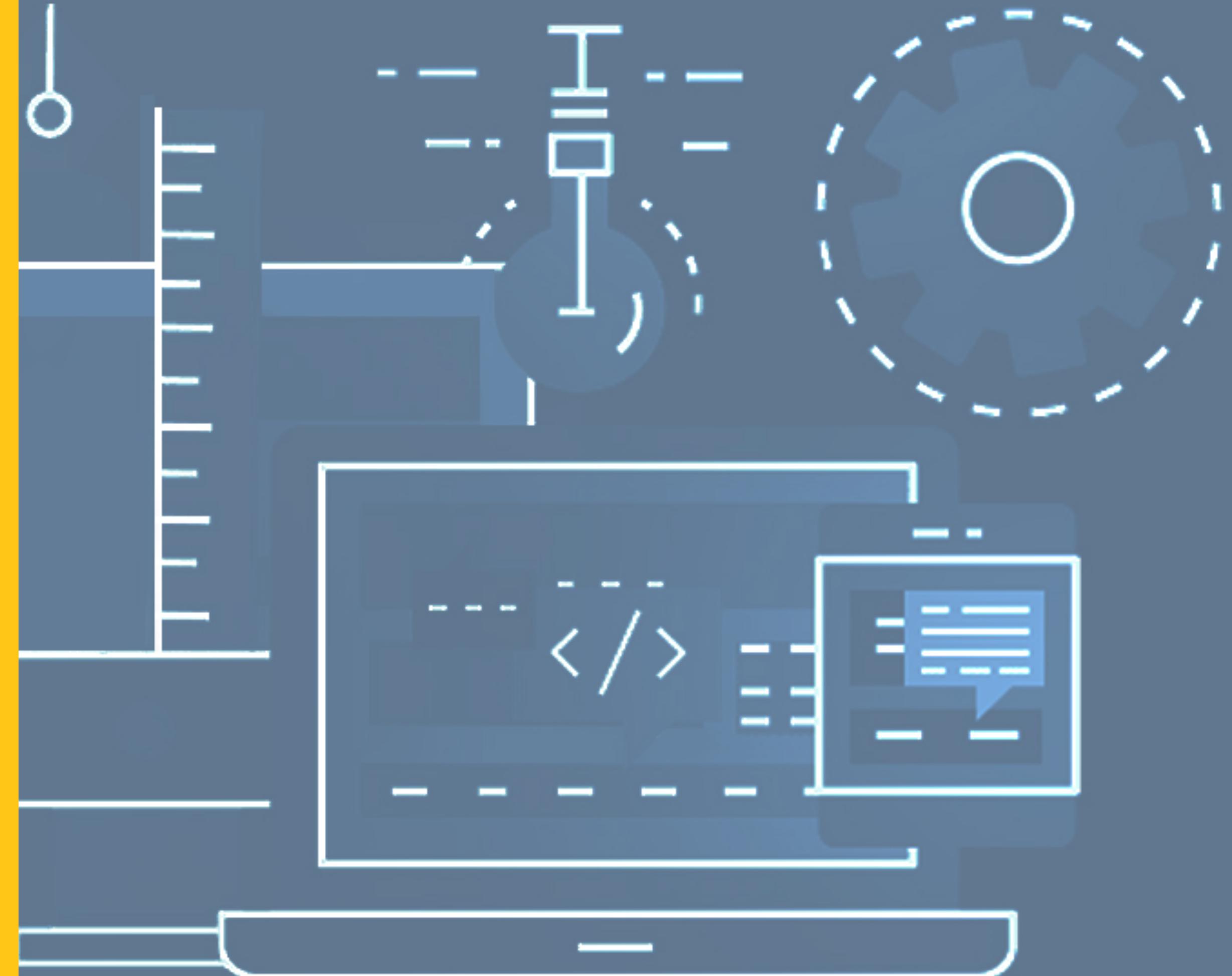


**SHELLY GRAHAM, 07/06/2020**

# **WEB DEV 4**

# **SUMMER 2020**

**Week 1: SEO & Page Load Optimization**





**THAT'S ME!**

- From Germany
  - Living in Charlotte
  - Freelancer
  - Pasta Lover
  - Soccer Enthusiast
-

# TELL ME ABOUT YOU

NAME

AGE

HOBBIES

WHY CODING?

FUN FACT ABOUT YOU

# SYLLABUS

- Week 1: SEO & Page Load Optimization
- Week 2: Accessibility
- Week 3: Domains
- Week 4: Hosting & HTTPS / Starting Project 1
- Week 5: Web Servers / Review Project 1
- Week 6: Turn in Project 1 / Start Project 2
- Week 7: In-class work session
- Week 8: Review Project 2
- Week 9: Polish Projects
- Week 10: Polish Projects

# HOW TO STAY IN TOUCH

- Slack: #webdev4-summer-2020 & @Shelly Graham
- Google Meet: <https://meet.google.com/urh-ziad-gup>
- E-Mail: webdevshelly@gmail.com

#webdev4-summer-2020

You created this channel yesterday. This is the very beginning of the #webdev4-summer-2020 channel. Description: WebDev4 Class with Shelly Graham ([edit](#))

[Add an app](#) [Add people](#) [Share channel](#)

Yesterday

 **Shelly Graham** 11:38 AM joined #webdev4-summer-2020.

 **Shelly Graham** 11:38 AM set the channel description: WebDev4 Class with Shelly Graham



# **WEEK 1: SEO & PAGE LOAD OPTIMIZATION**

# WHY DOES IT MATTER?

- **93% of online experiences begin with a search engine**
- **Every search query returns millions of results - how do you make it to page 1?**
- **Organic vs. paid results**
- **You can't control Google but you can control your website!**



SEO

All News Videos Books Images More Settings Tools

About 670,000,000 results (0.65 seconds)

Ad · www.semrush.com/ ▾ (877) 571-6202

**Free SEO Tool - Save time on SEO routine tasks**

Improve your rankings, drive traffic, and increase awareness in search engines. Unlock the full marketing potential of your website! 23+ trillion backlinks. Create optimized content. Find & fix website issues. Best SEO Tool 2019 Winner. 20+ SEO tools in one.

