



RICE[®]

Web Development

COMP 431 / COMP 531

Style Frameworks

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February 4, 2016

Career Fair – Fri Feb 5 10am-3pm

It's all connected.

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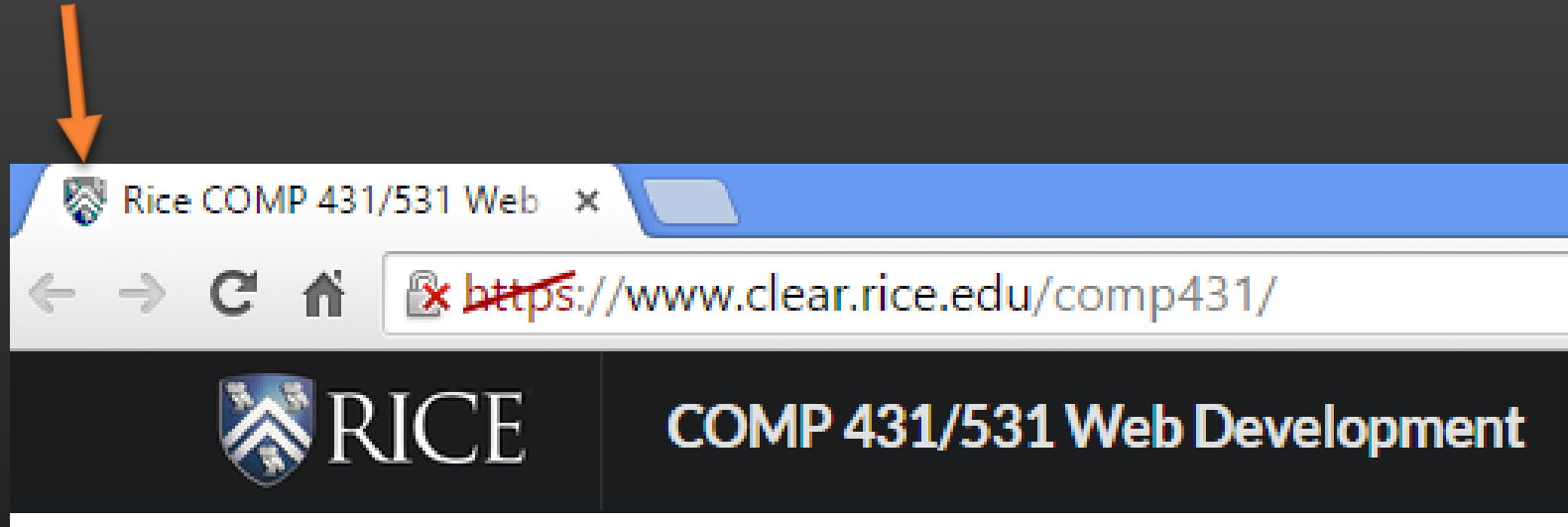
Recap

- HTML and HTML5
- JavaScript
- Forms
- CSS
- Events
- Homework Assignment 3 (Draft Front-End)
 - **Due Tuesday 2/9**

9/17 Style (Bootstrap)
9/22 Libraries (jQuery)
9/24 MVC
9/29 Angular

Homework Assignment 4
(JavaScript Game)
Due Thursday 2/18

Favicon



```
<link rel="icon" href="/favicon.ico" type="image/x-icon">
```

The Drive for Style

- We want awesome looking web pages
- Writing a bunch of CSS styling is... hard
- Especially having to do it multiple times for various devices
- Someone else has already done it for us
- Let's build on the shoulders of giants

(Responsive) Style Frameworks

- Wikipedia says:

