

HTML and its Evolution

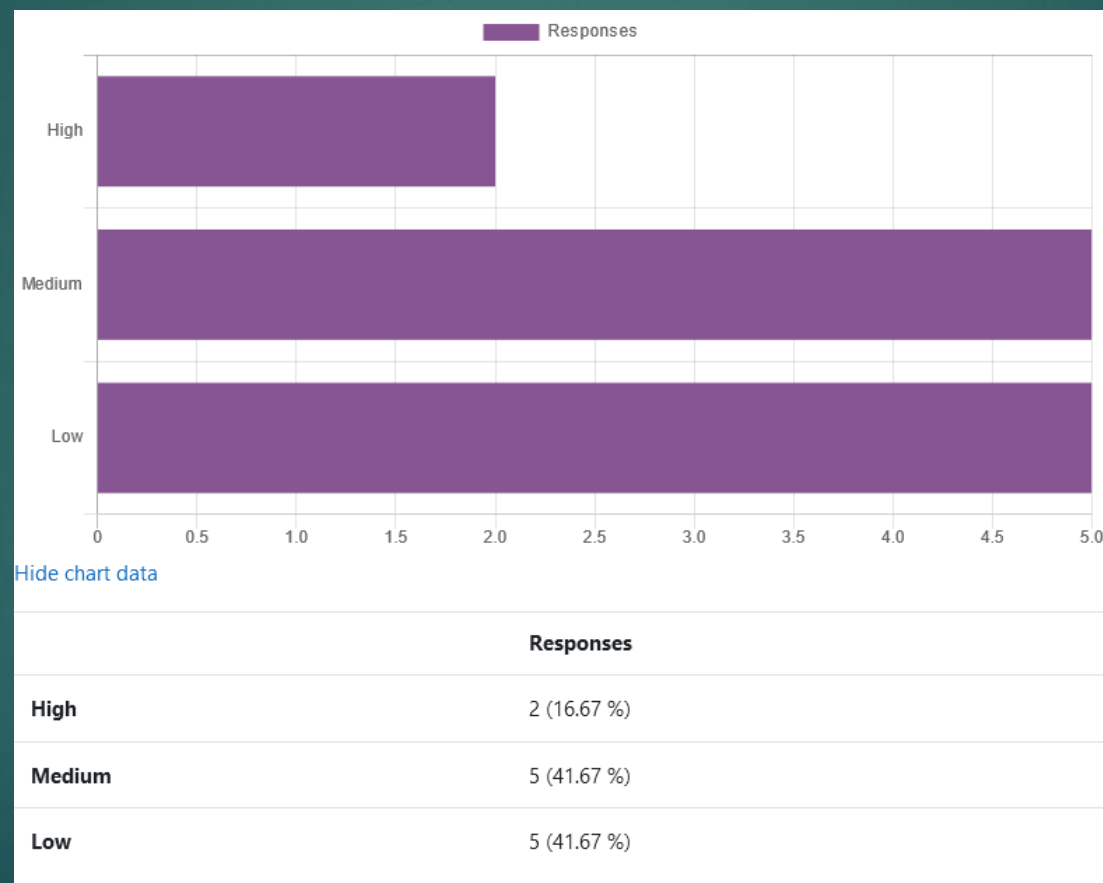
Agenda

- ▶ Pre-semester survey responses overview
- ▶ What is HTML
- ▶ Evolution of HTML
- ▶ Browser options and some interesting stats