**Plans and Prices**  
Choose a Subscription That Fits Your Needs

**Keyword Research Tool**  
Get High-Volume, Long-Tail Keywords  
16 languages, 142 geo databases

**Site Audit**  
Free Online Website Checker  
Over 50 on-page & technical checks

**Organic Research**  
See competitors' best keywords  
Observe position changes of domains

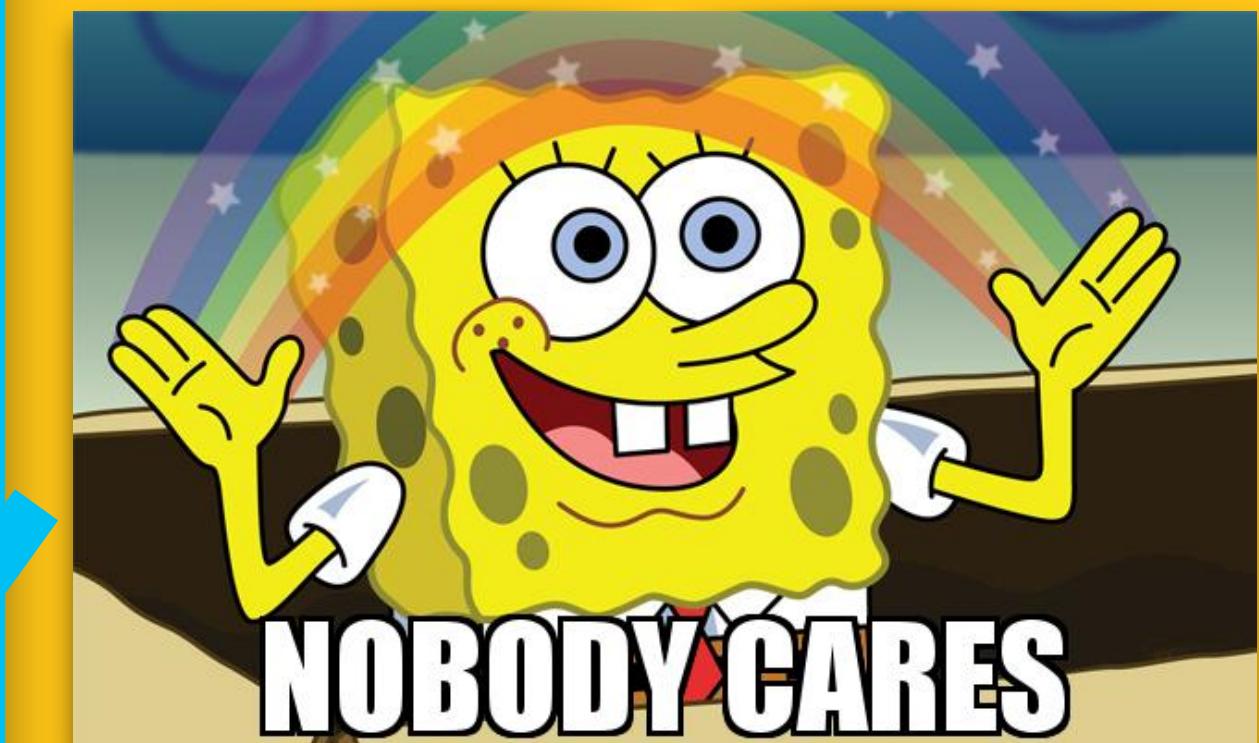
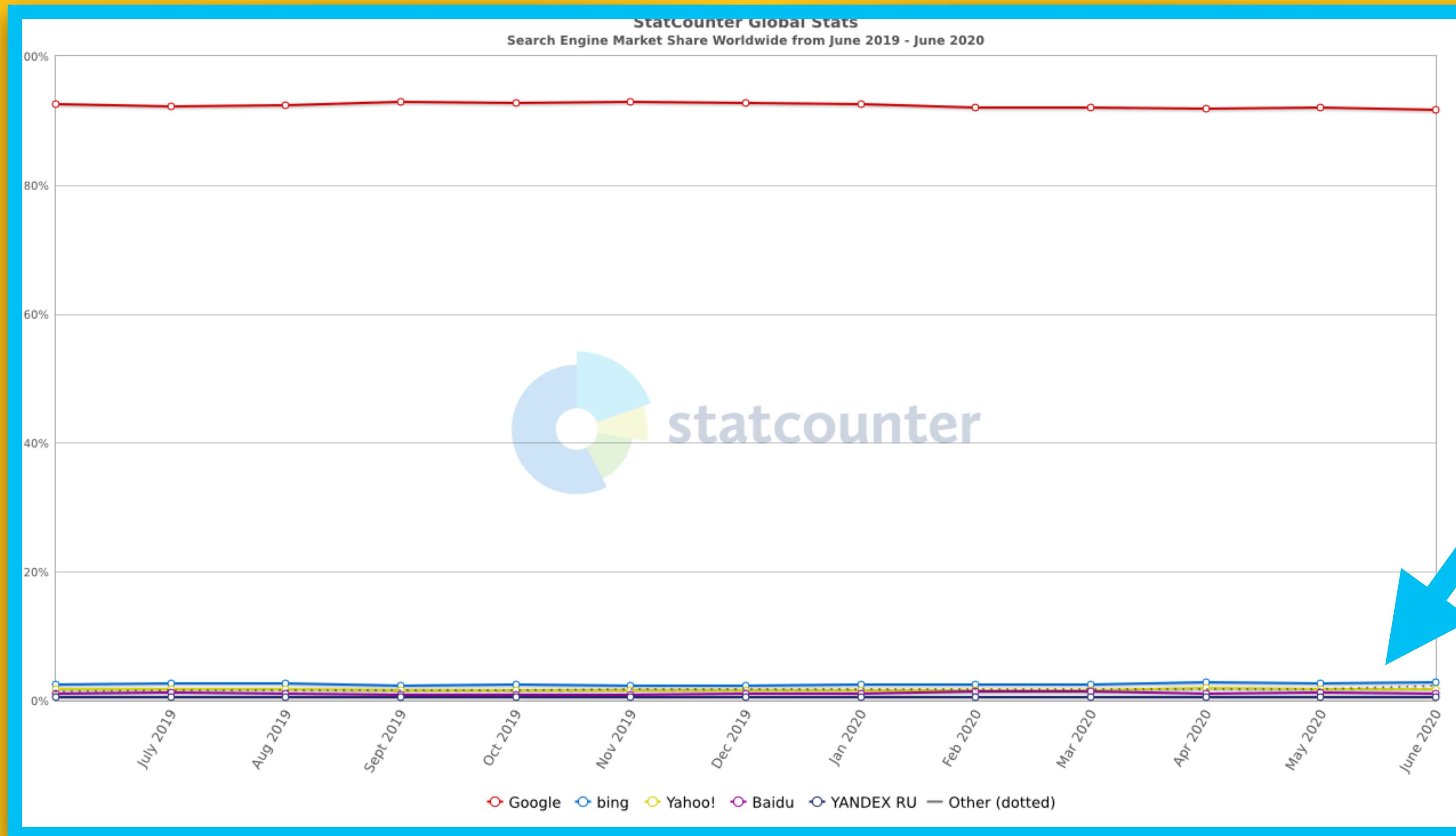
moz.com › beginners-guide-to-seo ▾

**Beginner's Guide to SEO [Search Engine Optimization] - Moz**

Introduction. Welcome to your SEO learning journey! You'll get the most out of this guide if your desire to learn search engine ...

SEO 101 · SEO Glossary · On-Page SEO · Technical SEO

# GOOGLE IS MARKET LEADER WITH 97%



[Source](#)

