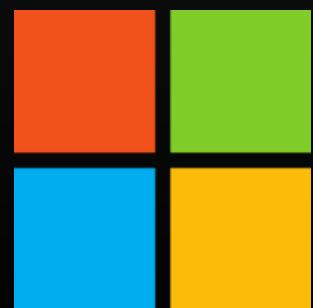


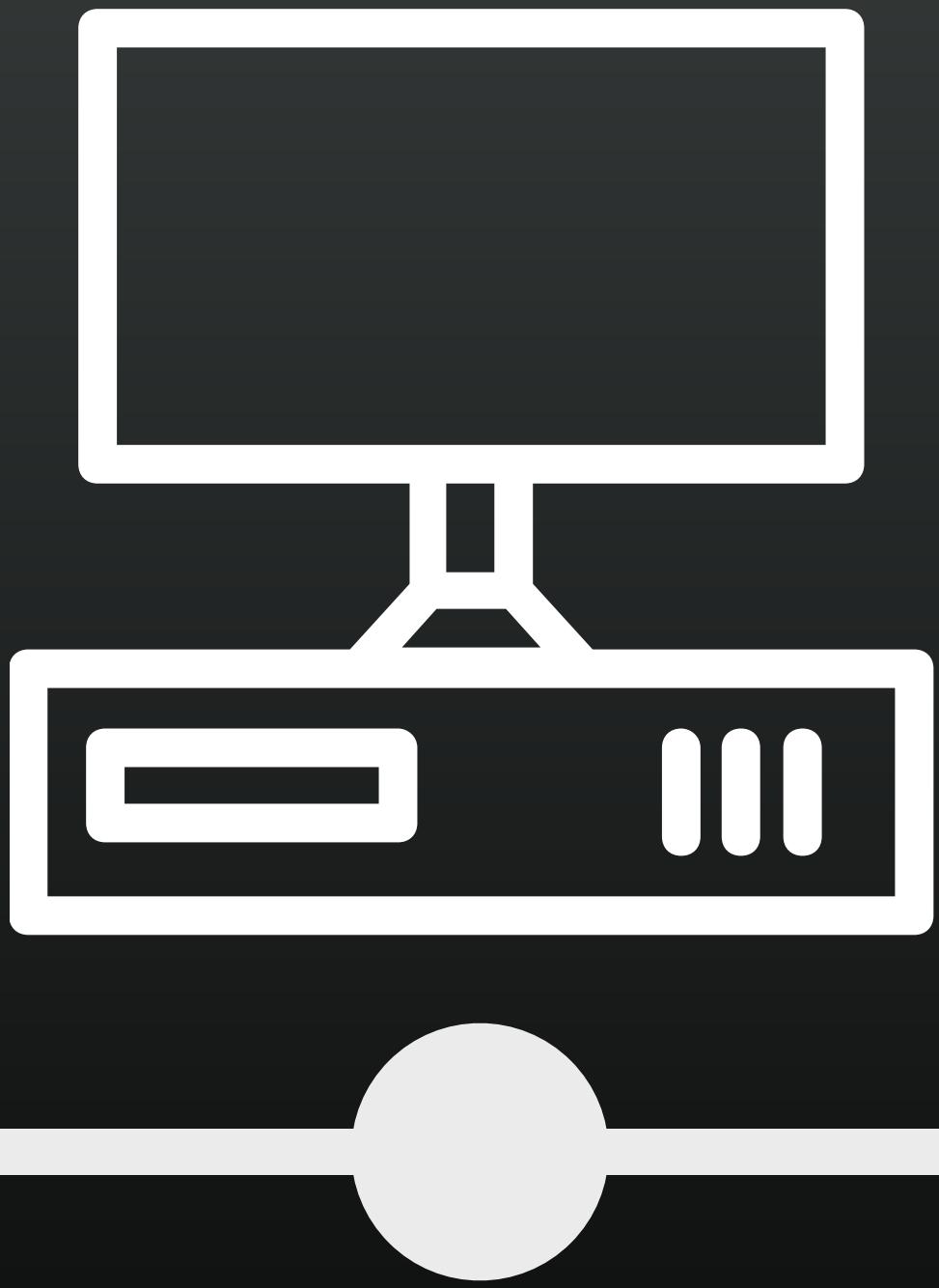
EXPLORING ADAPTIVE INTERFACES



Aaron Gustafson
@AaronGustafson
slideshare.net/AaronGustafson

Building for
the Web is **hard**.

In the beginning...



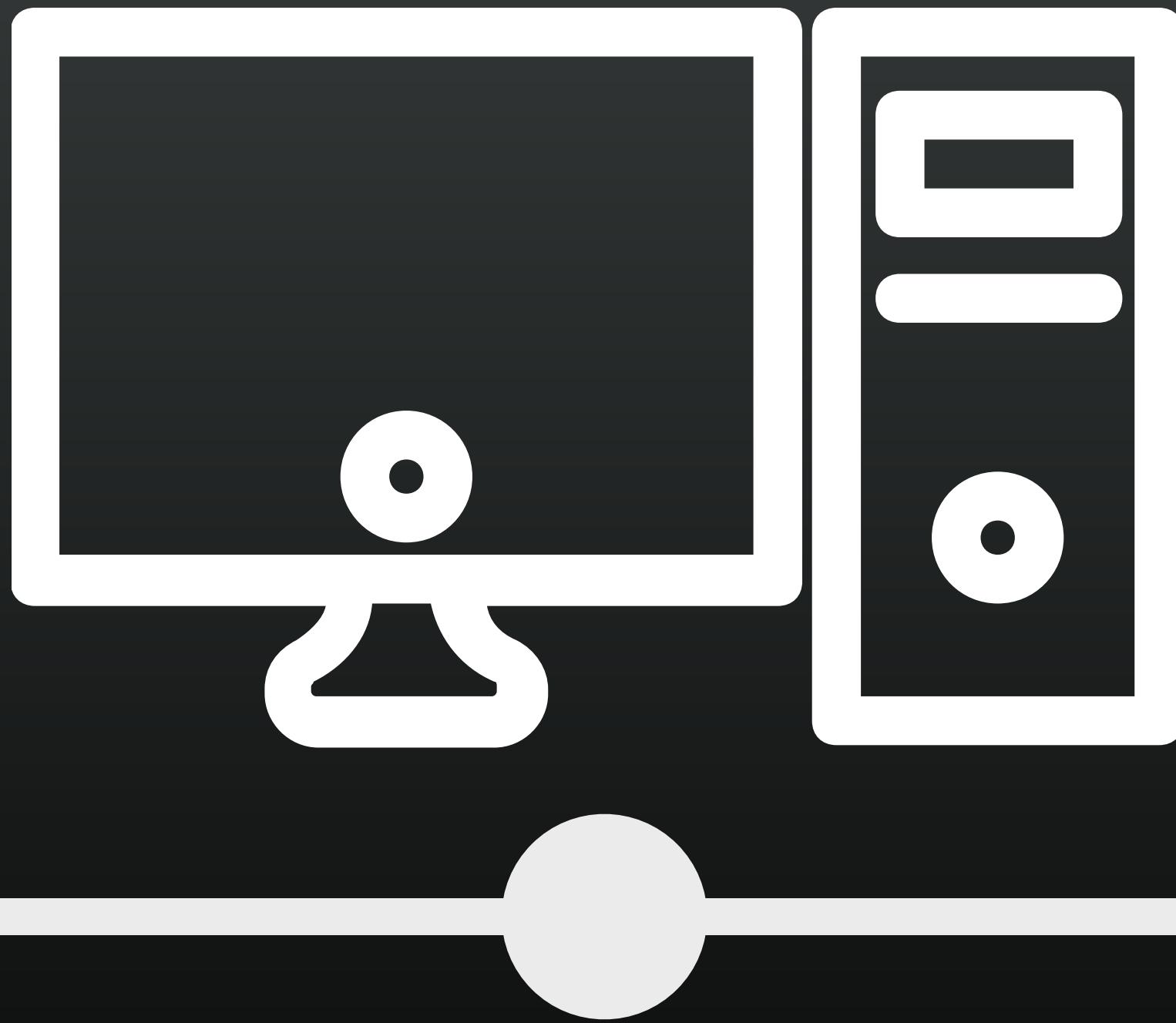
640 × 480

Ok, we can go a little larger.



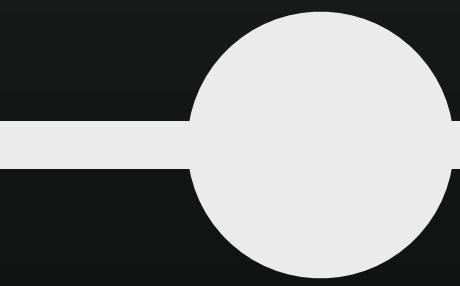
800 × 600

Ok, a bit larger, but that's it.



1024 × 768

Of course laptops...

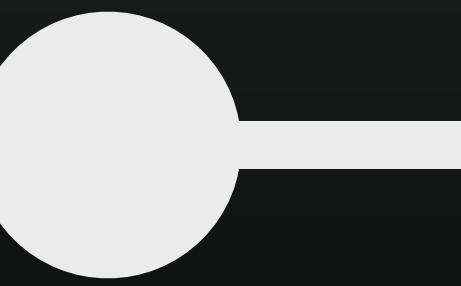
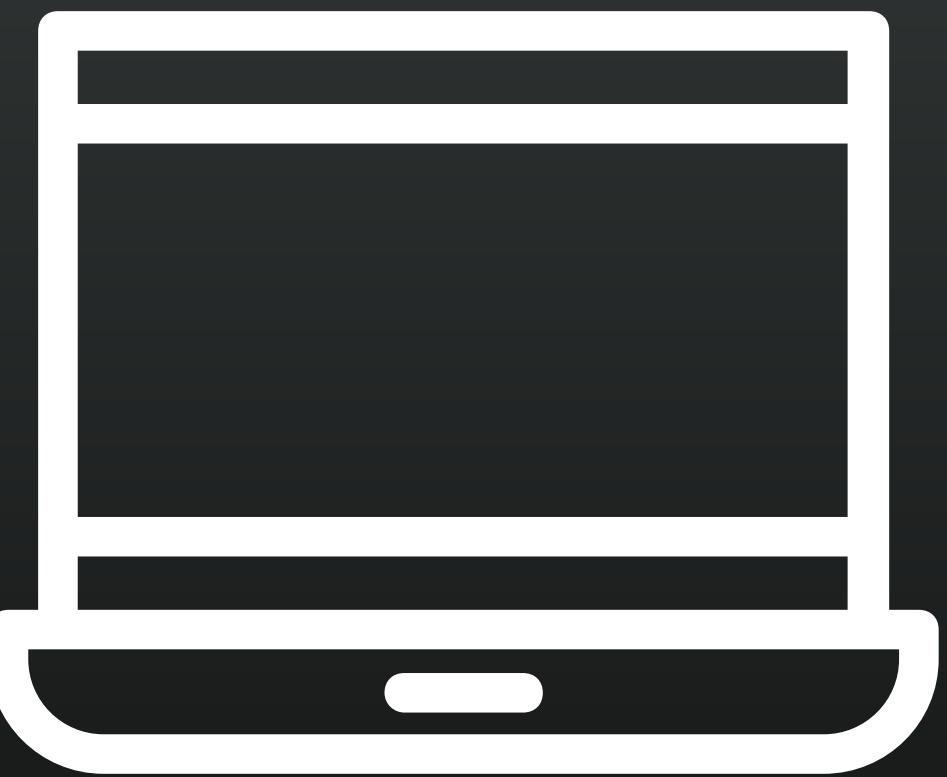


800×600

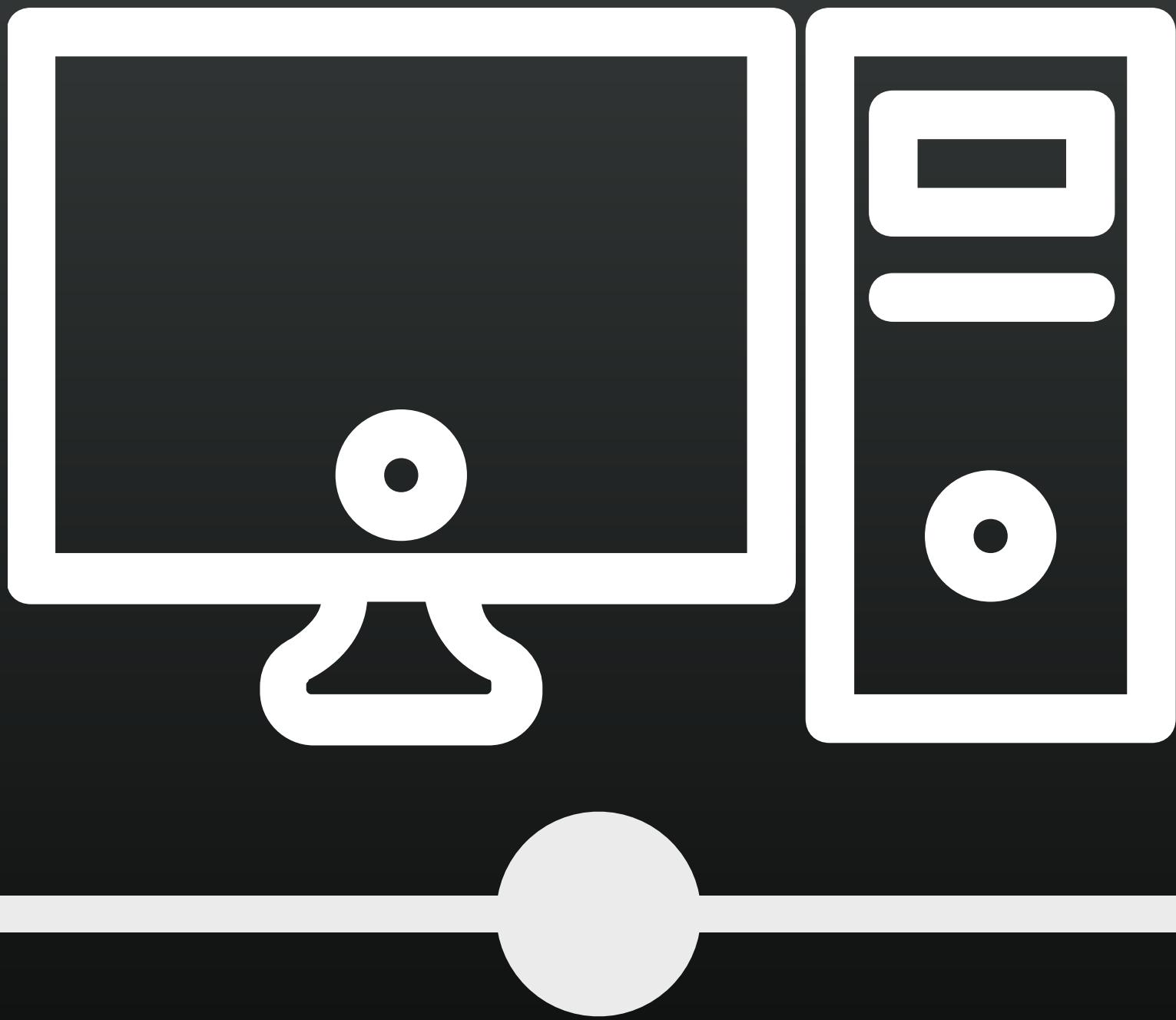
1024×600

1280×800

1366×768

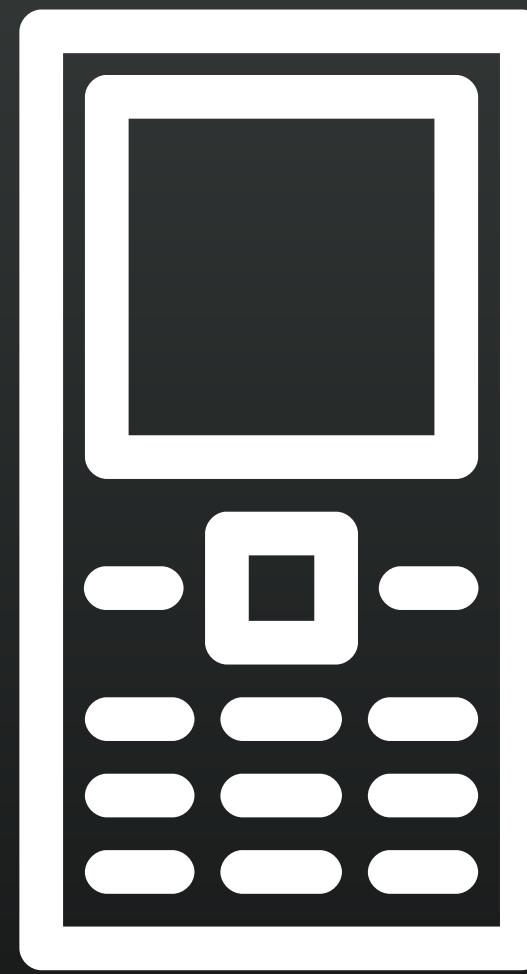


The web's “happy place”.

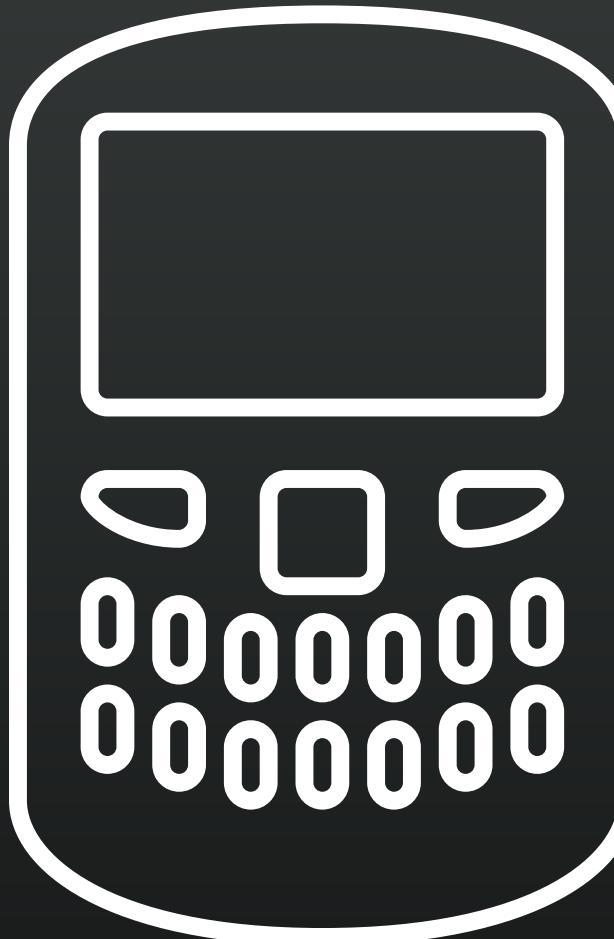


1024 × 768

We were ignoring mobile...

