GENERAL ASSEMBLY

CODE IN ONE DAY

Fred Katona

FEWD Instructor, General Assembly

INTRODUCTIONS

INSTRUCTOR

- BS in Biology and Computer Science
- A lot of years developing web applications
- Works at DispatchHealth
- Develops healthcare related software as service products

Let’s connect!

linkedin.com/in/frederick-katona-9233b04

INTRODUCTIONS

WHO ARE YOU?

say hello!

WELCOME TO YOUR CRASH COURSE

What are we going to learn?!

Talk the Talk:

- Basics of the internet & how web pages work
- HTML and CSS syntax
- Front-end code organization & project structure

Walk the Walk:

- Modify the code of existing websites
- Building common types of websites like a landing page or marketing site
- Build a basic webpage from scratch
- How to get your website live on the internet
- Deploy a website to the internet

CODE CRASH COURSE

LEARN THE BASICS

TEST THE BASICS

DO THE BASICS

CLASSROOM RULES

- Class participation is a must
- Keep a positive attitude
- Help your neighbor along
- High fives are great for celebrating
- Ask questions!

Remember: Code is hard, that's why I'm here. Don't get frustrated, and if you need help ask a classmate or myself, I'm here to help you succeed.

YOUR SURROUNDINGS

WIFI PASSWORD	BREAKS
RESTROOMS	LUNCH

Have you downloaded Sublime Text & Google Chrome?

Have you made a GitHub account? Download github desktop?

INTERNET BASICS

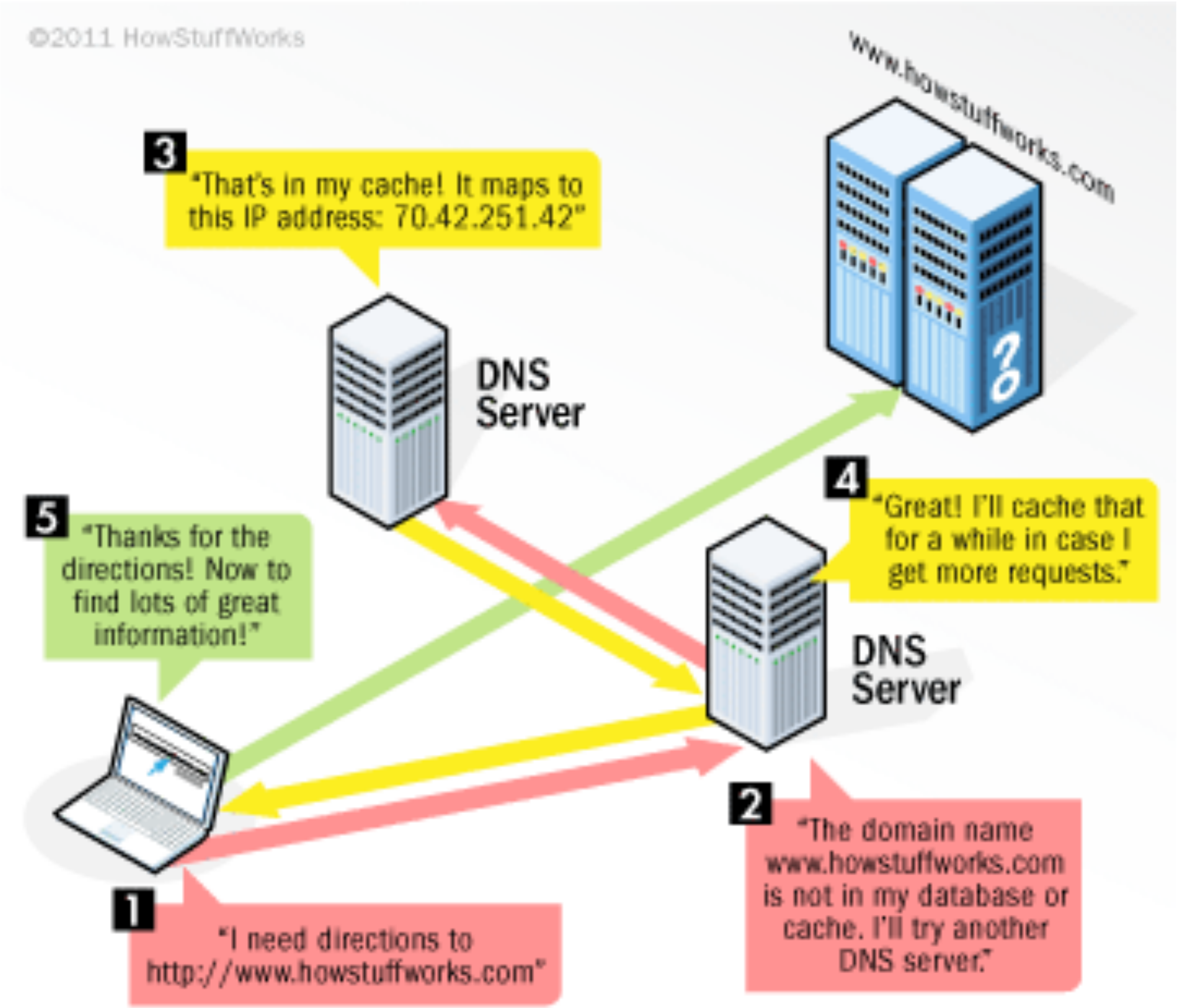
CODE CRASH COURSE

Terms used

- Front-end vs. Back-end
  - Browser Basics(html, css, js)
  - Databases(backend)
- Servers
  - Requests
- Javascript
  - What makes the internet interactive

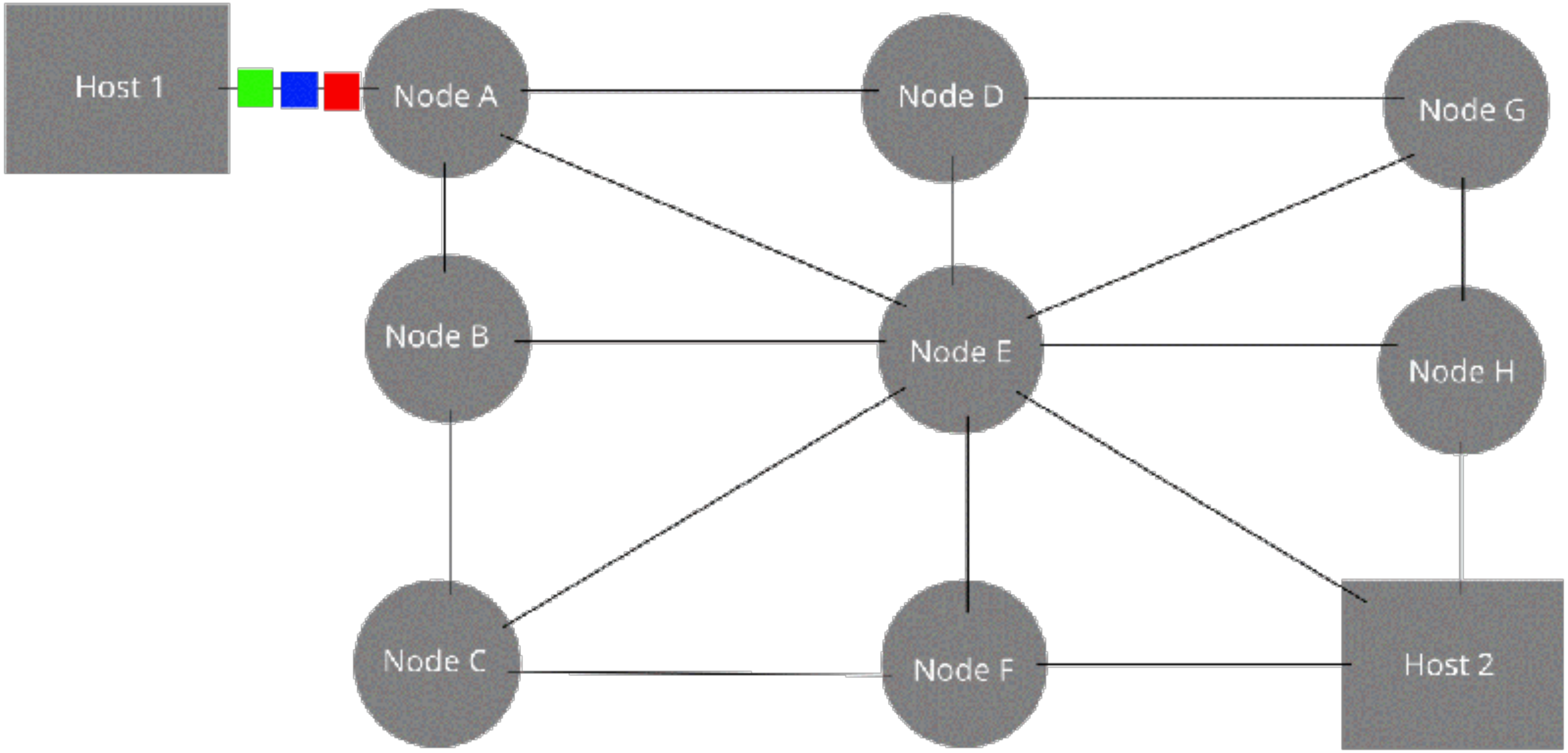
An artistic picture of how the internet works

CODE CRASH COURSE - BROWSER TO SERVER


©2011 HowStuffWorks
www.howstuffworks.com
3
"That's in my cache! It maps to this IP address: 70.42.251.42"
DNS Server
4
"Great! I'll cache that for a while in case I get more requests."
5
"Thanks for the directions! Now to find lots of great information!"
DNS Server
2
"The domain name www.howstuffworks.com is not in my database or cache. I'll try another DNS server."
1
"I need directions to http://www.howstuffworks.com"

CODE CRASH COURSE

The original message is Green, Blue, Red.



What does your computer do with all these packets?

Activity!

Demo how a page travels from a server to a browser

HTML & CSS SYNTAX

CODE CRASH COURSE

- What is HTML?

- What is CSS?

CODE CRASH COURSE

- What is HTML?
  - The structure, or bones, of a webpage
  - Not a programming language. Markup language.
  - HTML tags, like `<div> </div>`, create a box on a page …BUT the box needs to know how to look on a page

- What is CSS?
  - What makes a webpage look ~~pretty~~ not like Craigslist
  - Layout, colors, fonts, sizes
  - Presentation

CRASH COURSE

Analogy to nouns, adjectives, and verbs

An Html page is made of things. We call these things html elements. We can say these are nouns.