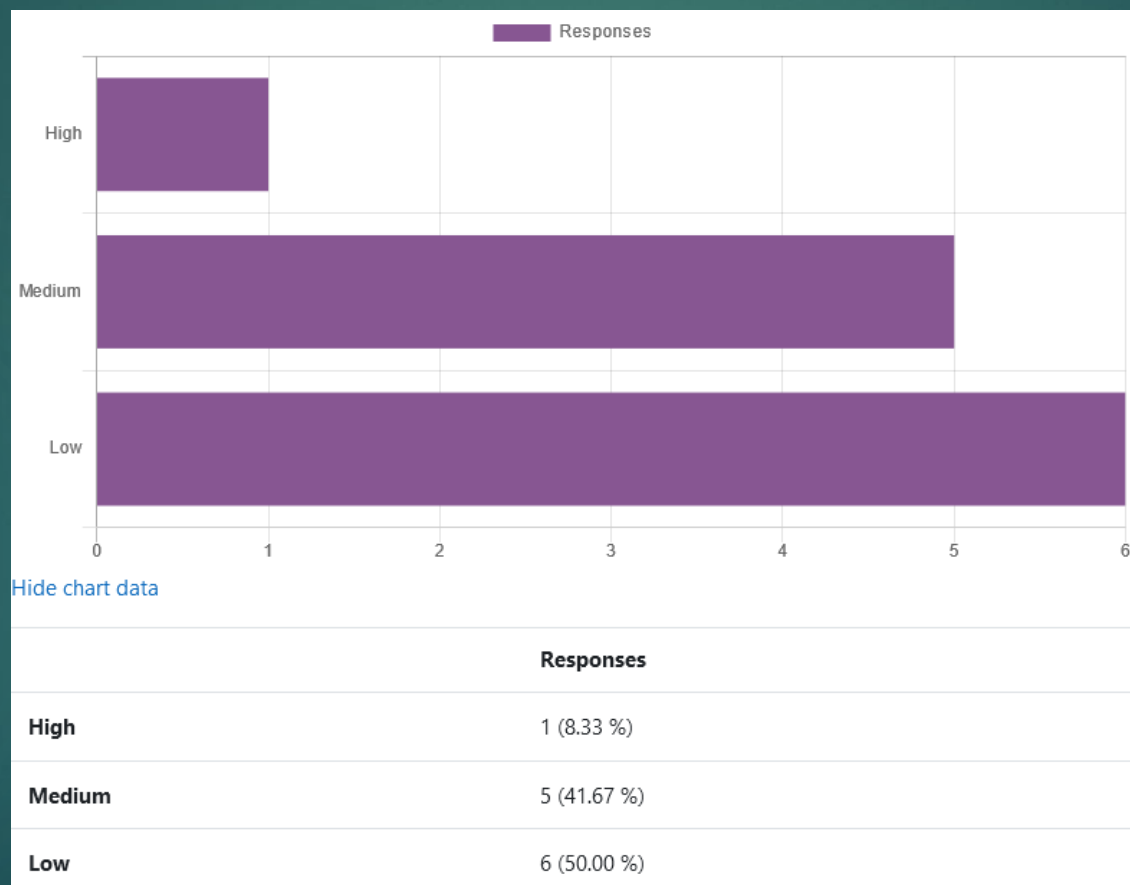
Pre Semester Survey responses W2023

- ▶ Total participants - 22
- ▶ Submitted answers as of Jan 16 2023 – 12 (~ 55%)
- ▶ Total Questions – 13
- ▶ Survey closes – Jan 20, 2023, 11.55 AM

