



MMP 210

Multimedia Programming 1

Instructor: Kyle Greenberg

Email: kgrnbrg@gmail.com [for now]

Schedule: Tuesdays, 2:00PM-5:40PM

Room: FH-706

Office Hours by appointment or directly after class

Room: TBD

Skype: kgrnbrg

github.com/kggrnbrg/mmp210/wiki

Grading

Teacher evaluation and class performance: 10%

Homework assignments: 40%

Midterm project: 15%

Final project: 20%

Quizzes: 15%

Assignments must be handed in on time. Points will be deducted on work handed in late. Assignments may not be accepted for grading if they are late.

Attendance

At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Software



Computer Labs

- 199 Chambers, Room N-261
 - Hours: Mon-Thu: 8am-12am, Fri: 9am-12am, Sat-Sun: 8:30am-12am
- 70 Murray Street, Room. M-1109
 - Hours: Mon-Thu: 9am-8pm, Fri: 9am-3pm
- 245 Greenwich (Fiterman), Room LL03
 - Hours: Mon-Fri: 8am-10pm, Sat-Sun: 8:30am-1:30pm

More info here : www.bmcc.cuny.edu/it/

Slack

MMP2F2016.slack.com

If you are serious about
coding buy this book



“JavaScript and JQuery: Interactive Front-End Web Development” by Jon Duckett,
Publisher: John Wiley & Sons, Inc. ISBN-13: 978-1118531648

Grades?

Who am I?

Quick Facts

- Born and raised in NYC
- Spent last year in Shanghai, China working for NYU
- Got my masters from NYU's Interactive Telecommunications Program
- Huge New York Knicks fan
- Currently researching hacking higher education, 360 video, and telepresence



Who are you?

**Interview your neighbor using the questions listed below
(feel free to add your own):**

- First name, standing, major
- Three things about you (i.e: favorite team that ends with York Knicks, where are you from, favorite food, hobbies etc...)
- Your three favorite pieces of media (i.e: TV shows, Video Games, Movies, Magazines, Websites, Tumblrs, etc...)
- What do you hope to learn in this class?

Be prepared to present your neighbor to the class.

Topics

Topics

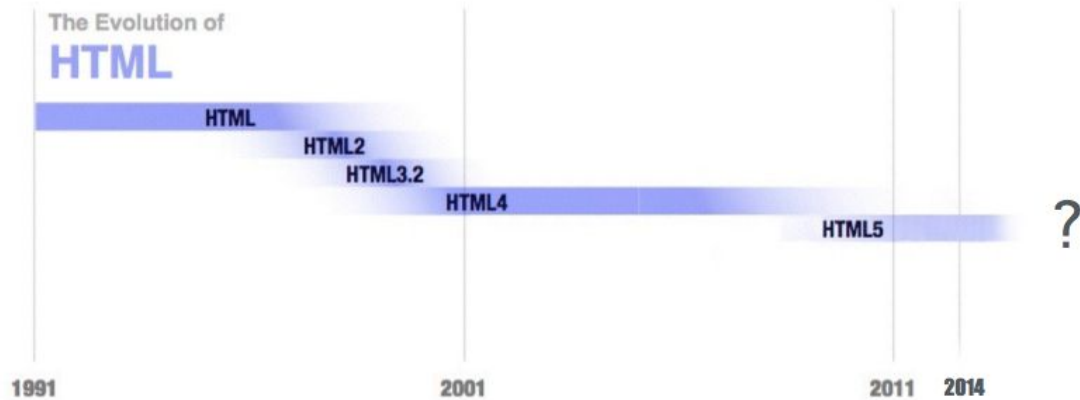
- Programming Basics
- Statements
- Control Structures
- Expressions
- Functions
- Methods
- Objects
- Variables
- JavaScript syntax and best practices
- Document Object Model (DOM)
- Object oriented coding
- Interactivity with events, keyboard and mouse input
- APIs
- HTML5
- Canvas and graphics
- Multimedia elements
- Web Applications

Let's get started!



What is HTML5?

THE EVOLUTION OF HTML



HTML5 is the **latest standard** for HTML

W3C

The World Wide Web Consortium (W3C) is an international community where Member organizations, a full-time staff, and the public work together to develop Web standards.