CSS describes our html elements. It’s like an adjective.
If an element is a pizza element, then css might say “pepperoni” pizza element.

Javascript is our verb. It makes the entire structure come together by performing actions. One action might be “validate” a form.

CODE CRASH COURSE

Most Basic Syntax

<tagname>content</tagname>

content is marked up or surrounded by tag names that give it meaning

Tags usually come in pairs

HTML example

every webpage is made up of HTML!

```
<!DOCTYPE html>
<html>
 <head>
  <title>Page Title</title>
 </head>
 <body>
  <h1>This is a Heading</h1>
  <p>This is a paragraph.</p>
 </body>
</html>
```

HTML

hyper text markup language

Elements

- <div></div>
- <p></p>
- <br>*
- <title></title>
- <body></body>
- <h1></h1>
- <img>*
- <a href=“destination.com”>LINK</a>

NOTE: Every tag that is opened, needs to be closed with ‘/’ in the second tag - unless it is self-closing(noted here with *)

HTML files

- The stuff on the web is like the stuff on your computer, just a bunch of files
- We can make `.html` files and put them on any browser to view
- index.html is the root file of most pages

CODE CRASH COURSE - HELLO WORLD

- Make a new folder **on your Desktop** called `CodeInOneDay`

- Open this folder in Sublime Text - drag fold into sublime text

- Create a new file, with command-n on mac

- Save the file as index.html

- Type in Hello World and save the file

CODE CRASH COURSE - HELLO WORLD

- Let’s clear that out of the file and then…
- Type `<h` and then press `tab` key
- Write “<h1>Hello World</h1>” inside the `<body>` tag
- Let’s add a title together too
- And let’s take a look at the file in our browser, right-click on the page and choose “view in browser”

HTML ACTIVITY - using only html

- How would you make Hello World smaller than what we have it now?

  (Right now it is an h1 tag)

- How would you italicize Hello World?

- How would you make “Hello” bold?

Google is your best friend.

CODE CRASH COURSE

Thought Experiment.

What would a hypothetical html element look like around song lyrics?

CODE CRASH COURSE

Thought Experiment.

What would a hypothetical html element look like around song lyrics?

```
<lyric>These are the lyrics to the best song ever</lyric>
```

CODE CRASH COURSE

Let’s explore and add more html for reference:

Let’s add more headings together - h1 through h6

Let’s add a paragraph and add some text

Let’s also put a break in here.

Let’s also add an unordered list to our page, with items in it.

CODE CRASH COURSE

Why don’t elements appear next to each other?

CODE CRASH COURSE

Why don’t elements appear next to each other?

Block vs Inline elements

Block Elements

- start on a new line
- start on the left and take up the whole width
- include: <div>, <h1>-<h6>, <p>, <form>, <li>

Inline Elements

- do not start on a new line
- expand out till they’re done
- include: <span>, <img>, <a>

CODE CRASH COURSE

HTML Activity

Let’s add inline elements to our page to see how they work.

And finally we’ll add a link that opens in a new tab.

CODE CRASH COURSE

HTML Tag

<tagname>content</tagname>

HTML Tag with more information

<tagname ***attributename="attributevalue"****>content</tagname>*

We can add other attributes to html tags for increased meaning and styling(preparing for css)

- All tags can have attributes
- Placed in the starting tag of element
- key/value pair (key="value")

<h1 class="title">Welcome</h1>

CODE CRASH COURSE - REVIEW/ADVANCED

Let’s apply what we learned and search for new tags to use:

navigate in your browser to:
https://github.com/bigkat73/codeinaday

hit the clone or download button. download the zip file.

Drag this folder into sublime text and open the starter_code/
press_release/press_release.html

Let’s examine and add html to the content in this file.

CODE CRASH COURSE - HTML5 DEEP TOPIC

HTML is great for adding structure

HTML5 introduced meaning for the structure

What exactly does this mean?

HTML5 SEMANTIC TAGS

If we look at these tags, they describe the content they wrap(not exhaustive list)

<header>

<footer>

<section>

<article>

<nav>

HTML SEMANTIC TAGS

Let’s go back to our index.html

Together let’s add where we might add semantic html5 tags to our content.

CODE CRASH COURSE - FOR FURTHER LEARNING

Other elements for you to check out.

Button

Lists - ordered and unordered list

Forms and form entry elements(inputs, selects)

CODE CRASH COURSE

Now that we’ve explored how to add structure to our content, we want to make it look a lot better. Let’s add some style.

CSS

cascading style sheets

```
body {
    background-color: red;
}

h1 {
    color: white;
    text-align: center;
}

p {
    font-family: verdana;
    font-size: 20px;
}
```

CSS

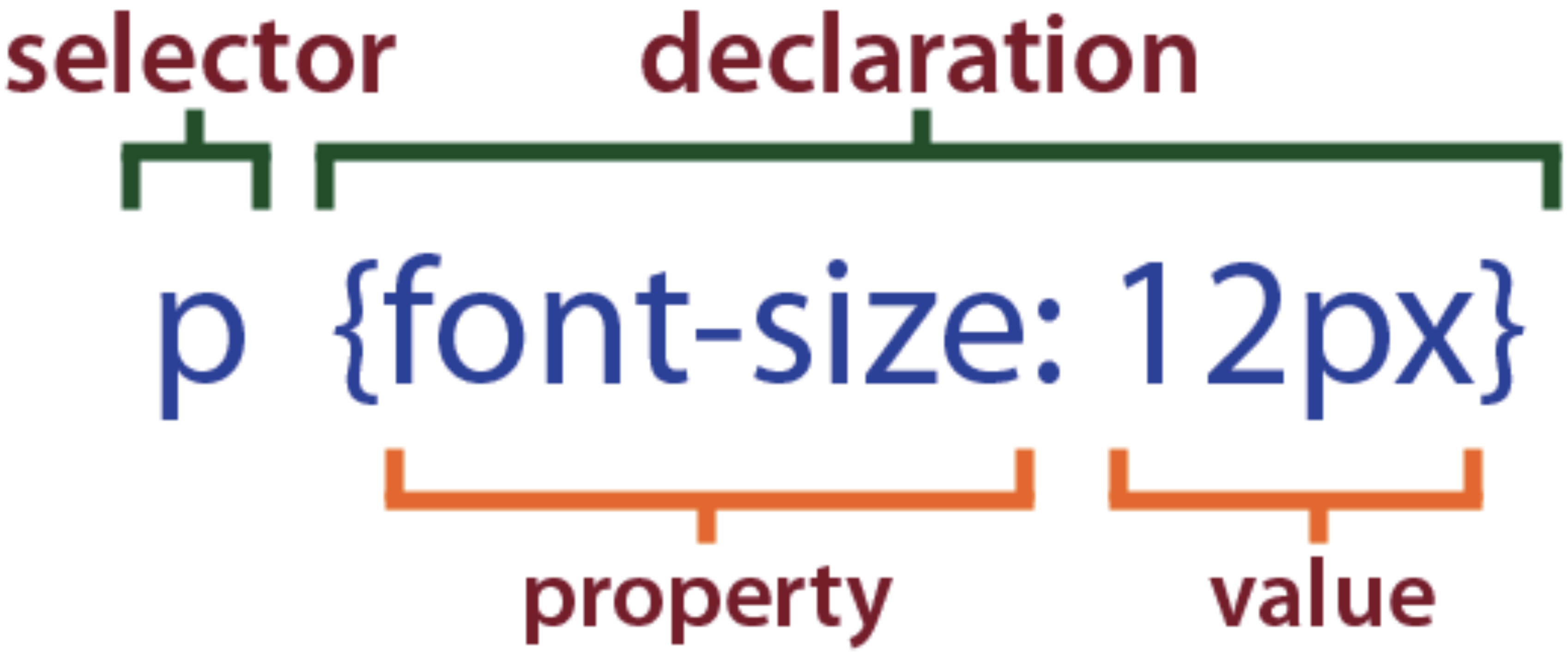
Cascading Style Sheets

- Also, not a programming language
- Used for layout and styling

Standard way to add styles is by linking external stylesheets to our html document.

