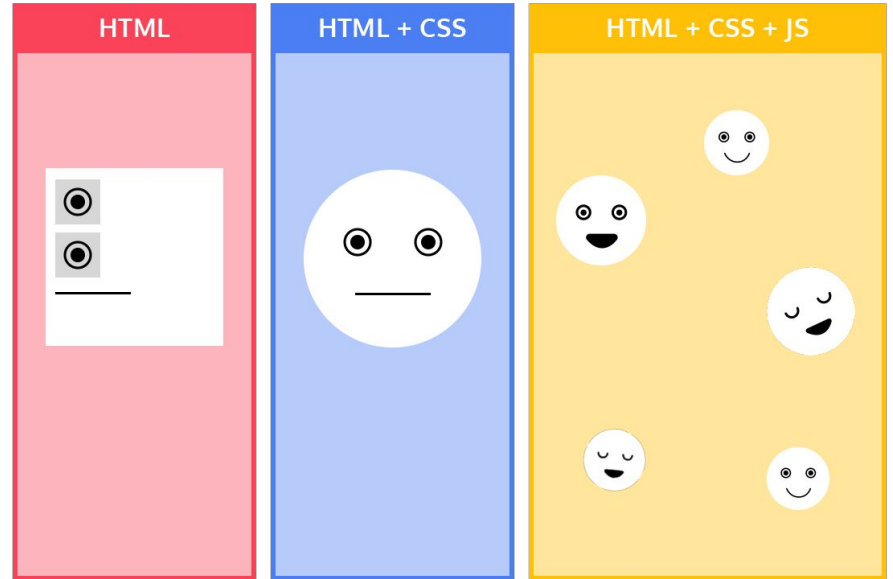
History of Web Development

- The Internet (The group of linked computers) was created in 1969.

- The first website was created in 1989.

Languages of the NET

- HyperText Markup Language (HTML)
- Cascading Style Sheets (CSS)
- JavaScript (JS)
- Structured Query Language (SQL)

| HTML | HTML + CSS | HTML + CSS + JS |

Frameworks

Function of Browsers

- Developer Console
- F12
- Compiling Code retrieved from servers

Setting up VS Code

Step 1: Go to https://code.visualstudio.com/

Step 2: Install the correct "Stable Build" for your operating system (should auto-detect)

Step 3: Open the file that was just installed and finish the setup process

Code editing.
Redefined.

Free. Built on open source. Runs everywhere.