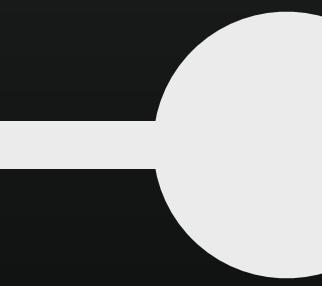
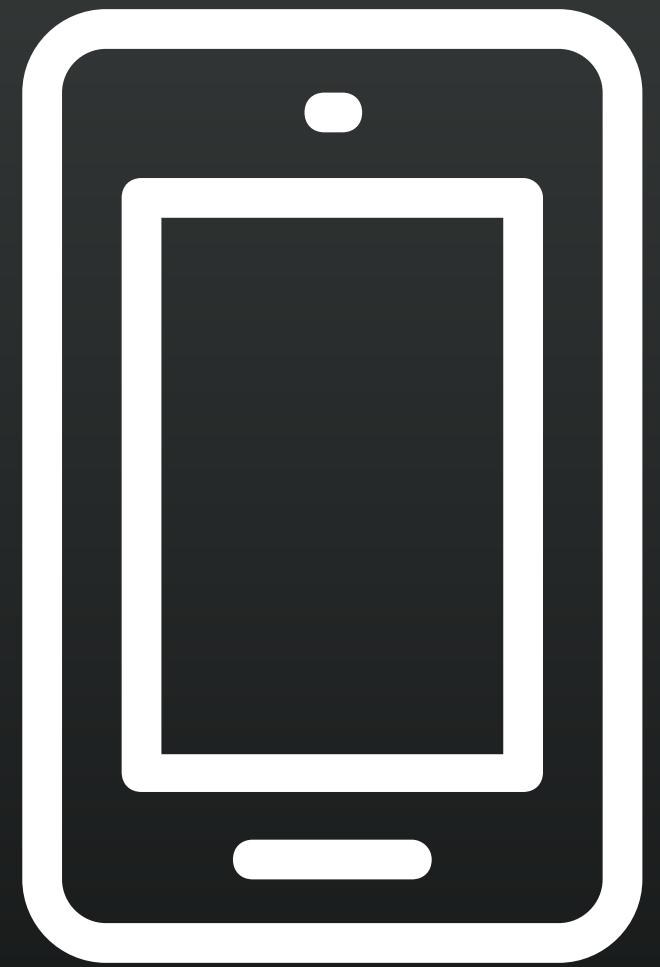


240 × 240

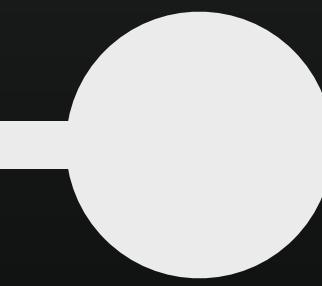


640 × 200

Until this happened.



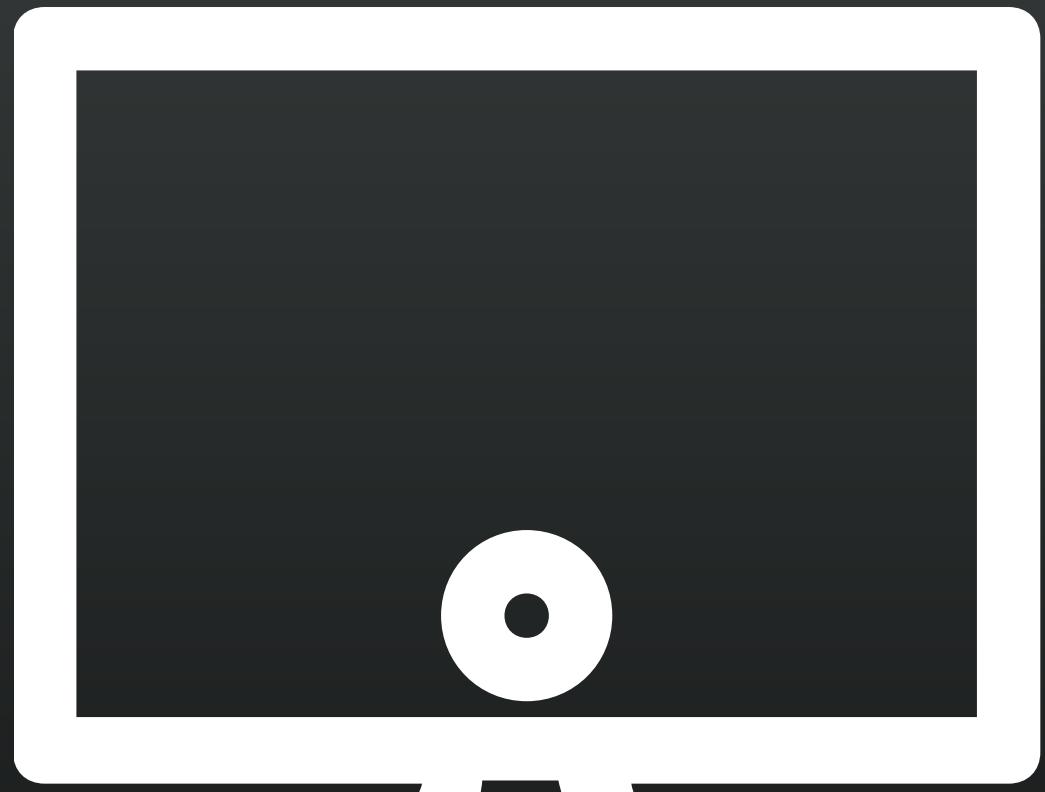
320 × 480



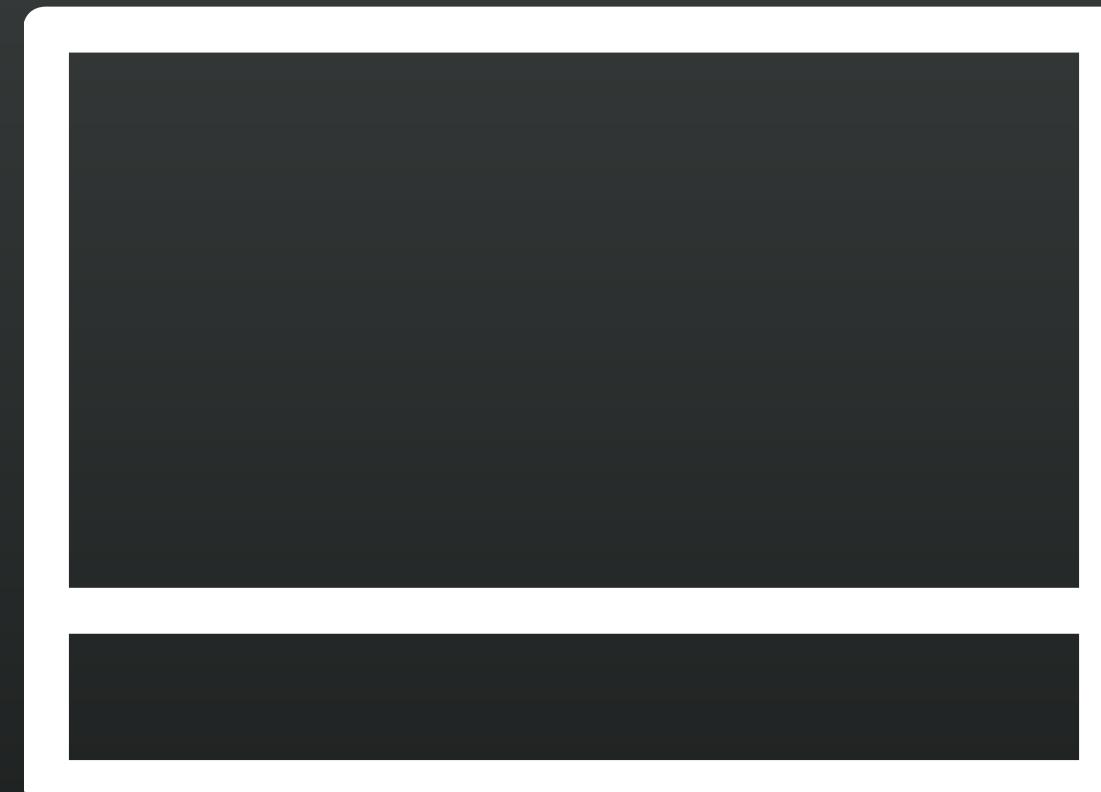
3840 × 2160

Don't even get me
started on tablets.

But desktop is simple, right?



1920 × 1080



7680 × 4320

Chasing screen
sizes is clearly a
fool's errand.

3 years ago!

“ In the second quarter of 2008
we detected 71 different
screen resolutions among our
visitors. In the first quarter of
2014 we detected

1062

One year after the iPhone

— Jason Samuels
IT Manager,
National Council on Family Relations
[Source](#)

“ In 2008, 27 screen resolutions showed up with more than 10 visits, in 2014 that number was **200**

— Jason Samuels
IT Manager,
National Council on Family Relations
[Source](#)

Chasing screen
sizes is clearly a
fool's errand.

Designing
for screens
is hard.

And then there's
everything else.

Your content can and will go
anywhere that's connected



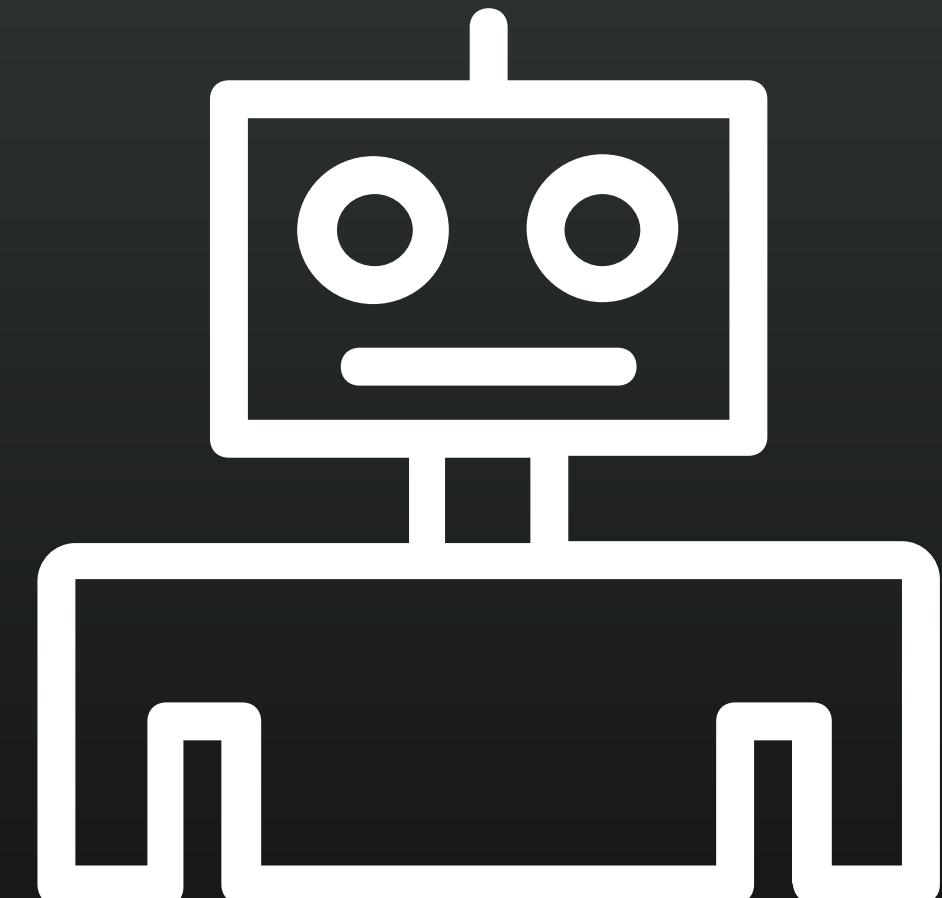
wearables



smart tvs

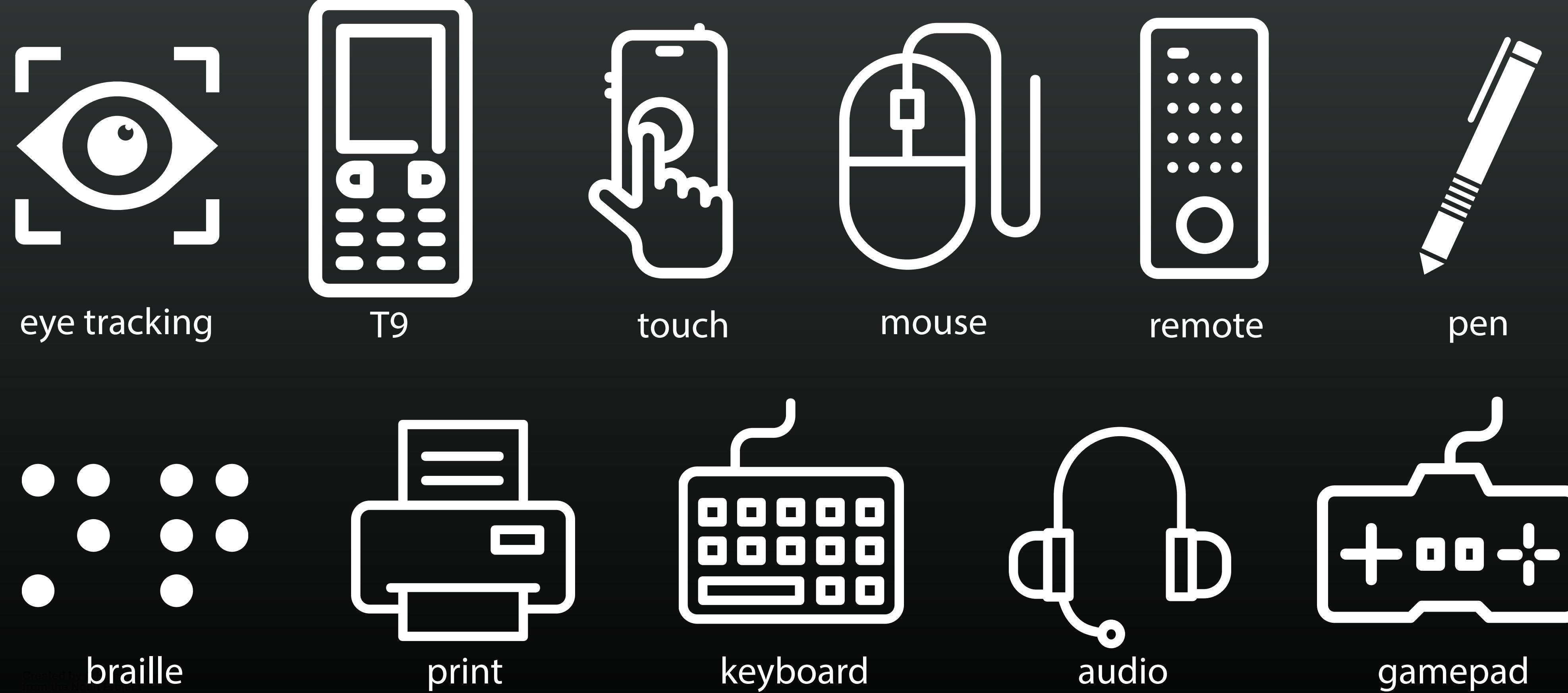


IoT

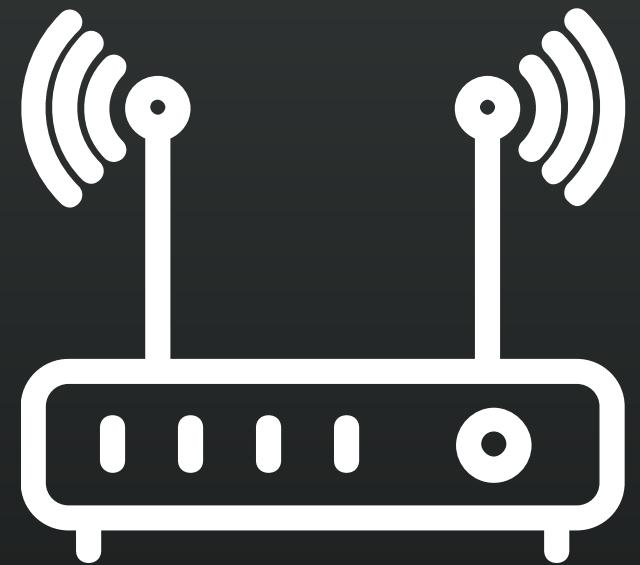


assistants

Meaning users will need to interact in different ways



Over varied networks and in changing conditions



wifi



hardline



mobile



homes



buildings



cars



buses



trains



airplanes

**And, ultimately, our users all
have different needs too.**



Anyone notice I
haven't even
mentioned
browsers?

;-)

So...?!

Reality check:
Nothing about our users'
experiences of the web
has ever been as
homogenous
as we imagine.

The challenges of
web design today
are **the same** as
they were yesterday.

The web can go **anywhere**
there's even a temporary
network connection.



Photo Credit: romanboed

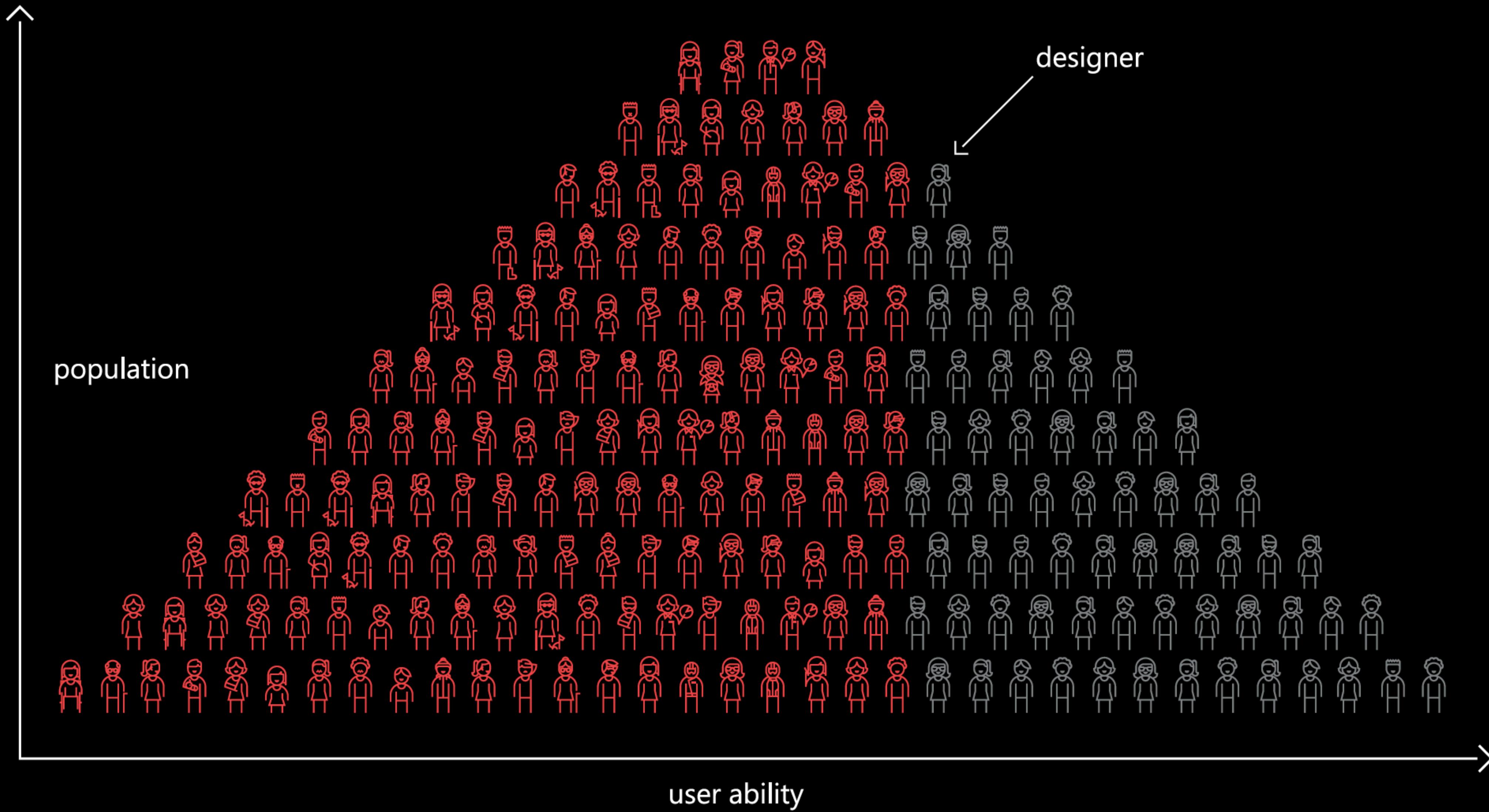


Photo Credit: Evgeni Zotov



Photo Credit: Climate Change, Agriculture and Food Security





excluded

included

Inclusive design creates
giant ripples.



