Flexbox

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Agenda

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SASS Mixins

Problems with Float

Flexbox Text Solution

Flexbox Gallery Solution

CSS Transitions

Testing

What Is Flexbox?

parent / children

Horizontal Axis (cross)

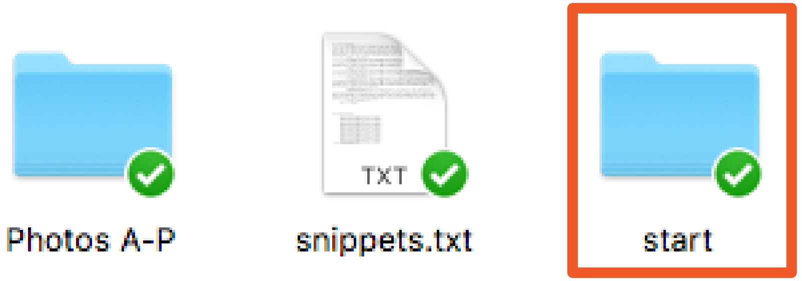
Vertical Axis (main)

wrap

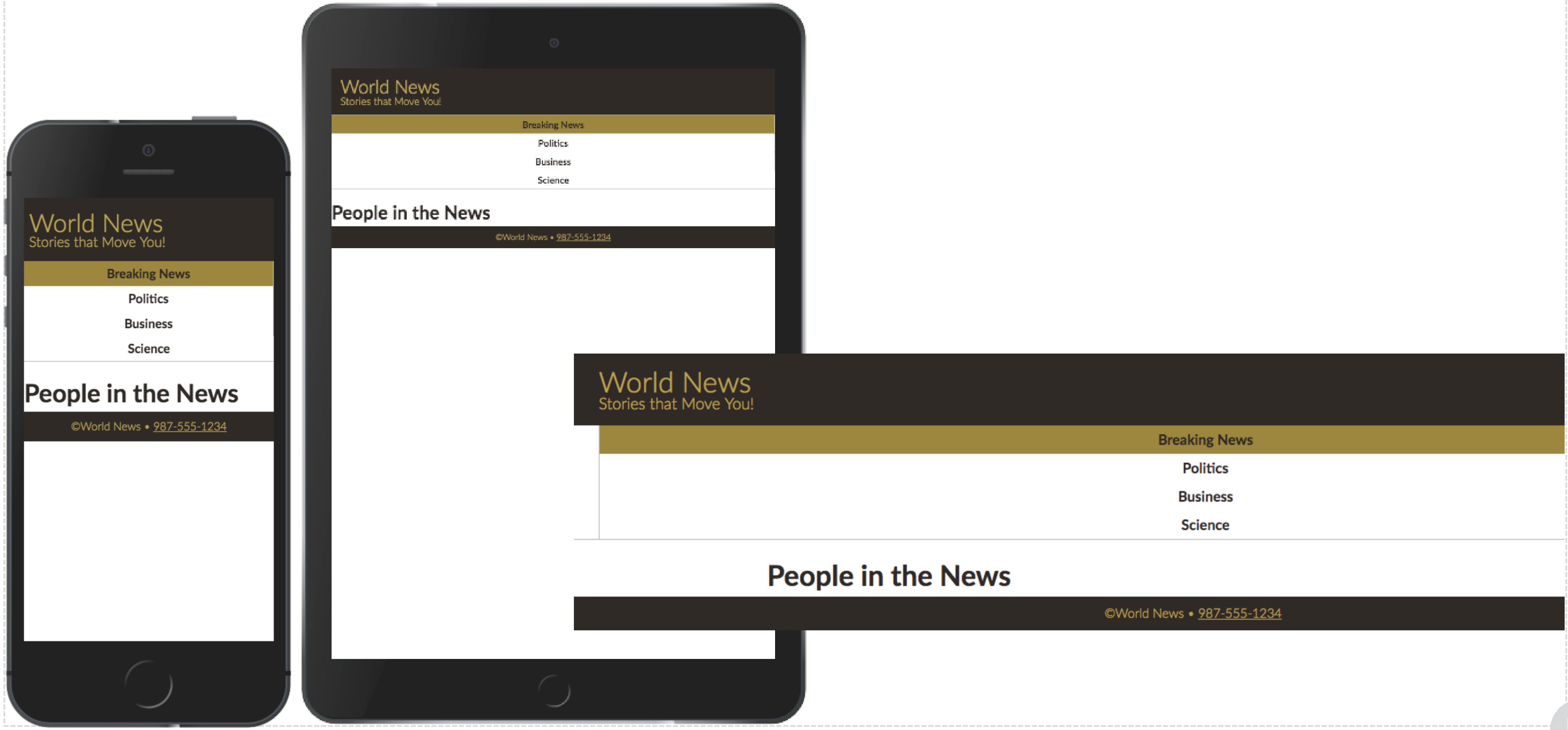
spacing

alignment

Setup



Navigation Solution



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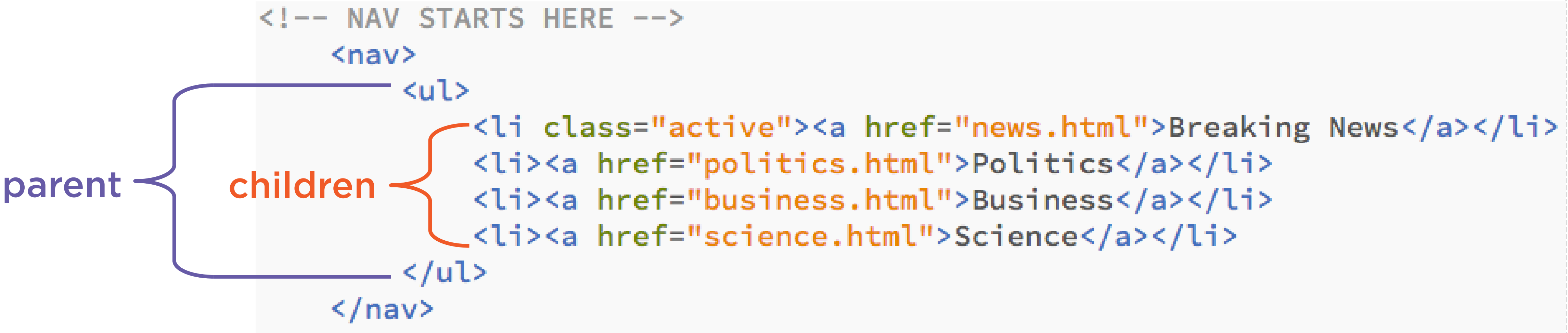


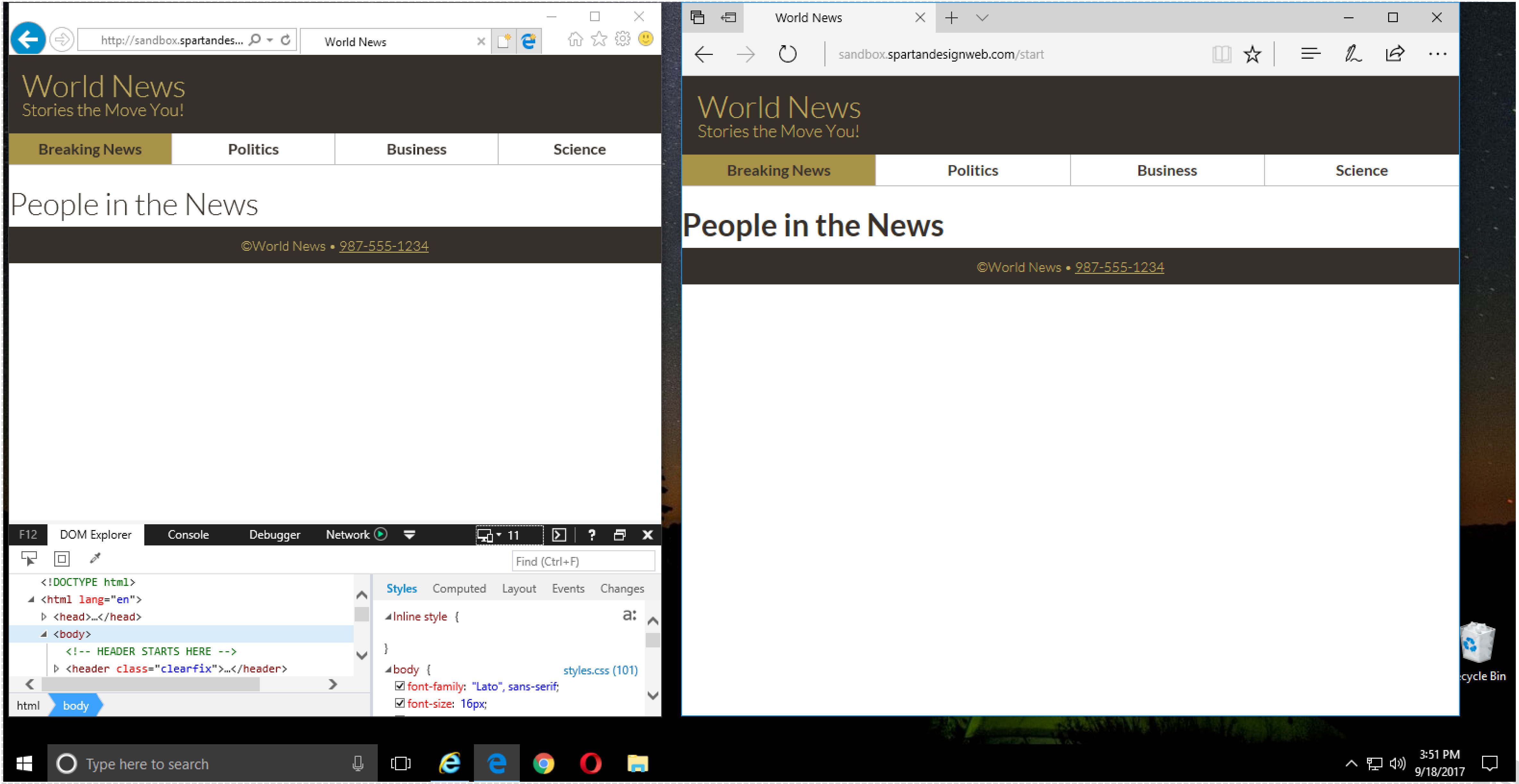
```
<!-- NAV STARTS HERE -->
    <nav>
        <ul>
            <li class="active"><a href="news.html">Breaking News</a></li>
            <li><a href="politics.html">Politics</a></li>
            <li><a href="business.html">Business</a></li>
            <li><a href="science.html">Science</a></li>
        </ul>
    </nav>
```

Block

Inline

Flex

On line 43, let talk to the unordered list and tell it to display as a flex item.
Lets see the result. That action alone is a great improvement.
Remember that on small screens we want the menu to occupy the entire width.
Therefore we need each child item to be 25% of the entire width.
Here on line 46, we will tell the list items (the children of the ul parent) to have a flex-bias or referred width of 25%.
Now when we view the results in Chrome, Safari, Opera, and Firefox, the result is exactly what we wanted.