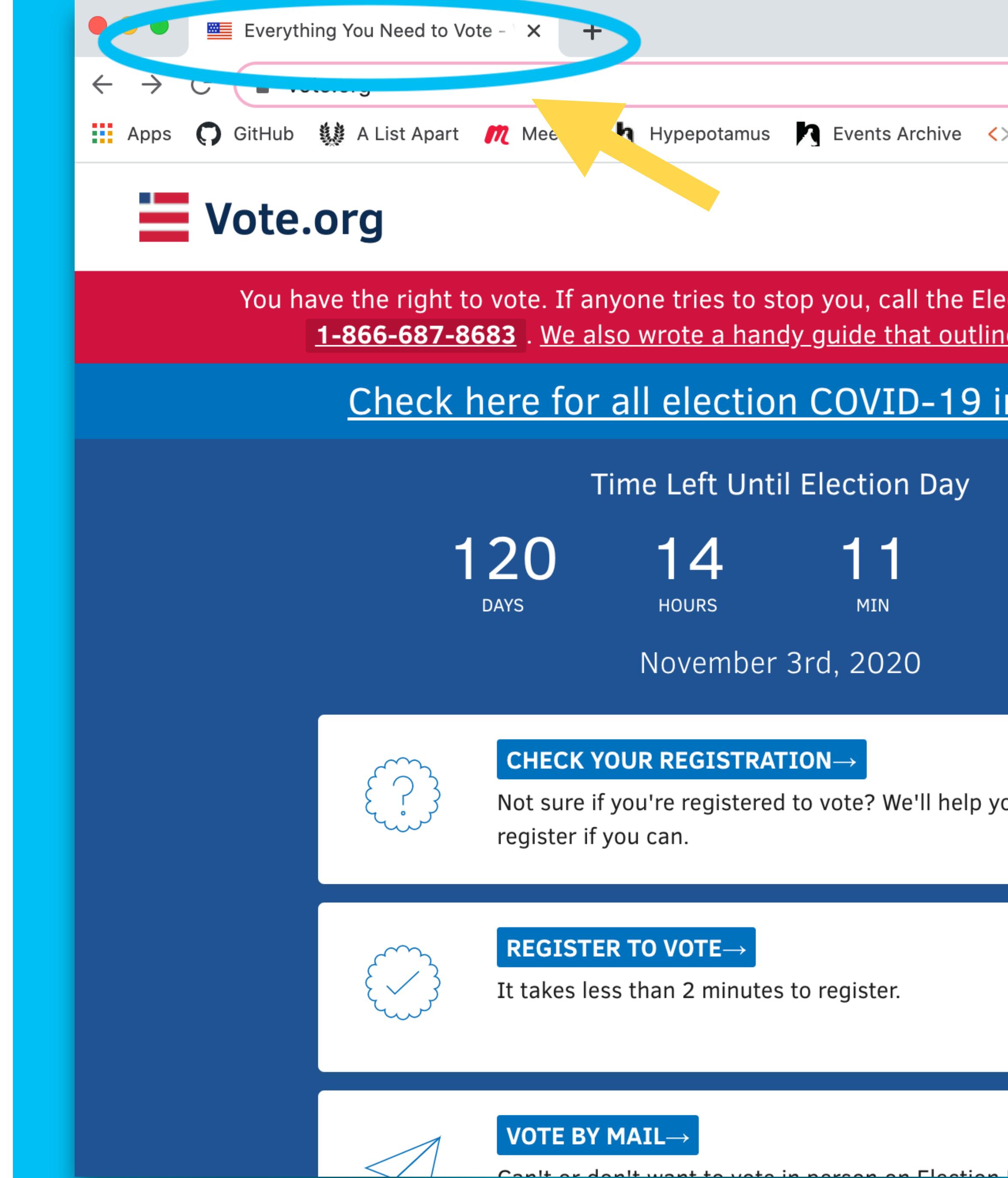
# SEO

- 1. Title Tag**
- 2. Meta Description**
- 3. Headings**
- 4. Links & Anchor Text**
- 5. The “nofollow” Attribute**
- 6. Image Alt Text**
- 7. Canonical Tags**



# 1. TITLE

- Most important element on website
- This is what Google will display in results
- Don't overload with keywords, keep it natural
- Use words that pertain to the topic of the website and people will want to click on



```
1 <!doctype html>
2 <html>
3
4 <head>
5   <meta charset="utf-8">
6   <meta http-equiv="x-ua-compatible" content="ie=edge">
7   <title>This is where your title goes</title>
8   <meta name="description" content="This is where you write a description
9       about your website. Use the same words you've used in your title.">
10  <meta name="viewport" content="width=device-width, initial-scale=1">
11  <link rel="stylesheet" href="dist/css/main.css">
12  <link rel="canonical" href="https://www.vote.org" />
13 </head>
14
15 <body>
```

## 2. META DESCRIPTION

- **Summary of your website**
- **Keep between 50-160 characters**
- **No paraphrasing**
- **Basically free advertising**

20 - Google Search × +

ogle.com/search?q=vote+2020&oq=vote+2020&aqs=chrome.0.69i59j0l7.2541j0j4&sourcei

A List Apart Meetup Hypepotamus Events Archive CDN JS Inspiration

vote 2020 ×

www.vote.org ▾

**Everything You Need to Vote - Vote.org**

Register to vote. Check your registration status. Get your absentee ballot. Fast, free, easy, secure, nonpartisan. ... November 3rd, 2020 ...

Register to Vote · Are you registered to vote? · Polling Place Locator · Vote.Org

www.usatoday.com › election-2020-voter-guide

**Elections 2020 Voter Guide from USA TODAY**

The **Elections 2020** Voters Guide from USA TODAY brings you the essential information on this year's presidential race, including candidates, issues and FAQs.

Top stories

 Primary 2020: Where To Vote, Who Is On The Ballot In Madison  
Patch · 1 hour ago

 Is Kanye West Trying To Steal Votes For Donald Trump With 2020 Presidential Bid?  
HipHopDX · 12 hours ago

 Kanye West tweets he is entering 2020 presidential race  
KIRO-TV · 12 hours ago

```
1 <!doctype html>
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4 <head>
5   <meta charset="utf-8">
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10  <meta name="viewport" content="width=device-width, initial-scale=1">
11  <link rel="stylesheet" href="dist/css/main.css">
12  <link rel="canonical" href="https://www.vote.org" />
13 </head>
14
15 <body>
```

# 3. HEADINGS

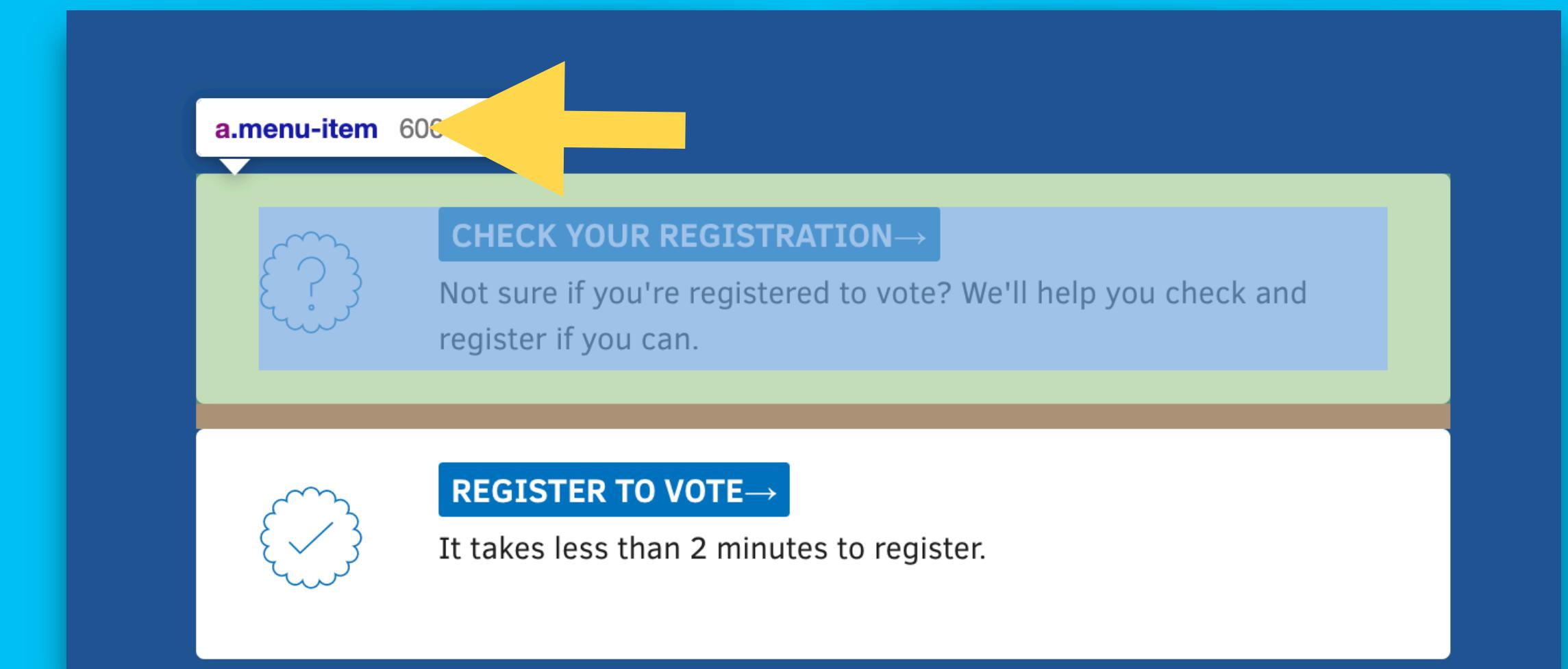
- Only ONE H1 per page!
- Often the same as title
- Use H2-H6 headings for important sections, they might show up in Google search results