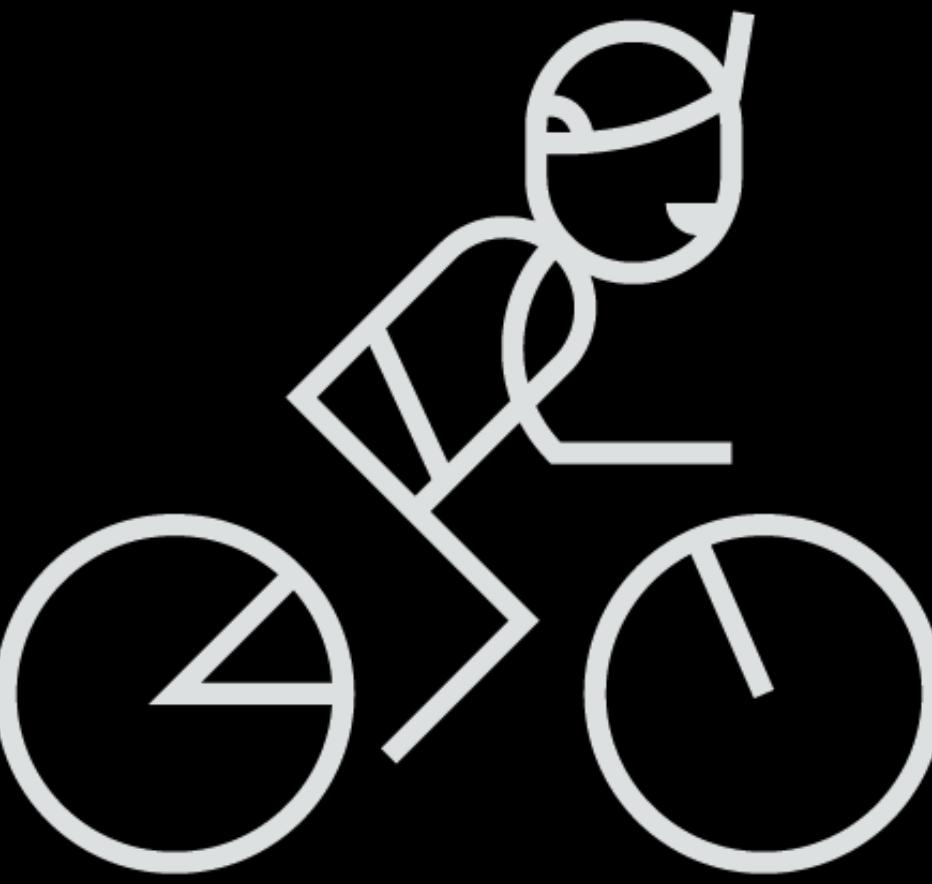
Photo Credit: Dylan Passmore



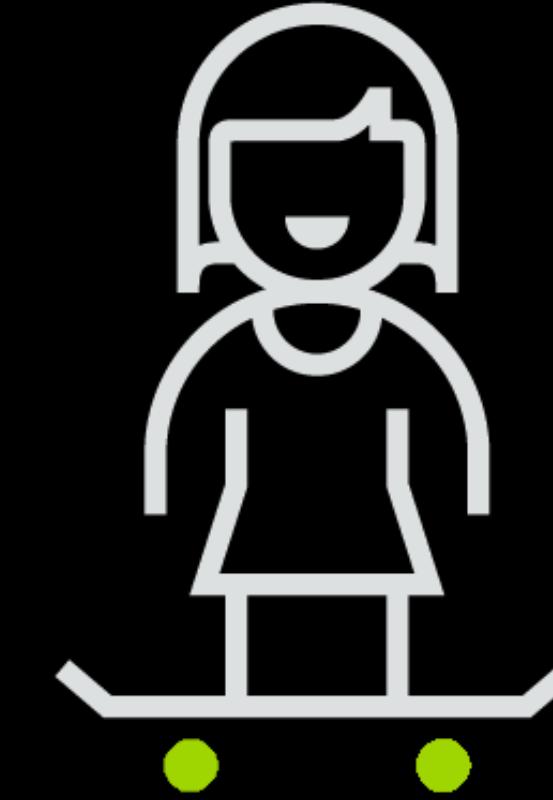
wheelchairs



strollers

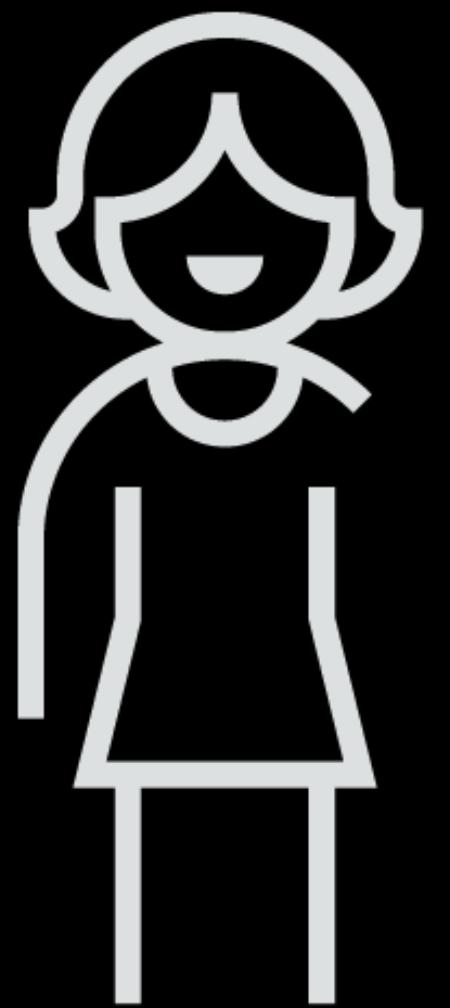


bicycles



skateboards

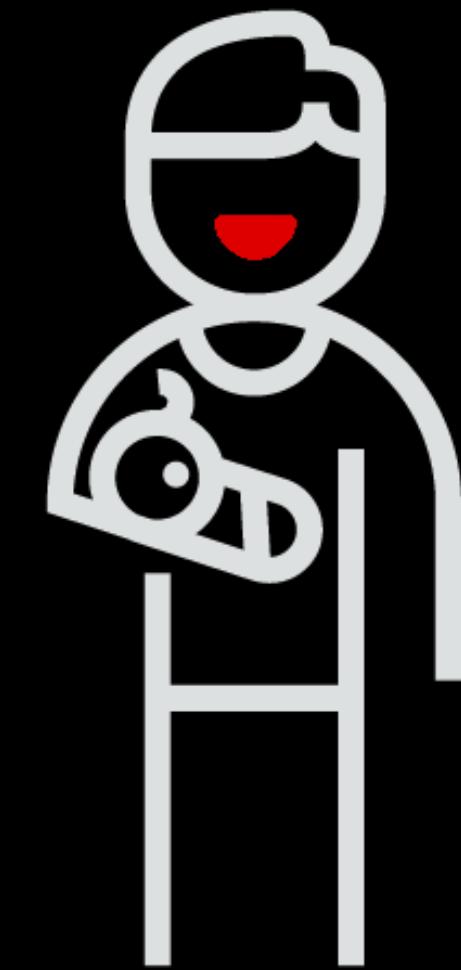




one arm



arm injury

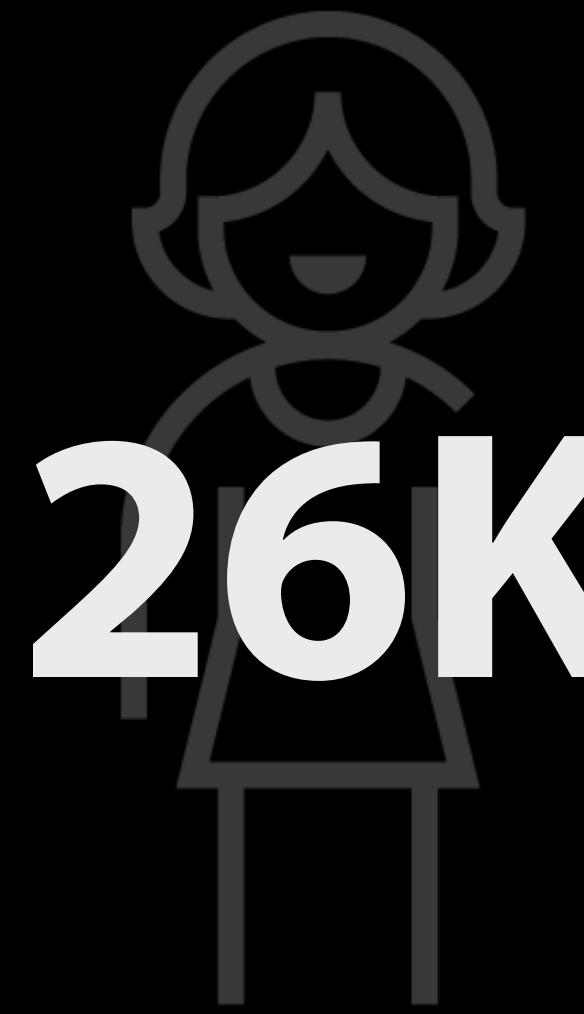


new parent

permanent



situational



26K

one arm



arm injury

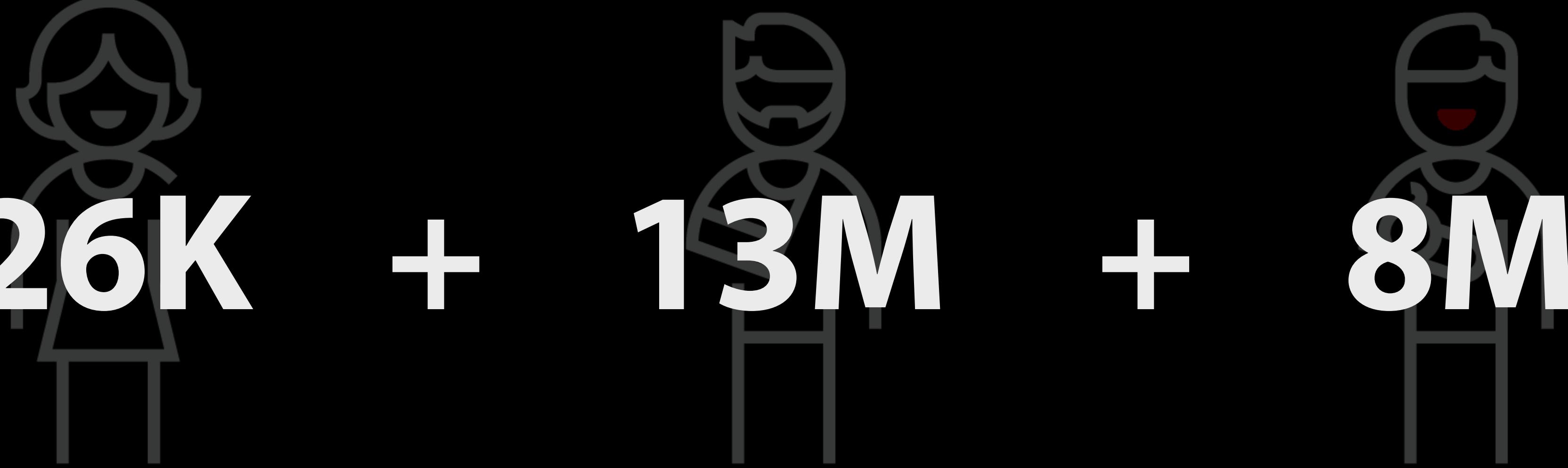


new parent

permanent



situational



26K + 13M + 8M

one arm

arm injury

new parent

permanent



situational

21 Million People

So how can we make
our interfaces
more adaptive?

Let's dissect
an example.

Content Teasers

Latest News

view as: [List](#) [Category](#)

 SPORTS > VOLS
Martin excited about Vols' summer progress
Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

 SPORTS > MOCS
ESPN3 to broadcast three UTC football games in 2013
The Southern Conference revealed its eight-game football package with ESPN3 for the 2013 season on Monday, and Chattanooga will have three of its games broadcast over the online network ...

 SPORTS > OUTDOORS
Trucks and Ducks fundraiser is June 27
The Chattanooga chapter of Ducks Unlimited will host Trucks and Ducks 2013 at Mountain View Ford on

Content Teasers



SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

[Like](#) 4

Content Teasers

The essential nugget

Nice to have

Superfluous & expensive

A news article teaser for a basketball coach. The image shows a man in a suit and tie, identified as Cuonzo Martin. The headline reads "Martin excited about Vols' summer progress". The byline says "By Daniel Lewis 2 hours ago". A Facebook like button with the number "4" is shown below the text.

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

Like 4

Content Teasers



SPORTS > VOLS

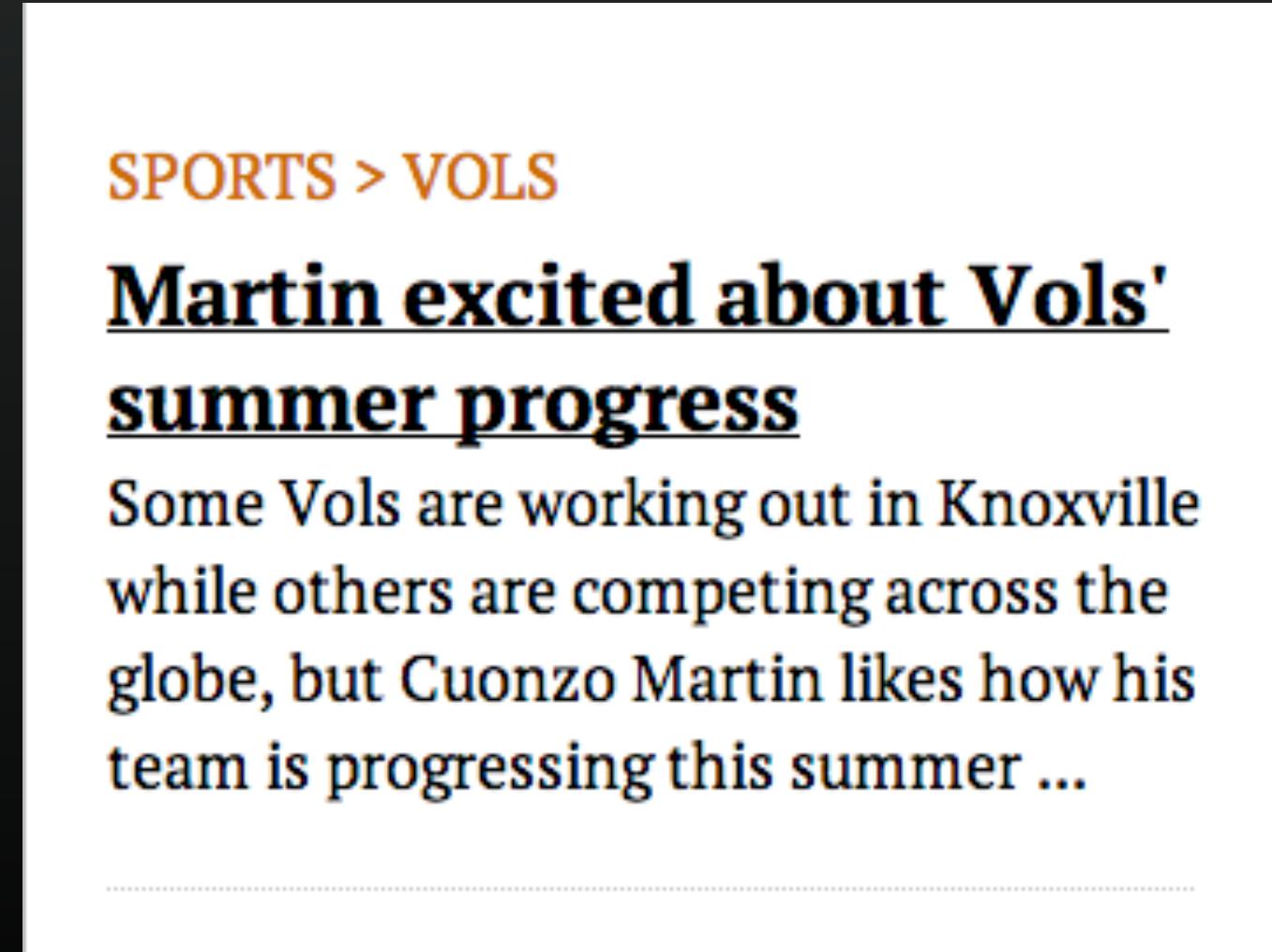
Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

 4

ideal



SPORTS > VOLS

Martin excited about Vols'
summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

minimum viable interface

Content Teasers



SPORTS > VOLS

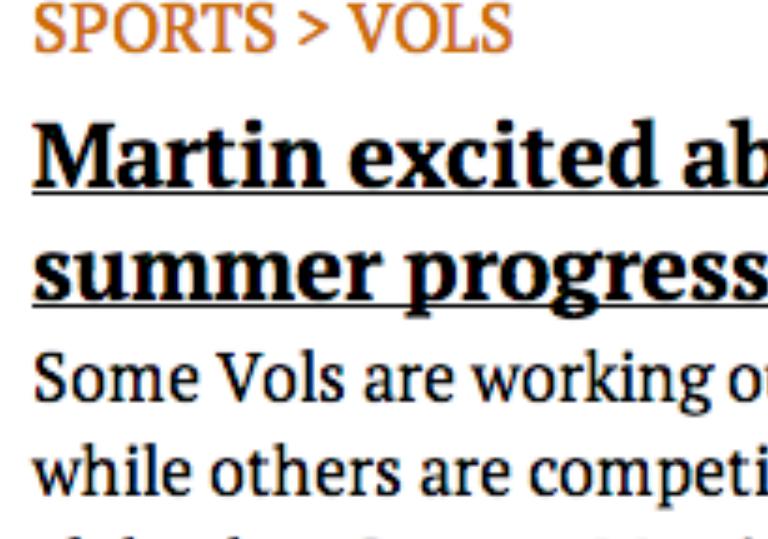
Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

 Like  4

ideal



SPORTS > VOLS

Martin excited about Vols'
summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

minimum viable interface

Content Teasers



SPORTS > VOLS

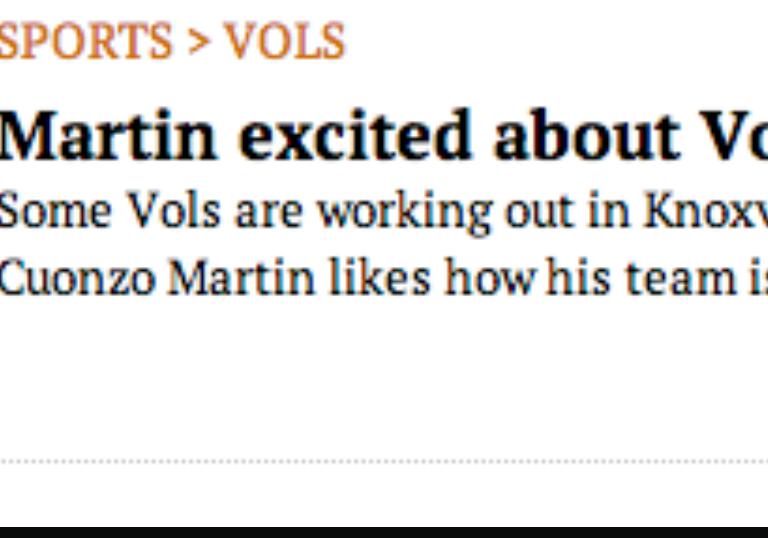
Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

 Like 4

ideal



SPORTS > VOLS

Martin excited about Vols' summer progress

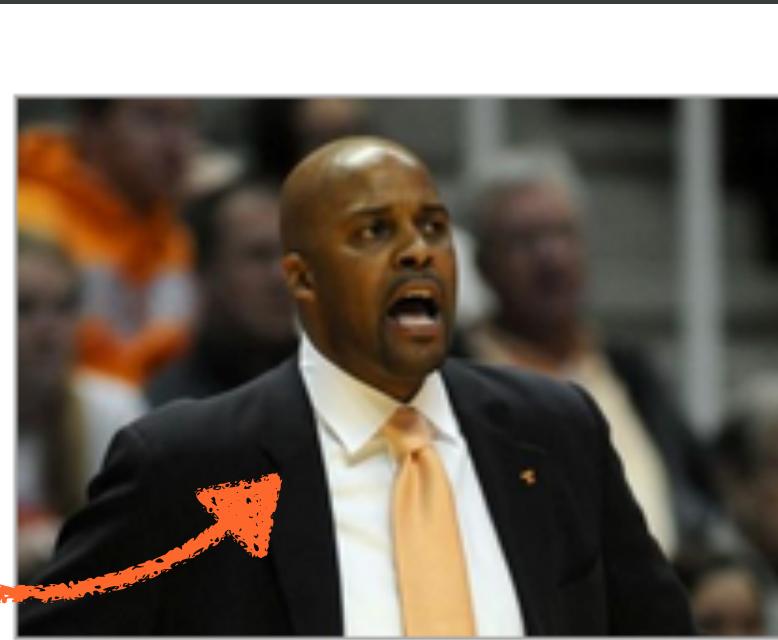
Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

minimum viable interface

Content Teasers

Lazy load



SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

Like 4

ideal

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

minimum viable interface

Content Teasers

Lazy load



SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

ideal

By Daniel Lewis
2 hours ago

Like 4

Do we really need it?