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```
<!DOCTYPE html>
◢ <html lang="en">
  ▷ <head>…</head>
  ◢ <body>
      <!-- HEADER STARTS HERE -->
    ▷ <header class="clearfix">…</header>
```

```
◢Inline style {

}
◢body {                              styles.css (101)
  ☑ font-family: "Lato", sans-serif;
  ☑ font-size: 16px;
```

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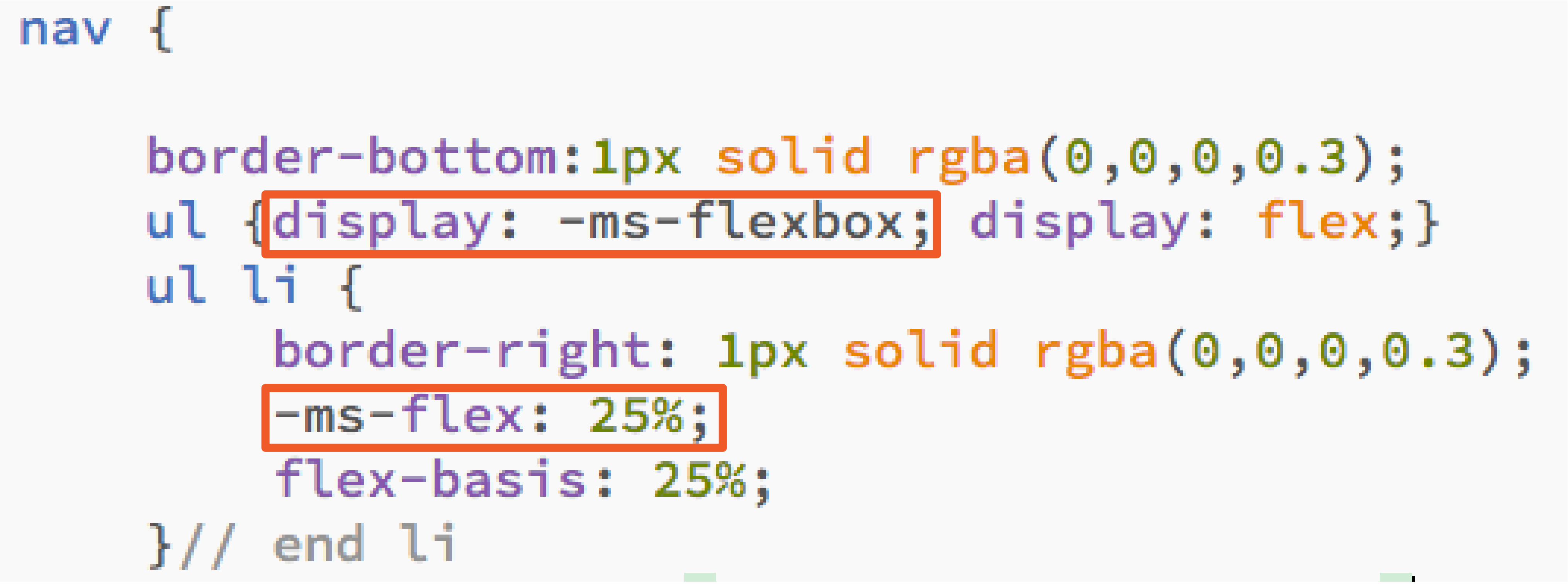
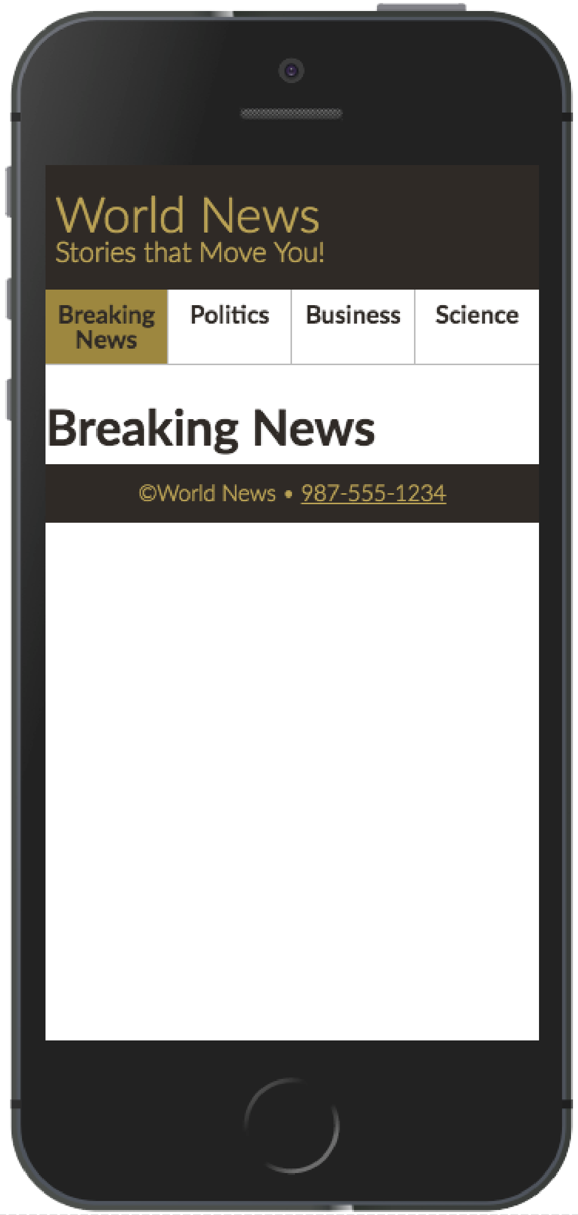