A screenshot of a web browser window showing the homepage of vote.org. The page features a red header with the text "You have the right to vote. If anyone tries to stop you, call the Election Protection Hotline [1-866-687-8683](#). We also wrote a handy guide that outlines your rights". Below the header is a blue section with the text "Check here for all election COVID-19 info". A large blue banner in the center displays a timer: "Time Left Until Election Day" with "120 DAYS", "13 HOURS", and "40 MIN". To the right of the timer is the date "November 3rd, 2020". A yellow cursor arrow points to the top-left corner of the banner. A tooltip above the cursor shows the element type as "h1" and its dimensions as "924 x 52". At the bottom of the page are two buttons: "CHECK YOUR REGISTRATION→" with a question mark icon and "REGISTER TO VOTE→" with a checkmark icon. The browser's address bar shows "vote.org" and the tab title "Everything You Need to Vote - vote.org". The top navigation bar includes links for Apps, GitHub, A List Apart, Meetup, Hypothesus, Events Archive, and others.

```
1 <!doctype html>
2 <html>
3
4 <head>
5   <meta charset="utf-8">
6   <meta http-equiv="x-ua-compatible" content="ie=edge">
7   <title>This is where your title goes</title>
8   <meta name="description" content="This is where you write a description
9       about your website. Use the same words you've used in your title.">
10  <meta name="viewport" content="width=device-width, initial-scale=1">
11  <link rel="stylesheet" href="dist/css/main.css">
12  <link rel="canonical" href="https://www.vote.org" />
13 </head>
14
15 <body>
16
17 <h1>This can be the same as title</h1>
```

# 4. LINKS & ANCHOR TEXT

- Part of Google algorithm
- Don't use generic words, use page keywords



```
4 <head>
5   <meta charset="utf-8">
6   <meta http-equiv="x-ua-compatible" content="ie=edge">
7   <title>This is where your title goes</title>
8   <meta name="description" content="This is where you write a description
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10  <meta name="viewport" content="width=device-width, initial-scale=1">
11  <link rel="stylesheet" href="dist/css/main.css">
12  <link rel="canonical" href="https://www.vote.org" />
13 </head>
14
15 <body>
16
17   <h1>This can be the same as title</h1>
18
19   <a href="#linkToWhateverSite">Use this anchor text to describe the link</a>
20
```

## 5. NOFOLLOW ATTRIBUTE

- **rel="nofollow"**
- **Helps to establish relationships to websites to which you link**
- **Generally used in comment sections like blogs and for sponsored affiliate links**
- [\*\*Google Documentation\*\*](#)

## Qualify your outbound links to Google

For certain links on your site, you might want to tell Google your relationship to them. In that case, you should use one of the following `rel` attribute values in the `<a>` element:

For regular links that you expect Google to follow without any qualification, use the `rel="follow"` attribute. Example: "My favorite horse is the `<a href="https://horses.example.com/Palomino">palomino</a>`"

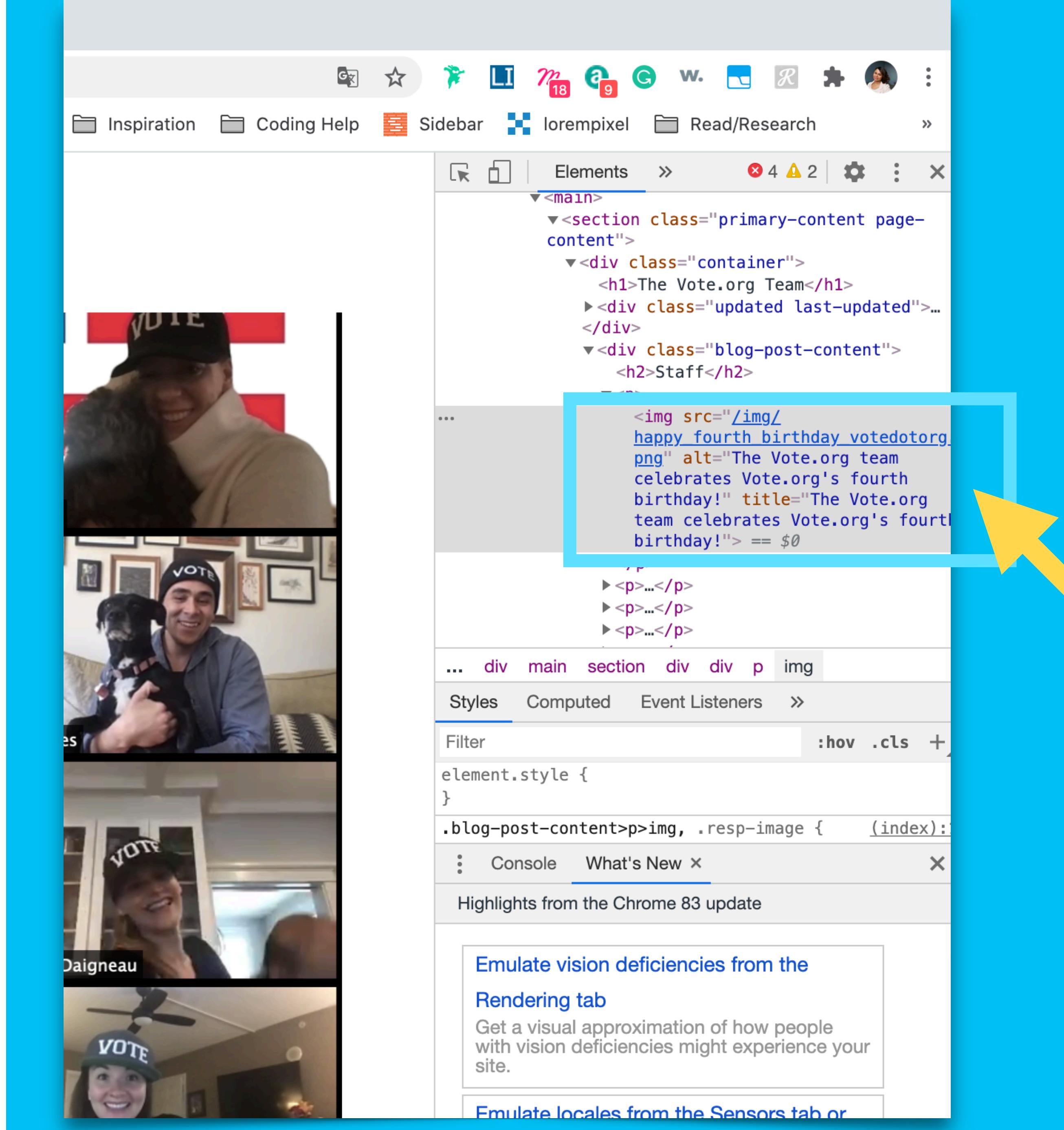
For other links, use one or more of the following values:

<code>rel</code> Value	Description
<code>rel="sponsored"</code>	Mark links that are advertisements or paid placements, such as <a href="#">sponsored</a> . <a href="#">More information on Google's advertising policies</a>  NOTE: The nofollow attribute was previously recommended for marking ads, and is still an acceptable way to flag them, though it's not required.
<code>rel="ugc"</code>	We recommend marking user-generated content, such as blog posts and forum posts, as <a href="#">ugc</a> .  If you want to recognize and reward trustworthy members, use the <code>rel="ugc"</code> attribute from links posted by members or users who have made high-quality contributions over time. <a href="#">Read more about ugc</a>
<code>rel="nofollow"</code>	Use the <a href="#">nofollow</a> value when other values don't work for your needs. For example, if you don't want Google to associate your site with, or crawl the linked page, or if you want Google to ignore your own site, use robots.txt, as described below.

```
4 <head>
5   <meta charset="utf-8">
6   <meta http-equiv="x-ua-compatible" content="ie=edge">
7   <title>This is where your title goes</title>
8   <meta name="description" content="This is where you write a description
9     about your website. Use the same words you've used in your title.">
10  <meta name="viewport" content="width=device-width, initial-scale=1">
11  <link rel="stylesheet" href="dist/css/main.css">
12  <link rel="canonical" href="https://www.vote.org" />
13 </head>
14
15 <body>
16
17  <h1>This can be the same as title</h1>
18
19  <a href="#linkToWhateverSite">Use this anchor text to describe the link</a>
20
21  <a href="#linkToWhateverSite" rel="nofollow">Establishes relationship to the link</a>
22
```

# 6. IMAGE ALT TEXT

- Description of image
- Important for Accessibility
- Very important for eCommerce websites
- Shop items, diagrams, info graphics, logos, screenshots, photos of team members, etc.
- Don't use on decorative images



The screenshot shows a web browser window with the developer tools open. The Elements tab is selected, displaying the DOM structure of a page. A yellow arrow points to the `alt` attribute of an `img` element, which contains the text: "The Vote.org team celebrates Vote.org's fourth birthday!" This text is highlighted with a blue box. The page itself shows several images of people wearing "VOTE" hats, and the background includes a red banner with the word "VOTE".

```
<main>
  <section class="primary-content page-content">
    <div class="container">
      <h1>The Vote.org Team</h1>
      <div class="updated last-updated">...</div>
      <div class="blog-post-content">
        <h2>Staff</h2>
        ...
         == $0
        ...
      </div>
    </div>
  </section>
  ...
</main>
```

Styles    Computed    Event Listeners    »

Filter :hov .cls +

element.style { } .blog-post-content>p>img, .resp-image { (index): } :: Console    What's New ×

Highlights from the Chrome 83 update

Emulate vision deficiencies from the Rendering tab  
Get a visual approximation of how people with vision deficiencies might experience your site.

Emulate locales from the Sensors tab or

```
8   <meta name="description" content="This is where you write a description  
9     about your website. Use the same words you've used in your title.">  
10  <meta name="viewport" content="width=device-width, initial-scale=1">  
11  <link rel="stylesheet" href="dist/css/main.css">  
12  <link rel="canonical" href="https://www.vote.org" />  
13 </head>  
14  
15 <body>  
16  
17  <h1>This can be the same as title</h1>  
18  
19  <a href="#linkToWhateverSite">Use this anchor text to describe the link</a>  
20  
21  <a href="#linkToWhateverSite" rel="nofollow">Establishes relationship to the link</a>  
22  
23    
24
```

## 7. CANONICAL TAGS

- Sets preferred URL for content
- Helps to prevent duplicate URLs
- Used in head section of html file
- Good reference for syndication, points back to original source of content
- [Google Documentation](#)

These links are duplicates:

1. <http://www.vote.org>
2. <https://www.vote.org>
3. <http://vote.org>
4. <http://vote.org/index.php>
5. <http://www.vote.org/index.php>

```
1 <!doctype html>
2 <html>
3
4 <head>
5   <meta charset="utf-8">
6   <meta http-equiv="x-ua-compatible" content="ie=edge">
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8   <meta name="description" content="This is where you write a description
9       about your website. Use the same words you've used in your title.">
10  <meta name="viewport" content="width=device-width, initial-scale=1">
11  <link rel="stylesheet" href="dist/css/main.css">
12  <link rel="canonical" href="https://www.vote.org" />
13 </head>
14
15 <body>
16
```