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

minimum viable interface

Content Teasers



SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

new ideal

How do we plan adaptive designs?

Step by step

1. Focus on what matters.

The essential nugget

The image shows a news article snippet. At the top left is a small thumbnail photo of a man in a suit and tie. To its right is the headline: "SPORTS > VOLS Martin excited about Vols' summer progress". Below the headline is a summary: "Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...". At the bottom right of the snippet is the author information: "By Daniel Lewis 2 hours ago". A red arrow points from the text "The essential nugget" down to the headline "Martin excited about Vols' summer progress".

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

Step by step

2. Write it out, then read it back.

How does this photo make you feel?

- Embarrassing
- Upsetting
- Saddening
- Bad Photo
- Other it's embarrassing

Step by step

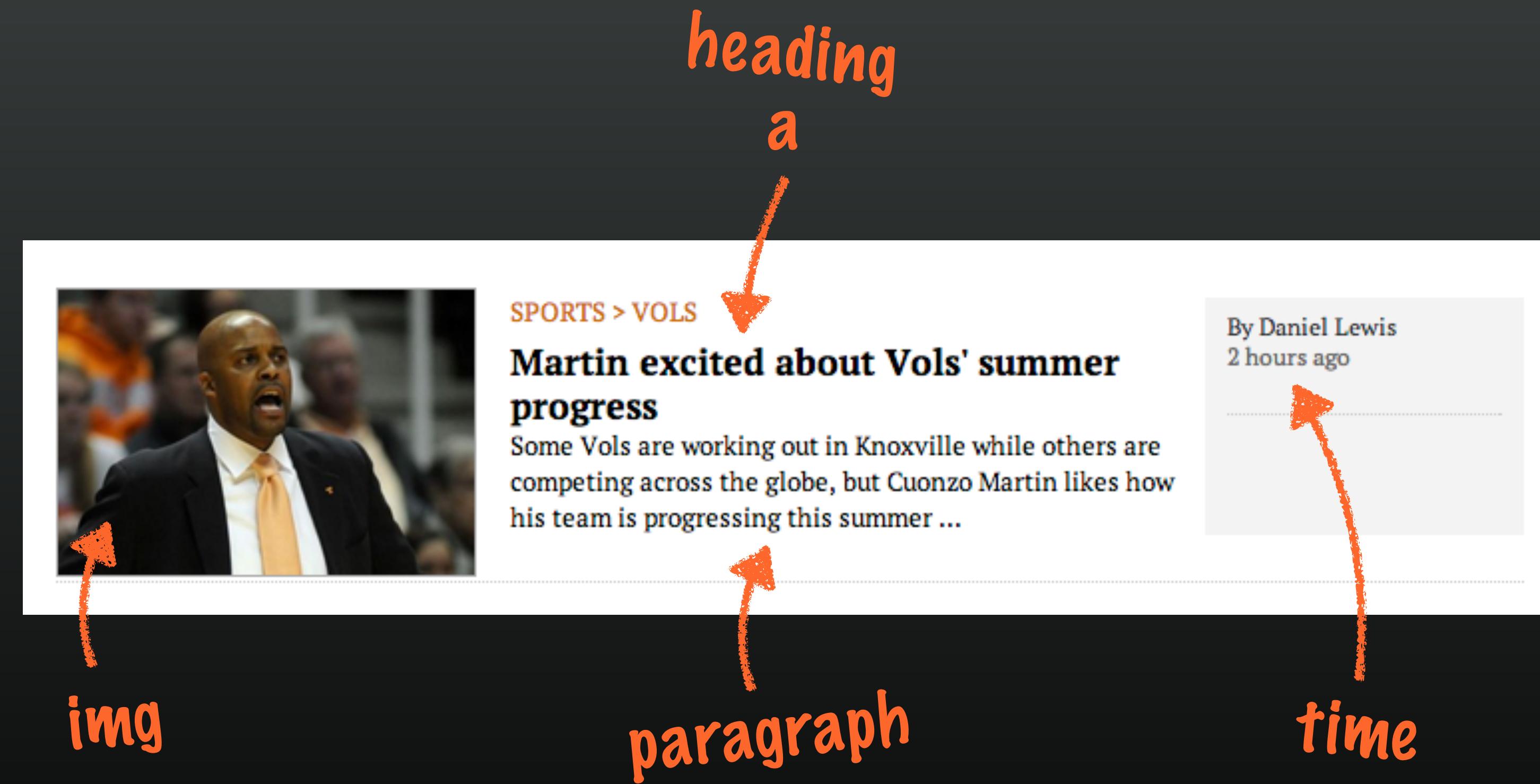
2. Write it out, then read it back.

Please describe the photo

- It's embarrassing
- It's a bad photo of me
- It makes me sad

Step by step

3. Look for semantics that support 1 & 2.



Step by step

3. Look for semantics that support 1 & 2.

.h-entry (feed)



img (also .u-photo)

heading (also .p-name)
a (also .u-url)

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

paragraph
(also .p-summary)

.p-author
.h-card (person)

By Daniel Lewis
2 hours ago

time
(also .dt-published)

Step by step

3. Look for semantics that support 1 & 2.

```
<script type="application/ld+json">
{
  "@context": "http://schema.org",
  "@type": "NewsArticle",
  "headline": "Martin excited about Vols' summer progress",
  "dateline": "Chattanooga, TN",
  "image": [
    "https://www.example.com/image1.jpg",
  ],
  "datePublished": "2015-09-05",
  "description": "Some Vols are working out in Knoxville...",
  "articleBody": "THE WHOLE ARTICLE"
}
</script>
```

Step by step

4. Think about how design can improve comprehension.

Less important & distinct from content



Visually the most important text

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

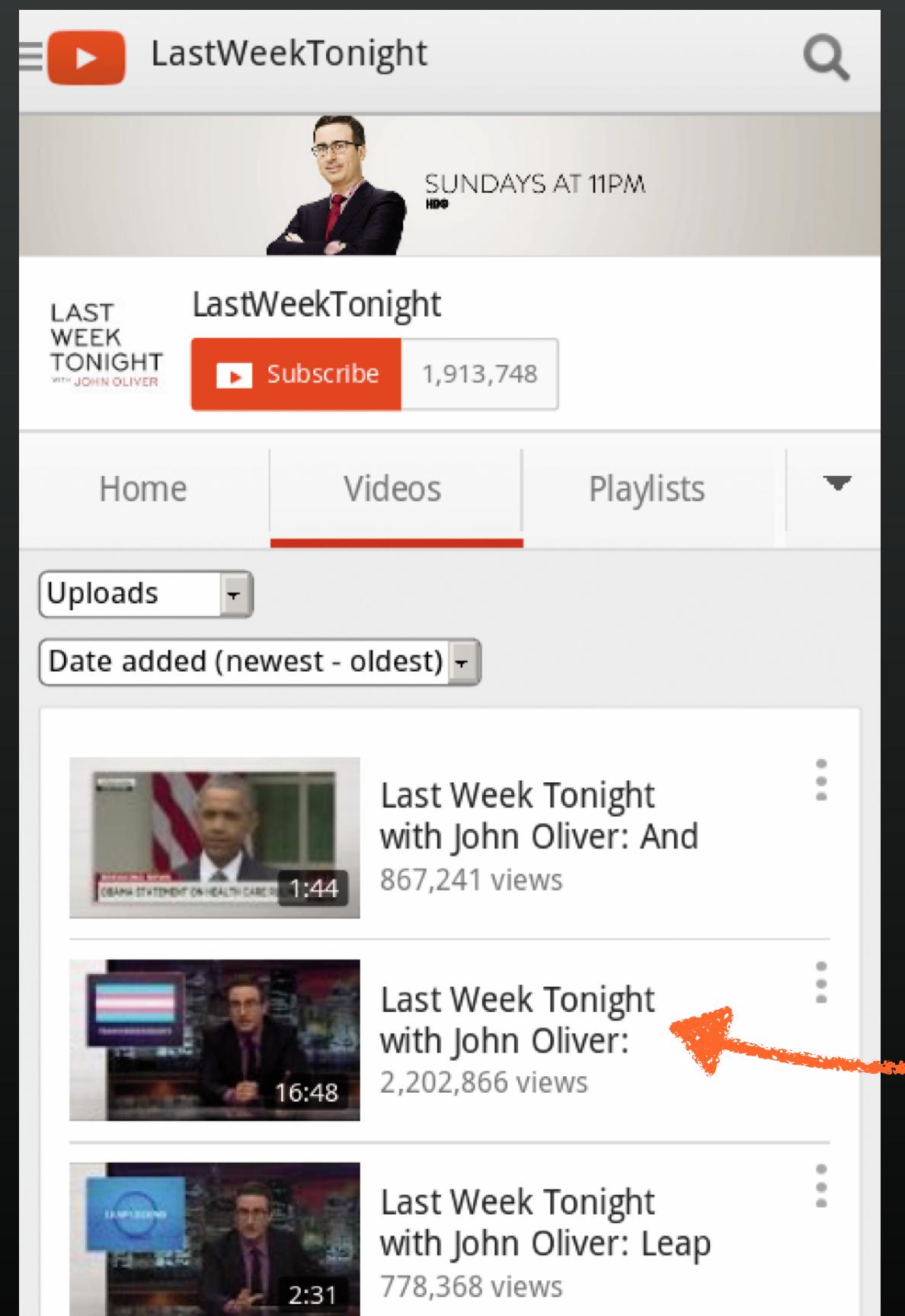
Visually tied to the headline & carries some visual weight



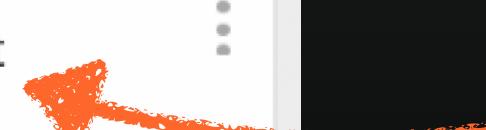
distinct from the content & diminished in importance

Step by step

5. Consider how your design choices impact the reading experience.



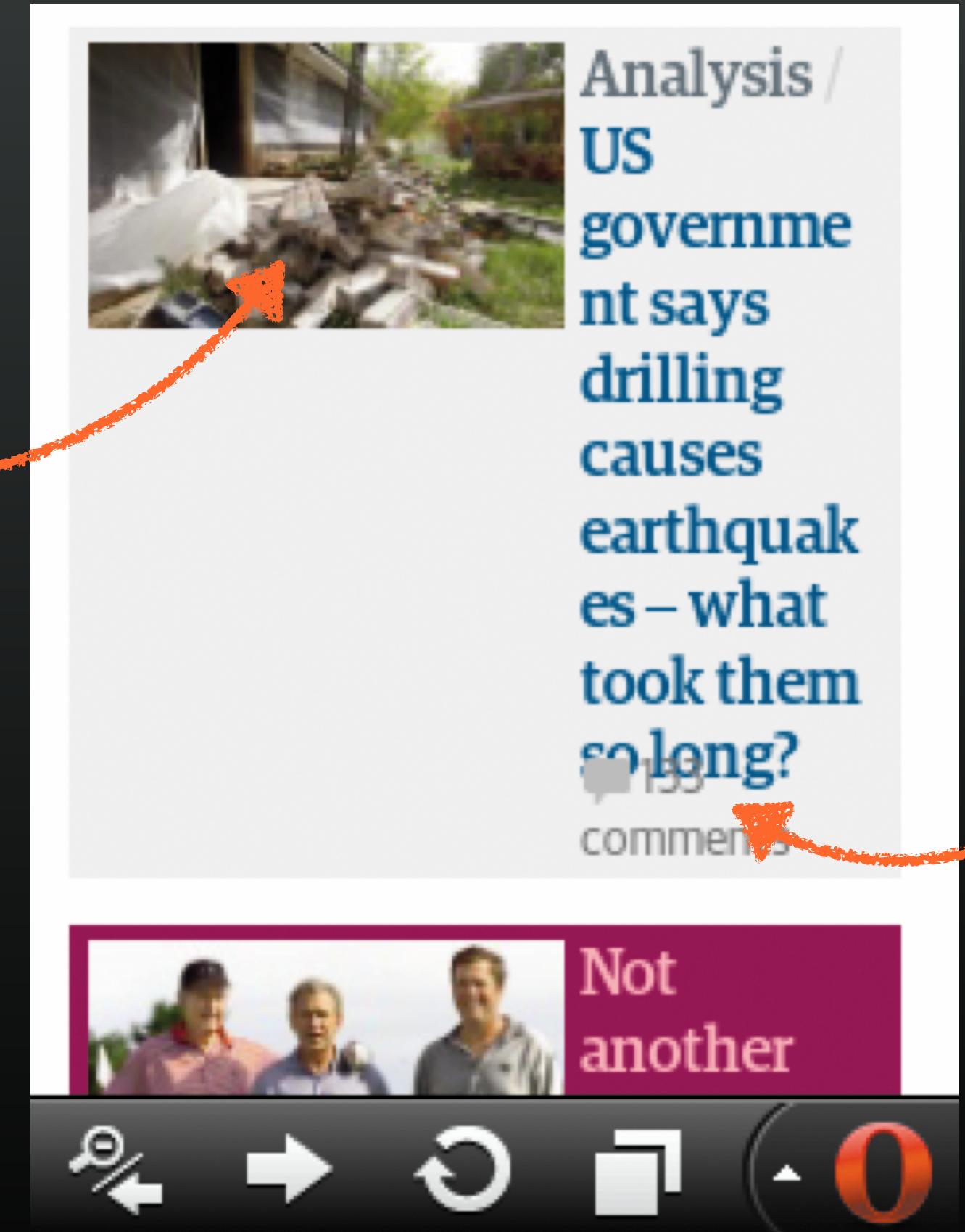
Can't tell what the
episode is called



Step by step

5. Consider how your design choices impact the reading experience.

Floated images crush the
text on small screens



Step by step

6. Think about the many different ways folks might interact.



eye tracking



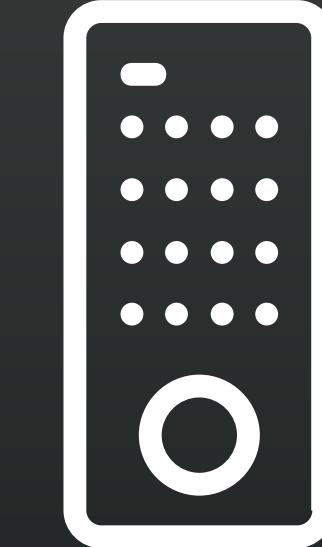
T9



touch



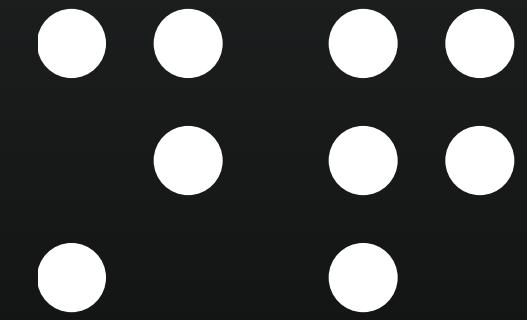
mouse



remote



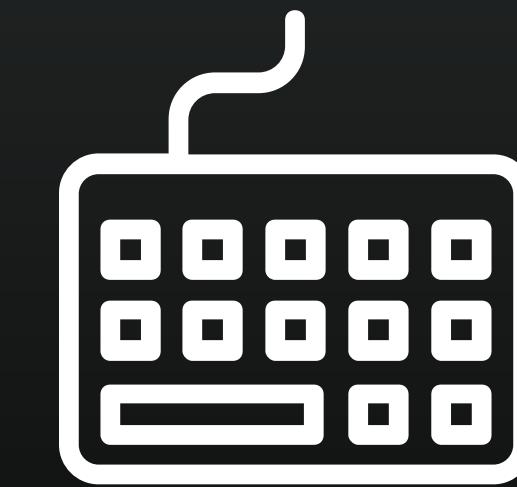
pen



braille



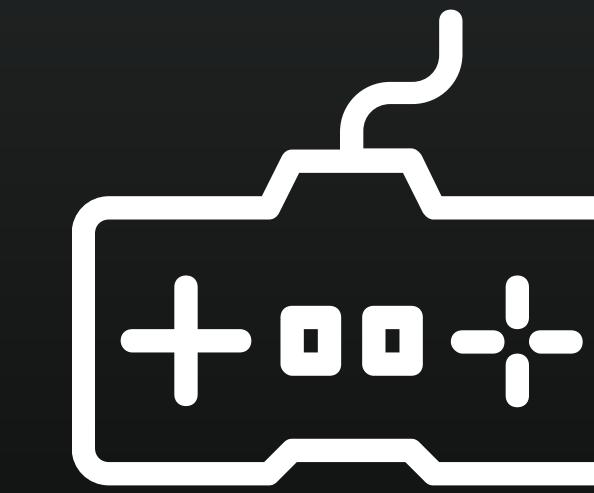
print



keyboard



audio



gamepad

Created by
from the N

Step by step

6. Think about the many different ways folks might interact.



eye tracking



touch



mouse

Hover?