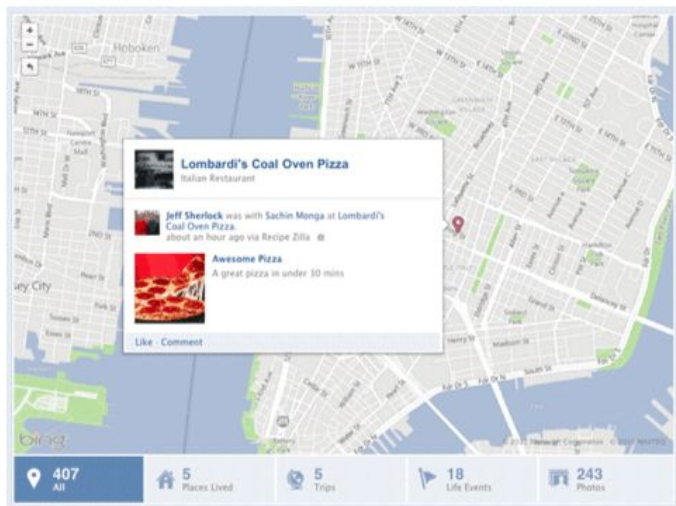
“Benefits”

HTML5 retains backwards compatibility with previous versions of HTML

HTML5 has new structural elements (i.e: <header>, <nav>, <section> etc..)

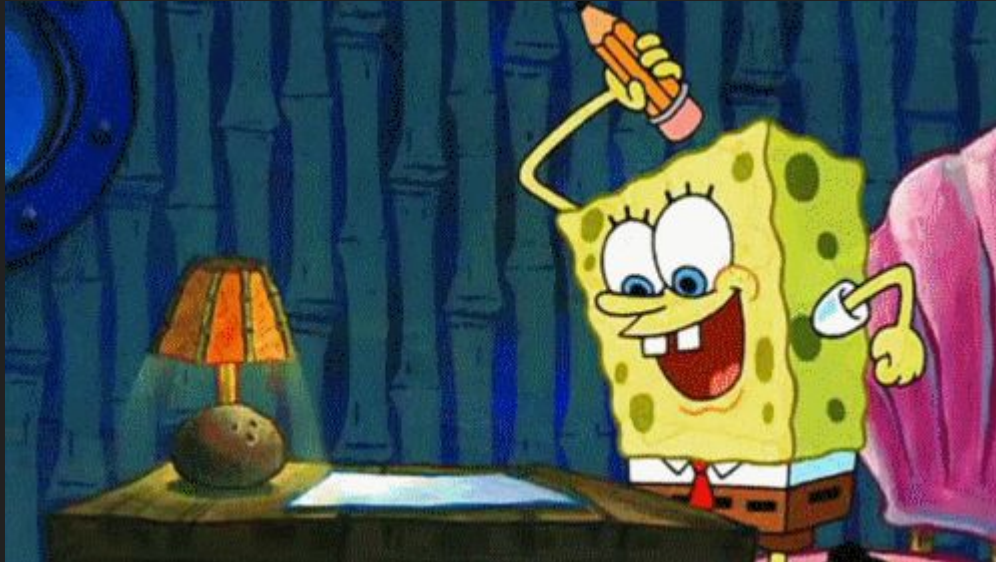
HTML5 added new media elements (i.e: <video>, <audio>, <embed> etc...)

HTML5 contains many features to facilitate the development of web applications



What is HTML5?

Hyper Text Markup Language



The diagram illustrates the structure of an HTML element. It shows the following components with color-coded labels and arrows:

- Start Tag** (blue): Points to `<h1`
- Attribute** (orange): Points to `id="head"`
- Content** (green): Points to `Hello Class!`
- End Tag** (purple): Points to `</h1>`

A large red double-headed arrow spans the entire sequence from the start tag to the end tag, labeled **Element** in red text below it.

<html>

</html>

<html>

<body>

</body>

</html>

<html>

<h1> Coding Rulz </h1>

<body>

</body>

</html>

```
<html>
```

```
<h1> Coding Rulz</h1>
```

```
<body>
```

```
  <p>
```

```
  </p>
```

```
</body>
```

```
</html>
```



```
<html>
```

```
<h1> Coding Rulz </h1>
```

```
<body>
```

```
  <p>
```

```
    <img src = "kyle.jpg">
```

```
  </p>
```

```
</body>
```

```
</html>
```

Coding Rulz



Structural tags

The basic structural tags of HTML include doctype, html, head and body

doctype tells the browser what type of document it is reading.

html is a wrapper for the all of the content in the document.

head contains information that is invisible to the user, such as meta information about the page, links to stylesheets and scripting, and other functionality.

body contains all of the content and structure that goes on the page.

div is a basic element that stand for division. It is used as a neutral building block for position and creating hierarchy with a page.

Text tags

Tags for text include:

- `h1, h2, h3, h4, h5, h6` are headings, such as the title of these slides, the higher the number the smaller the font and weight
- `p` is the paragraph tag, which is used to organize most text
- `em, strong` are style tags, emphasis for *italics* and strong for **bold**.
- `ul, ol, li` are used to create lists such as this one. `ul` is unordered list, which makes a list with bullets. `ol` is ordered, for numbers. `li` is a list item. They are useful for navigation menus.