```
nav {

    border-bottom:1px solid rgba(0,0,0,0.3);
    ul {display: -ms-flexbox; display: flex;}
    ul li {
        border-right: 1px solid rgba(0,0,0,0.3);
        -ms-flex: 25%;
        flex-basis: 25%;
    }// end li
```



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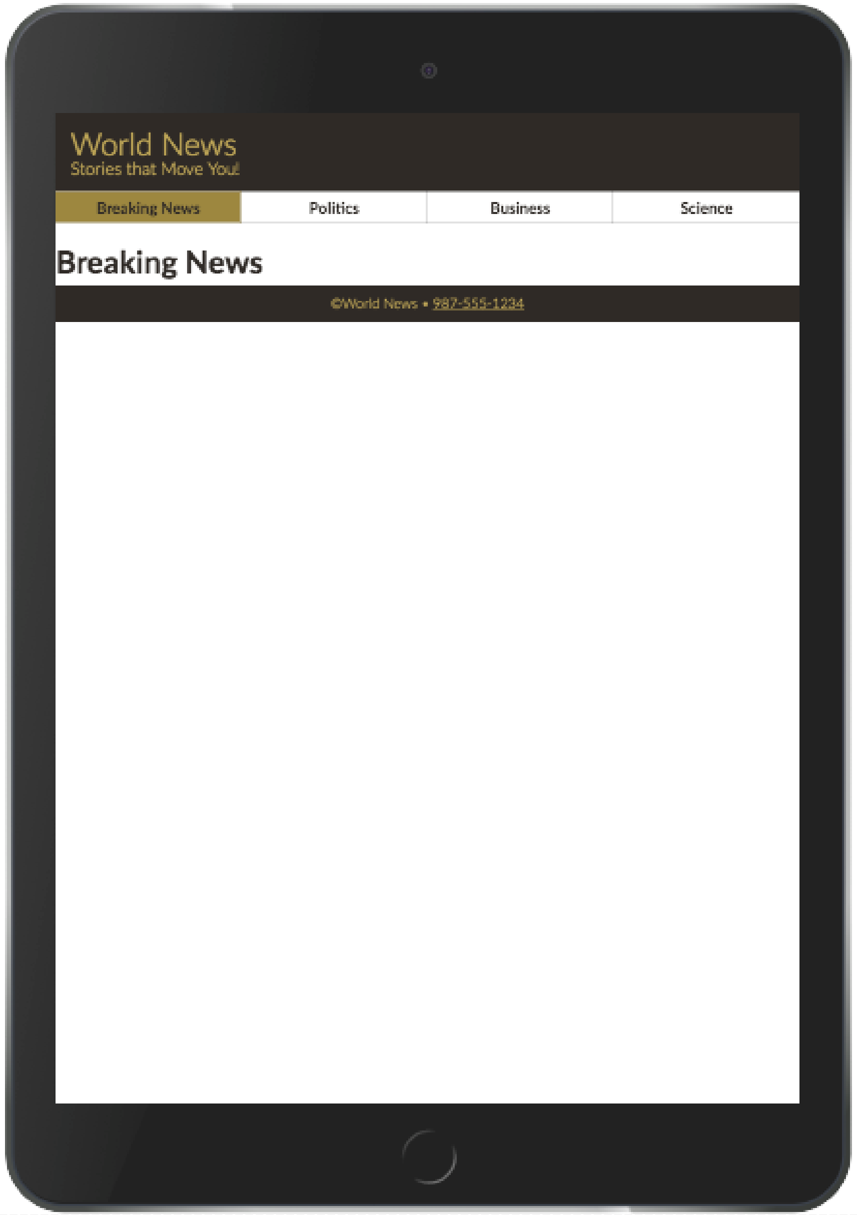

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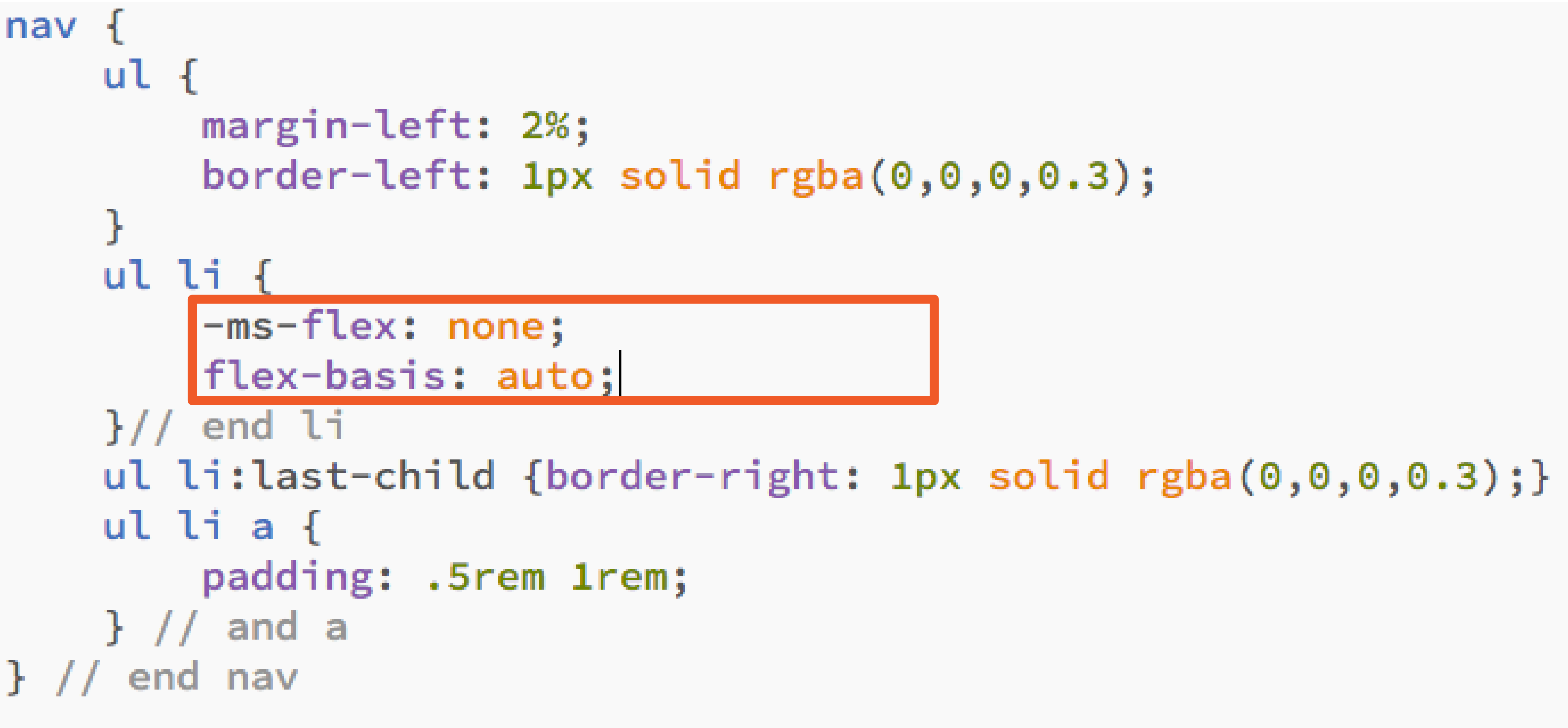
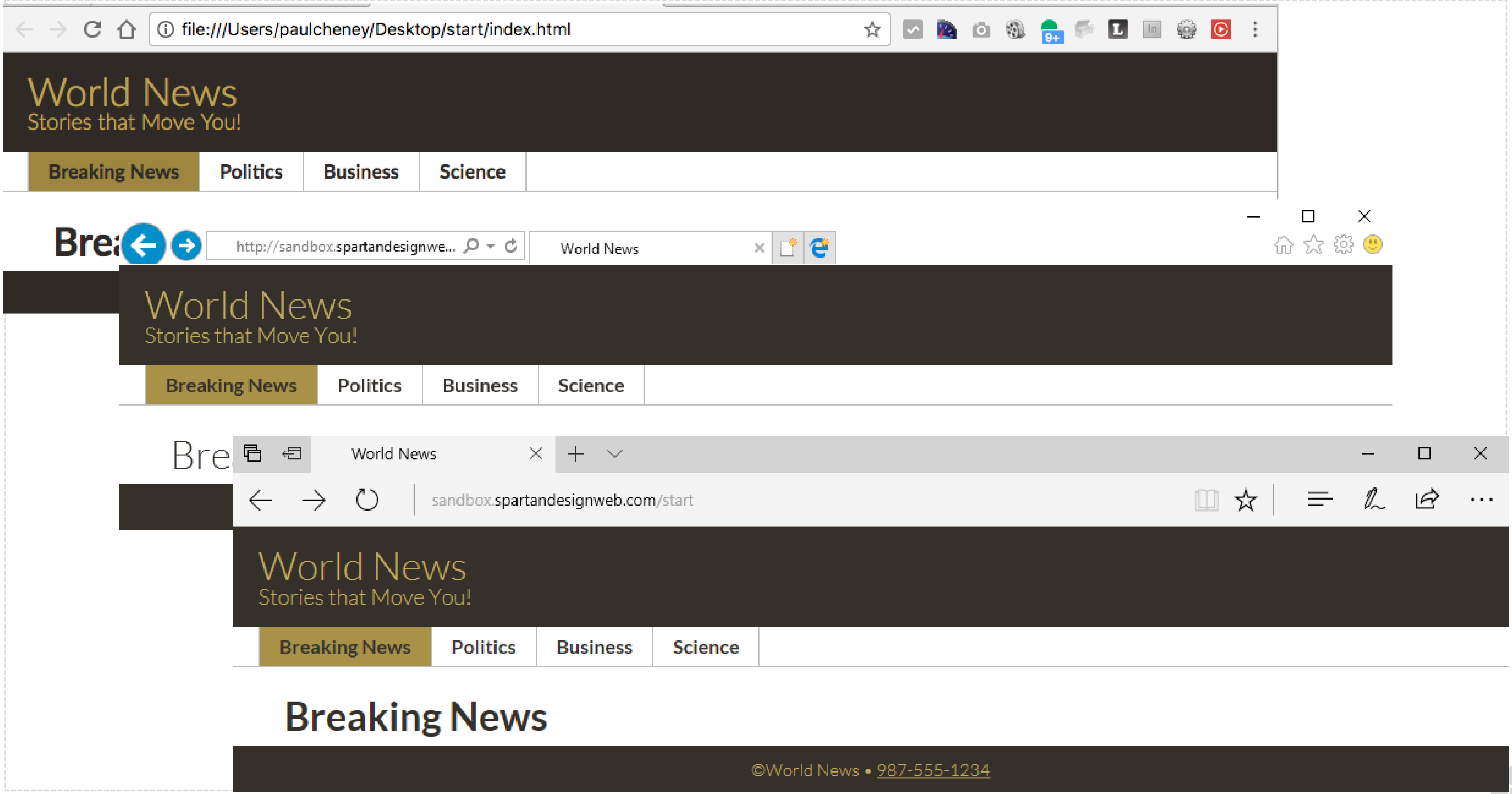
Large.scss Changes



```
nav {
    ul {
        margin-left: 2%;
        border-left: 1px solid rgba(0,0,0,0.3);
    }
    ul li {
        -ms-flex: none;
        flex-basis: auto;
    }// end li
    ul li:last-child {border-right: 1px solid rgba(0,0,0,0.3);}
    ul li a {
        padding: .5rem 1rem;
    } // and a
} // end nav
```



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Mixin

_variables.scss