CSS

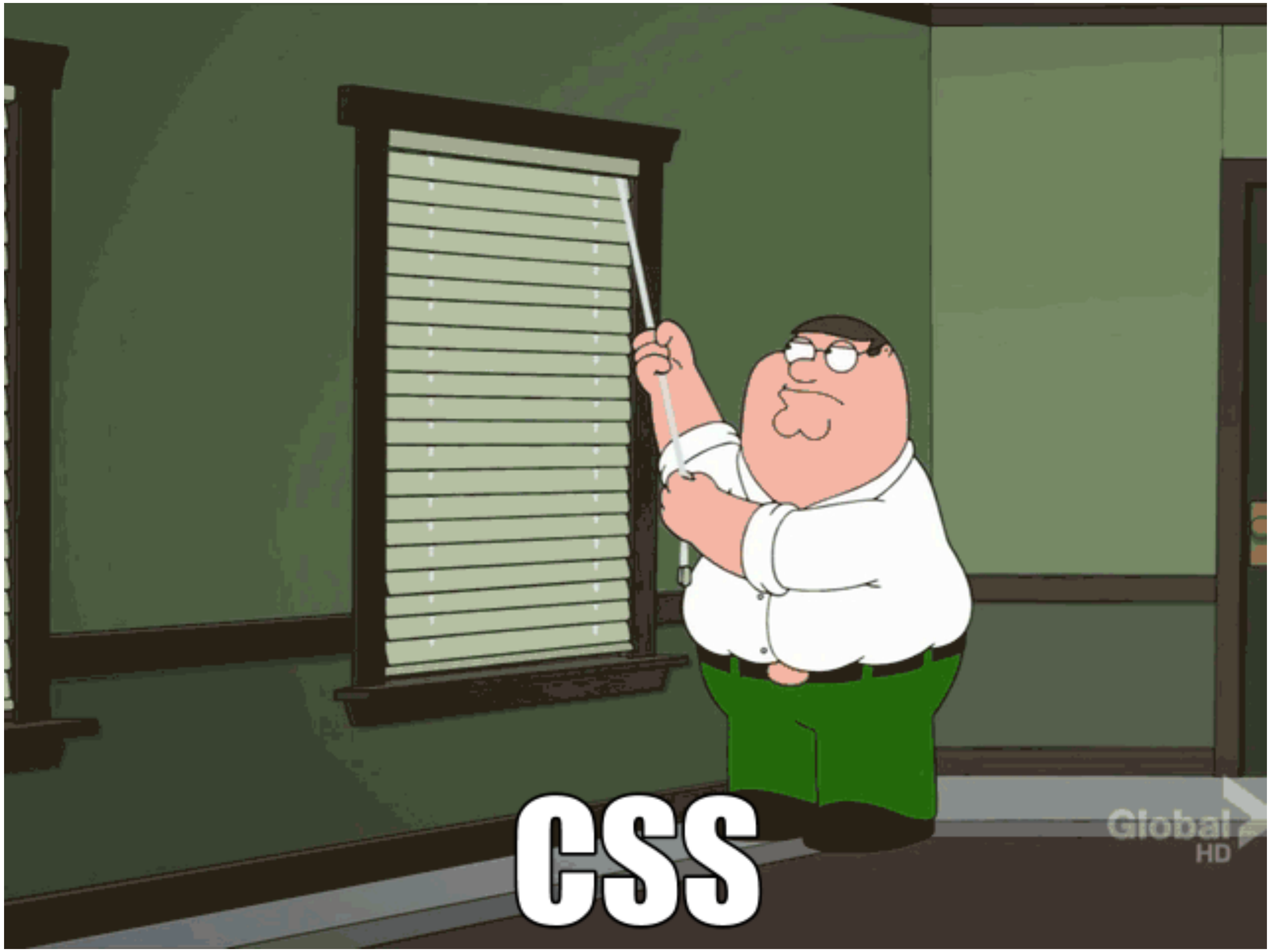
- Your selector is the HTML tag you want to manipulate
- For each selector, there is a property
- Every property has a **value**



CSS

```
selector {
  property: value;
  property: value;
}
```

CODE CRASH COURSE



html:

```
<h1>Hello World!</h1>
```

css:

```
h1 {
  color: red;
}
```

CODE CRASH COURSE

1). In Sublime Text:

```
create styles.css using command-n
```

2). In HTML:

```
<link href='styles.css' rel=‘stylesheet’>
```

3). In Sublime styles.css:

enter in a css selector, property, and value!l

Note: Don’t forget to save every sublime file (Cmd + S)!

CSS ACTIVITY

- How would you make Hello World purple?
- How would you make the background of Hello World yellow?
- How would you make Hello World appear on the right hand side of your browser window?

Remember: Google is your BFF

CSS ACTIVITY

- Let’s work in groups of two to update our previous press release.

- Let’s link a stylesheet to it and change 3 styles using css.

- Let’s share what we’ve changed and any other discoveries

CSS

properties we can change(non-exhaustive list)

color(font)

background-color

font-family

font-size

font-style

font-weight

line-height

text-decoration

text-transform

letter-spacing

word-spacing

CSS EXTRA TRICKS

Select elements by a class name

```
.topline{  font-size: 32px }
<header class=“topline”>
….
</header>
```

Select elements by id

```
#left-thing{ font-size: 20px }
<div id=“left-thing”>
….
</div>
```

CSS CRASH COURSE

So we added style to our html…but what about moving things around the page, you know, layout.

CSS EXTRA TRICKS

How do we center a div?

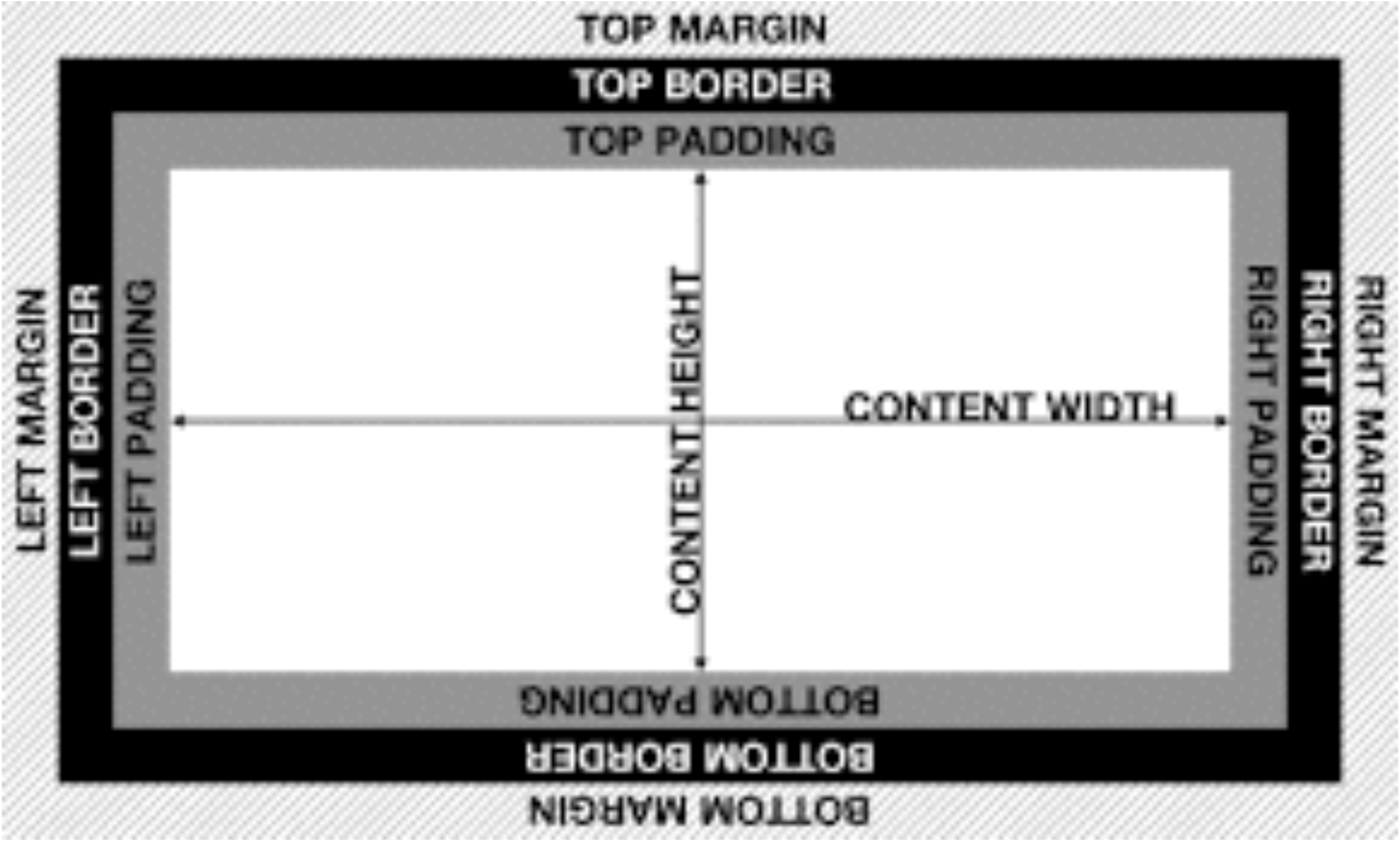
How can we add a border?

Let’s make the corners rounded.

let’s style our links

CSS LAYOUT

Box Model



CSS BOX MODEL DEMO

Demo box model in hello world example.

We will use this idea of boxes to layout our page later today.

GAME TIME!

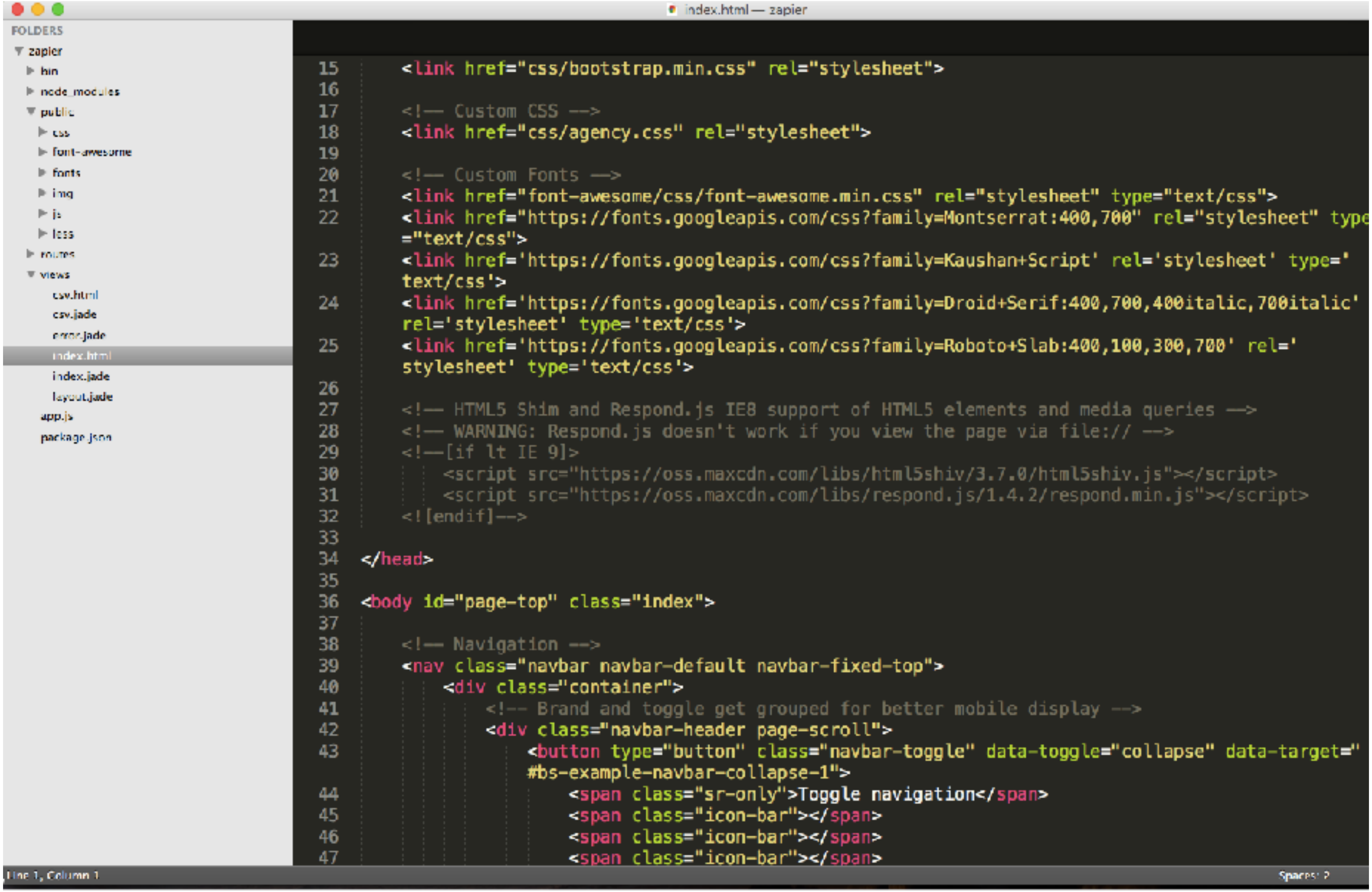
http://flukeout.github.io/

LUNCH TIME!