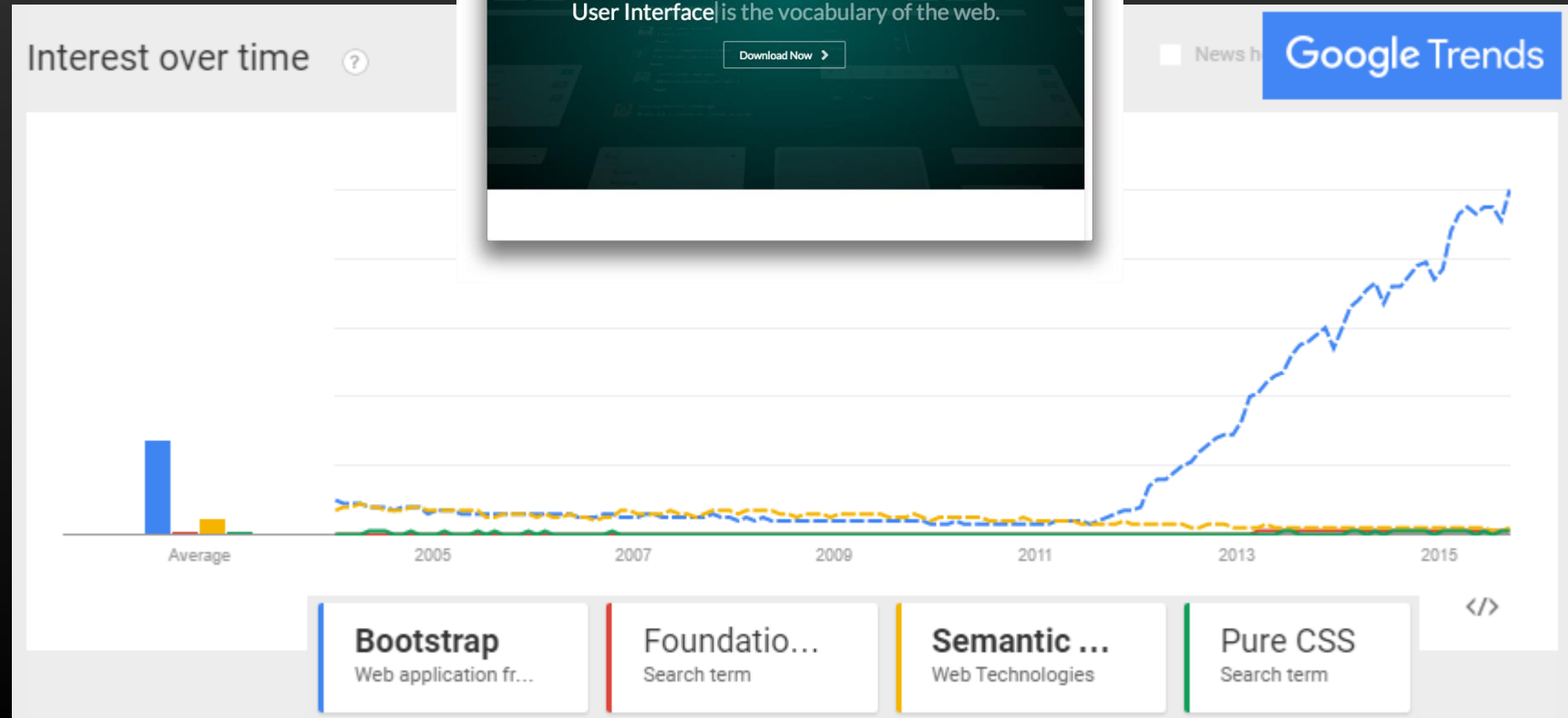
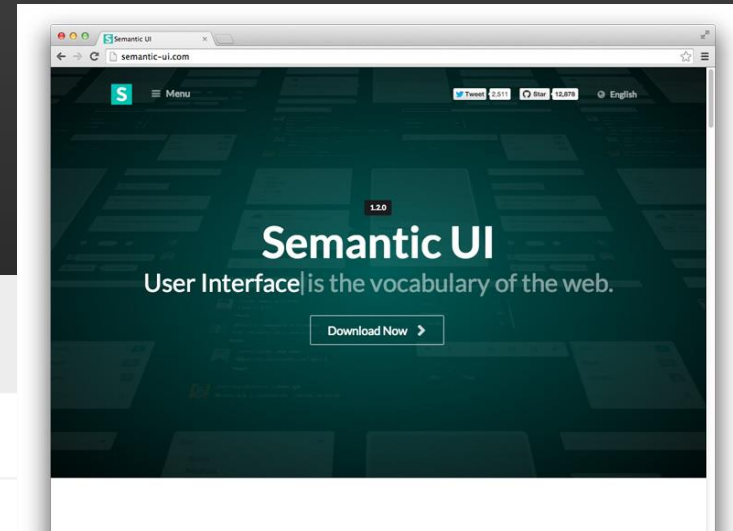
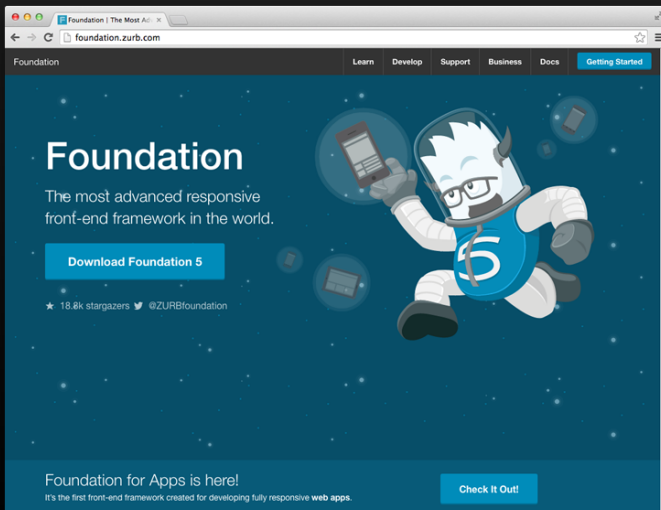
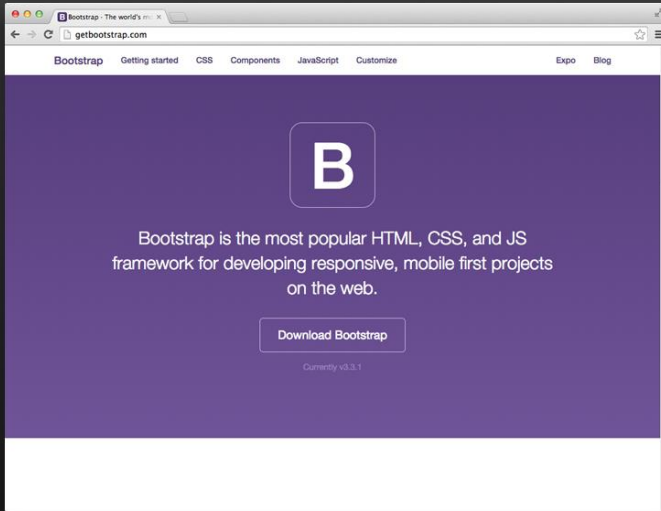
- **Frameworks** are pre-prepared [software frameworks](#) that are meant to allow for easier, more standards-compliant [web design](#) using CSS
- Most of these frameworks contain at least a [grid](#).
- More functional frameworks also come with more features and additional [JavaScript](#) based functions, but are mostly design oriented and [unobtrusive](#).
- This differentiates these from functional and full [JS frameworks](#).