```
@mixin puppy($variable){


}
```

_small-default.scss

```
div { @includepuppy(3rem )    ; }
```

Now, Let's pull up a website that creates CSS gradients for us and turn it into a mixin.

We are going to start wuth a two color mixin so I will remove these two center points

Set the start color to black and the end color to white.

The orientation we want is vertical down so were ready to copy the code.

In the variables.scss file, we will create our mixin by typing @mixin then a name we make up. I will use gradient () { }

Then paste our code between the curly braces.

We can remove the comment at the top and save our work.

Now we will switch to the small default file and on line 41 call the mixin using at include and the name we made up.

When we test our work, we can see a black and white gradient in the navigation bar.

Now lets customize it by providing two hex colors separated by a comma.

In the variables file we will create two new incoming variables called startcolor and endcolor.

Now we need to replace all the black hex values with the variable startcolor and then replace all the white hex values with the variable endcolor.

Now lets save and look at the result. While this is pretty ugly, it does work!

Now lets send some colors that work with our design.

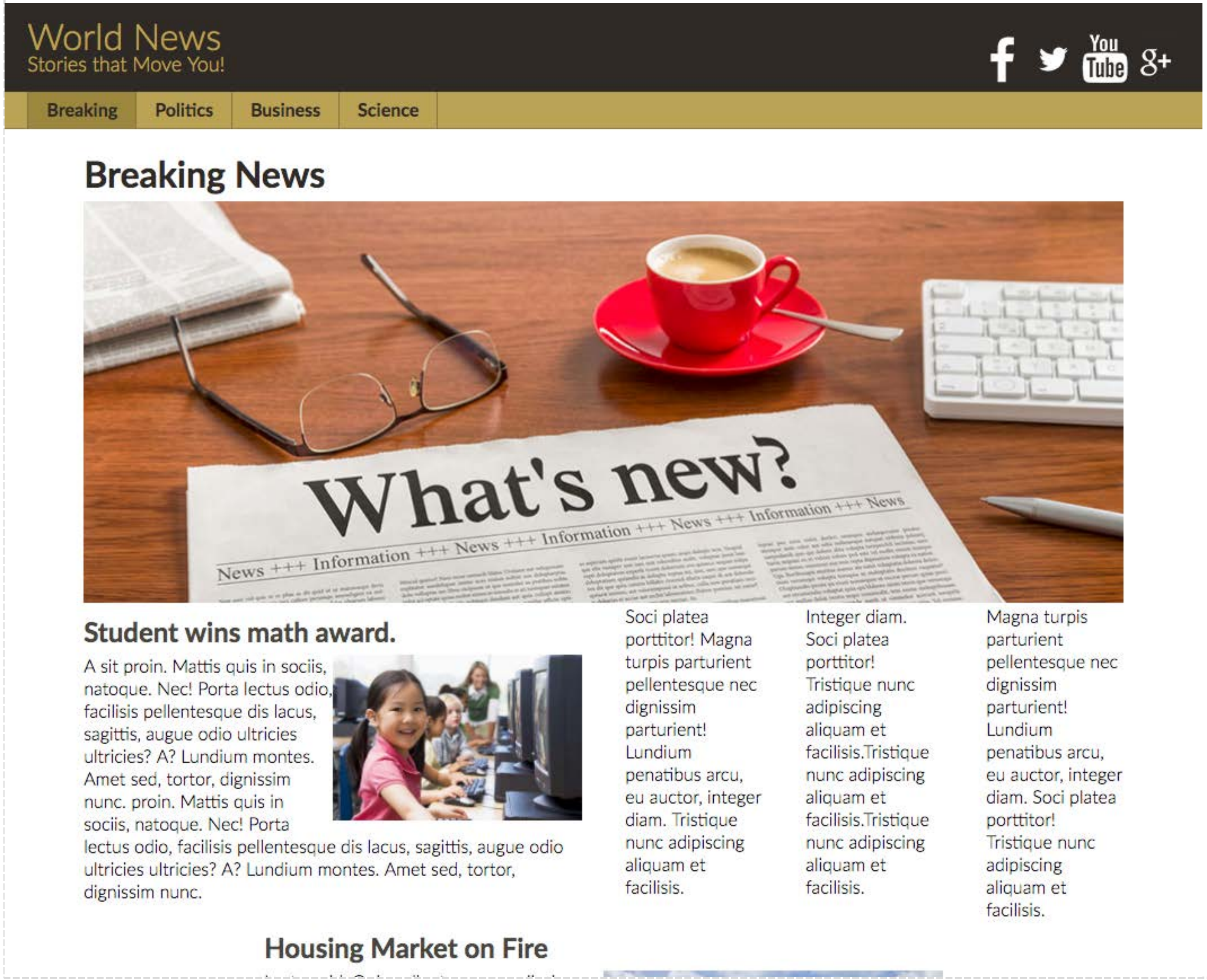
Lets send the secondary color as the start color and then use darken to modify the secondary color by 20% and end our gradient with that.

THis is what the rendered css looks like.

Now that our mixin is built, we can reuse it for different colors by calling the mixin from say the footer and sending two different color. This is what it would look like with two shades of orange.

The end result looks pretty nice. Its not the flat look but trust me, graidents will come back in style at some point.

Problems with Floats



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Breaking News

What's new?
News +++ Information +++ News +++ Information +++ News +++ Information +++ News

Student wins math award.

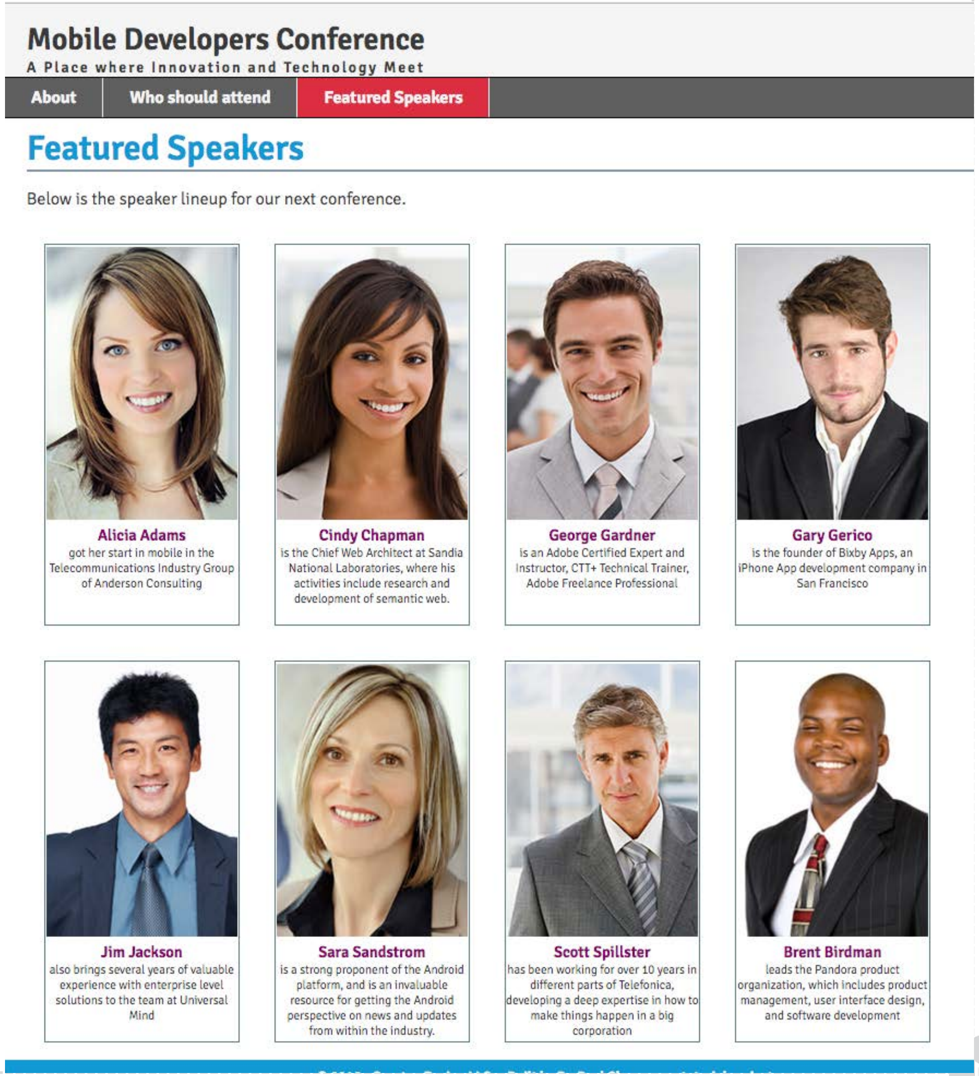
A sit proin. Mattis quis in sociis, natoque. Nec! Porta lectus odio, facilisis pellentesque dis lacus, sagittis, augue odio ultricies ultricies? A? Lundium montes. Amet sed, tortor, dignissim nunc. proin. Mattis quis in sociis, natoque. Nec! Porta lectus odio, facilisis pellentesque dis lacus, sagittis, augue odio ultricies ultricies? A? Lundium montes. Amet sed, tortor, dignissim nunc.

Soci platea porttitor! Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Tristique nunc adipiscing aliquam et facilisis.

Integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.Tristique nunc adipiscing aliquam et facilisis.Tristique nunc adipiscing aliquam et facilisis.

Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.

Housing Market on Fire



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Featured Speakers

Below is the speaker lineup for our next conference.

Alicia Adams got her start in mobile in the Telecommunications Industry Group of Anderson Consulting

Cindy Chapman is the Chief Web Architect at Sandia National Laboratories, where his activities include research and development of semantic web.

George Gardner is an Adobe Certified Expert and Instructor, CTT+ Technical Trainer, Adobe Freelance Professional

Gary Gerico is the founder of Bixby Apps, an iPhone App development company in San Francisco

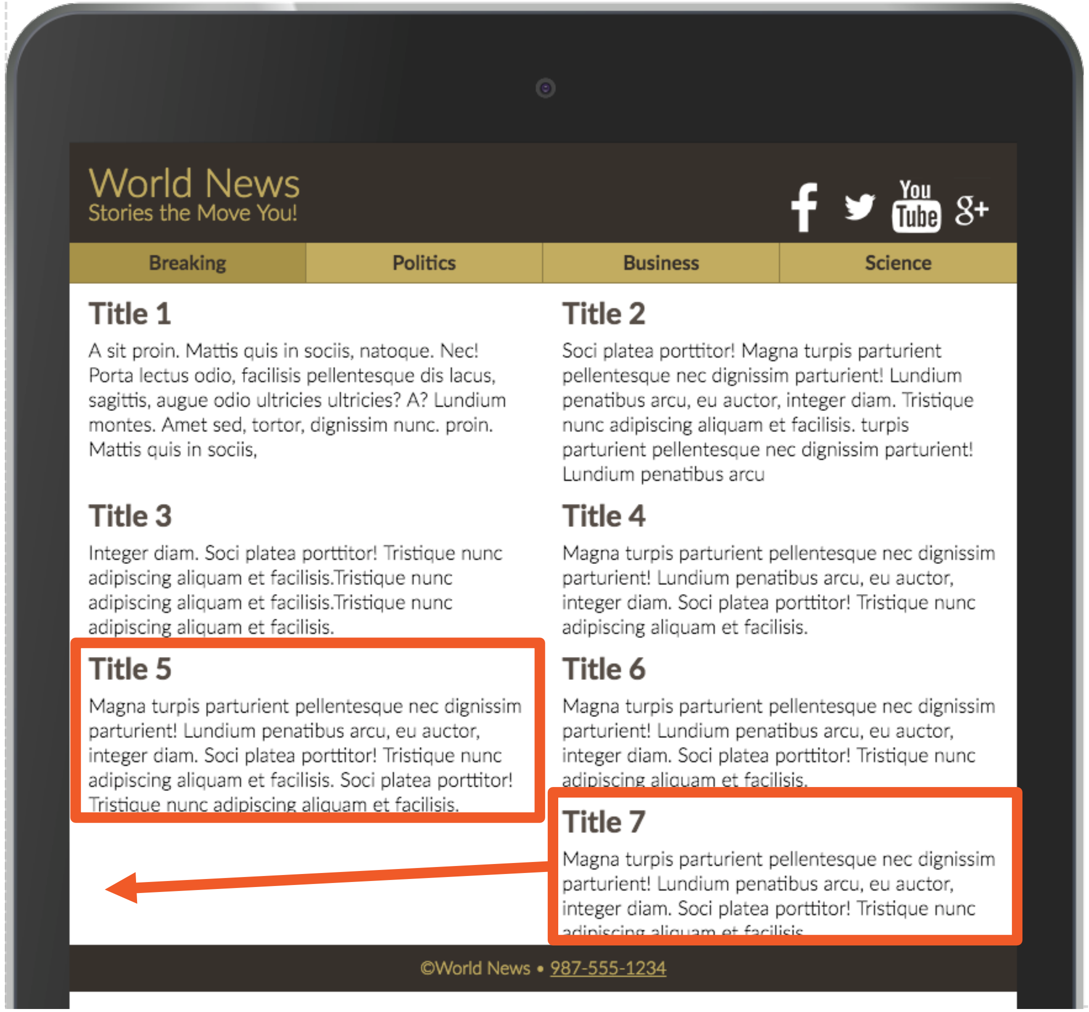
Jim Jackson also brings several years of valuable experience with enterprise level solutions to the team at Universal Mind

Sara Sandstrom is a strong proponent of the Android platform, and is an invaluable resource for getting the Android perspective on news and updates from within the industry.

Scott Spillster has been working for over 10 years in different parts of Telefonica, developing a deep expertise in how to make things happen in a big corporation

Brent Birdman leads the Pandora product organization, which includes product management, user interface design, and software development

Problem with Floats



Title 1

A sit proin. Mattis quis in sociis, natoque. Nec! Porta lectus odio, facilisis pellentesque dis lacus, sagittis, augue odio ultricies ultricies? A? Lundium montes. Amet sed, tortor, dignissim nunc. proin. Mattis quis in sociis,

Title 2

Soci platea porttitor! Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Tristique nunc adipiscing aliquam et facilisis. turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu

Title 3

Integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.Tristique nunc adipiscing aliquam et facilisis.Tristique nunc adipiscing aliquam et facilisis.

Title 4

Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.

Title 5

Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.

Title 6

Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.

Title 7

Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.

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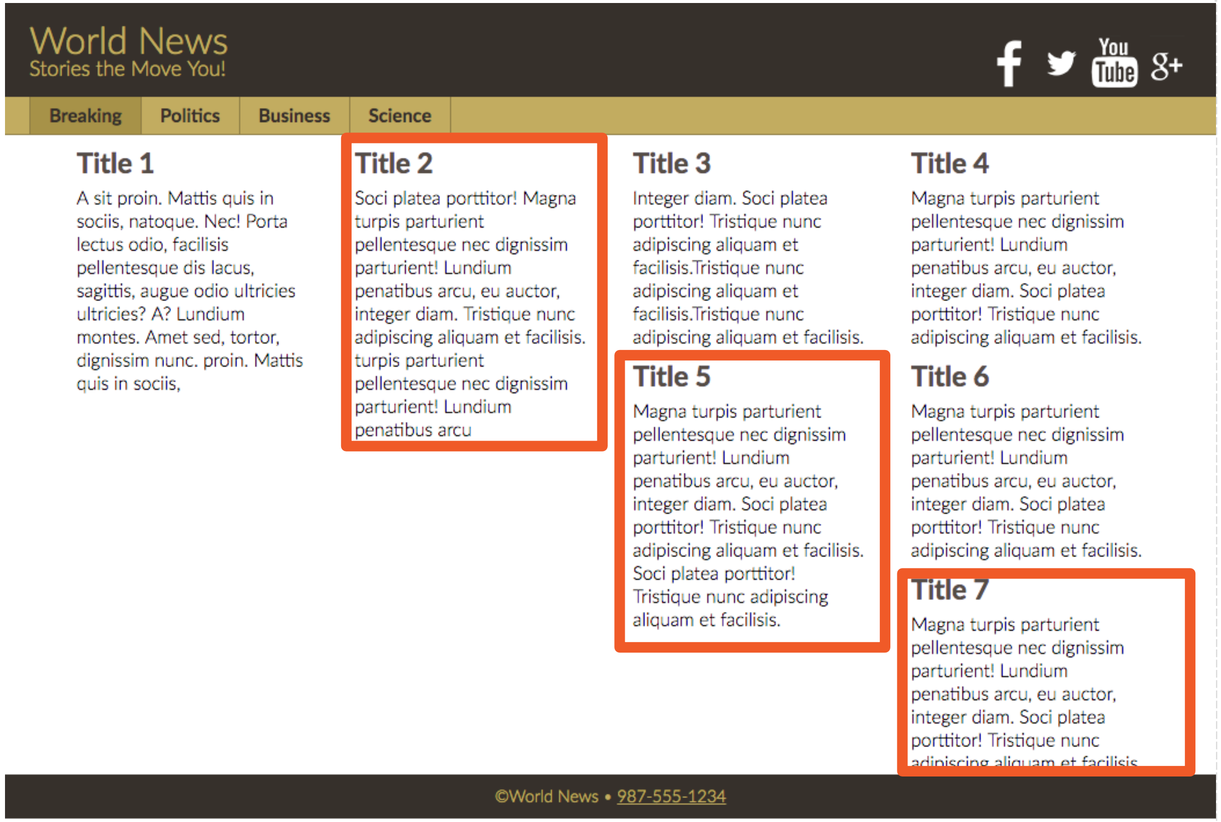

Title 1

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Title 2

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Title 3

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Title 4