Be back in 60 minutes!

CODE ORGANIZATION & PROJECT STRUCTURE

CODE CRASH COURSE



```html
    <link href="css/bootstrap.min.css" rel="stylesheet">

    <!-- Custom CSS -->
    <link href="css/agency.css" rel="stylesheet">

    <!-- Custom Fonts -->
    <link href="font-awesome/css/font-awesome.min.css" rel="stylesheet" type="text/css">
    <link href="https://fonts.googleapis.com/css?family=Montserrat:400,700" rel="stylesheet" type="text/css">
    <link href='https://fonts.googleapis.com/css?family=Kaushan+Script' rel='stylesheet' type='text/css'>
    <link href='https://fonts.googleapis.com/css?family=Droid+Serif:400,700,400italic,700italic' rel='stylesheet' type='text/css'>
    <link href='https://fonts.googleapis.com/css?family=Roboto+Slab:400,100,300,700' rel='stylesheet' type='text/css'>

    <!-- HTML5 Shim and Respond.js IE8 support of HTML5 elements and media queries -->
    <!-- WARNING: Respond.js doesn't work if you view the page via file:// -->
    <!--[if lt IE 9]>
        <script src="https://oss.maxcdn.com/libs/html5shiv/3.7.0/html5shiv.js"></script>
        <script src="https://oss.maxcdn.com/libs/respond.js/1.4.2/respond.min.js"></script>
    <![endif]-->

</head>

<body id="page-top" class="index">

    <!-- Navigation -->
    <nav class="navbar navbar-default navbar-fixed-top">
        <div class="container">
            <!-- Brand and toggle get grouped for better mobile display -->
            <div class="navbar-header page-scroll">
                <button type="button" class="navbar-toggle" data-toggle="collapse" data-target="#bs-example-navbar-collapse-1">
                    <span class="sr-only">Toggle navigation</span>
                    <span class="icon-bar"></span>
                    <span class="icon-bar"></span>
                    <span class="icon-bar"></span>
```

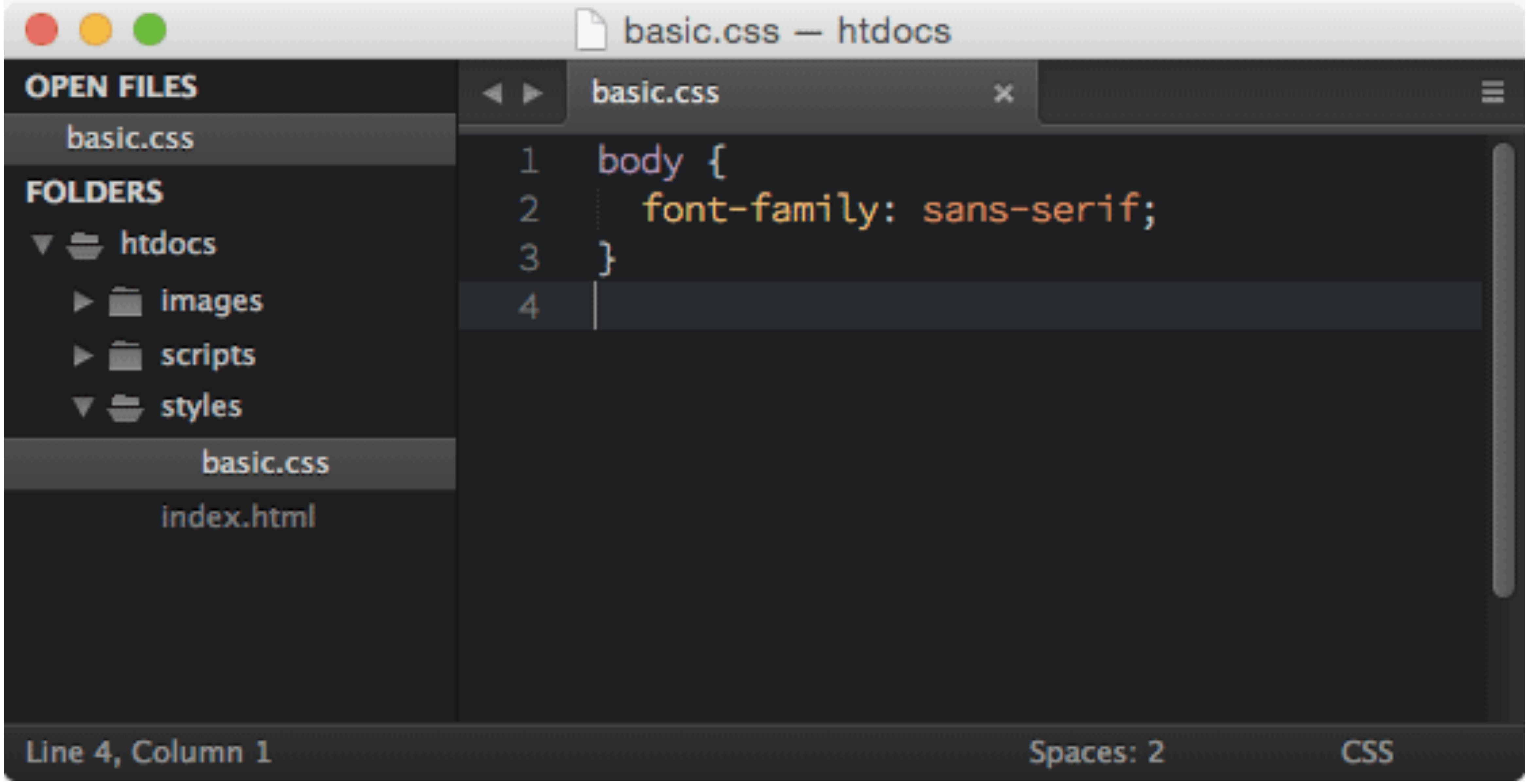
CODE CRASH COURSE

- Every project is a series of folders
- Inside those folders are files
- Each file contains code that gets executed
- Every web app has different project structure
- Folders for CSS and HTML and Javascript
- You want organization so other developers can find things easily

FRONT END ORGANIZATION

```
|-- app(root)
|   |-- assets
|   |   |-- img
|   |   |-- js
|   |   |   `-- app.js
|   |   `-- css
|   |       `-- style.css
|   index.html
```

CODE CRASH COURSE



```css
body {
  font-family: sans-serif;
}

```

CODE CRASH COURSE

ACTIVITY TIME

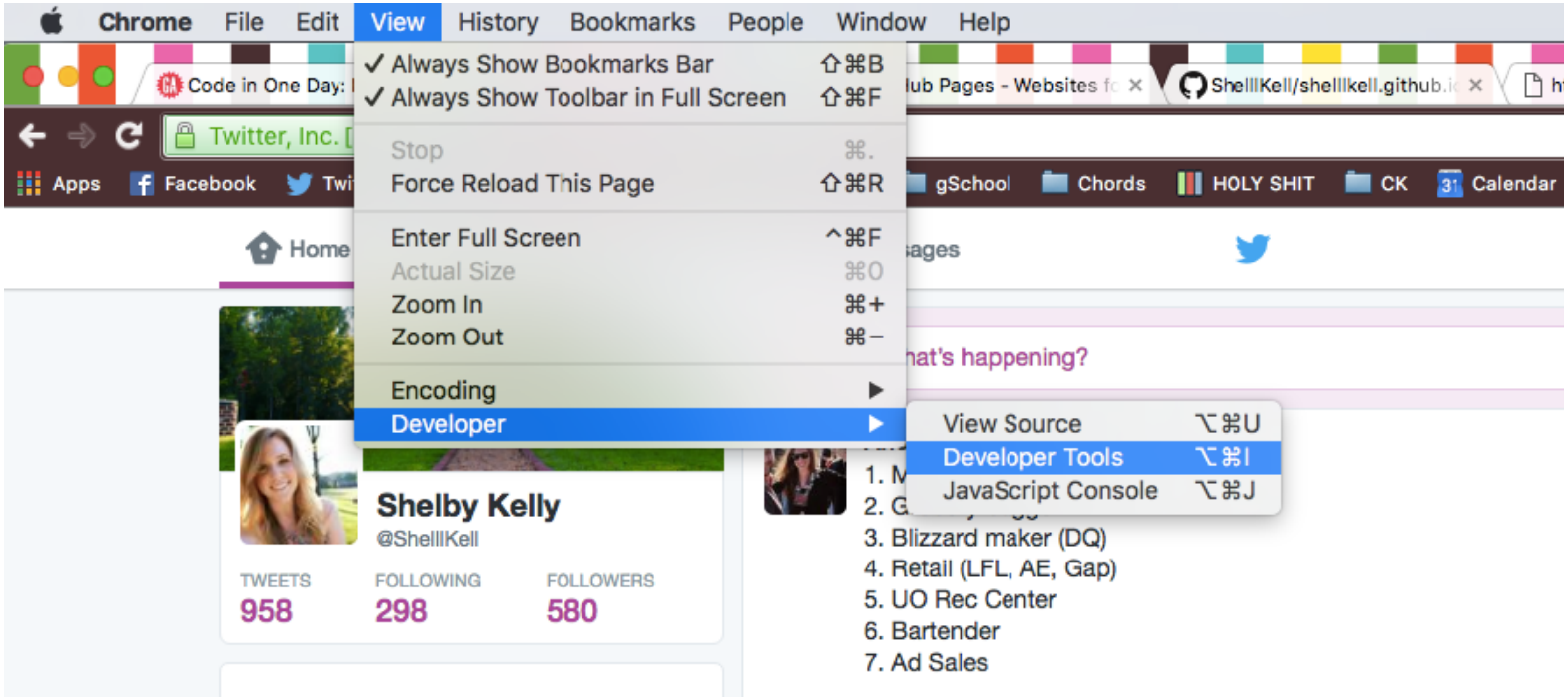
Review the file structure in /extras/example_file_structure