Step by step

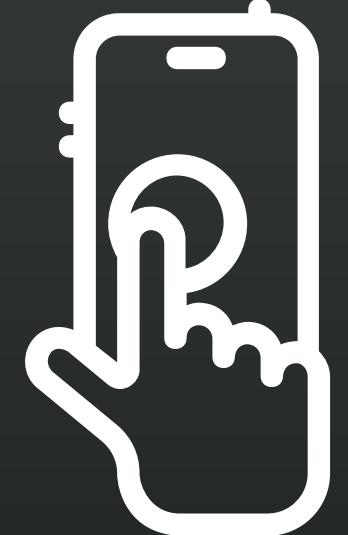
6. Think about the many different ways folks might interact.



eye tracking



T9



touch



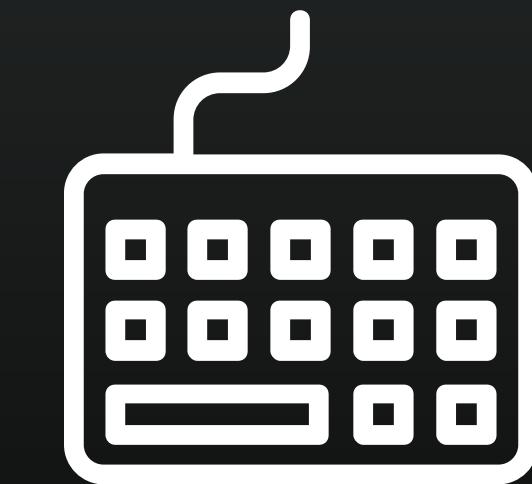
mouse



remote



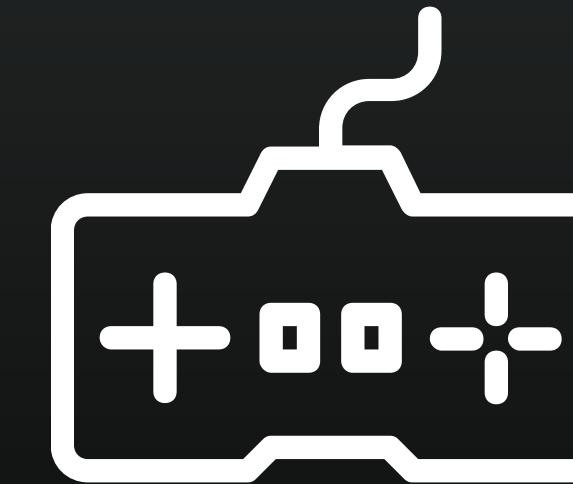
pen



keyboard



audio

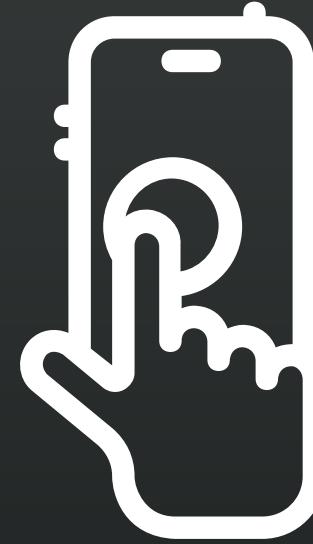


gamepad

Focus & target?

Step by step

6. Think about the many different ways folks might interact.



touch



mouse

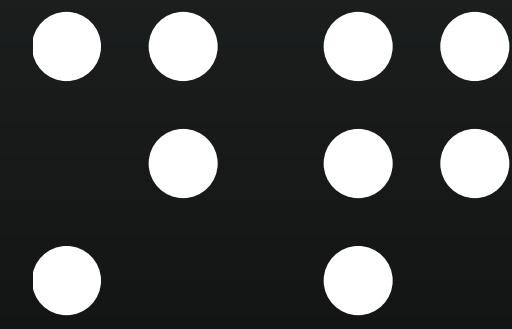


pen

Gestures?

Step by step

6. Think about the many different ways folks might interact.



braille



print

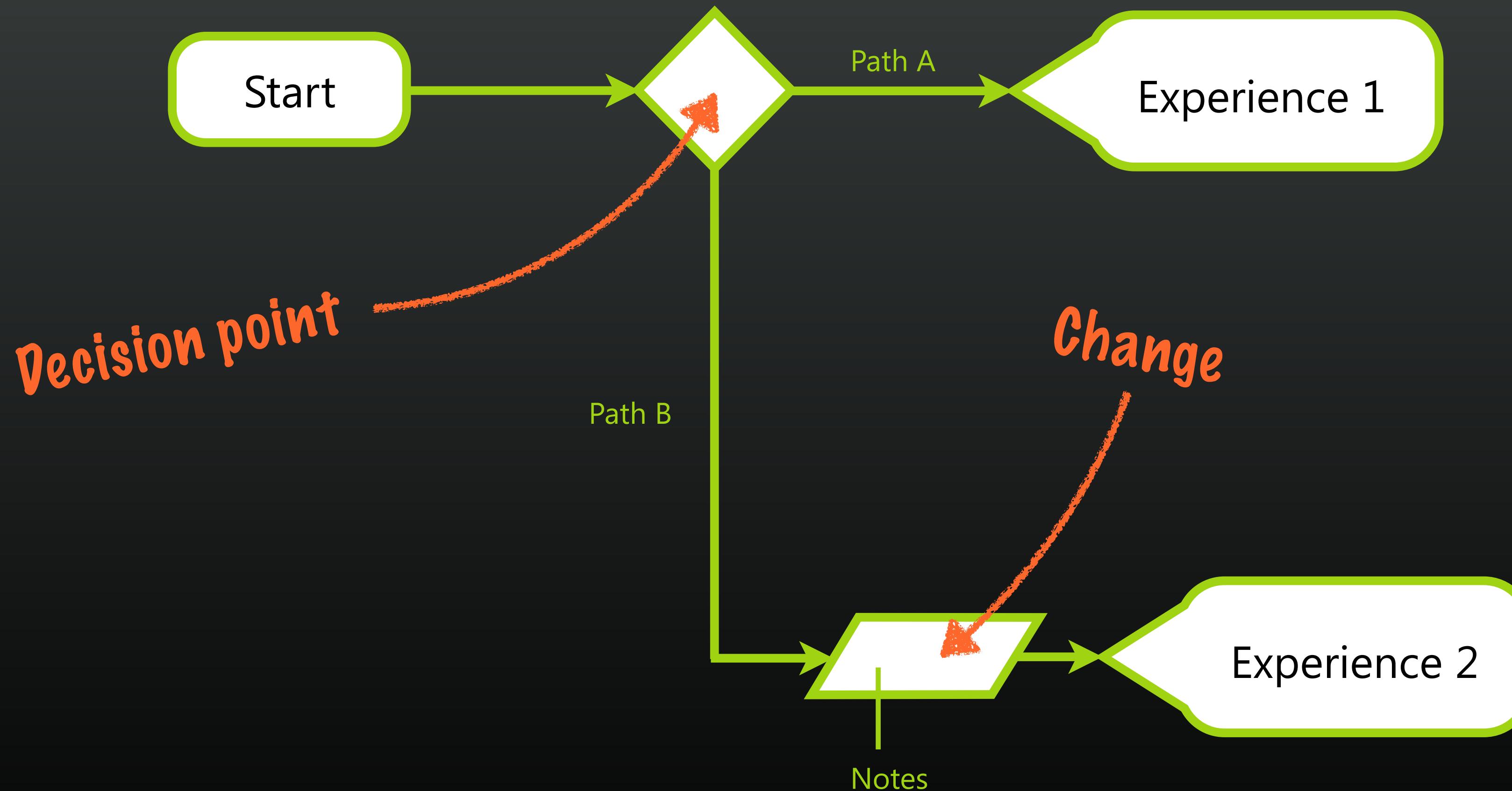


audio

Text expansions?

Step by step

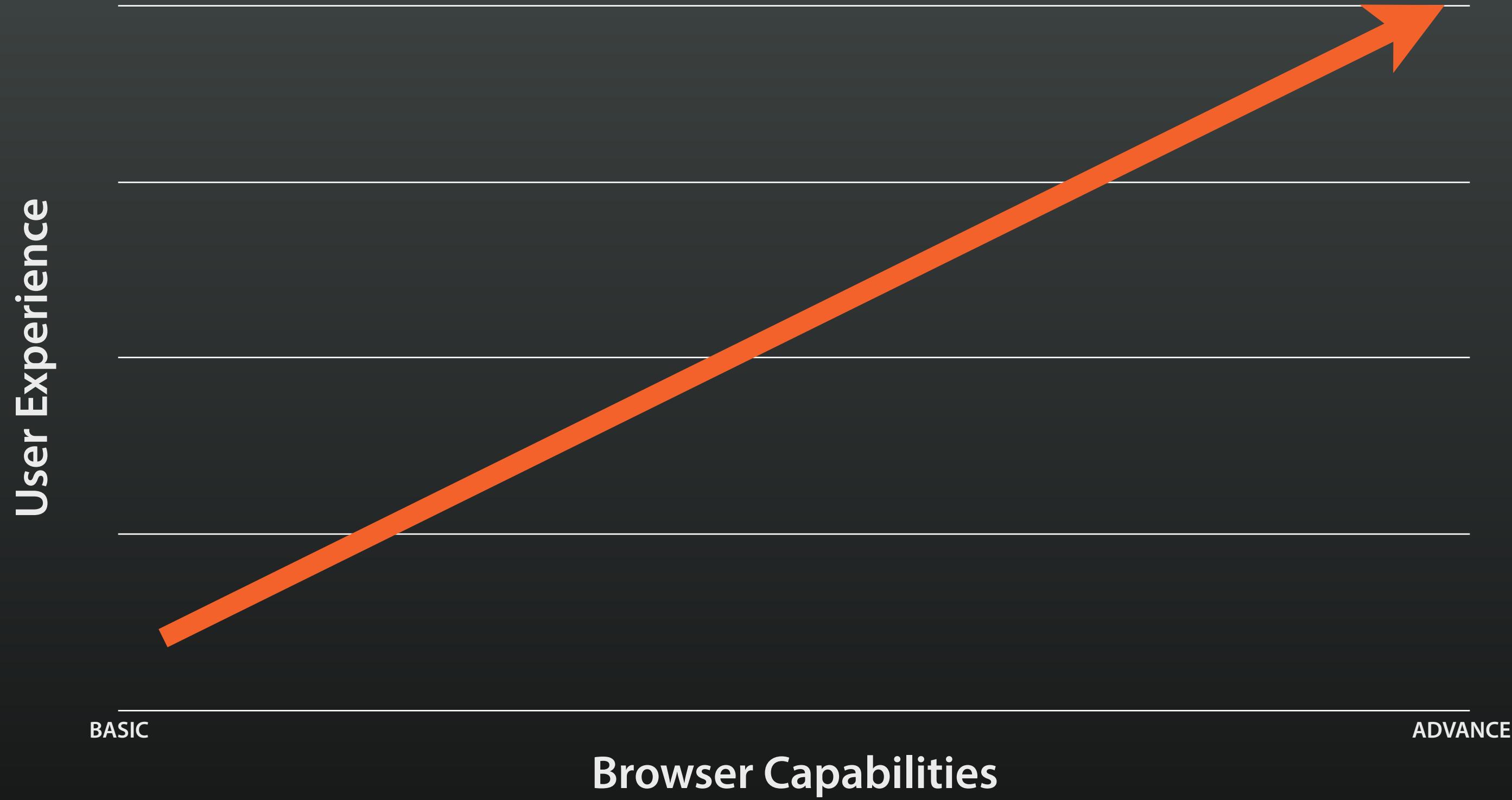
7. Map the potential experiences.



Step by step

1. Focus on what matters.
2. Write it out, then read it back.
3. Look for semantics that support 1 & 2.
4. Think about how design can improve comprehension.
5. Consider how your design choices impact the reading experience.
6. Think about the many different ways folks might interact.
7. Map the potential experiences.
8. Iterate.

Progressive Enhancement



*I like an escalator because
an escalator can never break,
it can only become stairs.*

— Mitch Hedberg





Technological
restrictions

[News](#) | [US](#) | [World](#) | [Sports](#) | [Comment](#) | [Culture](#) | [Business](#) | [Money](#) | [Environment](#) | [Science](#) | [Travel](#) | [Tech](#) | [Media](#) | [Life & style](#) | [Data](#)

[News](#) > [Technology](#)

Sky's internet service mistakenly blocks web-critical plugin

Sky blocked jQuery, a plugin crucial to the operation of many of the internet's biggest websites, after wrongly classifying it as malware on Sunday night

Alex Hern

[Follow @alexhern](#)

[Follow @guardiantech](#)

[theguardian.com](#), Tuesday 28 January 2014 07.51 EST

[Jump to comments \(42\)](#)



Parts of the web were broken after a crucial plugin was mistakenly blocked.
Photograph: Culture RM/Alamy

[Share](#) 66

[Tweet](#)

[Share](#)

[Email](#)

[Print](#) [Email](#) [Gmail](#)

Technology

Web filtering · Internet · Broadband · Malware

Media

BSkyB

Business

BSkyB

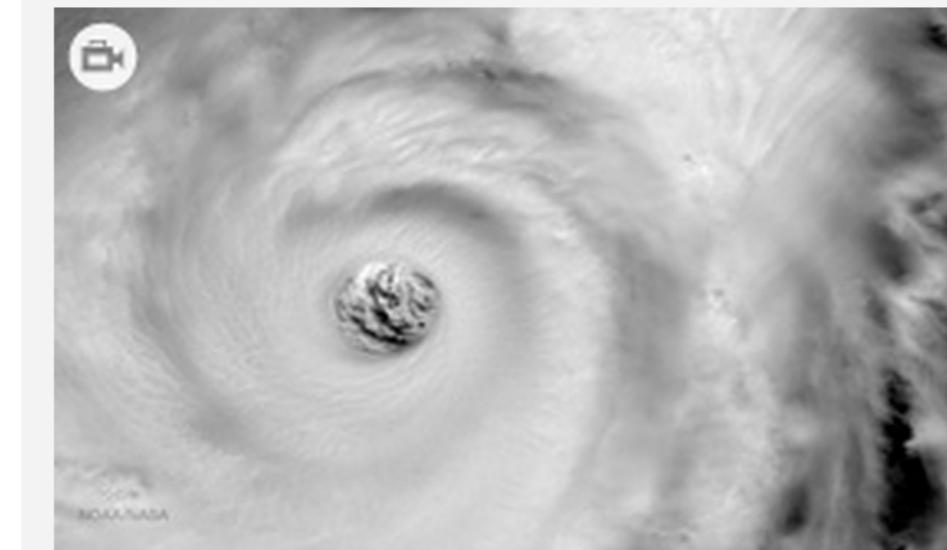
More news

More on this story



BSkyB signs new five-year deal for exclusive rights to HBO TV catalogue
Broadcaster struck

Today's best video



Japan's Typhoon Vongfong seen from International Space Station - video

Nasa footage shows the powerful eye of Typhoon Vongfong as it makes its way towards Okinawa, Japan



Ukrainian Darth Vader makes election run

Who knew Star Wars villain Darth Vader was in fact a Ukrainian Cossack at heart?



Robotic suit helps explore ancient wreck

New artifacts found in Greek island shipwreck, which sank in first century BC



Isis video 'shows street battle in Kobani'