Responsive Framework



The Top Contenders

(not rigorously determined...)



Installing Bootstrap

Bootstrap CDN

The folks over at [MaxCDN](#) graciously provide CDN support for Bootstrap's CSS and JavaScript. Just use these [Bootstrap CDN links](#).

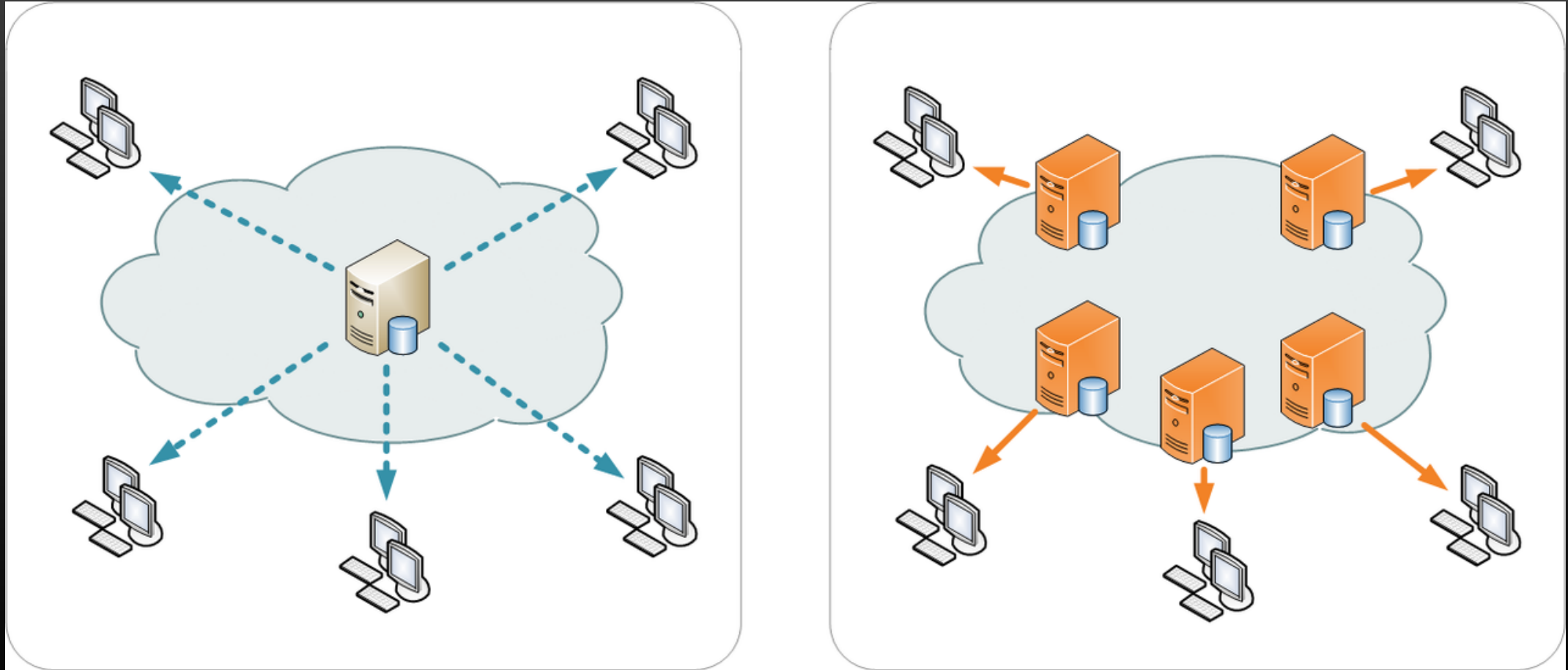
```
<!-- Latest compiled and minified CSS -->
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/css/bootstrap.min.css">

<!-- Optional theme -->
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/css/bootstrap-theme.min.css">

<!-- Latest compiled and minified JavaScript -->
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.5/js/bootstrap.min.js">
</script>
```

Copy

Content Delivery Network



CDN Single Point of Failure!