And then Let’s organize our existing files into this new structure

MODIFY CODE OF EXISTING WEBSITES

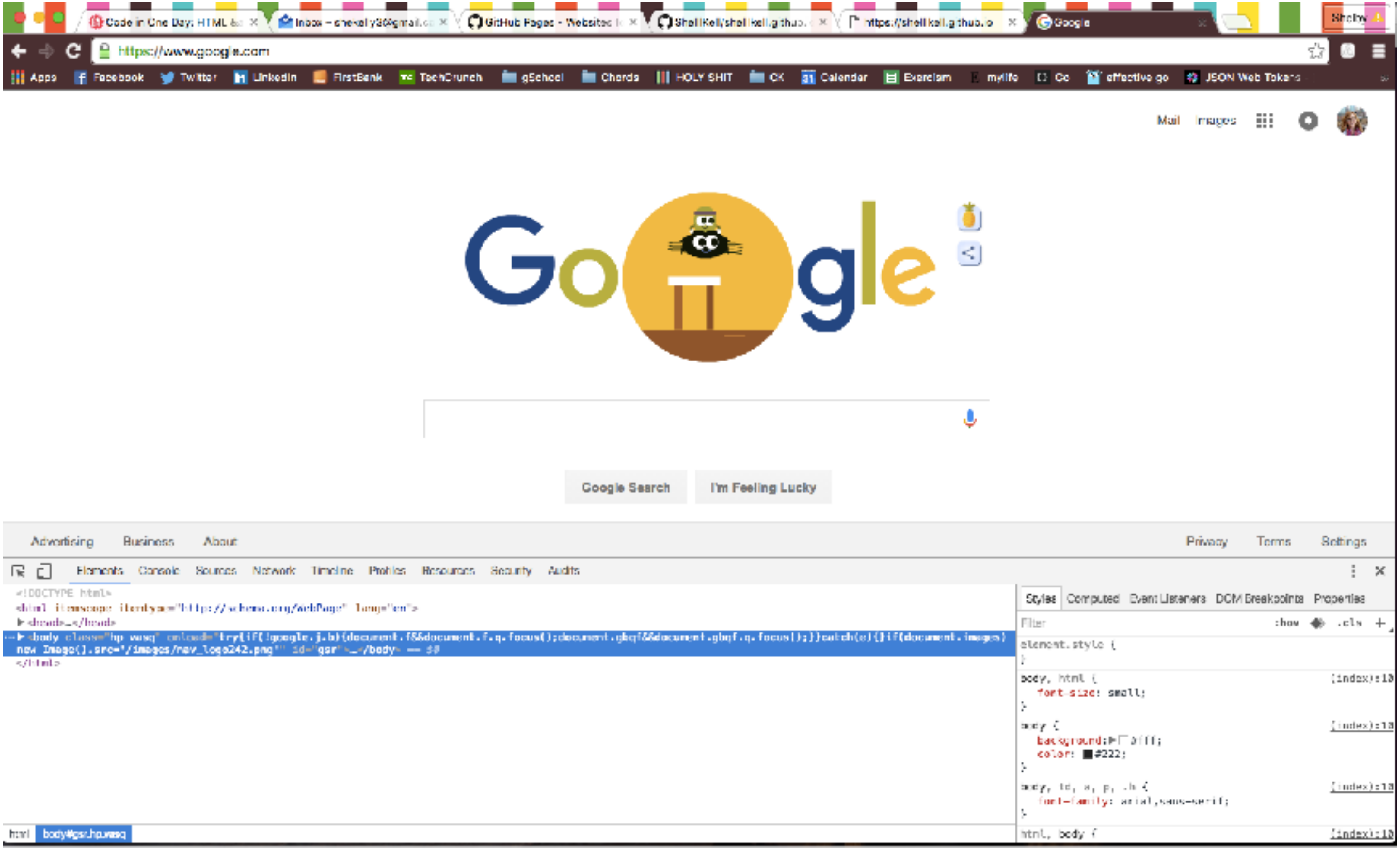
Google Developer Tools!

CODE CRASH COURSE



1. M
2. G
3. Blizzard maker (DQ)
4. Retail (LFL, AE, Gap)
5. UO Rec Center
6. Bartender
7. Ad Sales

Shortcut: command + option + j



```
<!DOCTYPE html>
<html itemscope itemtype="http://schema.org/WebPage" lang="en">
▶<head>…</head>
…▶<body class="hp vasq" onload="try{if(!google.j.b){document.f&&document.f.q.focus();document.gbqf&&document.gbqf.q.focus();}}catch(e){}if(document.images)
  new Image().src='/images/nav_logo242.png'" id="gsr">…</body> == $0
</html>
```

```
element.style {
}
body, html {                                  (index):10
   font-size: small;
}
body {                                        (index):10
   background:▶□ #fff;
   color: ■#222;
}
body, td, a, p, .h {                          (index):10
   font-family: arial,sans-serif;
}
html, body {                                  (index):10
```

CODE CRASH COURSE

- Developer tools are great for inspecting a webpage

- Right click any element to inspect it

- You can change HTML and CSS on any live website to see what the changes would look like

- There are other tabs that are helpful for web development - but today we are going to focus on the ELEMENTS tab

Someone’s favorite website?

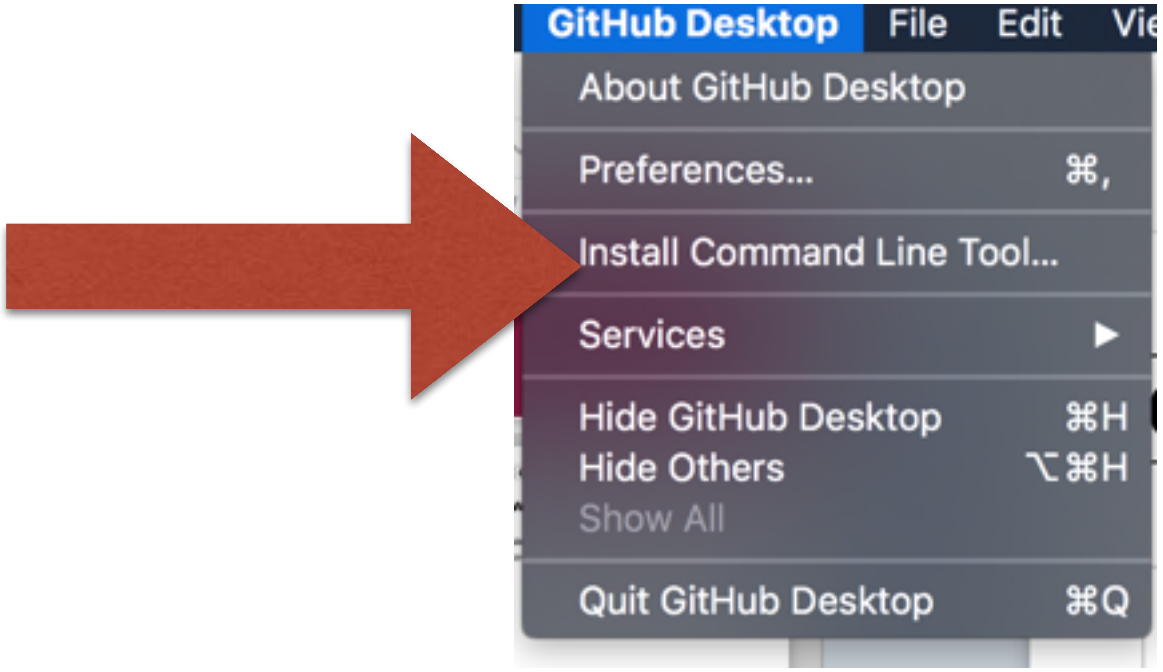
Modify your favorite website

- At least 3 changes
- Raise your hand when you’re finished

GETTING A SITE LIVE ON THE INTERNET

Downloading GIT:

- https://desktop.github.com/
- open github desktop, under menu-preferences-install command line tool



Git

- Git is a source control tool that allows multiple developers to work on the same project at the same time, while also saving backups of previous versions of your site.