Video posted on social

Sections ≡

The Washington Post

Search



Sign In

Subscribe

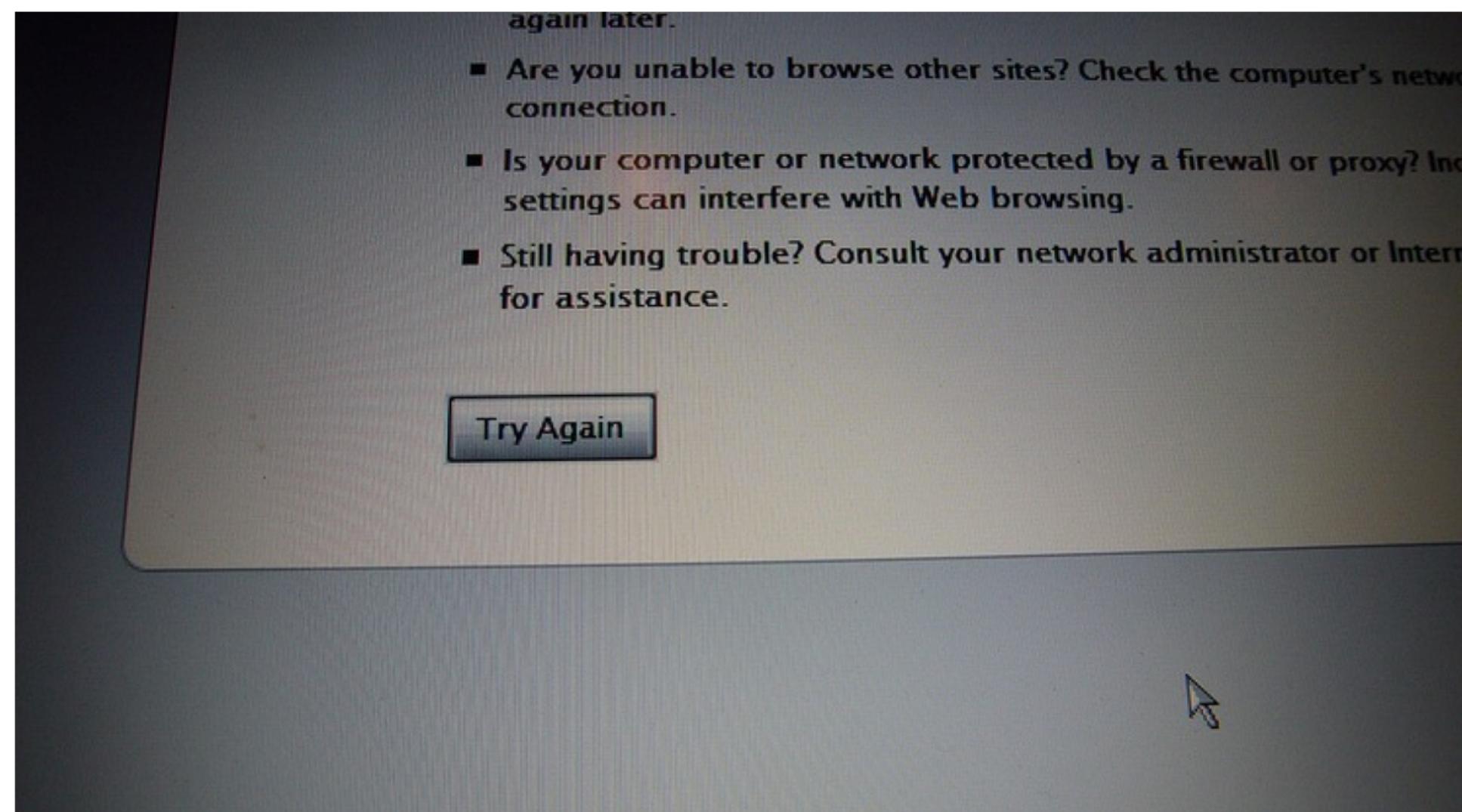
The Switch

FCC to Marriott: No, you can't force your customers onto terrible hotel WiFi



By Brian Fung October 3 Follow @b_fung

Advertisement



HTTP Error 413: Request Entity Too Large

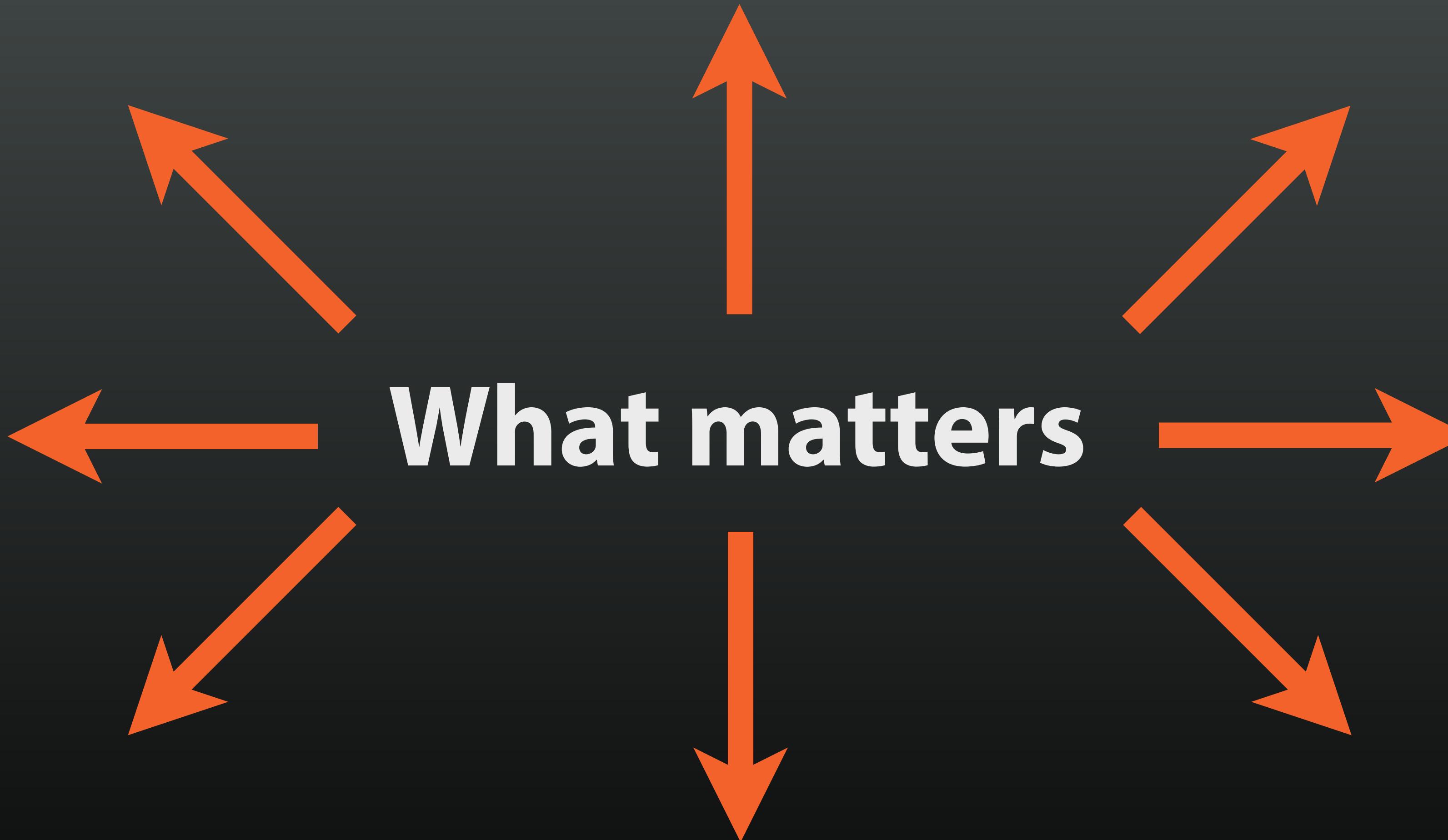
The page you requested could not be loaded. Please try loading a different page.

OK

Details

Loading...

What matters



Let's get adaptive.

Content Teasers

Latest News

view as: [List](#) [Category](#)

 SPORTS > VOLS
Martin excited about Vols' summer progress
Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

 SPORTS > MOCS
ESPN3 to broadcast three UTC football games in 2013
The Southern Conference revealed its eight-game football package with ESPN3 for the 2013 season on Monday, and Chattanooga will have three of its games broadcast over the online network ...

 SPORTS > OUTDOORS
Trucks and Ducks fundraiser is June 27
The Chattanooga chapter of Ducks Unlimited will host Trucks and Ducks 2013 at Mountain View Ford on

By Daniel Lewis
2 hours ago

[Like](#) 2

By Staff Report
3 hours ago

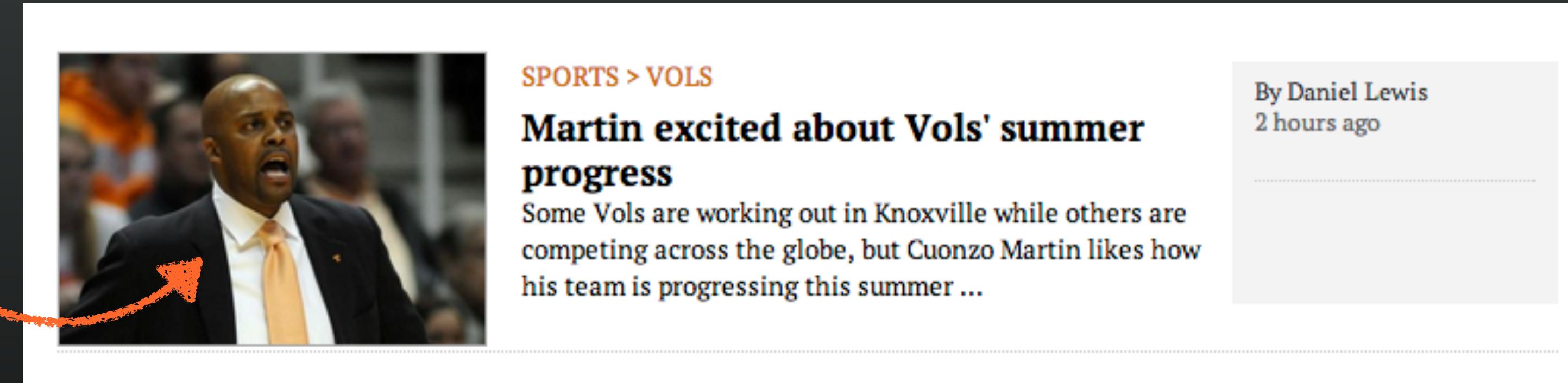
[Like](#) 6

By Richard Simms
5 hours ago

[Like](#) 1

Content Teasers

Lazy load



The image shows a news article card for a basketball coach. On the left is a thumbnail image of Cuonzo Martin, a Black man in a suit and tie, shouting. To the left of the thumbnail, the text "Lazy load" is written in red, with a red arrow pointing from it to the thumbnail. The card includes the following elements: a category label "SPORTS > VOLS" in orange at the top left; the main title "Martin excited about Vols' summer progress" in bold black text; a brief description below it; and a timestamp "By Daniel Lewis 2 hours ago" in a small gray box on the right.

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

IxMap



IxMap



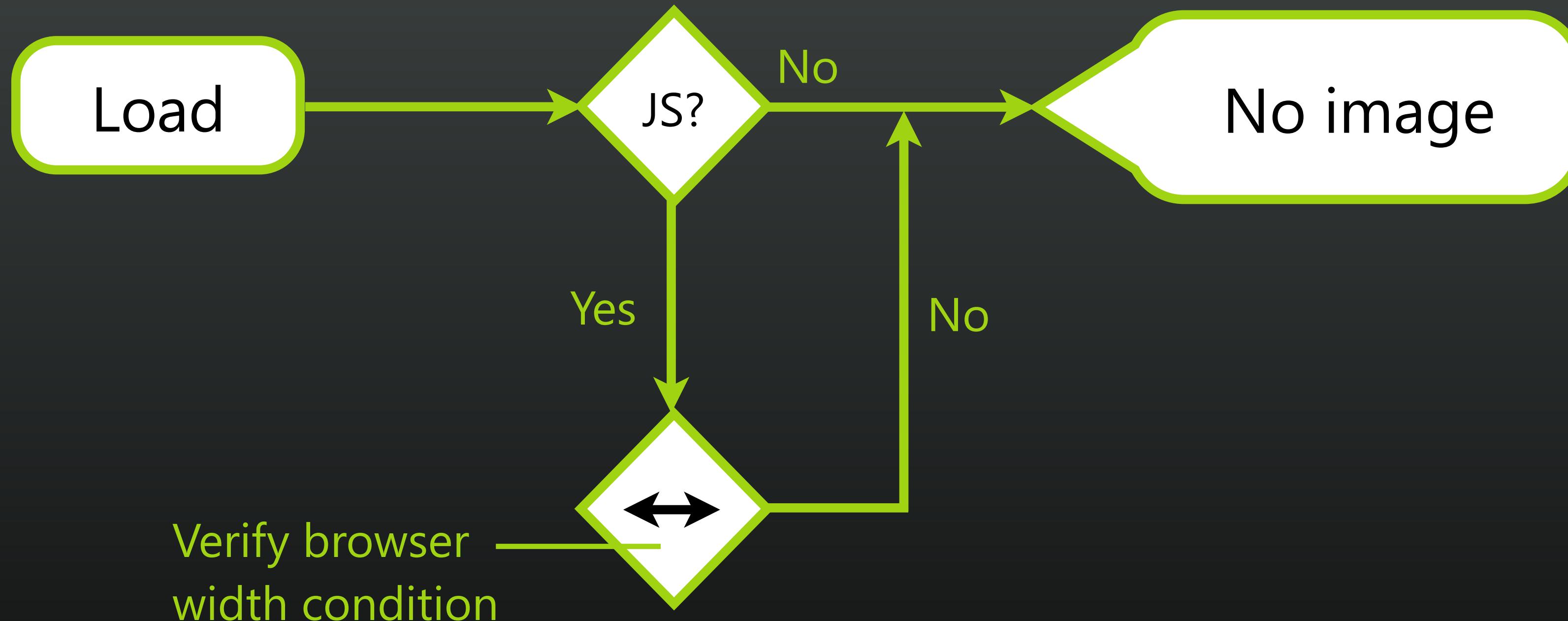
SPORTS > VOLS

Martin excited about Vols' summer progress

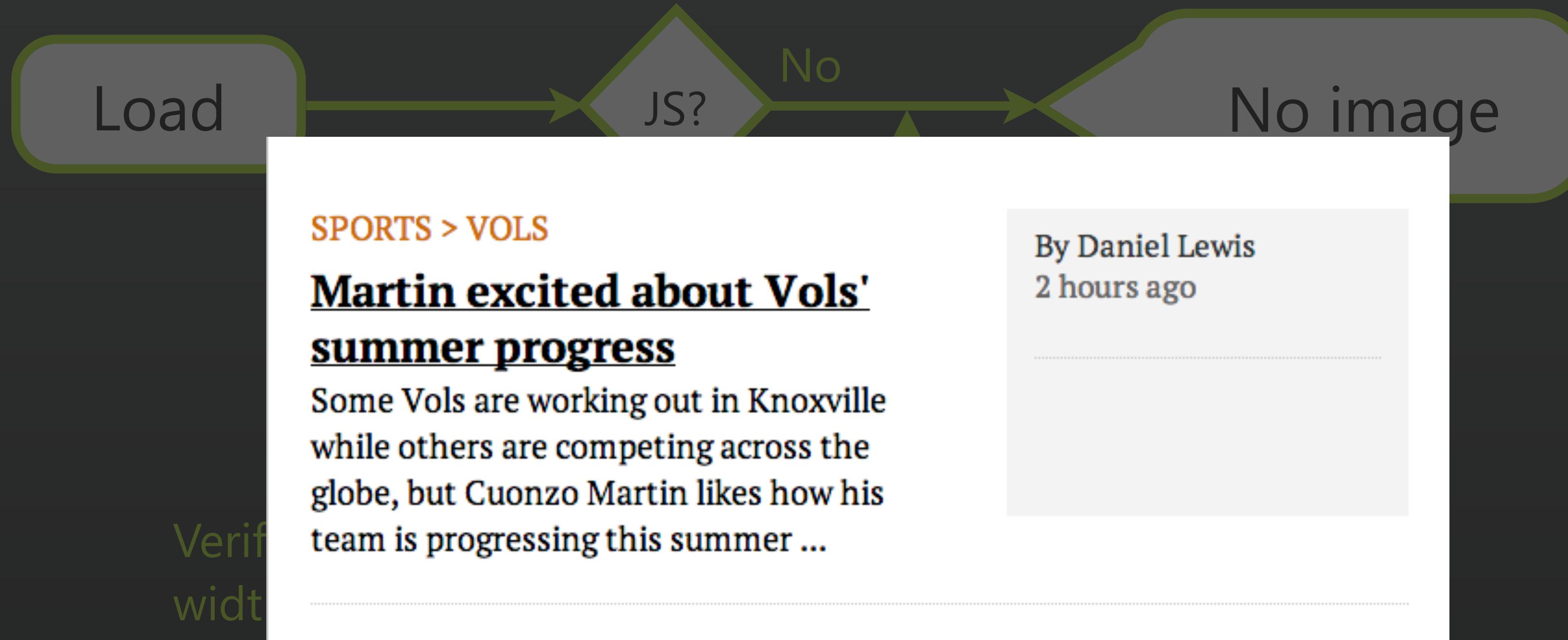
Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

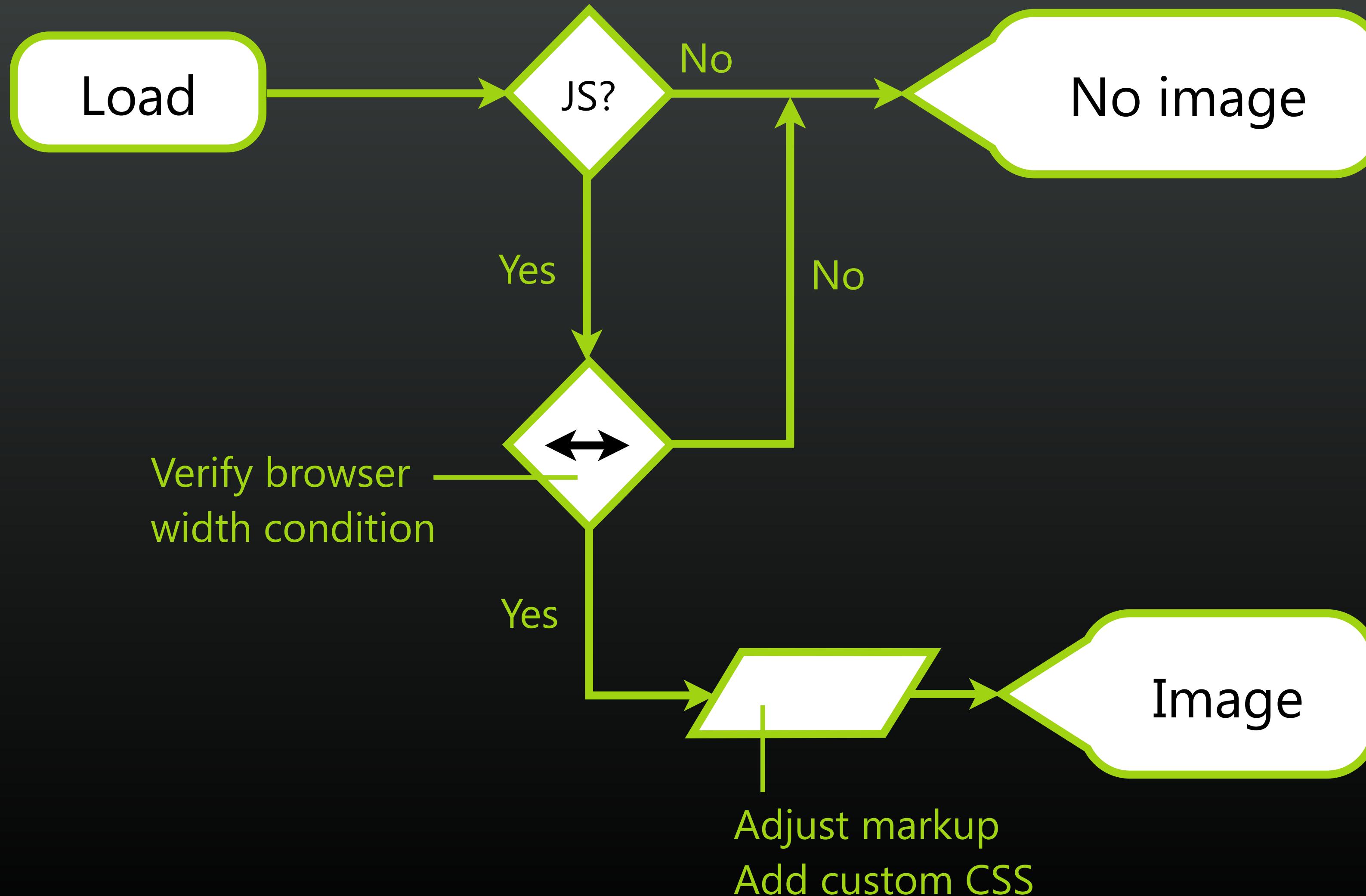
IxMap



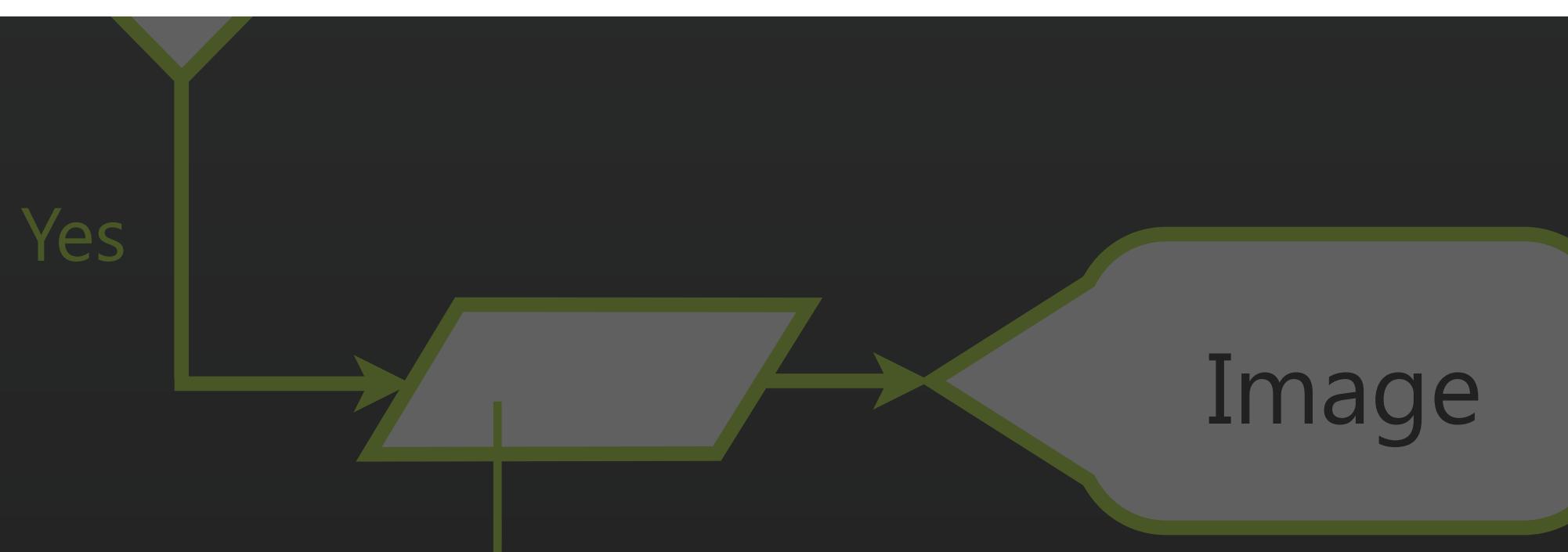
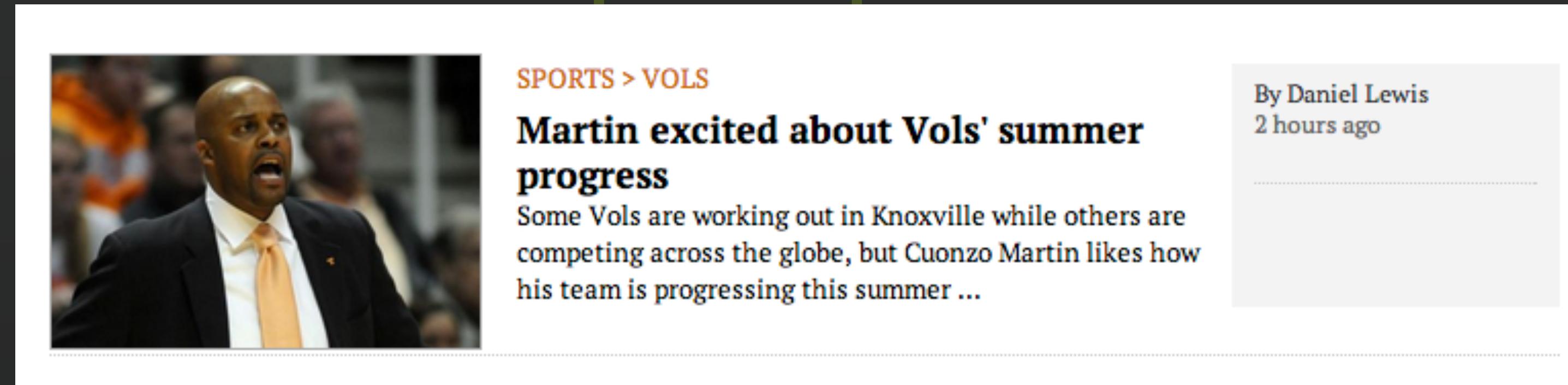
IxMap