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>  
<script>window.jQuery || document.write('<script src="js/libs/jquery-2.1.3.min.js">\x3C/script>')</script>
```

```
<script>window.jQuery || document.write('<script
```

```
in.js"></script>  
.3.min.js">\x3C/script>')
```

<http://getbootstrap.com/>

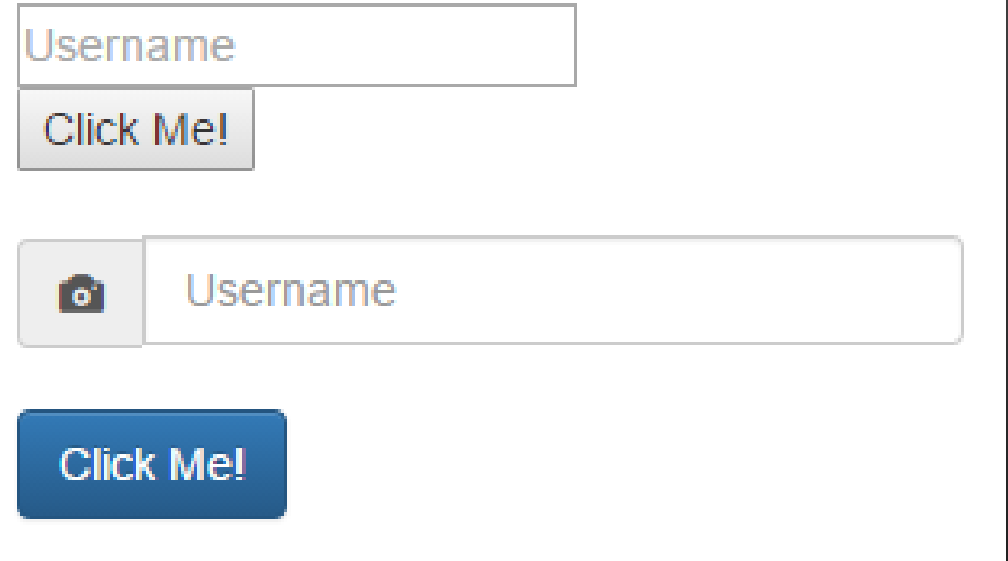
<http://www.w3schools.com/bootstrap/>

Using Bootstrap

```
<input type="text" placeholder="Username">
<br>
<input type="button" value="Click Me!">