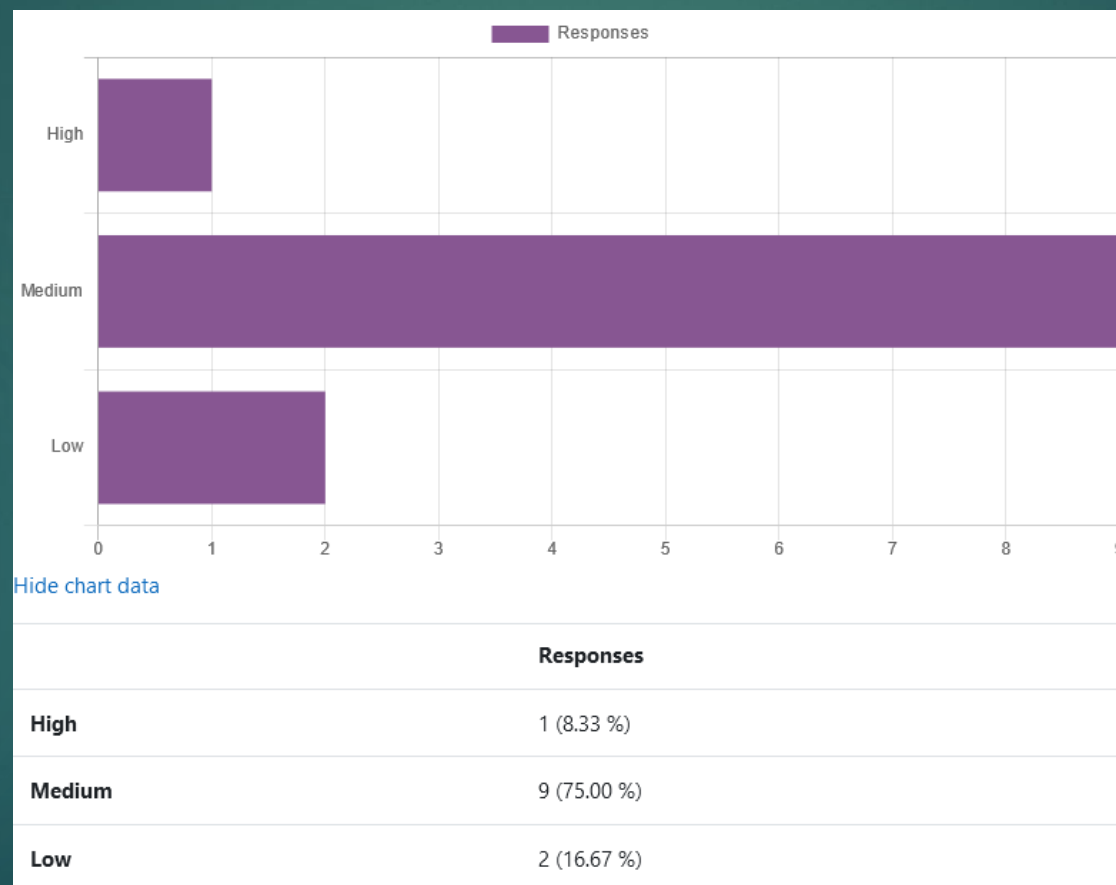
How familiar are you with HTML5



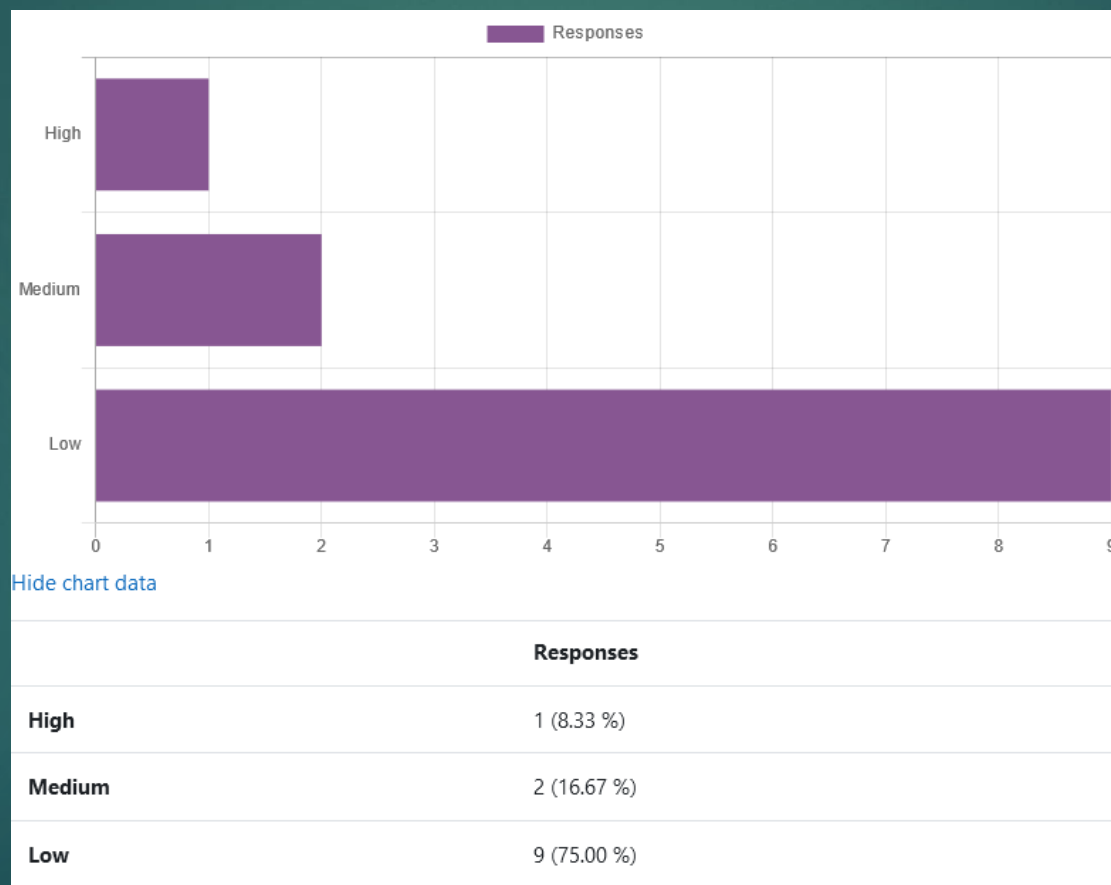
How familiar are you with CSS3



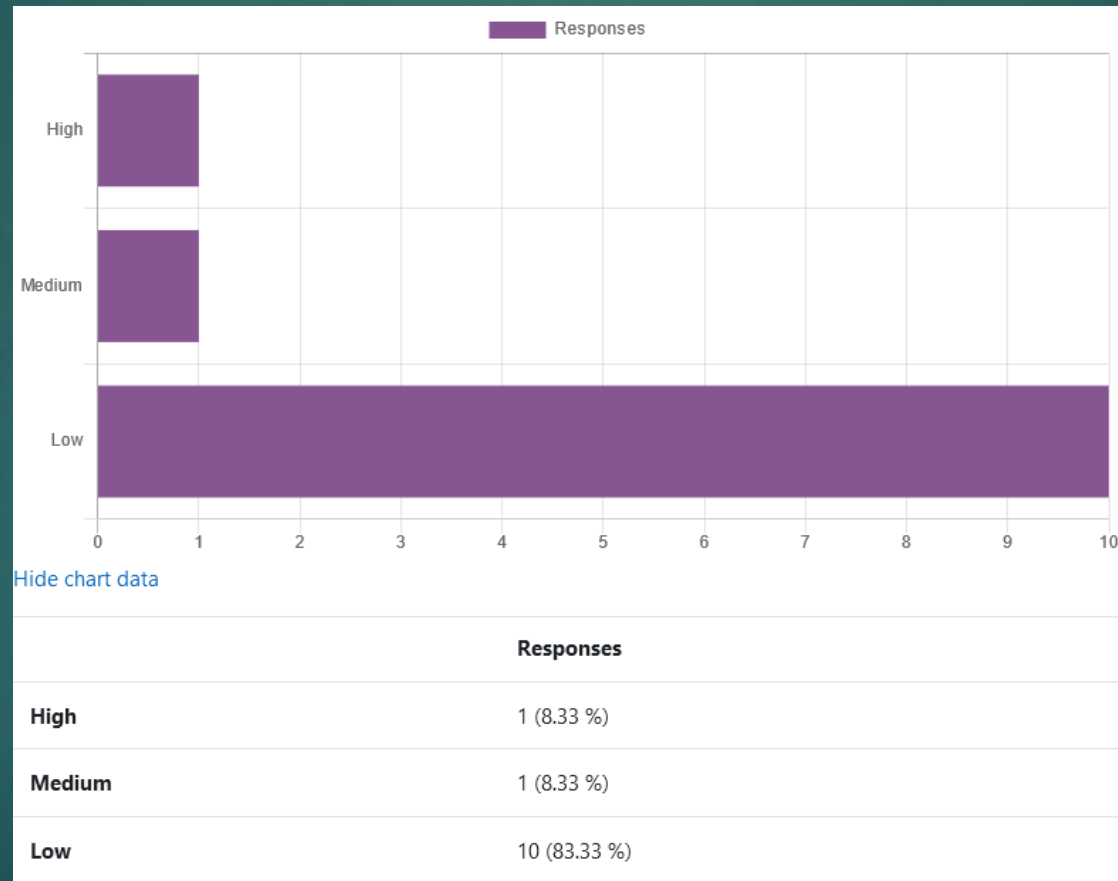
Familiar with JavaScript



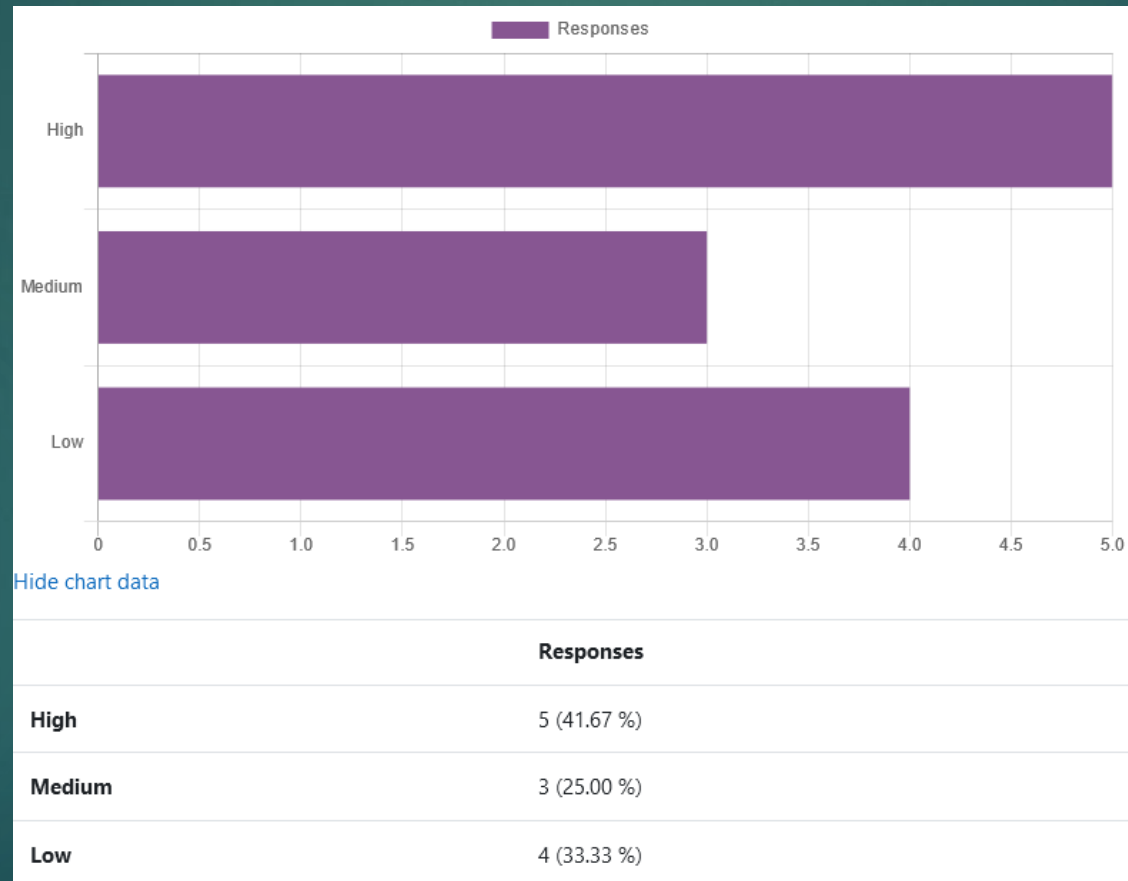
Familiar with ReactJS



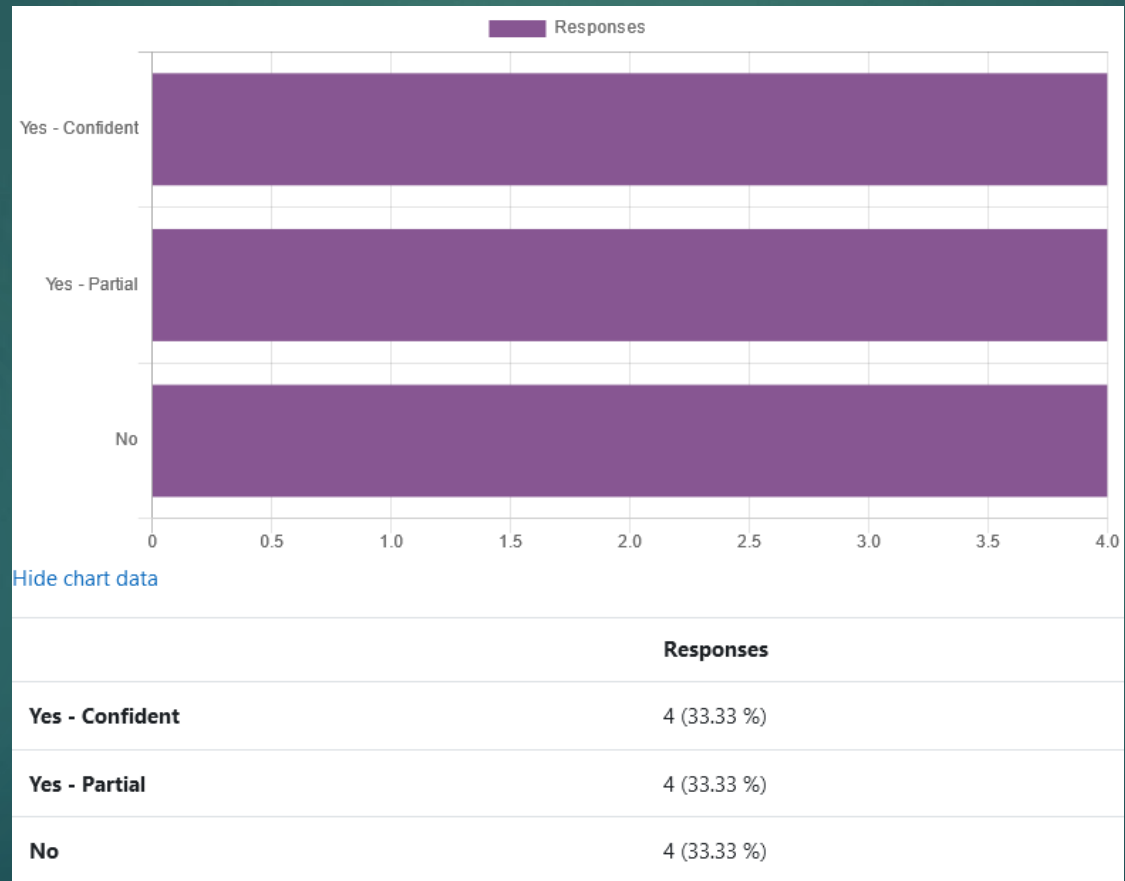
React Native?



Data Structures?



Databases?



Anything else you would like to ask me or share?