IxMap



IxMap



Adjust markup
Add custom CSS

There is no image...

```
<div class="entry-image"  
      data-image-src="/i/sample.jpg"></div>
```

Until there is

```
<div class="entry-image"  
     data-image-src="/i/sample.jpg"></div>
```



```
<div class="entry-image"  
     data-image-src="/i/sample.jpg"  
     data-has-image="true">  
       
</div>
```

CSS at rest

```
[data-image-src] {  
    display: none;  
}
```

CSS at play

```
[data-image-src][data-image-loaded] {  
    display: block;  
}
```

JS Watcher

```
window.watchResize = function(callback)
{
    var resizing;
    function done() {
        clearTimeout( resizing );
        resizing = null;
        callback();
    }
    window.onresize = function(){
        if ( resizing ) {
            clearTimeout( resizing );
            resizing = null;
        }
        resizing = setTimeout( done, 50 );
    };
    callback();
};
```

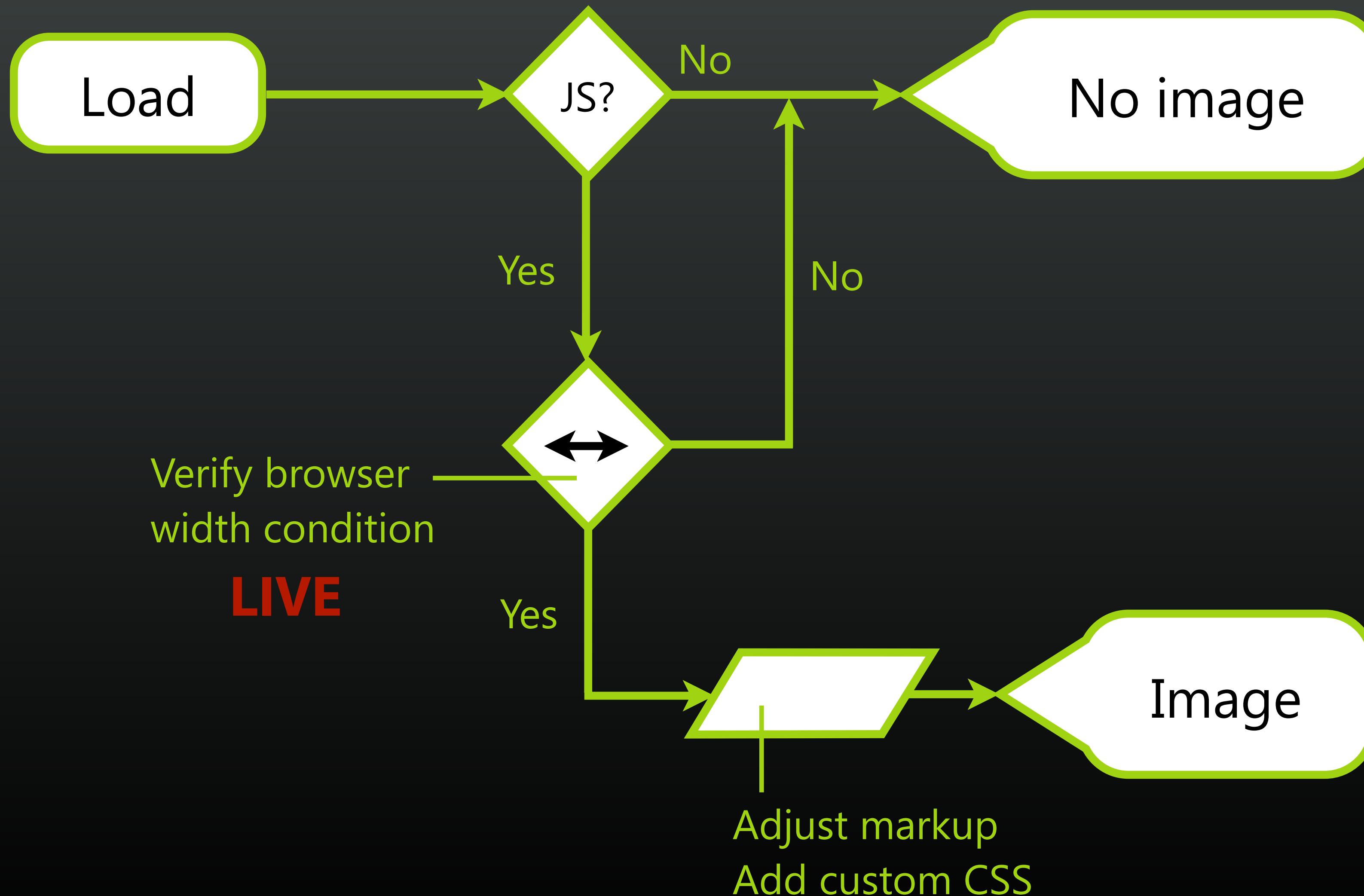
JS Watcher

```
var browser_width = 0;  
window.watchResize(function(){  
    browser_width = window.innerWidth ||  
        document.body.offsetWidth;  
});
```

JS Watcher

```
window.watchResize(function(){
  var threshold = 400,
      image = document.createElement('img'),
      paragraphs = document.getElementsByTagName('p'),
      i = paragraphs.length,
      p, loaded, src, img;
  if ( browser_width >= threshold ) {
    image.setAttribute('alt','');
    while ( i-- ) {
      p = paragraphs[i];
      src = p.getAttribute('data-image-src');
      loaded = p.getAttribute('data-image-loaded');
      if ( src != null && loaded == null ) {
        img = image.cloneNode(true);
        img.setAttribute('src',src);
        p.appendChild( img );
        p.setAttribute('data-image-loaded','');
      }
    }
    image = paragraphs = p = img = null;
  }
});
```

IxMap



Smart CSS

```
[data-image-src][data-image-loaded] {  
    display: block;  
}
```

Smart CSS

```
[data-image-src][data-image-loaded] {  
    display: block;  
}
```

```
@media only screen and (min-width:400px) {  
    [data-img-src][data-image-loaded] {  
        display: block;  
    }  
}
```

Assuming that's your threshold



Content Teasers

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

Content Teasers

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

Content Teasers



SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis
2 hours ago

Content Teasers

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

By Daniel Lewis

2 hours ago

Content Teasers

SPORTS > VOLS

Martin excited about Vols' summer progress

Some Vols are working out in Knoxville while others are competing across the globe, but Cuonzo Martin likes how his team is progressing this summer ...

Tabbed Interface

Pumpkin Pie

OVERVIEW INGREDIENTS DIRECTIONS NUTRITION

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min
Cook Time: 1hr
Ready In: 1hr 10min



Traditional approach

```
<h1>Pumpkin Pie</h1>
<div class="container">
  <ul class="tabs">
    <li><a href="#">Overview</a></li>
    <li><a href="#">Ingredients</a></li>
    <li><a href="#">Directions</a></li>
    <li><a href="#">Nutrition</a></li>
  </ul>
  <div class="section">
    <h2>Overview</h2>
    
    <p>Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!</p>
    <!-- ... -->
  </div>
  <!-- ... -->
</div>
```

Cleaner approach

```
<h1>Pumpkin Pie</h1>
<div class="tabbed-interface">
  <h2>Overview</h2>
  
  <p>Whether you're hosting a festive party or a casual
  get-together with friends, our Pumpkin Pie will make
  entertaining easy!</p>
  <!-- ... -->
  <h2>Ingredients</h2>
  <ul>
    <li>1 (9<abbr title="inch">in</abbr>) unbaked deep
        dish pie crust</li>
    <li>% cup white sugar</li>
    <!-- ... -->
  </ul>
  <h2>Directions</h2>
  <!-- ... -->
</div>
```

Cleaner approach

```
<h1>Pumpkin Pie</h1>
<div class="tabbed-interface">
  <h2>Overview</h2>
  
  <p>Whether you're hosting a festive party or a casual
  get-together with friends, our Pumpkin Pie will make
  entertaining easy!</p>
  <!-- ... -->
  <h2>Ingredients</h2>
  <ul>
    <li>1 (9<abbr title="inch">in</abbr>) unbaked deep
        dish pie crust</li>
    <li>% cup white sugar</li>
    <!-- ... -->
  </ul>
  <h2>Directions</h2>
  <!-- ... -->
</div>
```

No JS, basic CSS

Pumpkin Pie

OVERVIEW

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min

Cook Time: 1hr

Ready In: 1hr 10min



INGREDIENTS

- 1 (9in) unbaked deep dish pie crust
- ½ cup white sugar
- 1 tsp ground cinnamon
- ½ tsp salt
- ½ tsp ground ginger
- ¼ tsp ground cloves
- 2 eggs
- 1 can (15oz) pumpkin puree
- 1 can (12fl oz) evaporated milk

DIRECTIONS

1. Preheat oven to 425°F
2. Combine sugar, salt, cinnamon, ginger and cloves in small bowl.
3. Beat eggs lightly in large bowl.
4. Stir in pumpkin and sugar-spice mixture.

IxMap



IxMap

Load

Pumpkin Pie

OVERVIEW

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min

Cook Time: 1hr

Ready In: 1hr 10min



INGREDIENTS

1 (9in) unbaked deep dish pie crust
½ cup white sugar
1 tsp ground cinnamon
½ tsp salt
½ tsp ground ginger
¼ tsp ground cloves
2 eggs
1 can (15oz) pumpkin puree
1 can (12fl oz) evaporated milk

DIRECTIONS

1. Preheat oven to 425°F.
2. Combine sugar, salt, cinnamon, ginger and cloves in small bowl.
3. Beat eggs lightly in large bowl.
4. Stir in pumpkin and sugar-spice mixture.
5. Gradually stir in evaporated milk.
6. Pour into pie shell.
7. Bake for 15 minutes.
8. Reduce temperature to 350°F; bake for 40 to 50 minutes or until knife inserted near center comes out clean.
9. Cool on wire rack for 2 hours.
10. Serve immediately or refrigerate.

NUTRITION

Servings Per Recipe: 8

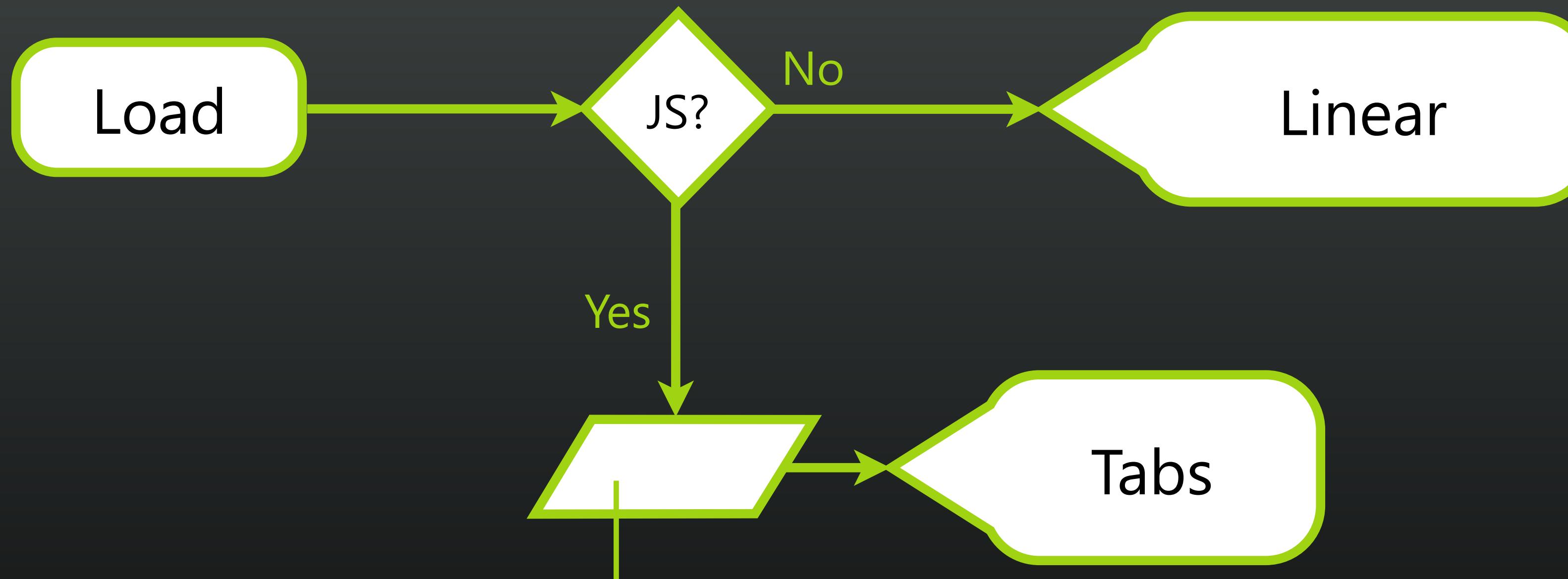
Amount Per Serving

Calories: 284

Total Fat: 12.1g

Linear

IxMap



Split content into sections
Make tabs
Assign event handlers (mouse & keyboard)

IxMap

Load

Pumpkin Pie

OVERVIEW

INGREDIENTS

DIRECTIONS

NUTRITION

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 x 9-inch deep dish pie

Prep Time: 10min

Cook Time: 1hr

Ready In: 1hr 10min



ear

Assign event handlers (mouse & keyboard)

Linear HTML

```
<h1>Pumpkin Pie</h1>
<div class="tabbed-interface">
  <h2>Overview</h2>
  
  <p>Whether you're hosting a festive party or a casual
  get-together with friends, our Pumpkin Pie will make
  entertaining easy!</p>
  <!-- ... -->
  <h2>Ingredients</h2>
  <ul>
    <li>1 (9<abbr title="inch">in</abbr>) unbaked deep
        dish pie crust</li>
    <li>% cup white sugar</li>
    <!-- ... -->
  </ul>
  <h2>Directions</h2>
  <!-- ... -->
</div>
```

Tabbed

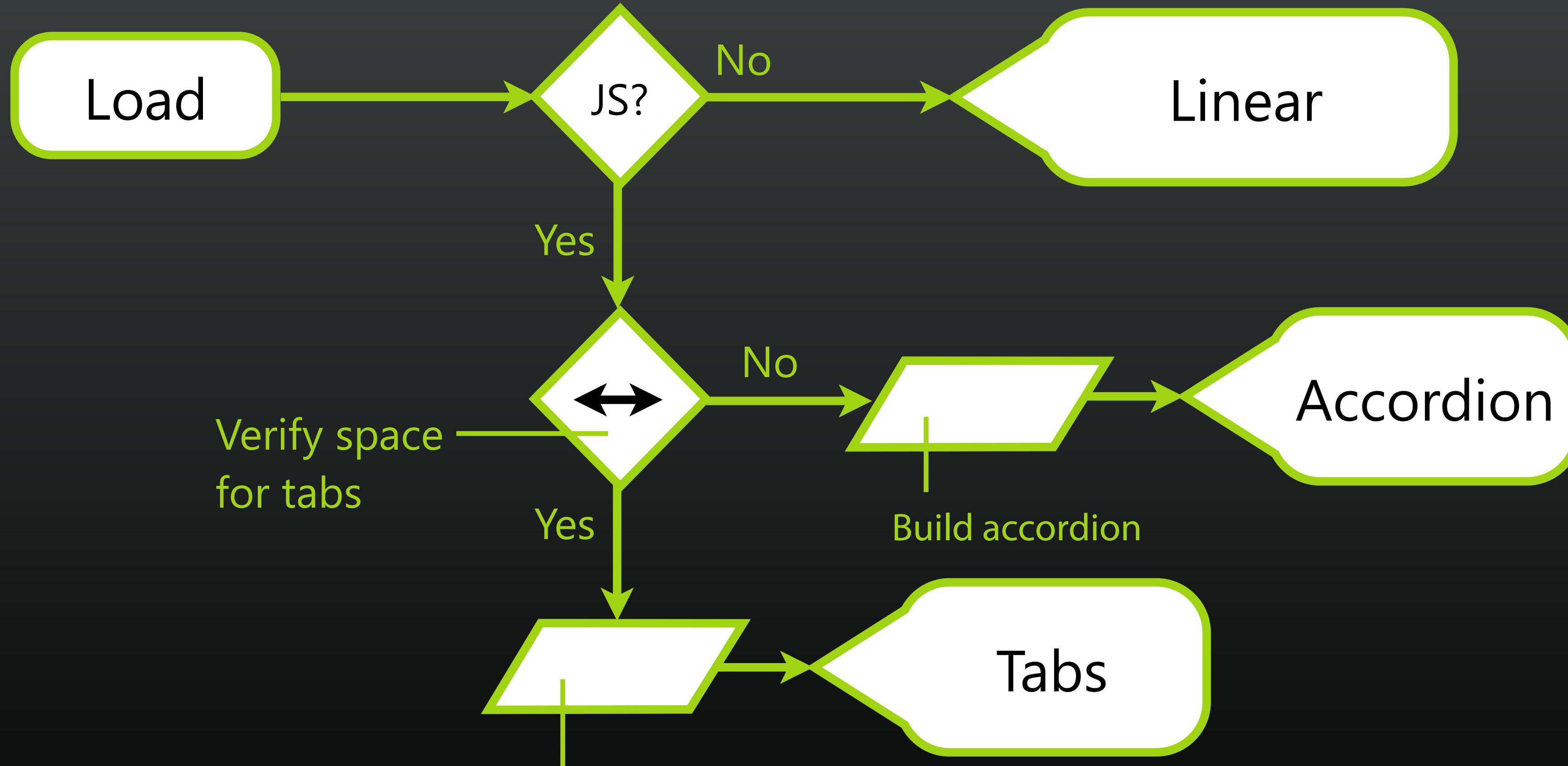
```
<h1>Pumpkin Pie</h1>
<div class="tabbed-interface TabInterface-enabled">
  <ul class="tabs">
    <li><a href="#folder-1">Overview</a></li>
    <li><a href="#folder-2">Ingredients</a></li>
    <li><a href="#folder-3">Directions</a></li>
    <li><a href="#folder-4">Nutrition</a></li>
  </ul>
  <section id="folder-1">
    <h2>Overview</h2>
    
    <p>Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!</p>
    <!-- ... -->
  </section>
  <!-- ... -->
</div>
```