# GENERALLY

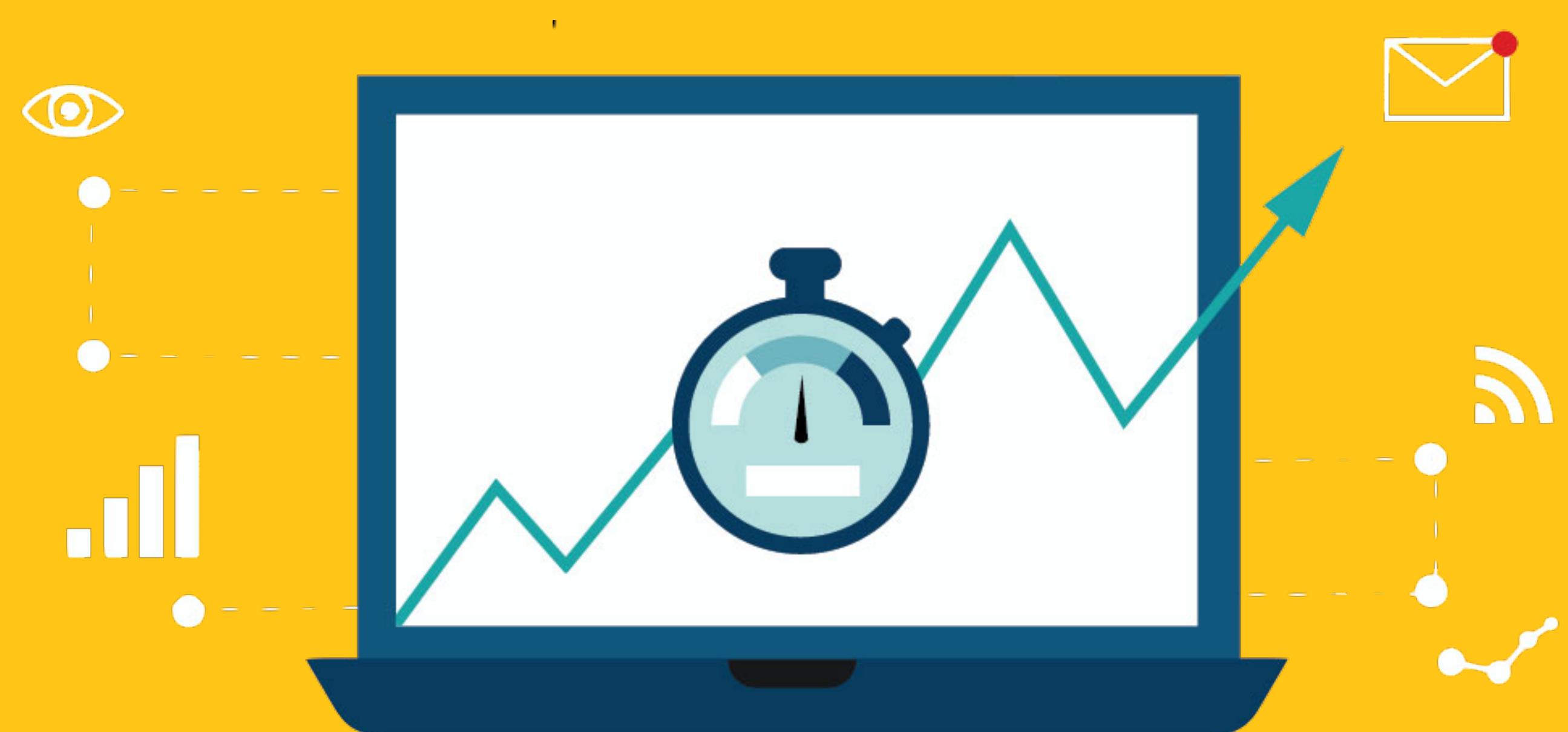


AVOID KEYWORD STUFFING  
USE SEMANTIC HTML

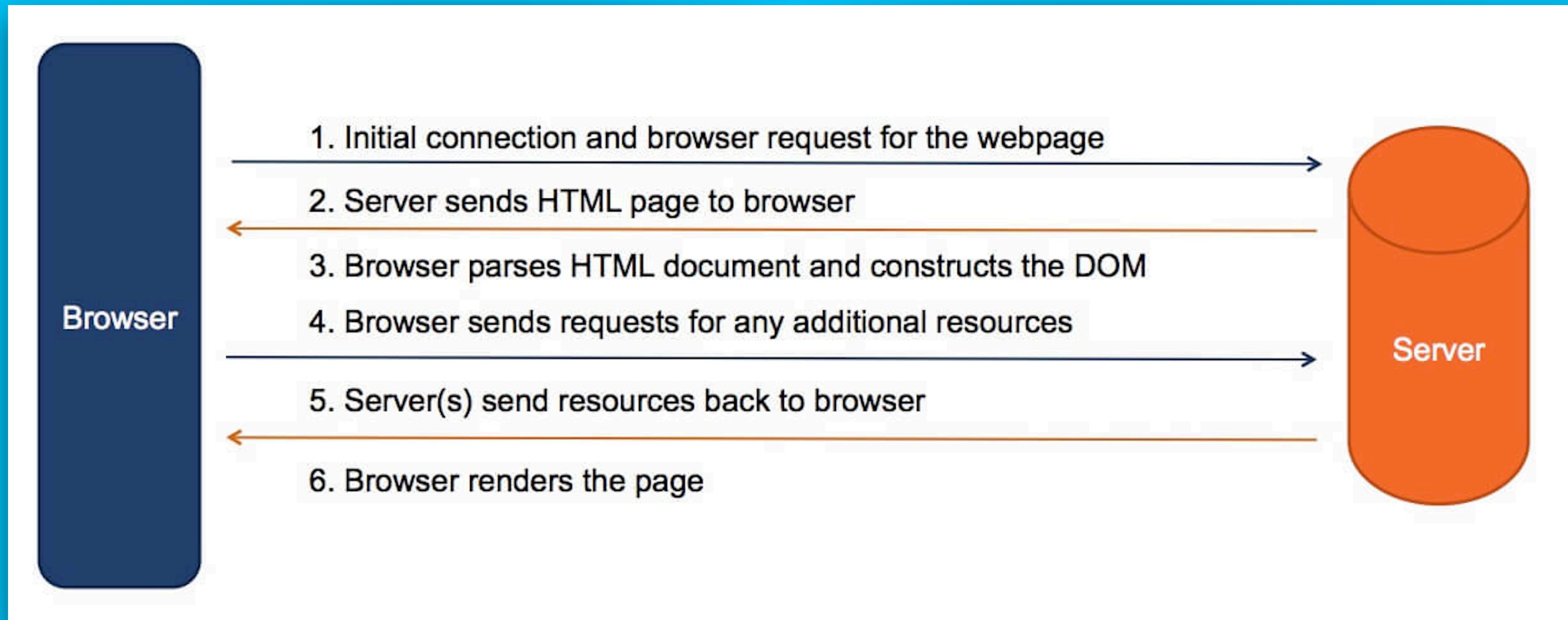
QUESTIONS?

# PAGE LOAD OPTIMIZATION

- 1. Image Size & Format**
- 2. Avoid render blocking**
- 3. Minification of CSS & JS**
- 4. Using a CDN**



# BROWSER REQUESTS WEBSITE



What happens in the couple of seconds you wait for a page to fully load?

# 2 WAYS TO MEASURE WEBSITE SPEED:

## 1. Page Load Time

- Amount of time that passes between browser sending the request to the server and page to fully load/render

## 2. Time To First Byte / TTFB

- Amount of time that passes between browser sending the request and receiving first byte of date from server
- Ideal range: 200-500ms
- This is how Google determines Page Load!

# WHY DOES IT MATTER?

- Users are impatient
- The faster a website loads, the more content can Google crawl - which helps with the ranking of the website
- Enriches user experience
- Lowers bounce rate to other competitors
  - Excellent bounce rate: 26 - 40%
  - Average bounce rate: 41 - 55%
  - High bounce rate: 56- 70%
  - Bounce rate over 70% is disappointing

## THE BOUNCE RATE EQUATION

$$R_b = \left( \frac{T_v}{T_e} \right)$$

R<sub>b</sub> = Bounce rate

T<sub>v</sub> = Total number of visits viewing one page only

T<sub>e</sub> = Total entries to page

Visits to your subdomain will count as someone leaving your site, and thus incorrectly increase your bounce rate.

A VISITOR CAN BOUNCE FROM YOUR SITE BY...

- ...Clicking on a link to a page on a different website
- ...Clicking the "Back" button to leave the site
- ...Closing an open window or tab site
- ...Typing a new URL
- ...Session timeout

Elements Console Sources Network > x 4 ! 3 ⚙️ ⋮ ×

🔴 🚫 🔍 ✖️ Preserve log  Disable cache Online ▼ 1 ⬇️ ⚙️

Filter  Hide data URLs

All | XHR JS CSS **Img** Media Font Doc WS Manifest Other  Has blocked cookies

Blocked Requests

500 ms 1000 ms 1500 ms 2000 ms 2500 ms 3000 ms 3500 ms 4000 ms

Name	Stat...	Type	Initiator	Size	Time	Waterfall
data:image/png;b...	200	png	(index)	(me...)	0 ms	
data:image/svg+x...	200	svg...	(index)	(me...)	0 ms	
data:image/svg+x...	200	svg...	(index)	(me...)	0 ms	
data:image/svg+x...	200	svg...	(index)	(me...)	0 ms	
data:image/svg+x...	200	svg...	(index)	(me...)	0 ms	
data:image/svg+x...	200	svg...	(index)	(me...)	0 ms	
data:image/svg+x...	200	svg...	(index)	(me...)	0 ms	