- ▶ *Busy schedule / time management / course load*



Html and its evolution

WHAT IT IS?

WHY ARE WE LEARNING HTML5 (AND WHAT HAPPENED TO HTML1,2,3,4?)

HTML

- ▶ Hypertext markup language
- ▶ Markup language not same as programming language
- ▶ Makes use of *tags* to tell a software (browser) how to display a document
 - ▶ a.k.a to annotate documents
- ▶ It has to do with structuring of a page display
 - ▶ Where is a heading
 - ▶ Displaying images, lists, line breaks, tables, links etc.

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <meta charset="UTF-8">
5          <title>Title goes here</title>
6      </head>
7      <body>
8
9      </body>
10 </html>
```

A .html file

- ▶ A computer *knows* to open a .html with an internet browser
- ▶ Browsers know how to read and display a .html
- ▶ Assistive devices can also interpret html tags
- ▶ Html is like a high level language similar to English. You can read it and understand its contents even if don't know much about the tags

A sample html file

```
<!-- This is a comment in html. It won't render on the browser -->
```

```
<h1> this is a level 1 heading </h1>
```

```
<h2> This represents a level 2 heading </h2>
```

```
<p>Hello world, written within a paragraph tag</p>
```

Below, we see what is called an anchor tag with hyper reference link