Tabbed

```
<h1>Pumpkin Pie</h1>
<div class="tabbed-interface TabInterface-enabled">
  <ul class="tabs">
    <li><a href="#folder-1">Overview</a></li>
    <li><a href="#folder-2">Ingredients</a></li>
    <li><a href="#folder-3">Directions</a></li>
    <li><a href="#folder-4">Nutrition</a></li>
  </ul>
  <section id="folder-1">
    <h2>Overview</h2>
    
    <p>Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!</p>
    <!-- ... -->
  </section>
  <!-- ... -->
</div>
```



IxMap

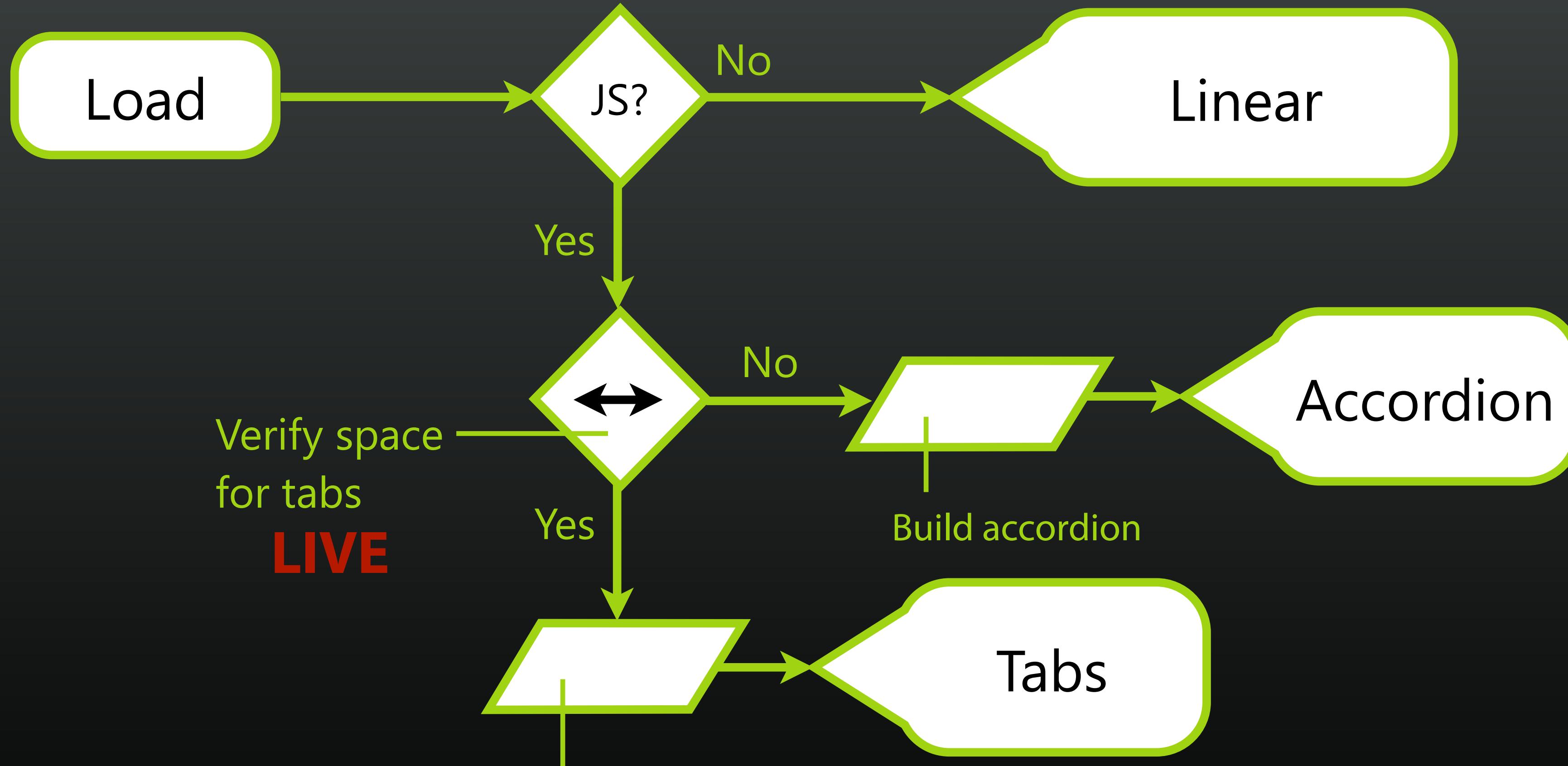


Split content into sections

Make tabs

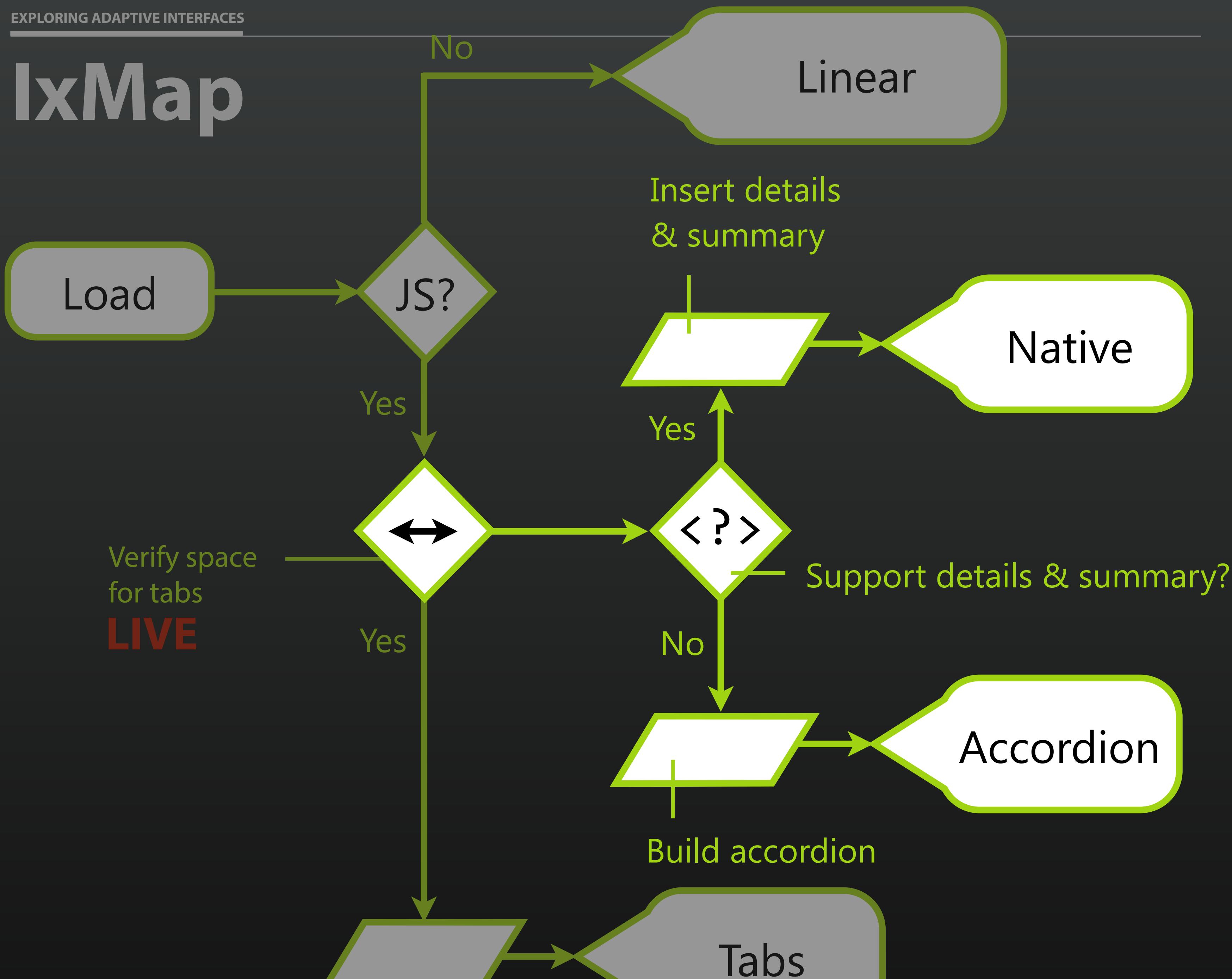
Assign event handlers (mouse & keyboard)

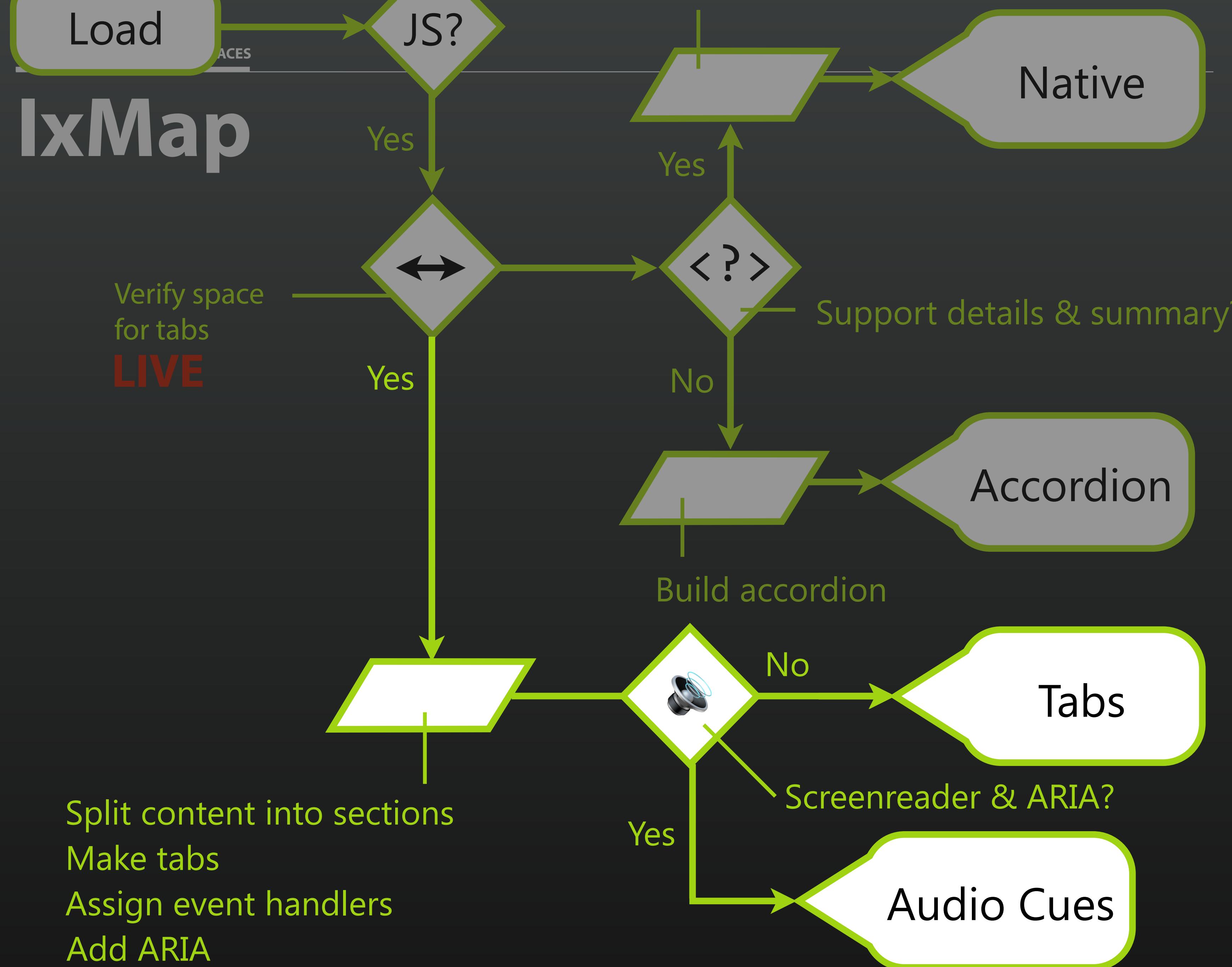
IxMap



Split content into sections
Make tabs
Assign event handlers (mouse & keyboard)

IxMap





Adding ARIA

role="tablist"

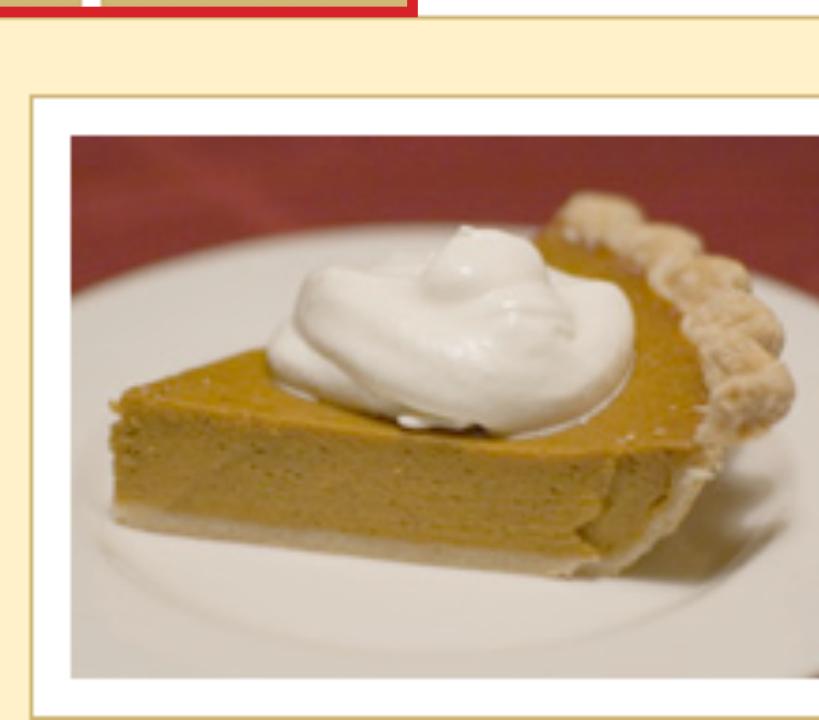
Pumpkin Pie

OVERVIEW INGREDIENTS DIRECTIONS NUTRITION

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min
Cook Time: 1hr
Ready In: 1hr 10min



Adding ARIA

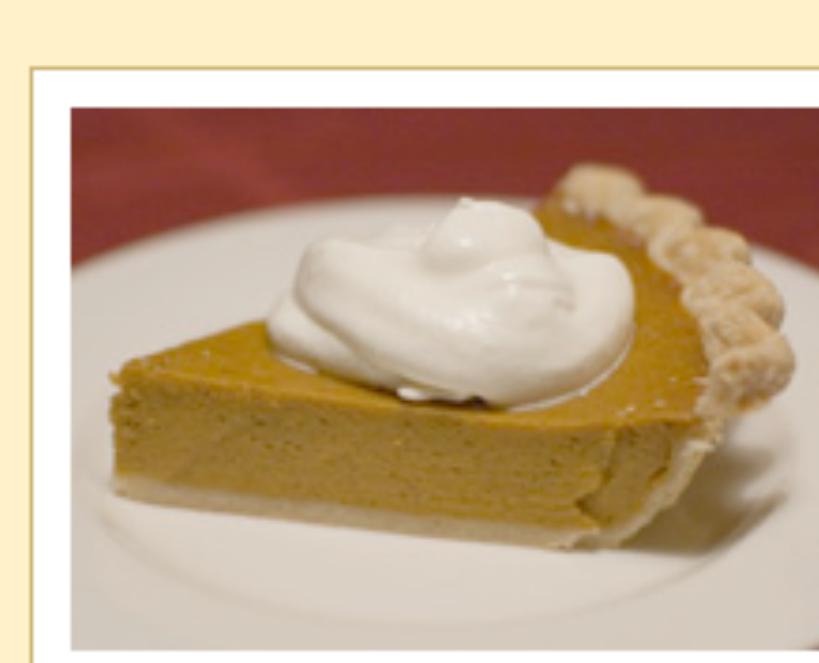
Pumpkin Pie

OVERVIEW **INGREDIENTS** **DIRECTIONS** **NUTRITION**

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min
Cook Time: 1hr
Ready In: 1hr 10min



role="tab"
aria-selected="true"
aria-controls="folder-1"

Adding ARIA

role="tab"
aria-selected="false"
aria-controls="folder-4"

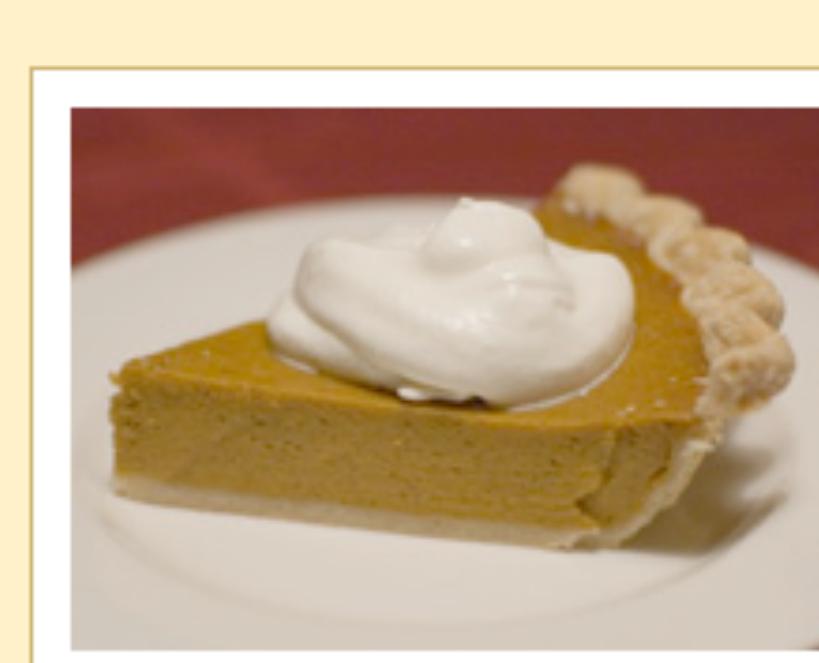
Pumpkin Pie

OVERVIEW INGREDIENTS DIRECTIONS NUTRITION

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min
Cook Time: 1hr
Ready In: 1hr 10min



Adding ARIA

Pumpkin Pie

OVERVIEW INGREDIENTS DIRECTIONS NUTRITION

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min
Cook Time: 1hr
Ready In: 1hr 10min



```
role="tabpanel"
aria-hidden="false"
aria-labelledby="folder-1-tab"
```

Result!

Pumpkin Pie

OVERVIEW INGREDIENTS DIRECTIONS NUTRITION

Whether you're hosting a festive party or a casual get-together with friends, our Pumpkin Pie will make entertaining easy!

Original recipe yield: 1 × 9-inch deep dish pie

Prep Time: 10min
Cook Time: 1hr
Ready In: 1hr 10min



Pumpkin pie Mozilla Firefox

Photo by [Paul Covette](#), licensed under [Creative Commons](#).

That's pretty
adaptive!

Together we can
make the web
a little better
every day.

Questions?

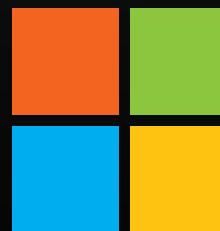
Tweet me at
@AaronGustafson

Thank you!

@AaronGustafson

aaron-gustafson.com

slideshare.net/AaronGustafson



Microsoft