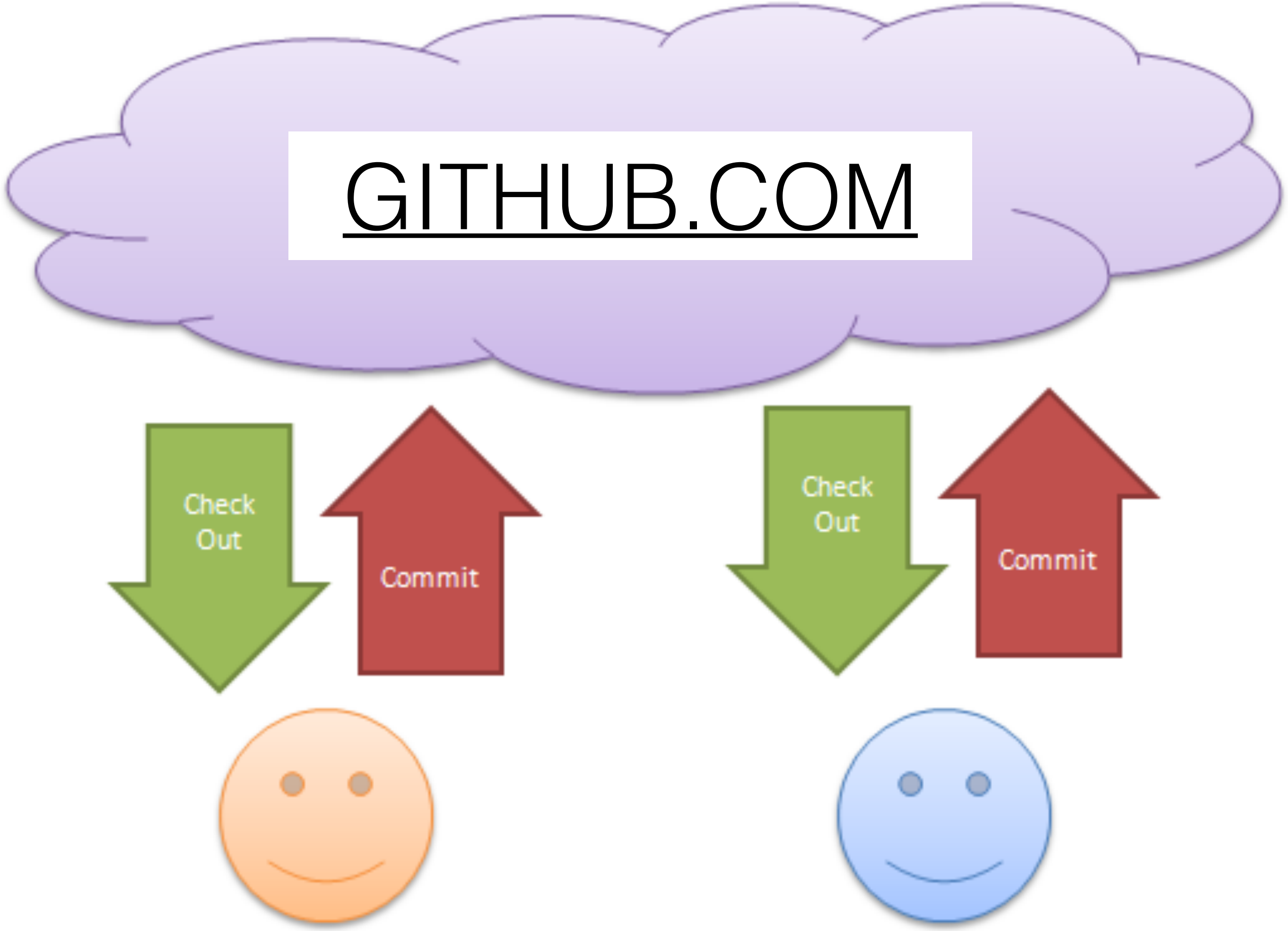
- Git is used in the command line, and is a tool that interacts with GitHub.com (they are not the same thing)

- Git is an industry standard for most web agencies

GitHub

- When you write code locally on your machine, you can save backups using just git
- You can then ‘push’ that code to GitHub.com, where it can be viewed and manipulated by other users
- Your code will live on GitHub, where it will be saved and stored
- When people say ‘Open source’, they are talking about things like GitHub

CODE CRASH COURSE



GitHub Pages

- Allows you to turn your github.com site into a live, outward-facing website

- Instructions can be found here: https://pages.github.com/

NOTE: There are MANY options to deploy websites to the internet. This is one of the simpler ways for our needs today.

Overview

git is hard ¯_(ツ)_/¯

- Git is hard, and will take some practice to become comfortable
- Today is more about using it to get to our end goal, not to master it
- Github WILL make working in groups on software much easier, but also more complex

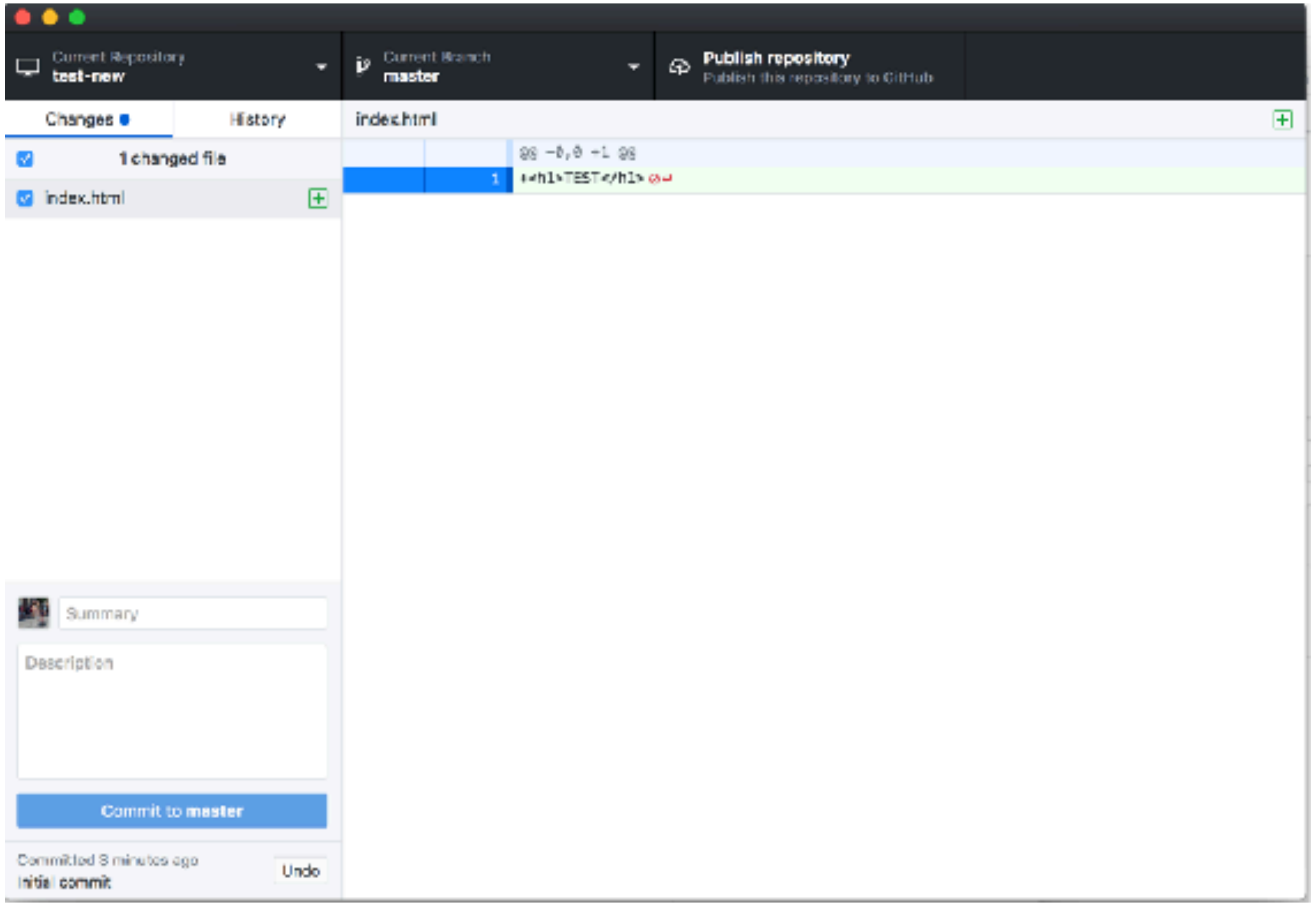
DEPLOY!

CODE CRASH COURSE

1. open github desktop
2. Choose Add Local Repository
3. When it doesn’t find the repo…click create repo here
4. And then publish

CODE CRASH COURSE

6. commit to master with a message



☑ 1 changed file

☑ index.html

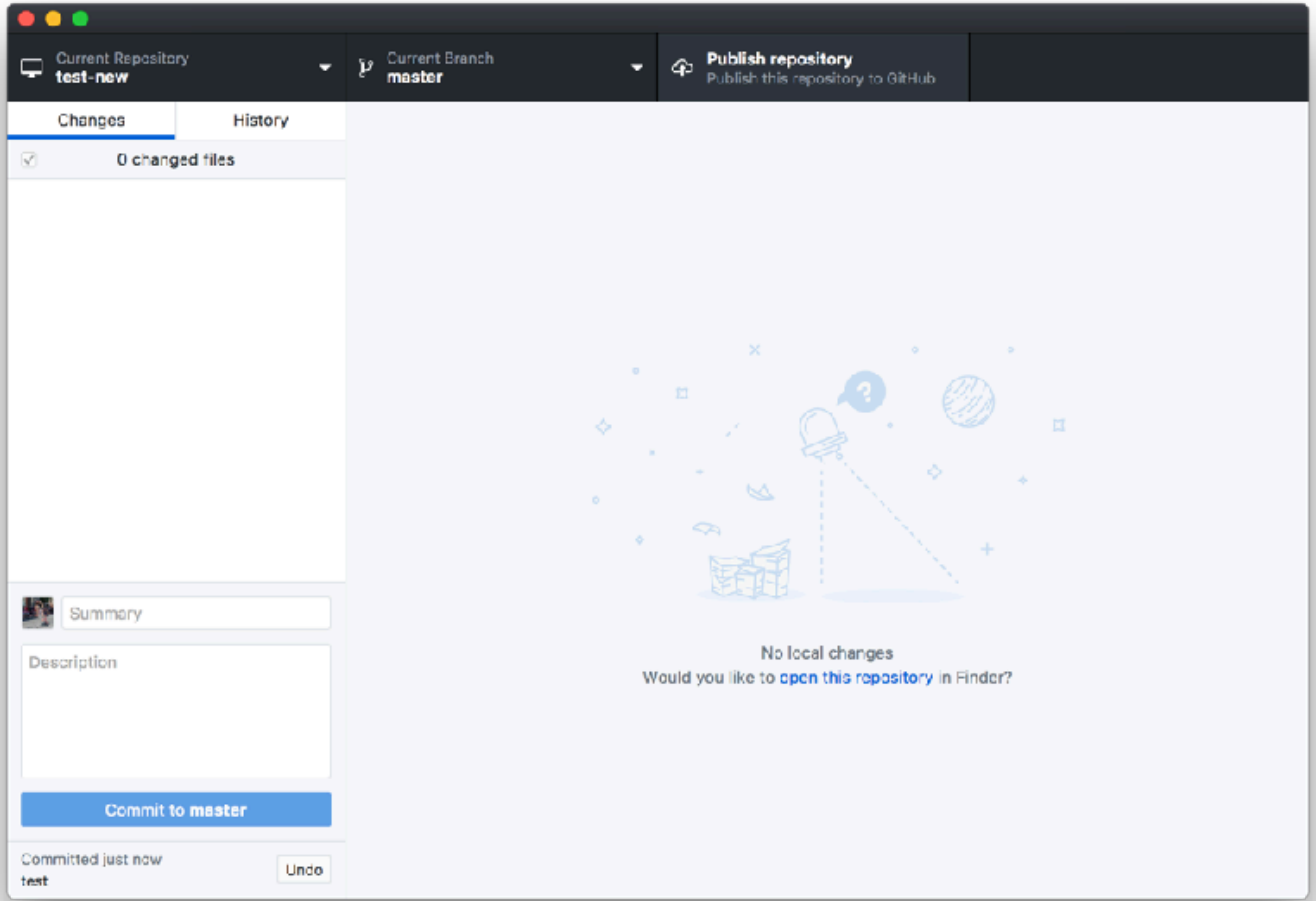
index.html

```
@@ -0,0 +1 @@
1 +<h1>TEST</h1>
```