Download for Windows
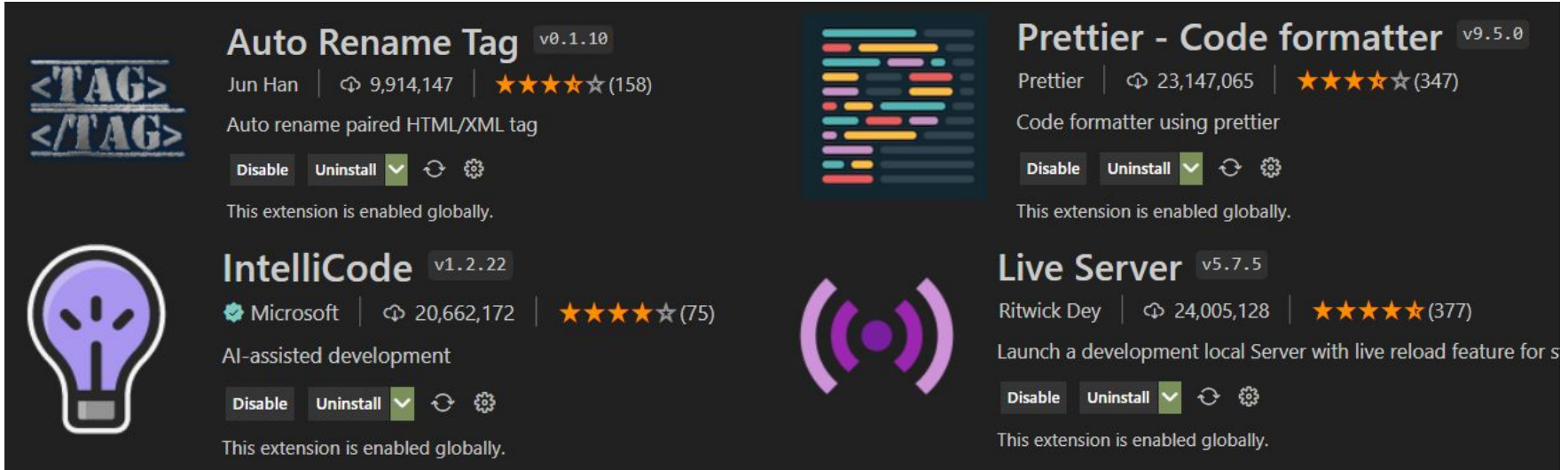Stable Build

Code editing.
Redefined.

Free. Built on open source. Runs everywhere.

Download Mac Universal
Stable Build

VS Code Extensions

Auto Rename Tag `v0.1.10`
Jun Han | ⌄ 9,914,147 | ★★★☆☆ (158)
Auto rename paired HTML/XML tag
Disable | Uninstall ⌄ ↻ ⚙
This extension is enabled globally.

Prettier - Code formatter `v9.5.0`
Prettier | ⌄ 23,147,065 | ★★★☆☆ (347)
Code formatter using prettier
Disable | Uninstall ⌄ ↻ ⚙
This extension is enabled globally.

IntelliCode `v1.2.22`
✔ Microsoft | ⌄ 20,662,172 | ★★★★☆ (75)
AI-assisted development
Disable | Uninstall ⌄ ↻ ⚙
This extension is enabled globally.

Live Server `v5.7.5`
Ritwick Dey | ⌄ 24,005,128 | ★★★★☆ (377)
Launch a development local Server with live reload feature for s
Disable | Uninstall ⌄ ↻ ⚙
This extension is enabled globally.

What is HTML?

- Hyper Text Markup Language
- Describes the structure of a Web page & tells the browser how to display the content
- The standard markup language for creating Web pages

What is Syntax?

- Syntax varies from language to language
- Set of rules that defines how a computer reads code
- Proper syntax must be used for a program to run

```html
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>Example</title>
5          <link rel="stylesheet" href="sty
6      </head>
7      <body>
8          <h1>
9              <a href="/">Header</a>
10         </h1>
11         <nav>
12             <a href="one/">One</a>
13             <a href="two/">Two</a>
14             <a href="three/">Three</a>
15         </nav>
```

```css
9   body {
10      font-family: "Trebuchet MS", Arial, Helvetica, sans-s
11      color: #000;
12      background-color: #66B034;
13      margin: 0px;
14      padding: 0px;
15  }
16  #container {
17      width: 840px;
18      margin-top: 0px;
19      margin-right: auto;
20      margin-bottom: 0px;
21      margin-left: auto;
22  }
```

HTML Syntax

- Opening & closing tags (<> </>)
- Always contains:
  - <!DOCTYPE html>
  - Opening & closing <html> tags
  - Write "!" followed by tab to get this boilerplate code
- Indented tags (for readability)
- Child & Sibling tags
- Order of sibling tags matters
- Attributes

```html
<!DOCTYPE html>
<html>
<head>
    <title>Page Title</title>
</head>
<body>

    <h1>My First Heading</h1>
    <p>My first paragraph.</p>

</body>
</html>
```

Using Live Server

Press the "Go Live" button at the bottom right of your VS Code Editor

Ln 1, Col 1   Spaces: 4   UTF-8   LF   { } HTML   📡 Go Live   🐿️   👥   ✓✓ Prettier   🧑‍🤝   🔔

(Make sure you have saved your index.html file by doing CRTL/CMD + S)

Live Server automatically updates whenever you save your file!

HTML Head Section

- Meta tags
- Title tags
- Link tags

```
<head>
    <meta charset="UTF-8">
    <title>Amazing CodingPals Website!</title>
    <link rel="stylesheet" href="styles.css">
</head>
```

Break!!!