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Title 5

Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis.

Title 6

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Title 7

Magna turpis parturient pellentesque nec dignissim parturient! Lundium penatibus arcu, eu auctor, integer diam. Soci platea porttitor! Tristique nunc adipiscing aliquam et facilisis

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Lets get back to our example and copy the first division with a class of container1 from the snippets file into the main of our index page
This is what the page looks like now.
In the small scss file lets tell the parent division to display as flex and we will also include the Microsoft vendor hack.
New when we view it on our browser, all 5 items are presented horizontally regardless of the browser width.
Now lets return to our scss file and tell the parent division to allow wrapping.
Well that seems to have defeated all our work as they are now presented vertically again.
This is because the children are all divisions which are block elements and their width is 100% be default.
Now lets talk to the children divisions of container1 and on the small screens we will set the flex-basis to 100% which is the default. Remember to add the Microsoft hack.
Lets also add some padding the the children so they don't touch the edge of the screen.
Here is what we have now for the small screens.

In the medium scss, we will talk to the children of container1 and set the flex basis width to 50%. Because internet explorer adds padding to the outside and not the inside we must reduce the microsoft hack to 46% to account for the padding we added in the small-default scss.

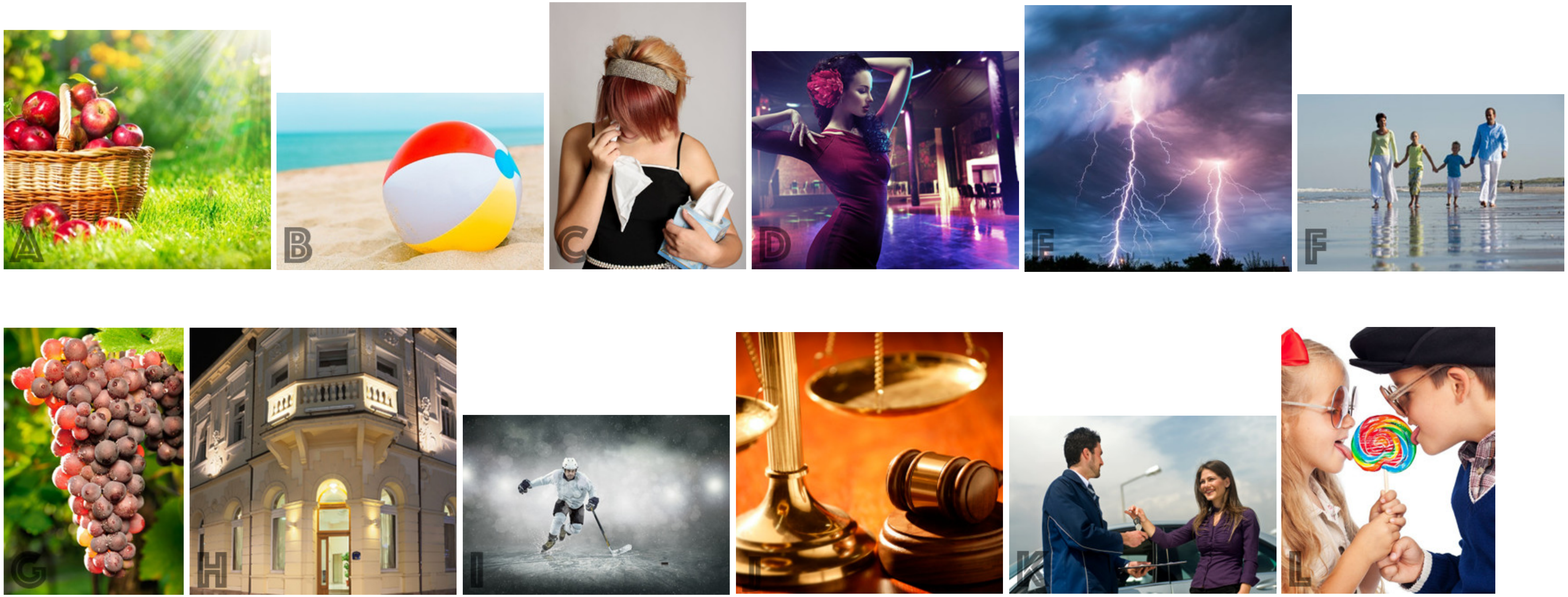
Notice that the "lost Cave" article does not slam into the "bomb fails" article as it would with floats but instead moves to the left where it is supposed to be.

Lets copy this line from the medium scss and paste it in the large scss. We will change this to 33.333% and 29.333 percent for IE10.

The end result is a proper display of text articles regardless of the screen width.

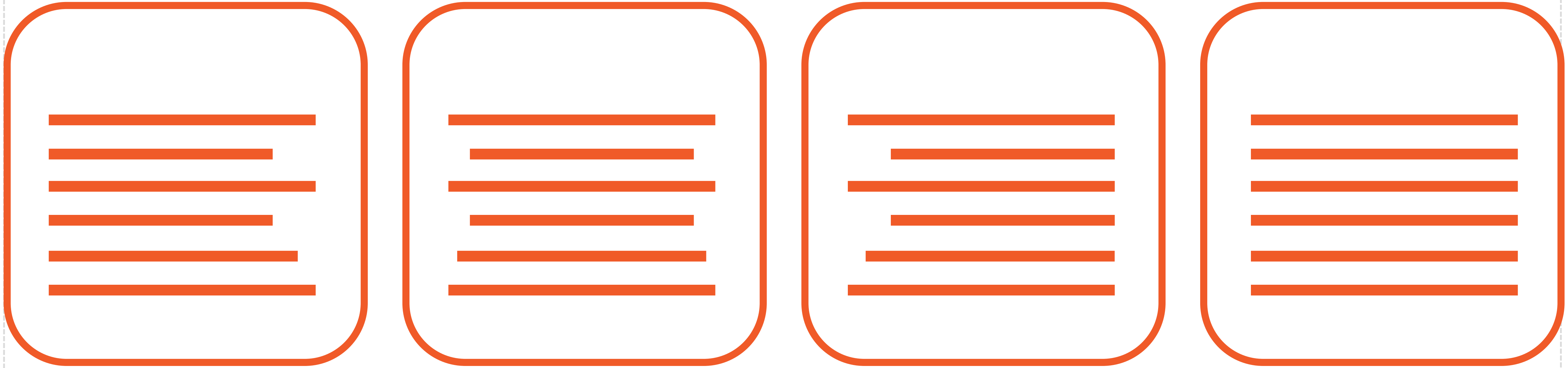
When we test our work on internet explorer and edge it works great with one minor problem on ie and that is the second row stretches the last two articles to 50% instead of 33%. We can live with that!

Flexbox Gallery Solution



Lets start by copying all these images from the demos folder to the images folder in the start folder.
Now lets open the snippets file and copy the division with a class of container 2.