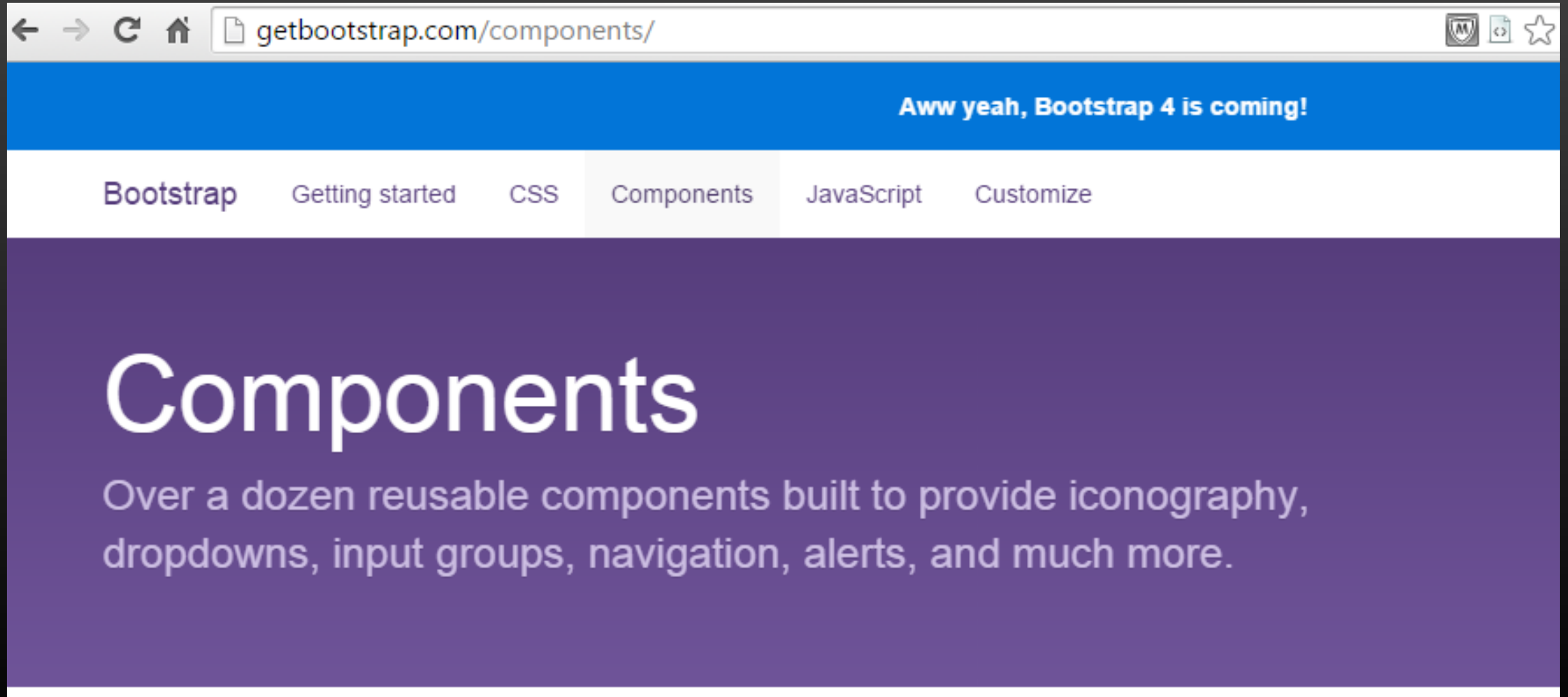
<br><br>

<div class="row">
  <div class="col-xs-6 col-md-3">
    <div class="input-group">
      <span class="input-group-addon glyphicon glyphicon-camera">
      </span>
      <input type="text" class="form-control" placeholder="Username">
    </div>
    <br><input type="button" class="btn btn-primary" value="Click Me!">
  </div>
</div>
```



The image shows a visual representation of the Bootstrap form created by the code. It features a text input field with the placeholder text "Username". To the left of the input field is a camera icon, which is part of an "input-group-addon". Below the input field is a blue button with the text "Click Me!".

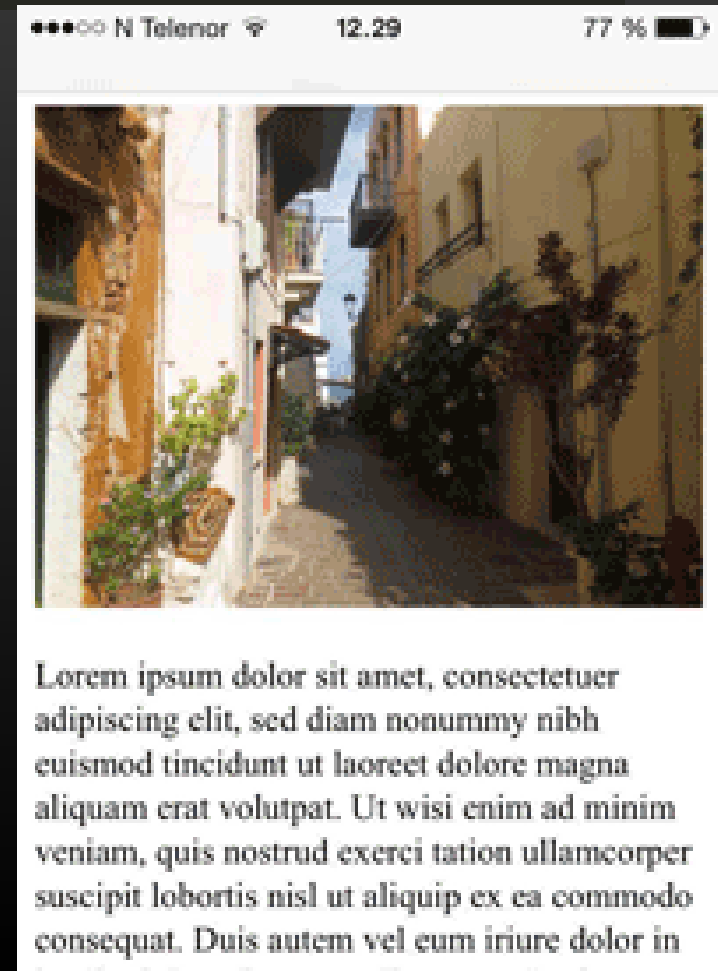
More Bootstrap



Viewport

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

- User “viewable” area
- Set the width to the device—width
- Set the initial scaling



VIEWPORT SIZES

viewportsizes.com

?

iPhone

Device Name ▲	Platform	OS Version	Portrait Width	Landscape Width	Release Date
iPhone	iOS	3.1.3	320	480	2007-06
iPhone 3G	iOS	4.2.1	320	480	2008-07
iPhone 3GS	iOS	6.0a2	320	480	2009-06
iPhone 4	iOS	5.1.1	320	480	2010-06
iPhone 4S	iOS	4.3.5	320	480	2011-10

Viewport <meta> vs CSS

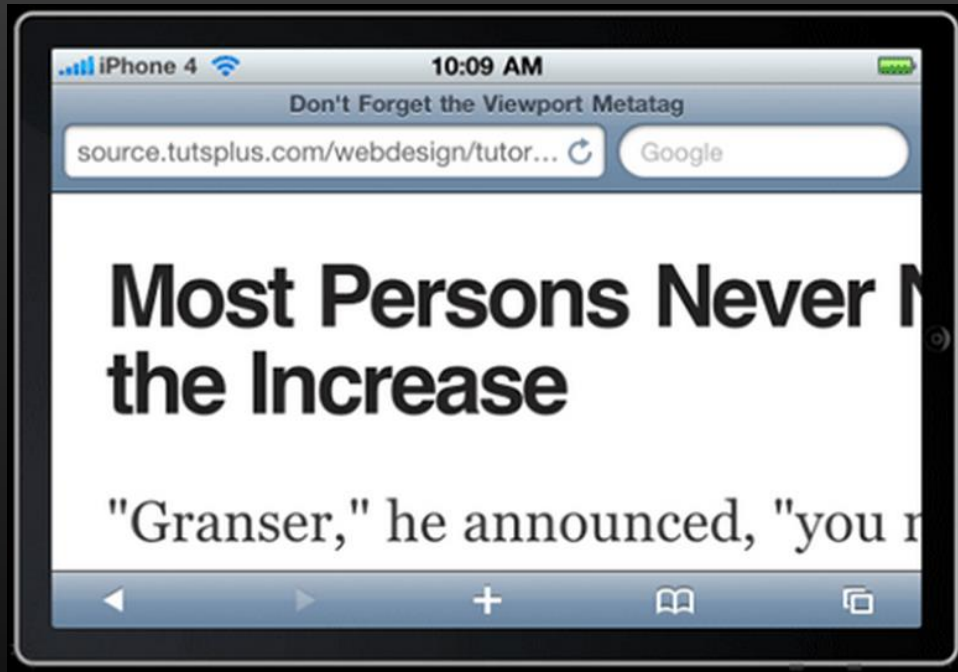
```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

```
@viewport{  
  zoom: 1.0;  
  width: device-width;  
}
```

Recommendation:
Do both.