Committed 3 minutes ago
Initial commit

CODE CRASH COURSE

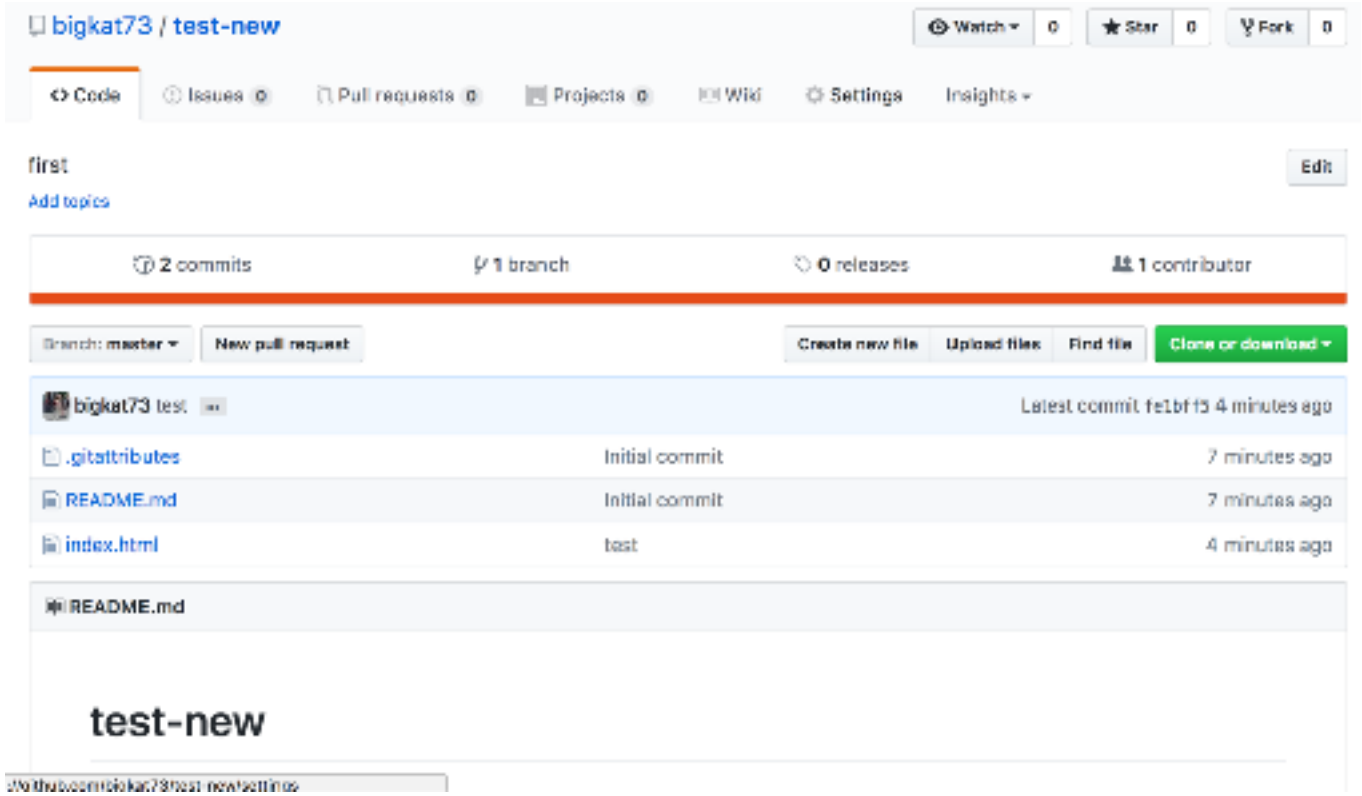
7. publish repository - check github to see repo



No local changes
Would you like to open this repository in Finder?

CODE CRASH COURSE

8. In github online, check your repo.
9. Go into settings tab
10. Drill down to github pages
11. Set repo to master



first

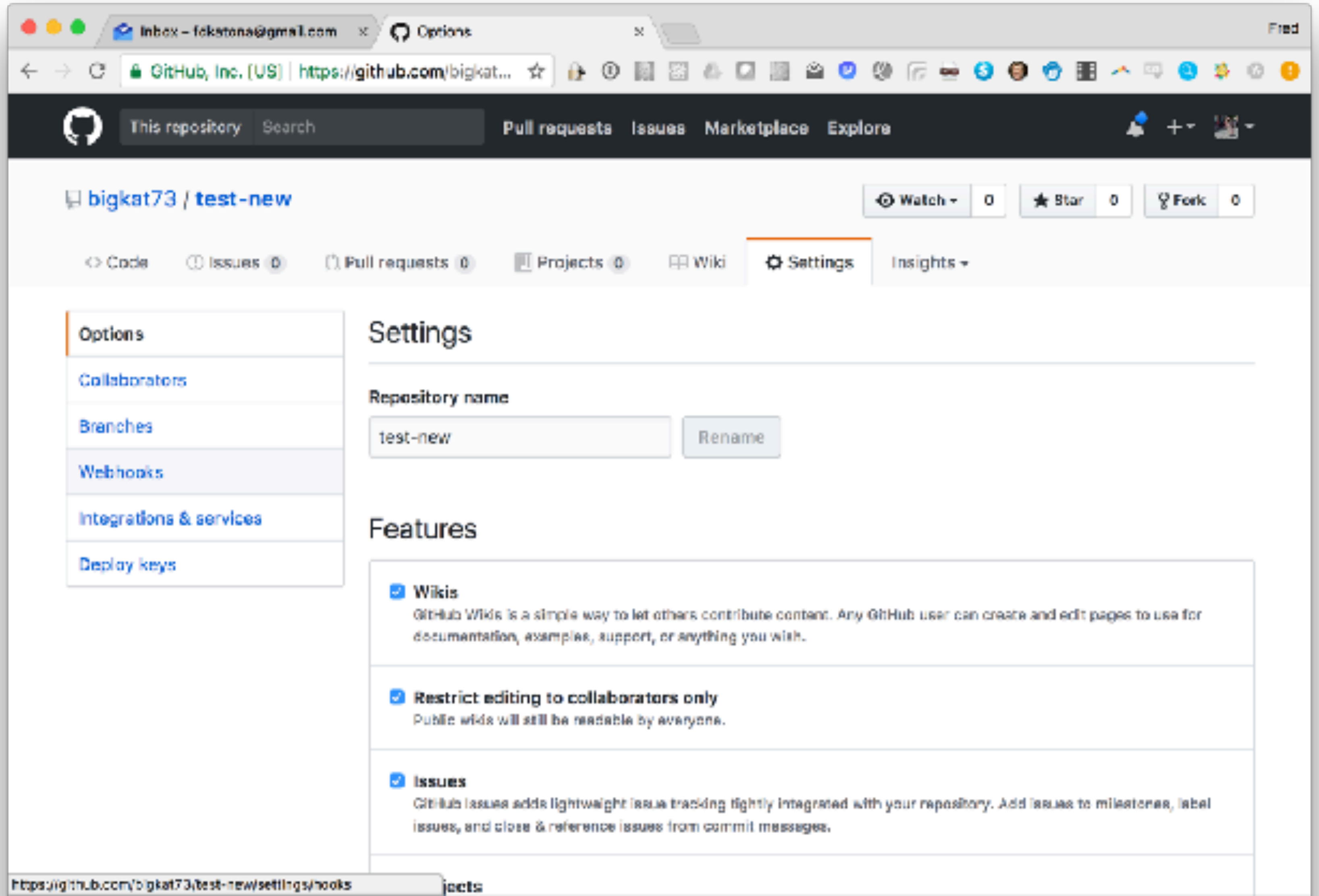
bigkat73 test — Latest commit fe1bf15 4 minutes ago

.gitattributes	Initial commit	7 minutes ago
README.md	Initial commit	7 minutes ago
index.html	test	4 minutes ago