We will paste it ABOVE the container 1 division so it shows at the top of our page.
When we look at our page, we have 16 photos stacked vertically in the page.
Now open the small-default scss file.
Lets create talk to the parent and set the display to flex.
When we look at the result we see 16 images presented horizontally across the screen.
Lets go back and add wrapping.
As we adjust the screen size, we see the number of columns changing but the images are not scaling. They are all being shown at their default size. We will change this later.
Setting the flex direction changes nothing because it is the default value.
Changing it to row reverse changes the Presentation from right to left but the top row is still showing the first three images A, B, and C.
Now lets switch it to column which shows them in a single column again.
If we add a limit to the division height of say 1600px then we can see multiple columns
If we use column reverse then we can see that they start at the bottom. Not sure how useful this would be but you may find it useful someday.
Lets put flex-direction back to row and remove the height restriction.

Justify Content



flex-start

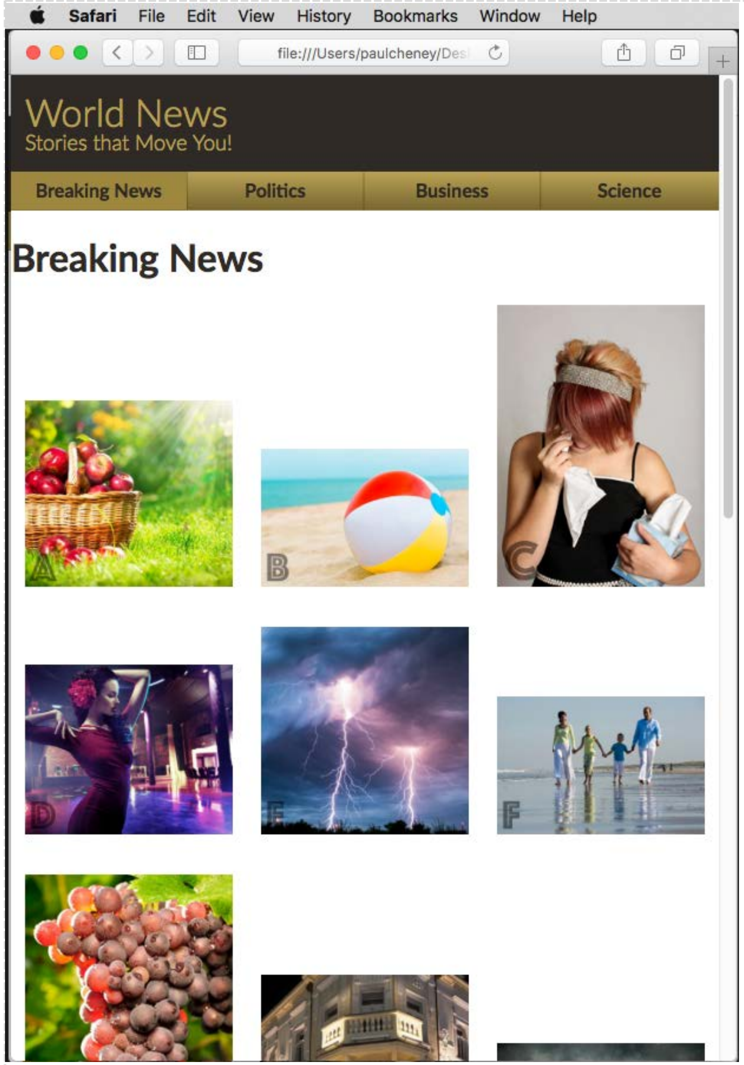
center

flex-end

space-between

The default value for justify-content is flex-start which leaves everything lined up against the left edge.
If we change it to flex-end then we have right alignment.
Changing it to center puts extra space at both side.
Using space between keeps the edges even and divides the space between the images.
You can try space around and space evenly on your own. Lets put it back to space between.
Now I am going to move on to align-items because that one is really useful.
Lets add align-items and set the value to the default of flex-start
This one is hard to see with images so I am going to start by adding a background-color to the figure tags, the children of container2
The end result is that the rows are all aligned at the top. no surprise there.
Similarly, if we use flex-end, the images are not bottom aligned. This would have been so useful for many projects in my past.
Setting align items to center is also no surprise as you can see the centers are lined up.
The last one is stretch which looks forces the figure tag to expand so they are all the same height. While this is not very useful with images, lets try it on the text items at the bottom of the page.
We will add align items stretch to the container1 and set the background color and a border on the children of container1
The end result looks like this which is difficult without flexbox.