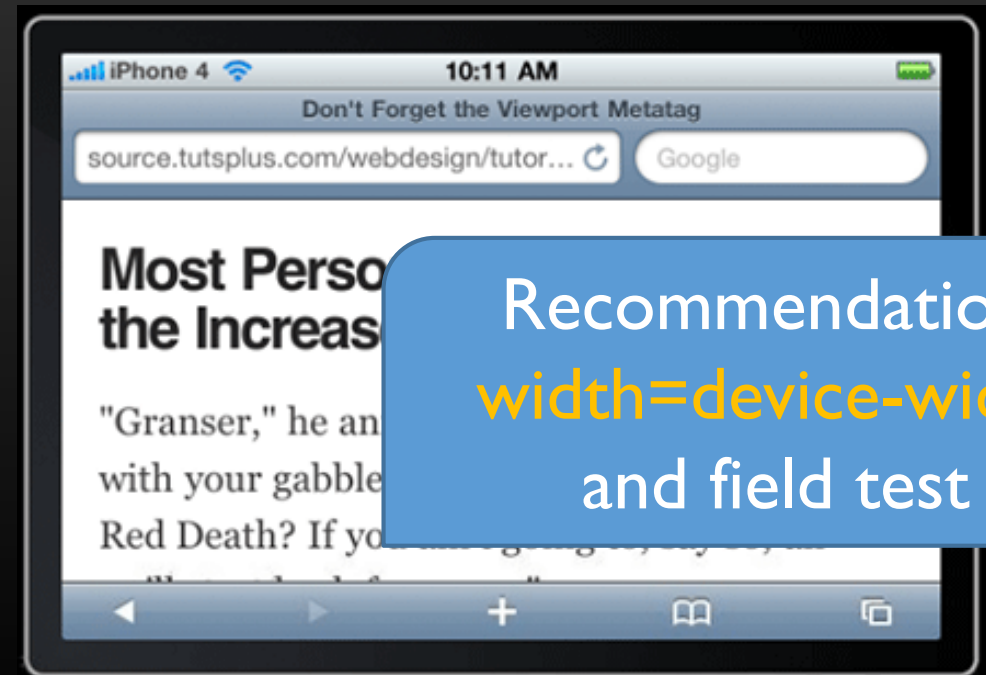
Viewing in Landscape

Don't set width? only scale/zoom?



width=device-height

```
@viewport{  
  zoom: 1.0;  
  width: extend-to-zoom;  
}
```



Recommendation:
width=device-width
and field test

CSS @media queries

```
@media screen and (max-width: 300px) {  
    body {  
        background-color: lightblue;  
    }  
}
```

```
<link rel="stylesheet" type="text/css" href="style.css" media="screen,  
handheld" />  
<link rel="stylesheet" type="text/css" href="enhanced.css"  
media="screen and (min-width: 40.5em)" />  
<!--[if (lt IE 9)&(!IEMobile)]>  
<link rel="stylesheet" type="text/css" href="enhanced.css" />  
<![endif]-->
```

... bad code is everywhere

```
//Check if Mobile  
function checkMobile() {  
    if(sw > breakpoint) {  
        mobile = false; //Not Mobile  
    } else {  
        mobile = true; //Mobile  
    }  
}
```

```
if (!mobile) { //If Not Mobile
```

```
    loadAux();  
}
```

```
}
```

```
//Check if Mobile
```

```
function checkMobile() {
```

```
    mobile = (sw > breakpoint) ? false : true;
```

```
    if (!mobile) { //If Not Mobile
```

```
        loadAux();  
    }
```

Better Responsive Images

```

```

```

```

```
<picture>
  <source
    media="(min-width: 650px)"
    srcset="images/kitten-stretching.png">
  <source
    media="(min-width: 465px)"
    srcset="images/kitten-sitting.png">
  
</picture>
```

Better Responsive Images



By [Pearl Chen](#)

Published: September 11th, 2014

Updated: September 11th, 2014

Comments: [42](#)

Introducing the <picture> element

Don't use <picture> (most of the time)



Jason Grigsby

September 22, 2014

Browser support for the picture specification is landing and as [Marcos](#)

[Cáceres](#) said, it is time to “go forth and <picture> all the things!”