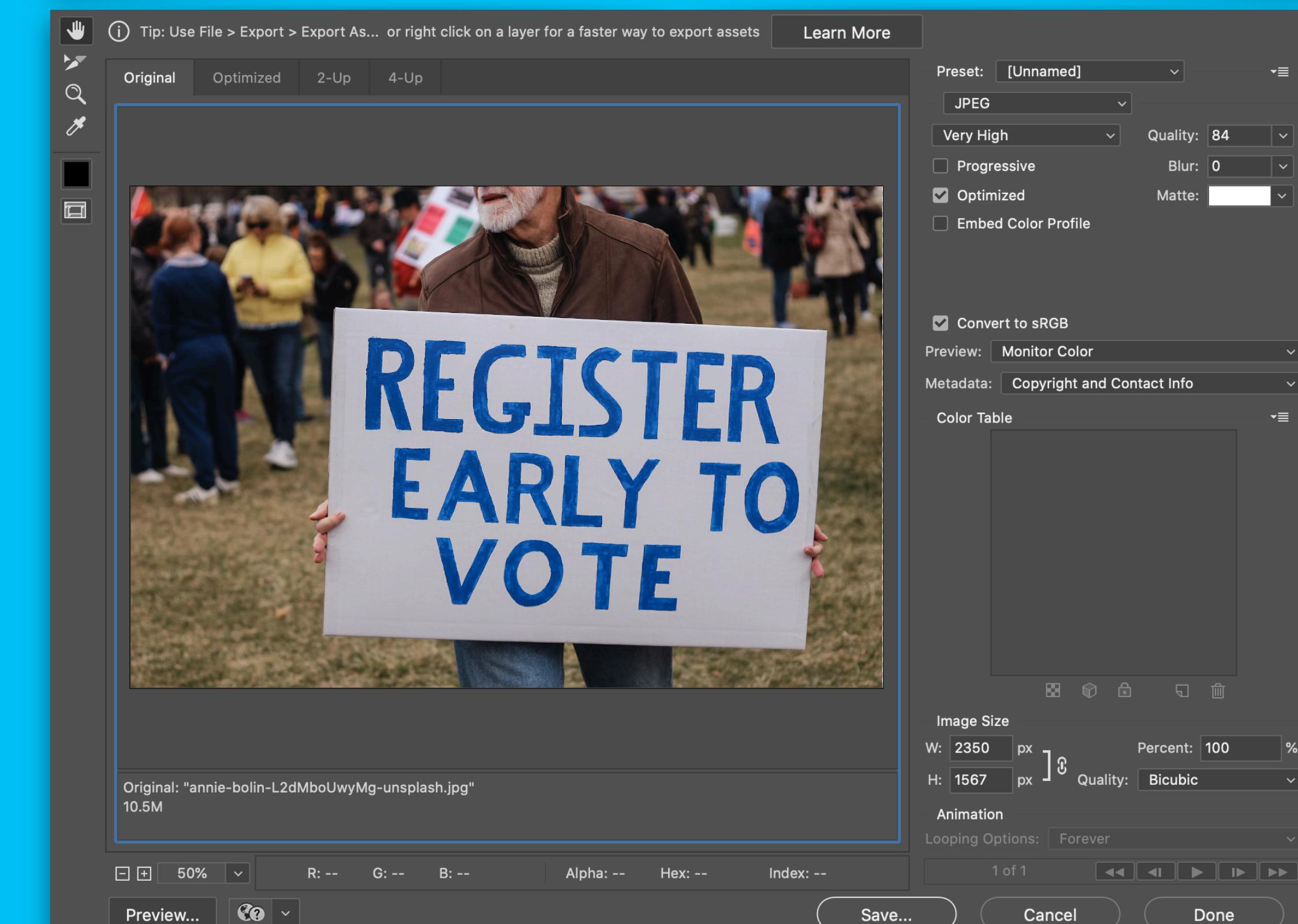
## Network Tab

- Disable Cache
- Use Throttling

# 1. IMAGE SIZE & FORMAT

- Changing image size in CSS doesn't affect the size of the file and the time it takes to load the image
- Or use image optimization tools:
  - <https://imagecompressor.com/>
  - <https://tinypng.com/>
- Manually resize images with Photoshop by reducing dpi (dots per inch)

The screenshot shows the Optimizilla website. At the top right is a language dropdown set to English. The main header features a teal cartoon crocodile icon next to the word "Optimizilla" where the 'i' is replaced by a red flame. Below the header is a descriptive text block: "This **online image optimizer** uses a smart combination of the best optimization and lossy compression algorithms to shrink JPEG and PNG images to the minimum possible size while keeping the required level of quality." A dashed horizontal line separates this from the instructions below. The instructions say: "Upload up to 20 images. Wait for the compression to finish. Click thumbnails in the queue for quality setting. Use the slider to control the compression level and mouse/gestures to compare images."



## 2. AVOID RENDER BLOCKING

- Use separate CSS & JS files to keep HTML file clean and light
- Place link for JS at the end of your body to avoid loading only parts of content
- Alternatively use async attribute to avoid render issues



1. Load HTML first
2. Load CSS second
3. Load JS and other frameworks last

# 3. MINIFICATION OF CODE

- You can minify HTML, CSS & JS to reduce the overall project size
- HTML: [HTML Minifier](#)
- CSS: [CSS Nano](#)
- JS: [UglifyJS](#)
- Your gulpfile has built in minification - yay!

```
.product-view .product-options-bottom .price-box,  
.product-view .add-to-cart .qty-wrapper,  
.product-view .add-to-cart-buttons .button,  
.product-view .add-to-cart-buttons .paypal-logo {  
    margin-bottom: 10px;  
}  
.product-view .add-to-cart .qty-wrapper,  
.product-view .add-to-cart .qty-wrapper label {  
    margin-right: 7px;  
    float: left;  
}  
.product-view .add-to-cart .qty-wrapper label {  
    line-height: 40px;  
}  
.product-view .add-to-cart .qty-wrapper .qty {  
    float: left;  
    height: 40px;  
}  
.product-view .add-to-cart-buttons {  
    float: left;  
    margin-right: 10px;  
    max-width: 100%;  
}
```