HTML Body Section

Header Tags

(not to be confused with *head* tags)

-      <h1>, <h2>, <h3>, <h4>, <h5>, <h6>
-      Used to indicate Title/ Header elements
-      6 Different styles to indicate header types: Titles, Subtitles, Paragraph Titles, etc.

Header 1

Header 2

Header 3

Header 4

Header 5

Header 6

Paragraph Tags

- Denoted with <p>
- Used to write paragraphs or any long text
- Always starts on a new line

```
<body>

    <h1> Here is my header1 tag!</h1>
    <h6> Here is my header6 tag!</h6>

    <p>Here is my paragraph tag!</p>

</body>
</html>
```

Here is my header1 tag!

Here is my header6 tag!

Here is my paragraph tag!

Bold, Italic, Highlight, and Underline Tags

- <b>, <em>, <mark>, <u>
- <b> for Bold
- <em> for Emphasize
- <mark> for Mark
- <u> for Underline

Bold

Italic

<u>Underline</u>

<mark>Highlight</mark>

Anchor (Hyperlink) Tags

- Denoted with the <a> tag
- Used to link to different websites/paths in your website (also can link to images, but not very common)
- Can nest other tags
- Href attribute
    - Href must start with 'https://'
- Target attribute determines whether to open the page in a new tab

```
<body>

    <a href="https://google.com" target="_blank"><h1>Google</h1></a>

</body>
```

Google

Single Tags

Breaks, horizontal rule

<hr>

No closing tag (</>)

<u>Underline</u> <mark>Highlight</mark>

<u>Underline</u>
<mark>Highlight</mark>

<u>Underline</u>

<mark>Highlight</mark>

Big and Small Tags

- Gives a slight font increase/decrease to text
- Nested inside text elements
- Can be used to manipulate specific words
- Denoted with <big> and <small>

```
<body>

    <p>This word is <big>Big</big> while this word is <small>small</small></p>

</body>
```

This word is **Big** while this word is <small>small</small>

Subscript and Superscript Tags

- Denoted with <sub> and <sup>
- Notice how a space is necessary before "is" on the second line

```
<p>Water is also known as H<sub>2</sub>0</p>

<p>2<sup>4</sup> is equal to 16</p>
```

Water is also known as H_2O

2^4 is equal to 16

Lists

- Unordered (<ul>) vs. Ordered (<ol>)
- Individual elements denoted by
- Attribute to define type of ordering with OL
- Notice the indents (important syntax for readability)

Unordered List:

```
<ul>
    <li>item 1</li>
    <li>item 2</li>
    <li><a href="https://google.com">item3</a></li>

</ul>
```

- item 1
- item 2
- item3

Ordered List:

```
<ol>
    <li>item 1</li>
    <li>item 2</li>
    <li><a href="https://google.com">item3</a></li>

</ol>
```

1. item 1
2. item 2
3. item3

Comments

- Comments refer to lines of text that are not read by the computer when compiling the code
- Can be used to edit and quickly manipulate code without deleting it and retyping it
- Can be used to leave notes and explanations of a certain block of code
- Shortcut with CRTL/CMD + /

```html
<!DOCTYPE html>
<html lang="en">
<body>

    <!-- <h1> My First Heading</h1>
    <p> My First Paragraph</p> -->


    <h1> My Second Heading</h1>
    <p> My Second Paragraph</p>

</body>
</html>
```
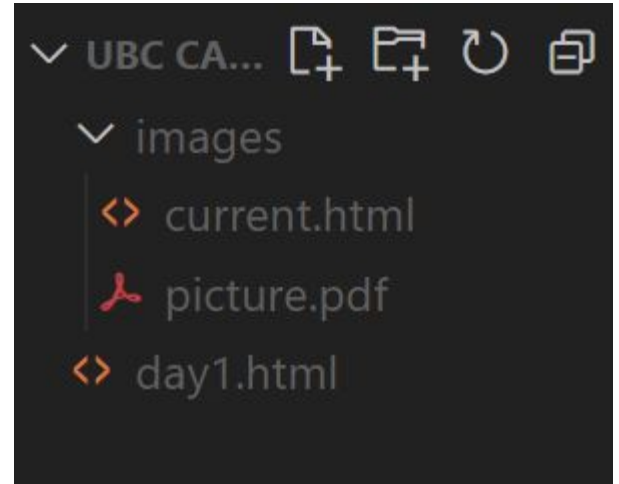
Directories and Relative Paths