DevTools Demo

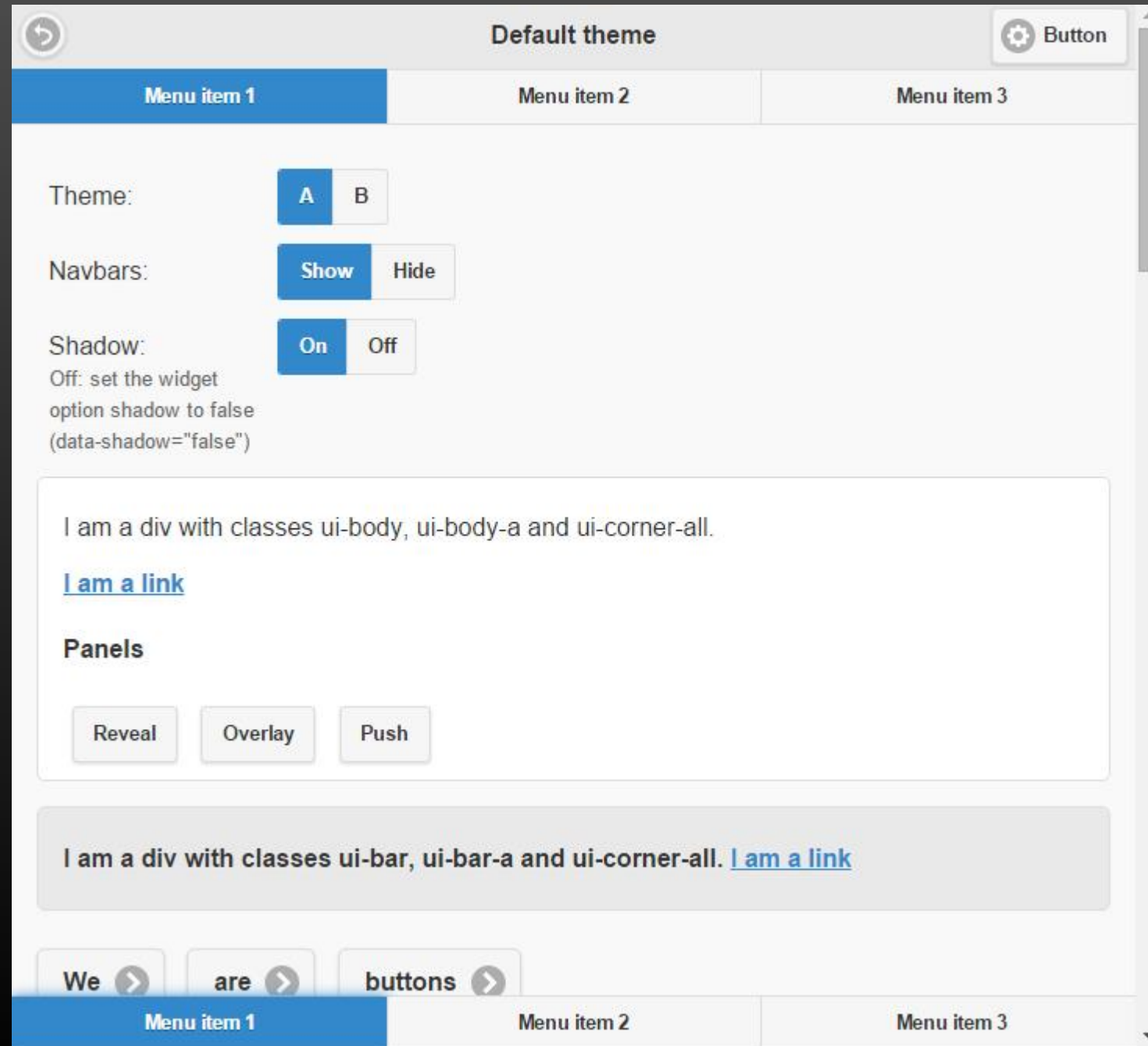
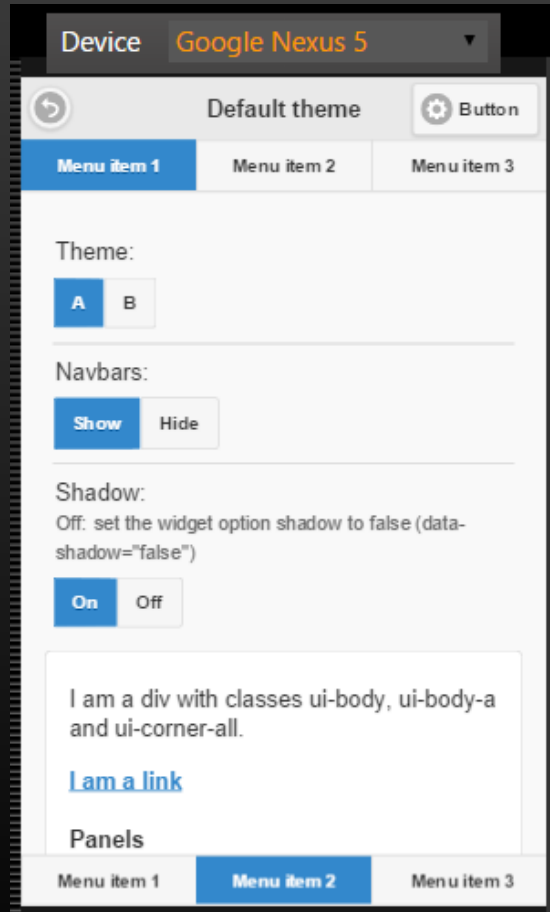
The screenshot displays the Chrome DevTools interface in mobile emulation mode. The top toolbar shows the following settings:

- Device: Google Nexus 5
- Orientation: Portrait
- Screen: 360 x 567
- Zoom: 3
- Zoom to fit: checked
- Network: Good 3G (1 Mbps 40ms)
- User Agent: Mozilla/5.0 (Linux; Android 4.4.2; Nexus 5 Build/KOT49H)

Below the toolbar, a performance timeline is visible with a blue bar representing the main thread and a green bar representing the network. The main content area shows a mobile web page with the Rice University logo and a "Class Schedule" table. The table has the following data:

Date	Assignment Due	Topic	Exercise
Tue 08/25		1. HTML	hello world page
Thu 08/27		2. Javascript	manipulating DOM
Tue 09/01		3. HTTP and Forms	exercise and get to control of
Thu 09/03	Simple Page	4. CSS	touch of:
Tue 09/08		5. Events and DHTML	js control css, nav b menus, e
Thu 09/10		6. HTML5	canvas g:

Mobile First with jQuery Mobile



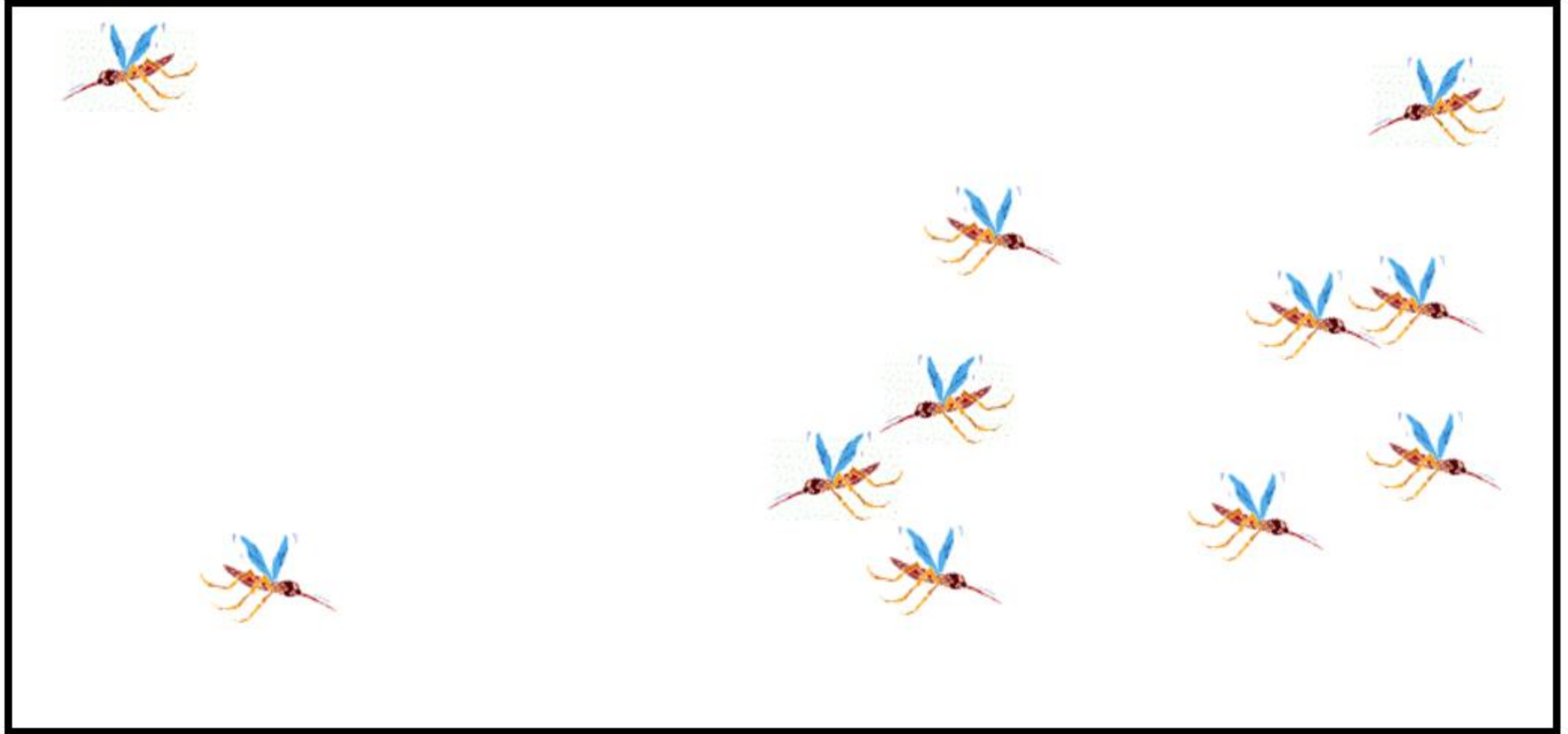
<https://jquerymobile.com/>

Click to capture a fly. Fly capture count: 0

Reset

Resume

Flying Bug Game



<http://www.clear.rice.edu/comp431/sample/flyingBug/flyingBug.html>

In-Class Exercise: Work on Homework

- Spend the rest of the time working on HW 3
or your game for HW 4
- As your in-class exercise tell me separately how much time you spent on each of the first two homework assignments, and what challenges you faced while completing them.

Turnin inclass8.txt to COMP431-S16:inclass-8