```
<a href = "google.com"> click here to access google search engine  
</a>
```

When you start to learn html

- ▶ It is all about understanding and learning the **syntax**
- ▶ Knowing what are the different tags and their purposes
- ▶ Paying attention to fact that did you close/end your tags
 - ▶ Similar to putting a semi colon in some programming languages

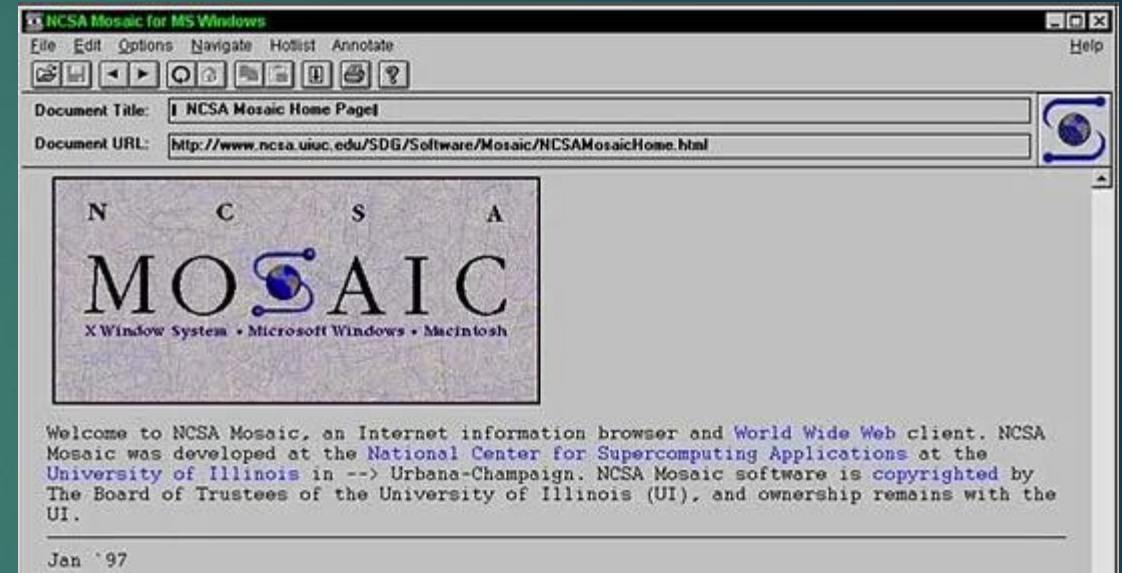
Once you are confident in html syntax

- ▶ Then the focus is on learning the semantics
- ▶ Can you use a different tag to more efficiently address your development goals?
- ▶ Can your audiences easily find the information on your webpage and access it?

Evolution of HTML

- ▶ Created in 1990 as HTML 1
 - ▶ Electronically link research documents
 - ▶ “web” of connections
 - ▶ No thoughts were given to presentability or structure of documents for document viewing
- ▶ But HTML was required to be a common language between all platforms
 - ▶ No device-specific markup, or fonts or colors

- ▶ 1993 – Mosaic is released as the first graphical browser
- ▶ It introduced the idea of images
 - ▶ This caused debate in the community
 - ▶ Conservative devs wanted to keep things simple and content-based i.e. only text
 - ▶ However, other groups of devs wanted to make things interesting and appealing – introduce fonts, colors, images, etc.
- ▶ After Mosaic, the WWW grows at a rate of 300,000+% annually in terms of web traffic
 - ▶ This led to the use of WWW for commercial purposes and not just research
- ▶ Mosaic contenders at the time – Netscape (1994) & IE (1995)
 - ▶ Leading to the Browser wars



The advent of browser wars

- ▶ Individual browsers developed their own proprietary tags
 - ▶ `<marquee>...</marquee>` (scrolling text)
 - ▶ `<blink>...</blink>` (blinking text)
- ▶ Other tags like ``, `<center>`, `<bgcolor>` were introduced against the conservative notion of HTML
- ▶ This led to origin of “best viewed on” messages that we still see sometimes nowadays



Origins on the Web Standards

- ▶ No one is the “owner” of the Internet or WWW.
- ▶ However, there are some groups that have taken the role of administering some basic standards
 - ▶ Internet Engineering Task Force (IETF)
 - ▶ Collaboration of different networks
 - ▶ World Wide Web Consortium (W3C)
 - ▶ HTML and evolution of HTML
 - ▶ The Web Accessibility Initiative (WAI)
 - ▶ Regardless of how people access the web they should have the same ability to view the content

1990 – 1994

HTML was simple and text based

1993

Mosaic is introduced including images

1995 – 1999

Cross browser compatibility issues

2000-2005

Browsers separate content from styling

2005 – 2008

Using HTML with CSS becomes the standard