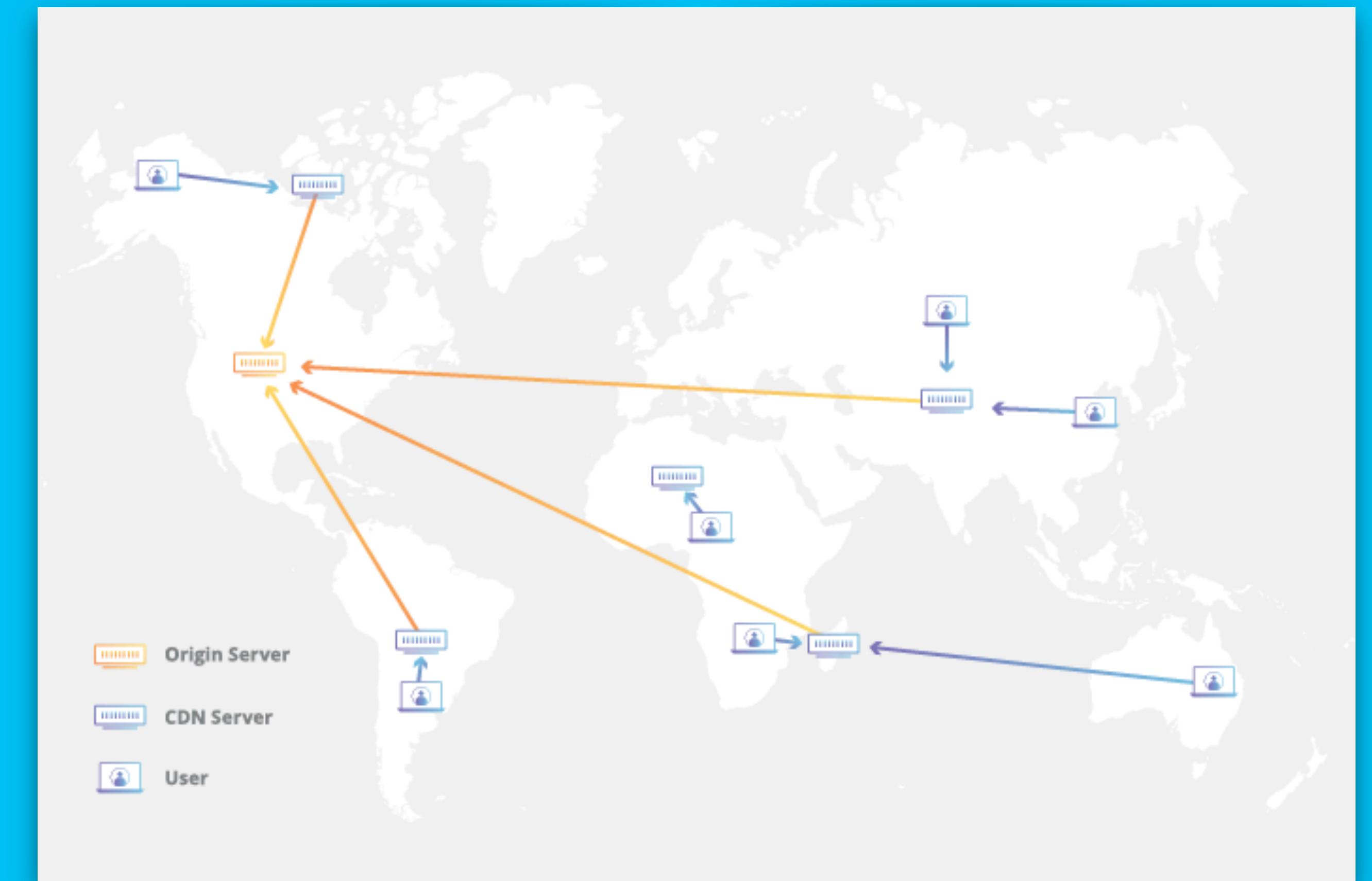
BEFORE

```
.regular-price{padding-right:0;line-height:1.2}.pr  
.price{color:#39c;font-size:24px}.product-view .pr  
.product-shop .price-box .special-price span.weee  
height:1.2;color:#636363}.product-view .product-sh  
excluding-tax .price,.product-view .product-sho  
p .product-shop .price-excluding-tax,.product-vi  
ew .product-shop .price-including-tax{margin-bot  
box{width:50%;float:left}.product-img-box .produ  
width:479px}{.product-img-box .product-image img{  
gallery .gallery-image.visible.hidden{visibility:  
hidden}.gallery:before{background-color:white;opacit  
y:0.8;repeat;background-position:center;z-index:3).pro  
block}.product-image-thumbs li:first-child{margin  
.add-to-cart-wrapper,.product-view .block-related{  
bottom:10px}.product-view().product-view .add-to-b  
.add-to-cart .qty-wrapper,.product-view .product-c  
to-cart-buttons .button,.product-view .add-to-cart  
.qty-wrapper label{line-height:40px}.product-view  
logo{clear:both;text-align:center}.product-view .a  
uto}.product-view .add-to-cart-buttons .paypal-lo
```

AFTER

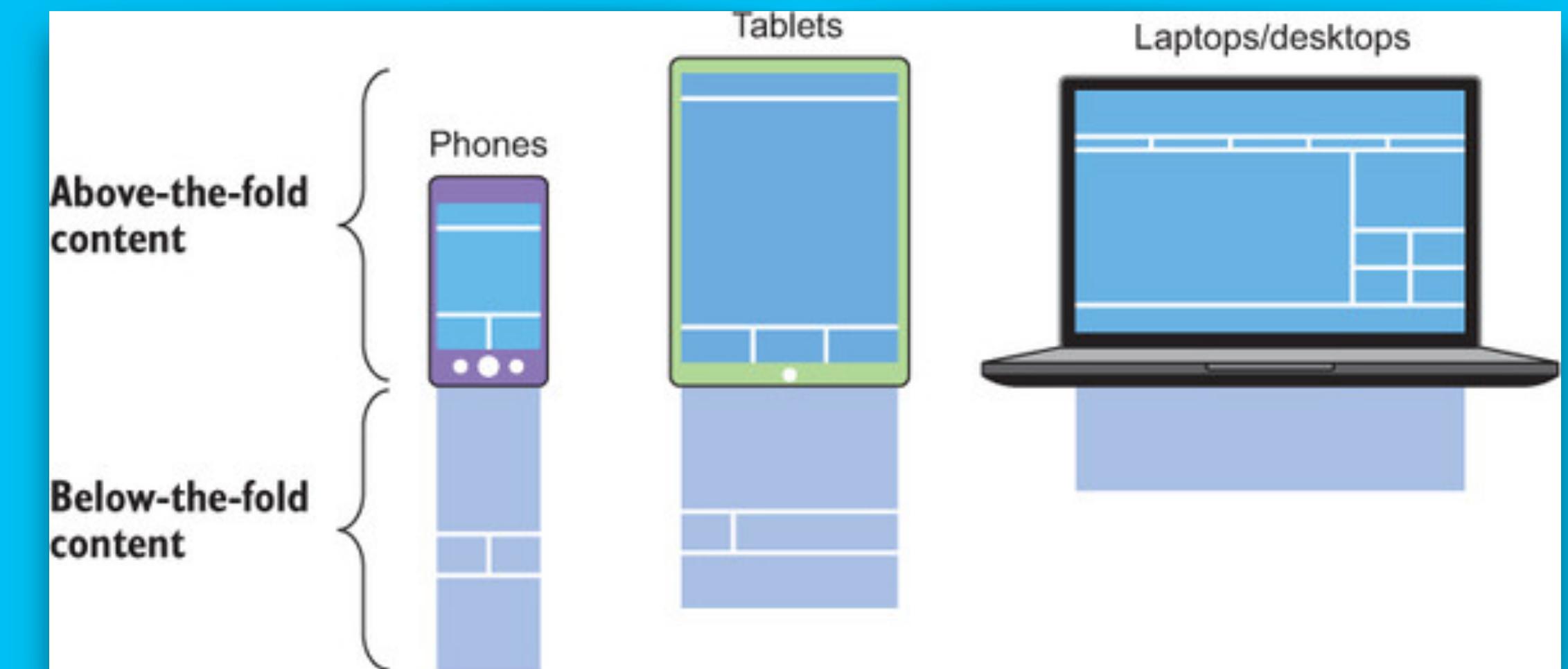
# 4. USE A CDN

- **CDN = Content distribution network**
- **Refers to a geographically distributed group of servers which work together to provide fast delivery of Internet content**
- Use <https://cdnjs.com/>



# ABOVE THE FOLD VS. BELOW THE FOLD

- Defer code, that happens below-the-fold like click events further down the page, or animations
- Resource: <https://varvy.com/pagespeed/render-blocking.html>



QUESTIONS?

# HOMEWORK

- Make a simple landing page for a product company. The company can either be real or fictional. Here are some examples of what I'm looking for:
  - <https://www.skullcandy.com/>
  - <https://www.allbirds.com/>
  - <https://www.blissworld.com/>
  - <http://collect.scentos.com/>
- The site itself should be responsive and have all basic website components, such as: nav, header, main section and footer.
- Your site should use SEO and page speed optimized references. At a minimum, the site should include:
  - Appropriate Title Tag
  - Appropriate Meta Description
  - All images should be sized appropriately ((manually or with online tool) as have alt-text
- You will be graded on the correct usage of SEO and page optimization. Keep in mind that the main goal of this assignment is to get you comfortable incorporating techniques like SEO and Page Load Optimization to your code. We will build on this website in coming classes.
- Bonus Points if you are able to implement a page loading image that is displayed when first entering the page.
- Submit a link to the git repository for this assignment.

**FIN**