To access files within the same system, we can use paths instead of https links

To access the picture.pdf file from current.html, we can:

- href="picture.pdf"
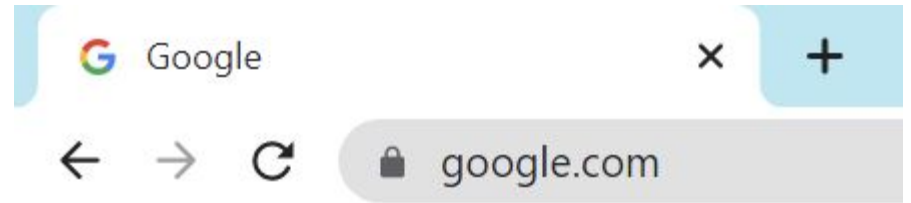- href="/images/picture.pdf"
- href="../images/picture.pdf"

Notice how "/images/picture.pdf" is different from "images/picture.pdf"

Favicon

Alongside the title element, you can also change the icon that appears next to the title (Favicon) by using the <link> element within the <head> section.

<link rel="icon" type="image/x-icon" href="*image link*">
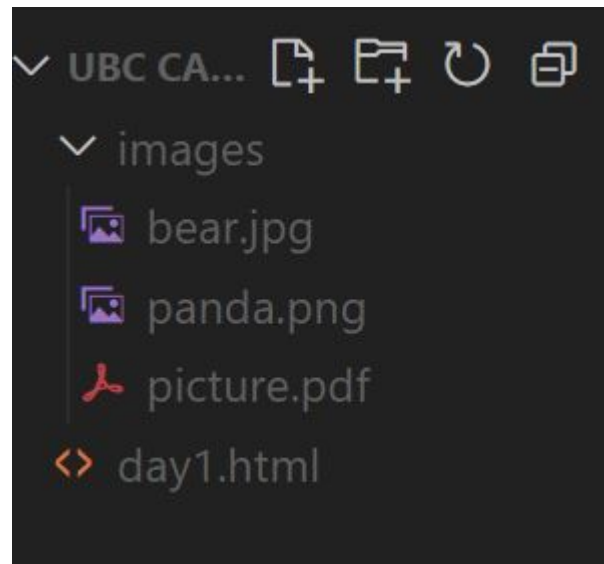
Images

- Denoted with the <img> tag (single tag, no need for closing tag)
- Attributes:
    - Src (source)
    - Alt (alternative link)
    - Width & height (html considers aspect ratios)

Images need to be referenced with a path

Create a folder named "images" under the main folder directory

<img src="*image path*" alt="*text*">

Videos

- Denoted with the <video> tag
- Attributes
  - Src (source; can define multiple and the browser will play the first one that is compatible)
  - Controls (gives the option to play, pause, etc.)
  - Width & height
  - Poster (thumbnail of a video)
  - Autoplay
  - Loop
- Like images, videos must be referenced by a path
- Optional text between opening and closing <video> tags to display a message if none of the src videos are compatible

YouTube Videos/ iFrame

iFrame is essentially an webpage embedded inside another page. And iFrame is also the easiest way to embed a Youtube video into a webpage.

<iframe src="*source*" title="description"></iframe>

Water is also called H_2O

2^4 is 16.

- Wikipedia
- Google

Challenge Time!

Challenge:

Make a basic About Me webpage with a title in the head section, a page title header, a subtitle for a list of things you are interested in, and a list (ordered or unordered) with 10-15 things about you

Don't worry about formatting or styling—we will continue with this page next day

Homework

Brainstorm ideas & pages that you want to put onto your website. Keep track in a written document with all the components & content you want to add.

This will be crucial as we slowly build on your personal websites and finally develop and make your unique websites.

Resources

MDN Web Docs

"Dictionary" for HTML, CSS, & JS

https://developer.mozilla.org/

W3 Schools

Modules that explain all the components

https://w3schools.com/