Lets put align items for the photos back to flex-end and remove the background-color
Right now the number of images showing is based on the original size of the images, In our case, these images are no larger that 300px in either direction.
Were now going to make them display in two columns on small screens by setting the flex-basis to 50%
We will add some padding around the images so they don't touch each other.
Finally we will tell the image inside the figure to resize to 100% of the figure in which it resides.
Here is the result on a phone
On medium screens, we will display them at 1/3 so we get three across. This is the result on a tablet.
On large screens, we will display them at 1/4 so we get four across. This is the result on a desktop.
No just for fun, lets through in a CSS transition on the images.
Back in the small-dsfault.scss, lets add a hover psudo class.
We will add transform: scale ant 1.05% which is not much but enough to make the images look alive. Notice how they look jumpy when we hover over each one.
Lets return to our scss and add a transform to the figure at 3/10 of a second using ease-in-out
Now we have this nice subtle response on image rollover.
There are some more features of flexbox that we will cover in the final module of this course where we design a music player app.


Safari File Edit View History Bookmarks Window Help
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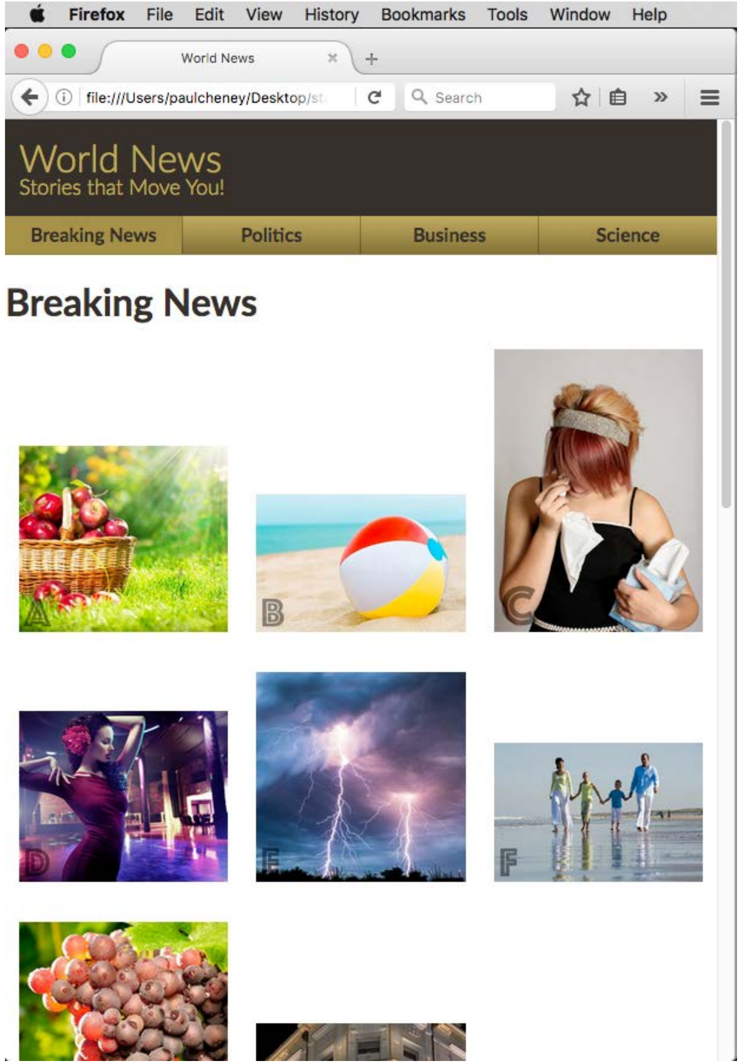
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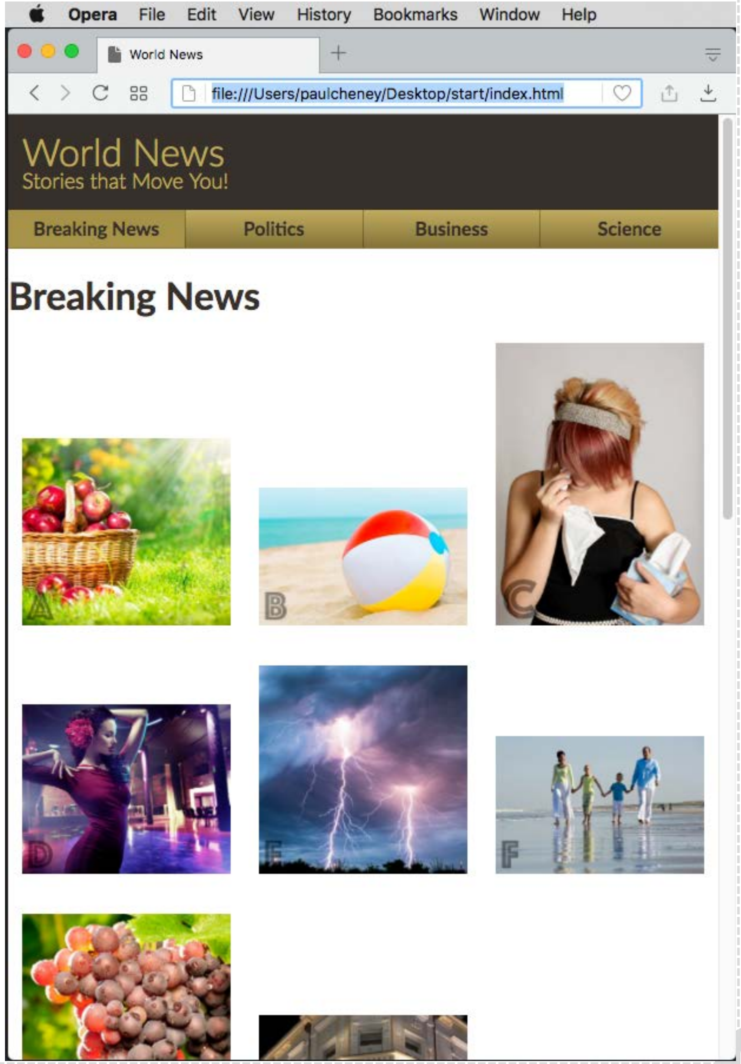
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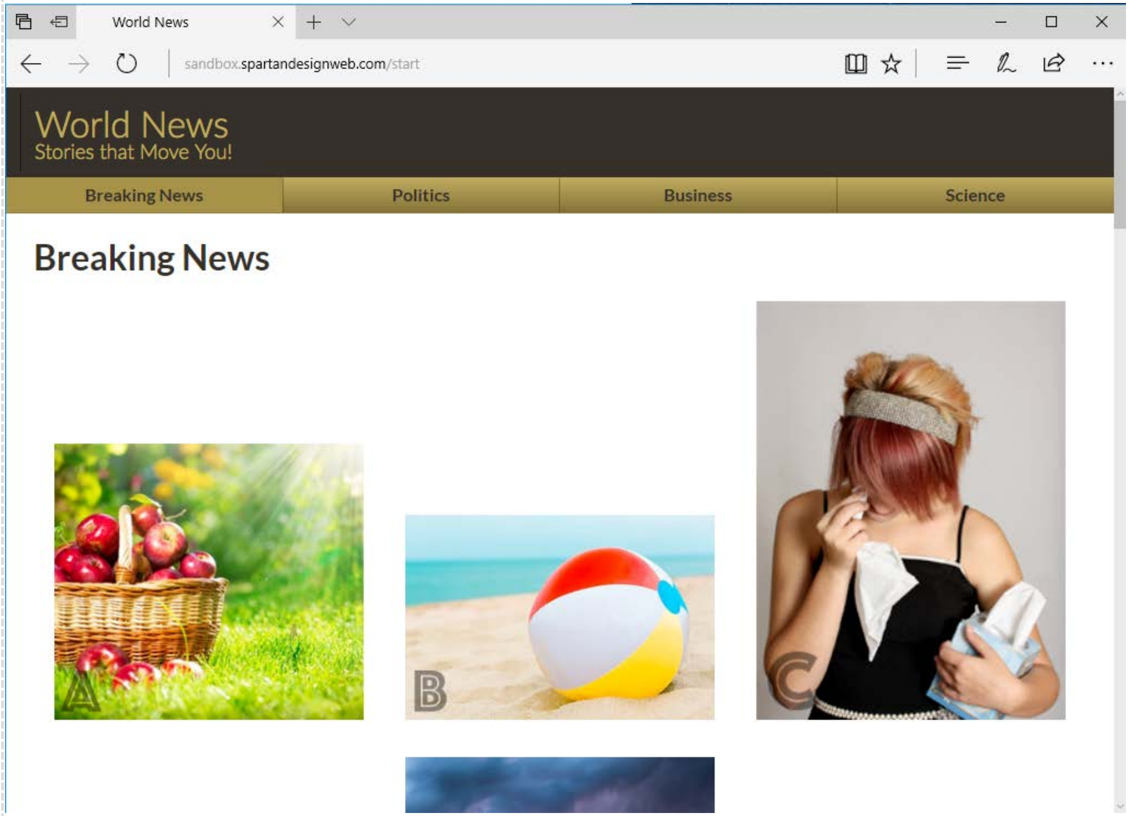
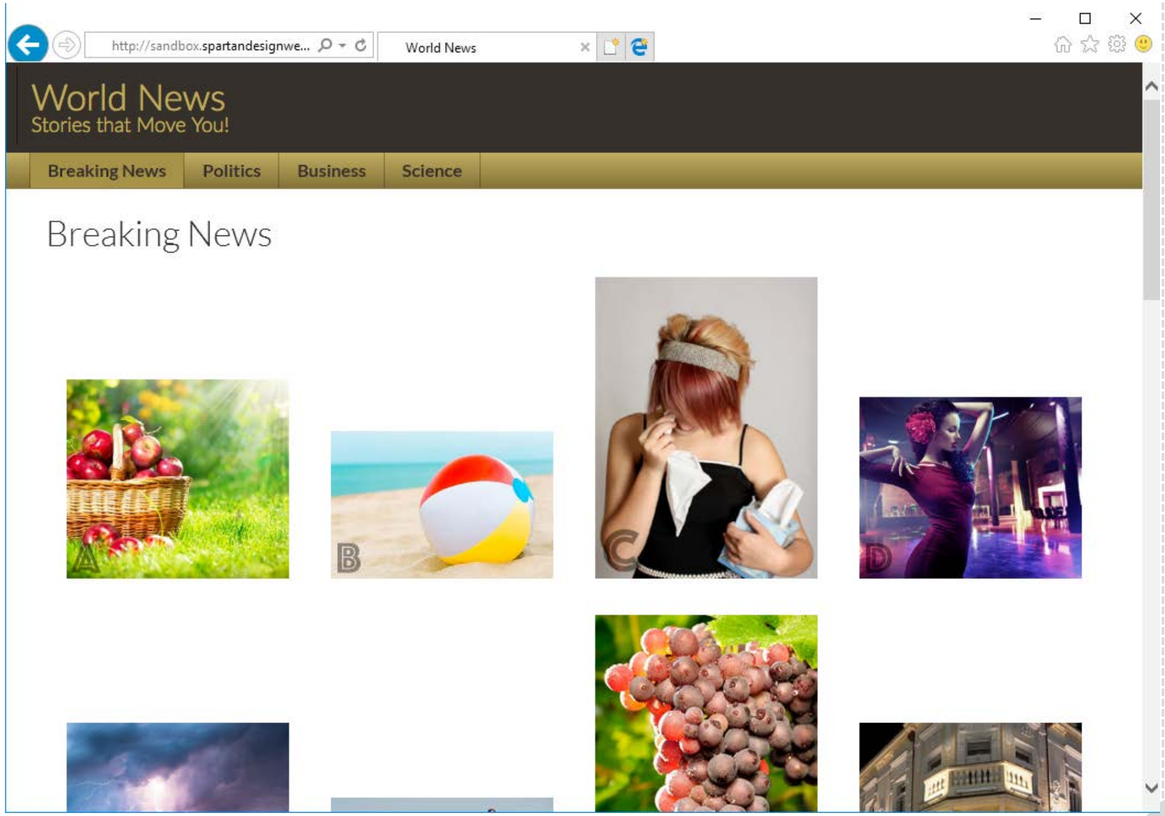
Testing Explorer 10, 11 & Edge

Edge

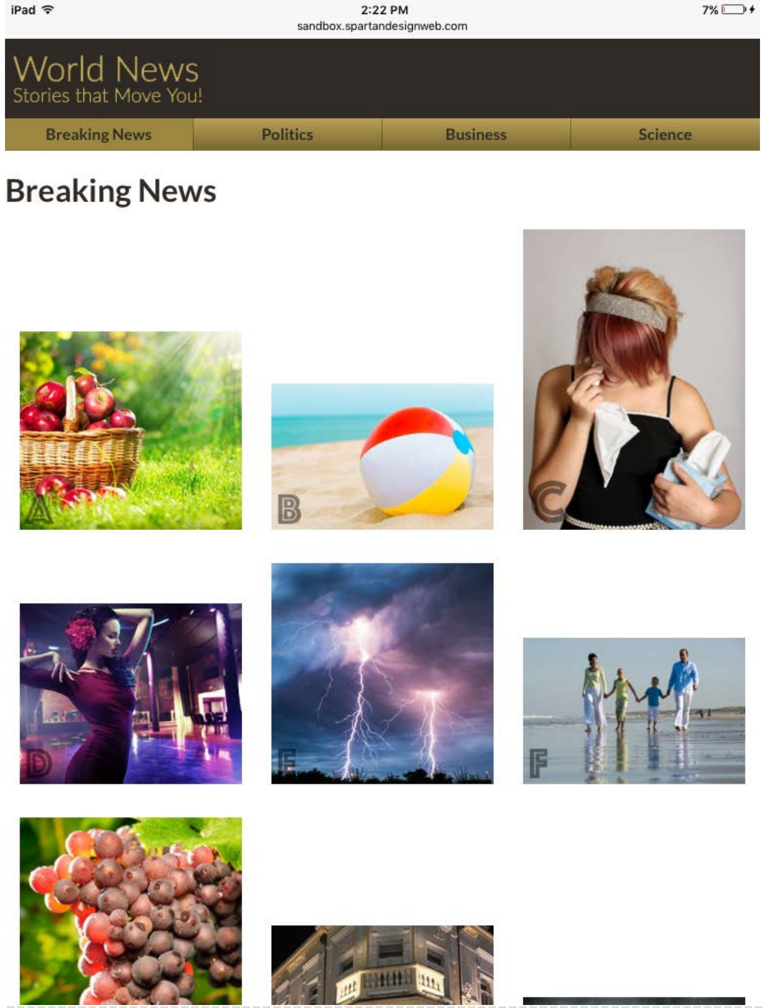


Explorer 10 and 11



Testing iPad 2 (2011)

Safari



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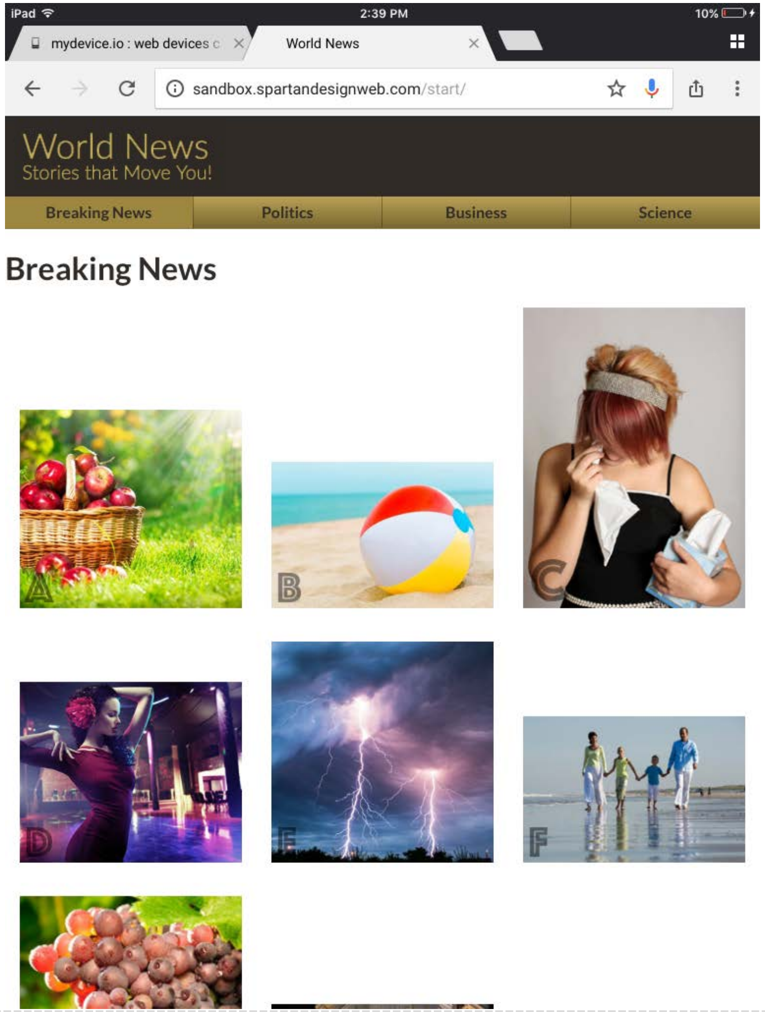
Chrome



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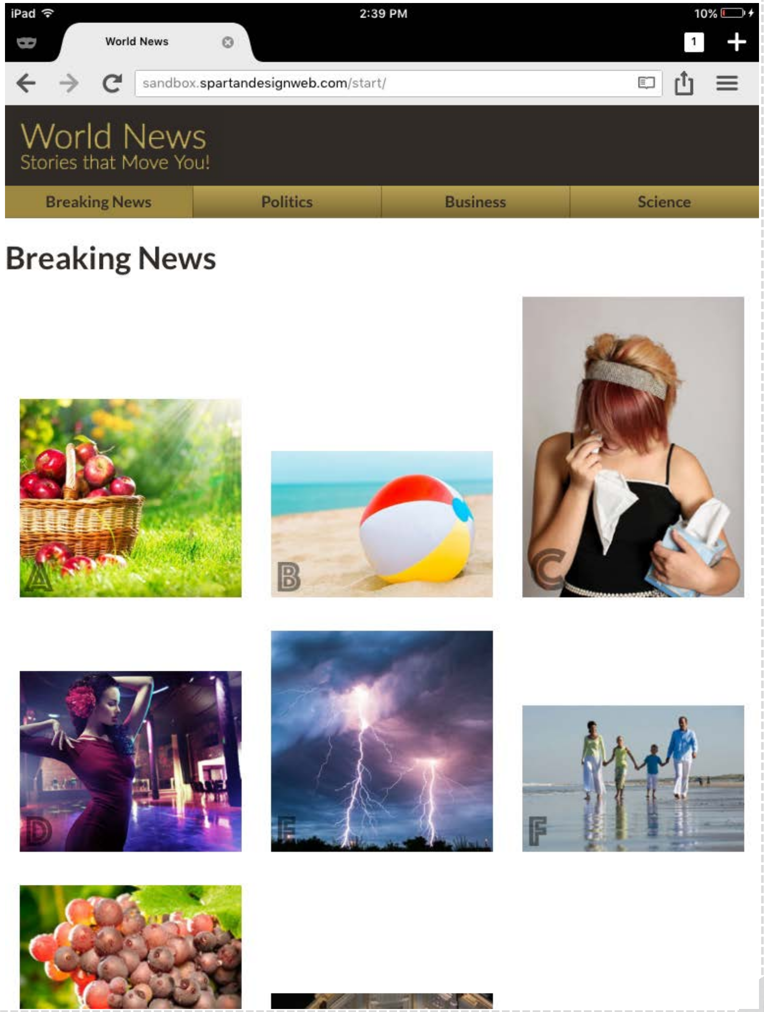
Firefox



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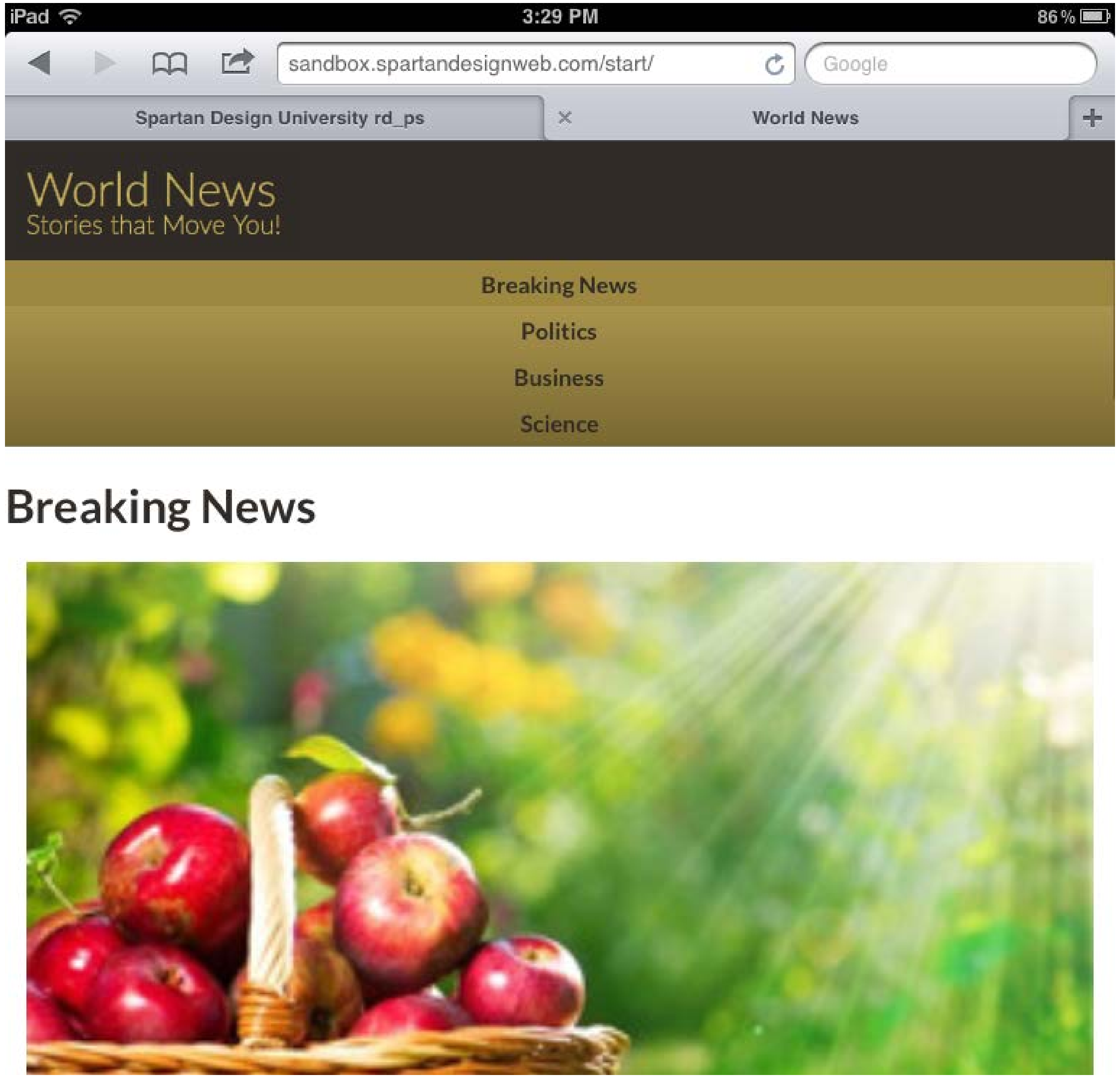
iPad 1 (2010)



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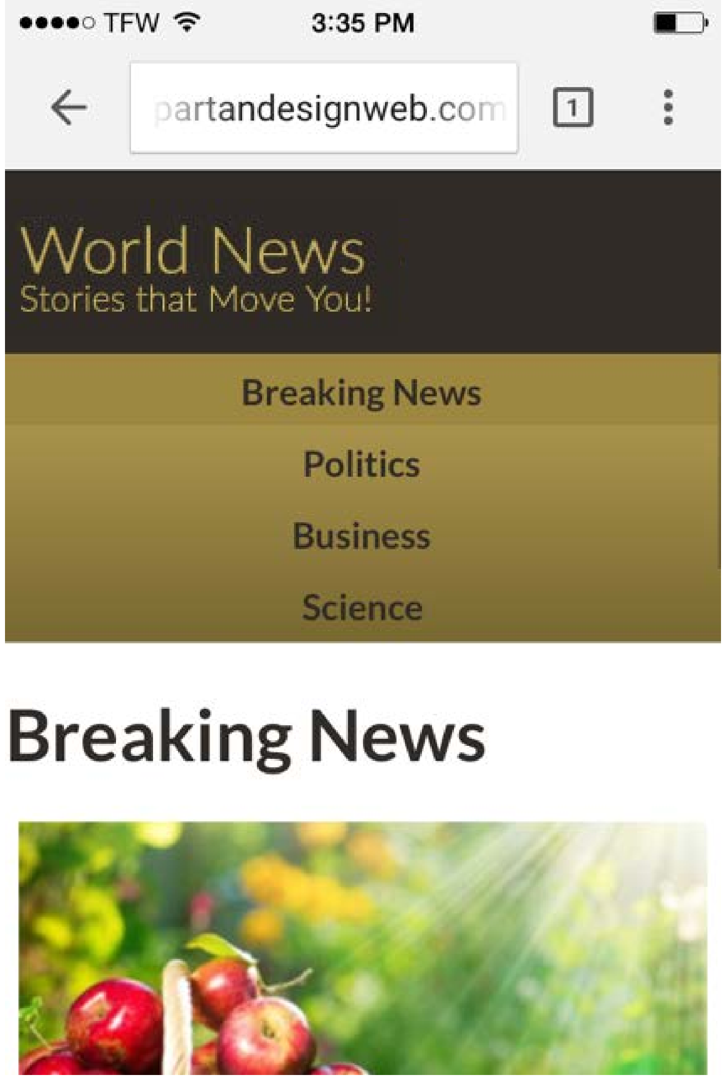
iPhone 4 (2010)



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Summary

Flexbox Navigation Solution

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Flexbox Text Solution

Flexbox Gallery Solution

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Introduction

Twelve Column Grid

CSS Shapes

Flexbox

CSS Grids

Music Player