1993 **HTML 1.0 Tim Berners-Lee / Link documents**

1995 HTML 2.0 developed by IETF including stylized texts and tables

1996 CSS 1

1997 HTML 3.2 developed by W3C including browser specific features

1997 HTML 4.0 normalizing web pages across platforms

1998 CSS 2

1999 HTML 4.01 introducing different document types

2012 HTML 5 reverting back to HTML for structuring and introducing multimedia and semantic tags.


Current Guidelines of HTML5

- ▶ Currently HTML5 is the joint effort and collab between W3C and the Web Hypertext Application Technology Working Group (WHATWG)
- ▶ They have established the basic [four] guidelines – telling browsers on how to support html files
 - ▶ **New feature simply based on HTML, CSS, DOM, and JavaScript**
 - ▶ **Remove the dependencies and need for external plugins, like Flash player**
 - ▶ **Use markup to replace (popular and frequently used) scripting**
 - ▶ **HTML5 should be device independent**



Browser Options

AND SOME INTERESTING BROWSER STATISTICS

- 
- ▶ Browsers have their benefits and challenges
 - ▶ You may have a preferred browser
 - ▶ But, should not get too passionate about a specific browser
 - ▶ Why – you need to test your websites on multiple browsers

Internet Explorer



- ▶ The most popular browser for a long time
 - ▶ Cause it came pre installed with Windows OS
- ▶ IE was platform dependent
 - ▶ Does not work for Mac
- ▶ 2015 – Windows 10 released
 - ▶ Microsoft Edge replaces IE

Google Chrome

- ▶ Developed by Google
- ▶ Is a Freeware
- ▶ Released in 2008. Initially designed for Windows
 - ▶ Later ported to Linux, MacOS, iOS, and Android
- ▶ Advantage – Chrome was focused on better security



Firefox

- ▶ Developed by Mozilla – free and open source
- ▶ Open source – code is shared with the community on Firefox was developed
- ▶ Available on all platforms



Worldwide Browser Market Share

Aug 2021



Browser Usage – Mobile Platforms



Browser Usage – USA



Browser Usage – Europe



Browser Usage – Asia



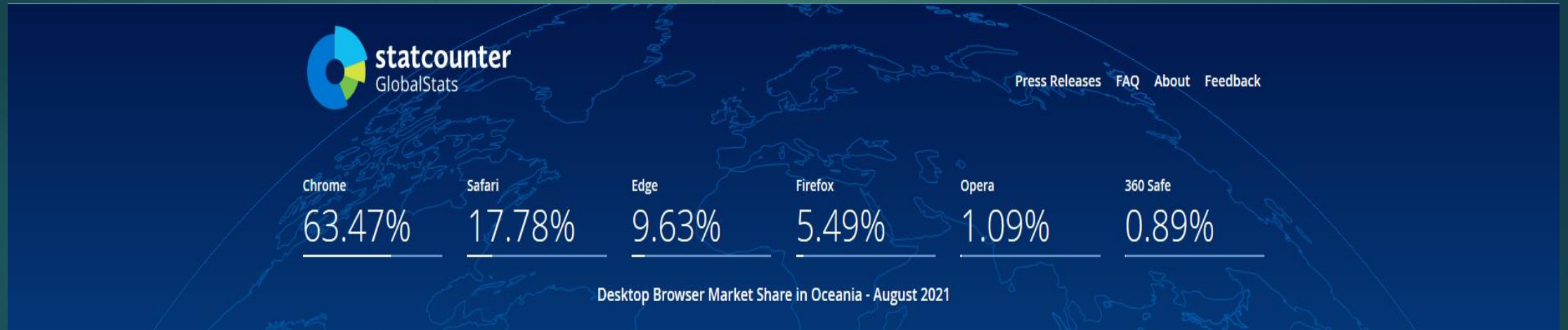
Browser Usage – North America



Browser Usage – Africa



Browser Usage – Oceania



More Stats info

▶ <https://gs.statcounter.com/>

HTML5 Accessibility Stats

(<http://html5accessibility.com/>)



HTML5 Accessibility

Get the current accessibility support status of HTML5 features across major browsers. **Editor's draft**, August 2020

Browser Results

Overview

Feature Support

How to Test

Notes & Further Resources



98.5%

Chrome 84
on Windows 10



100%

Edge 80
on Windows 10



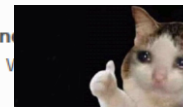
94%

Firefox 80
on Windows 10



56%

Internet
on Windows 10



97%

Safari 13
on Mac OS