README.md

test-new

://github.com/bigkat73/test-new/settings



Settings

Repository name

test-new

Features

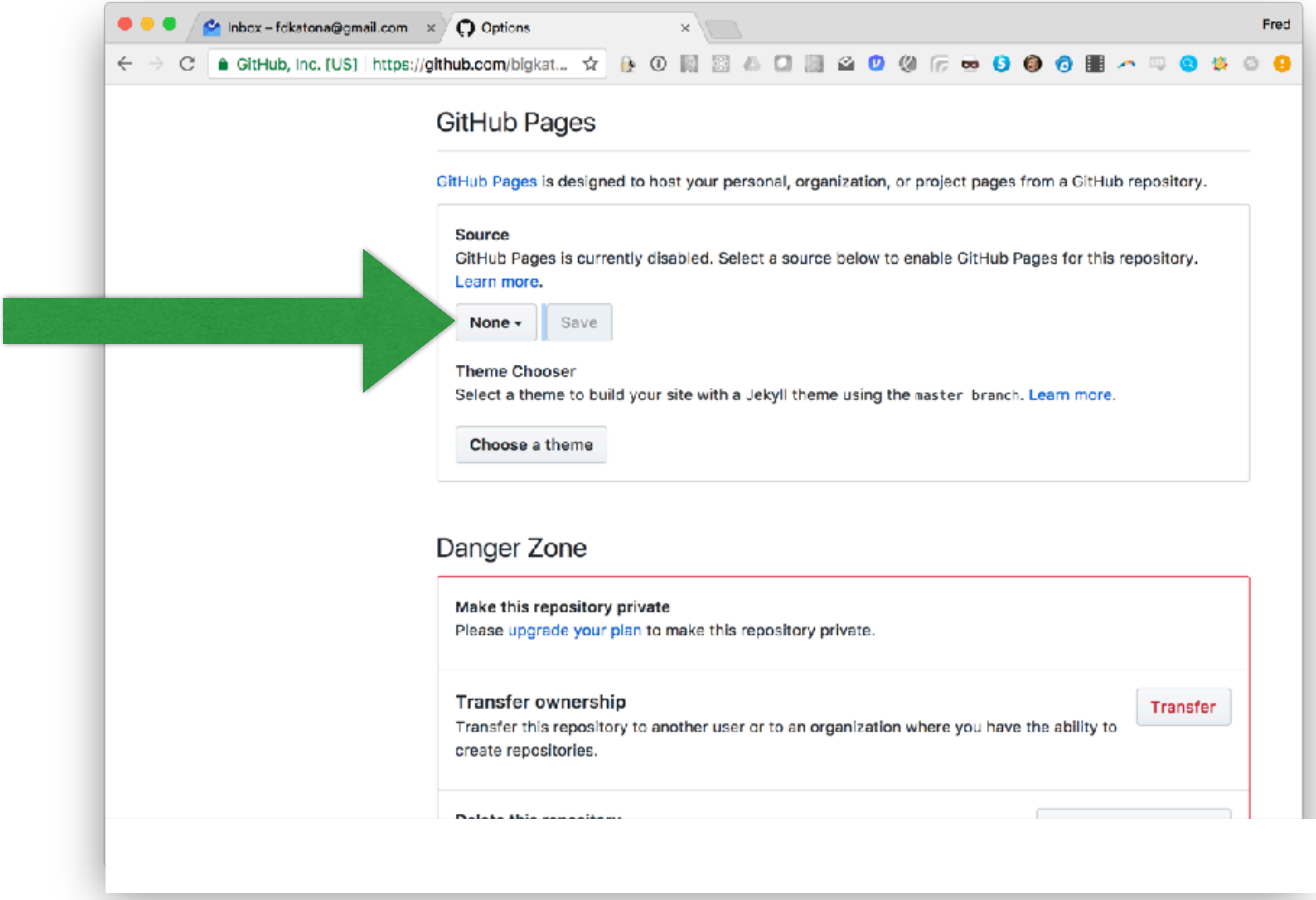
☑ **Wikis**
GitHub Wikis is a simple way to let others contribute content. Any GitHub user can create and edit pages to use for documentation, examples, support, or anything you wish.

☑ **Restrict editing to collaborators only**
Public wikis will still be readable by everyone.

☑ **Issues**
GitHub Issues adds lightweight issue tracking tightly integrated with your repository. Add issues to milestones, label issues, and close & reference issues from commit messages.

jects

https://github.com/bigkat73/test-new/settings/hooks



Inbox – fckatona@gmail.com
Options
Fred
GitHub, Inc. [US] https://github.com/bigkat...

GitHub Pages

GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.

Source

GitHub Pages is currently disabled. Select a source below to enable GitHub Pages for this repository. Learn more.

Theme Chooser

Select a theme to build your site with a Jekyll theme using the `master branch`. Learn more.

Danger Zone

Make this repository private

Please upgrade your plan to make this repository private.

Transfer ownership

Transfer this repository to another user or to an organization where you have the ability to create repositories.

Delete this repository

CODE CRASH COURSE

Voila! Should be able to see your code hosted on the internets.

BREAK TIME!

Be back in 10 minutes!

BUILD A WEBPAGE

CODE CRASH COURSE

Brainstorm

Mockup

Build

Deploy

Static Sites vs. Web Apps

Static sites are splash pages, landing pages

- They don’t have forms to fill out, logins, etc.

Web apps have places for users to interact with the software

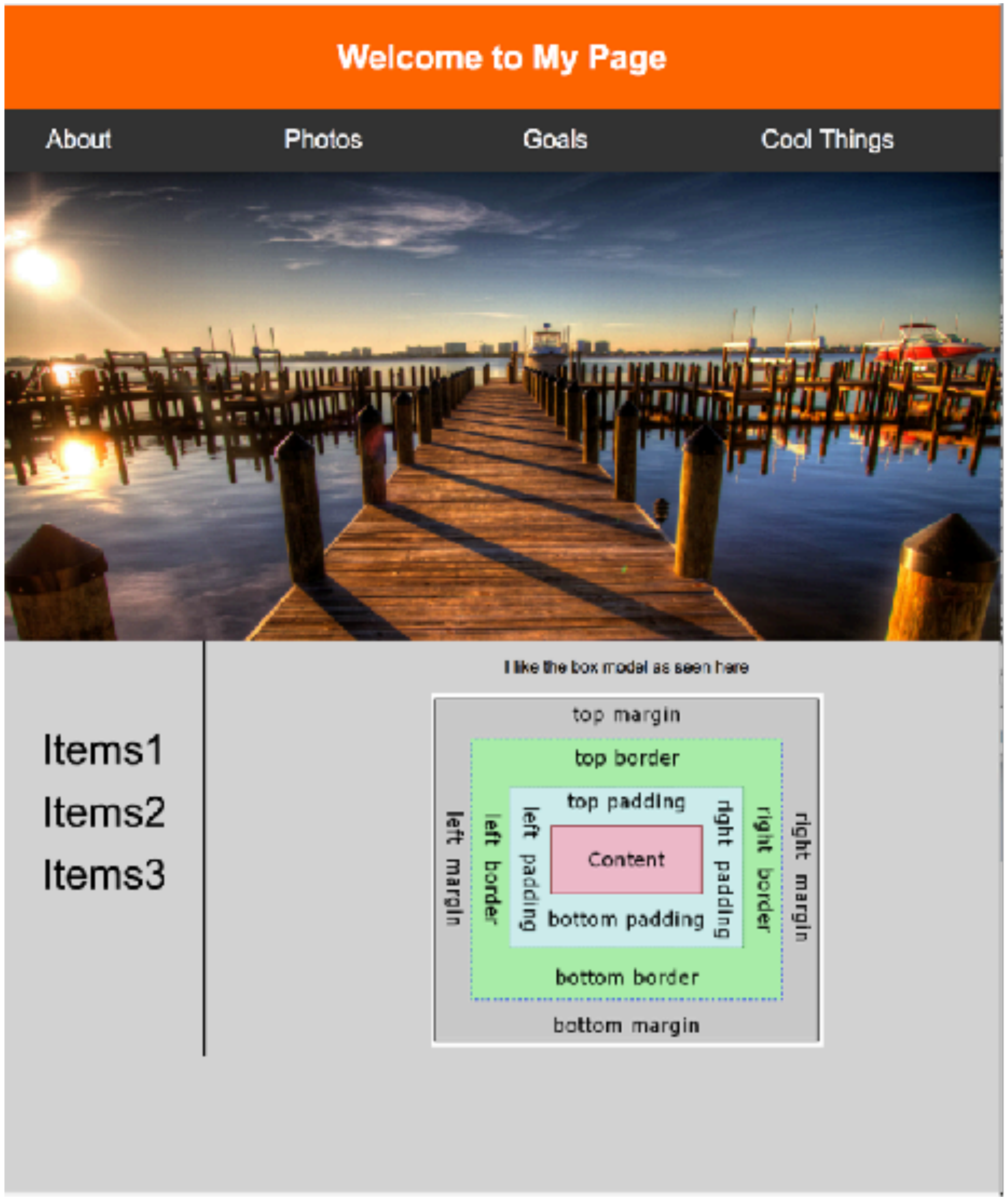
- Fill out forms, sign up, login, etc.

We are focusing on building static sites today - not web apps

Class exercise:
Building a website together

- What should our site be for?
- Colors? Pictures? Headers? Paragraphs?
- How do we see our site in my browser?

WHAT WE WANT TO BUILD



Welcome to My Page

Items1

Items2

Items3

I like the box model as seen here

CODE CRASH COURSE

- Compare starter coder with mockup in the images directory
- What changes do we need to make
- Let’s walk through all the changes that we need to make
- Starter_code/landing_page

let’s copy this code to the desktop in it’s own folder

BREAK TIME!

Be back in 10 minutes!

BUILD A WEBPAGE FROM SCRATCH

5 Minute
Brainstorming Session

- What kind of site do you want to build?
- What colors do you want to utilize?

(psst . . . try color.adobe.com)

- Do you want to use pictures? etc.

(psst . . . right click any image and choose 'Copy image address' to get it's path, then paste it into an img tag src!)

10 Minute
Mockup Session

- Using paper or the whiteboards, design mockups
- Make a few different options

start with your project folder and github repository

add file structure layout to the empty folder

index.html

- Add <!DOCTYPE> on the very first line of the page

- Type html into a blank page, then hit tab

- This will give you the skeleton of your HTML

- We will need to include the CSS file in our HTML file:

```
<link href='styles.css' rel=‘stylesheet'>
```

HTML

Remember that every webpage is made up of HTML!

```
   <!DOCTYPE html>
   <html>
    <head>
     <title>Page Title</title>
    </head>
    <body>
     <h1>This is a Heading</h1>
     <p>This is a paragraph.</p>
   </body>
</html>
```

styles.css

- Add CSS to a file and manipulate the HTML you have

- Try googling different styles to apply to your HTML

CSS

cascading style sheets

```
body {
    background-color: red;
}

h1 {
    color: white;
    text-align: center;
}

p {
    font-family: verdana;
    font-size: 20px;
}
```

30 Minute
Build Session

- Using Sublime Text & Terminal
- Refresh the page to see your changes

(shortcut: command + r)

Ask questions of your neighbors and me!

BREAK TIME!

Be back in 10 minutes!

DEPLOY!

SHOW & TELL

(if there's time)

WRAP UP - Q/A

THANKS!

https://www.linkedin.com/in/frederick-katona-9233b04/

FURTHER RESOURCES

- https://dash.generalassemb.ly/
- https://www.codecademy.com/
- https://teamtreehouse.com
- http://codepen.io/
- https://generalassemb.ly/locations/denver