Hyperlinks

- `a` is the anchor tag, for hypertext links. It requires the `href` attribute to hold the location or URL of the link. It also takes the `target` attribute to determine where to open the link, such as `"blank"` for a new window.
- External links are links to pages on other sites: `href="http://www.othersite.net"`
- Internal links are links to pages within the same site, server or domain, and use relative paths: `href="work/assignment1/index.html"`

CSS

Cascading Style Sheets

Declaration

Selector



h1

Property



color:

Value



#ff0000;

{ }


```
<link rel="stylesheet" href="style.css" type="text/css" />
```

```
<style>
```

```
  a { color: pink; }
```

```
  a:hover { color: blue; }
```

```
</style>
```

```
<div style="background:blue;padding:5px;"></div>
```

```
<div style="background:blue;padding:5px;"></div>
```

CODING RULZ



CODING RULZ



Hey!

What is Javascript?

JavaScript is the programming language of the web.

It encompasses many of the traditional rules of programming and can make a web page more interactive by responding to a user's actions.

Programming is the process of creating a set of instructions to enable the computer to complete a task.

A script is a series of instructions that a computer can follow to achieve a goal.

A browser may use different parts of the script depending on how the user interacts with the web page.

HOW TO WRITE A SCRIPT?

1. DEFINE THE GOAL

2. DESIGN THE SCRIPT

Split the goal out into a series of tasks that will allow the computer to reach the defined goal.

3. CODE EACH STEP

Each task needs to be written in a programming language that the computer understand - in our case, JavaScript

In Class Exercise

Organize this list of tasks to describe how to get up and get to class in the morning. Make sure you use a diamond when a decision needs to be made.

Select something to wear	Look for your shoes	Put your shoes on
Take a shower	Brush your teeth	Hit snooze button
Eat breakfast	Put toast in the toaster	Get dressed
Leave house for school	Check your alarm clock	Comb your hair
Get out of bed	Turn on shower	Check the time

WHAT CAN JAVASCRIPT ADD TO OUR WEBPAGES?

JavaScript allows us to change the content of an HTML page while it is loaded in the browser.

Scripts can include instructions to:

- Access the content of the page
- Modify the content of the page
- Program rules or instructions the browser can follow
- React to events triggered by the user of browser

MY SUBREDDITS ▾ FRONT - ALL - RANDOM - FRIENDS | FUNNY - POLITICS - PICS - TODAYILEARNED - MOVIES - ADVICEANIMALS - AWW - WTF - 1A

52WEEKSOFCOOKING
ADVICEANIMALS
ANNOUNCEMENTS
APPLE
ATHEISM
AWW
BEARDS
BESTOF
BLOG
BREAKINGBAD
CIRCLEJERK
COMMERCIALCUTS
DARKNETMARKETS
DESIGN
EVERYTHINGSOURCE
FANTASYBALL
FUNNY
GEOGRAPHY
GOOGLEMAPS
GRAPHIC_DESIGN
HIPHOPIMAGES
HISTORY
IAMA
JUDAISM
LEARNDESIGN
MAPMAKING
MOVIES
NBA
NERDFIGHTERS
NOSLEEP
NYKNICKS
PHILOSOPHY
PICS
POLITICS
RIDDLES
SCIENCE
SEINFELDGIFS
SHITTYMAPORN
SHITTYROBOTS
SPACE
SPORTSPORN
STARWARS
TECHNOLOGY
THESIMPSONS
THEYDIDTHEMATH
TODAYILEARNED
TONIGHTSDINNER
TWINPEAKS
VIRTUALREALITY
WEATHERGIFS
WEBDESIGN

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World of Warcraft: Legion is live! Wield weapons of unimaginable power as you stand and fight for Azeroth. (us.battle.net)
promoted by WoW_Legion
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ending subreddits /r/DMDadJokes /r/PennyDreadfulMTG /r/OhioCamping /r/EliteCG /r/DamnNatureYouScary comments

Astronomer here! I now have a dress with the Hubble Deep Field on it! (i.imgur.com)
submitted 2 hours ago by Andromeda321 to /r/space
501 comments share save hide report

(i.imgur.com)
submitted 5 hours ago by Jldoen to /r/pics
937 comments share save hide report

(en.wikipedia.org)
submitted 2 hours ago by KazCarpent to /r/todayilearned
271 comments share save hide report

(thehill.com)
submitted 2 hours ago by polymute to /r/politics
856 comments share save hide report

(theguardian.com)
submitted 3 hours ago by maxwellhill to /r/science
369 comments share save hide report

(theatlantic.com)
submitted 4 hours ago by jordan_10 to /r/news
1,000 comments share save hide report

How Popular Are Your Opinions About “Stranger Things”?

“I hope you’re enjoying your chicken, Ted.”

posted on Aug. 25, 2016, at 5:12 p.m.



Emily
COMMUNITY MEMBER

CAT POWER: 1



Join The Community!



Notification

☐ “Chapter One: The Vanishing of Will Byers”

☐ “Chapter Two: The Weirdo on Maple Street”

☐ “Chapter Three: Holly, Jolly”

Ga
Air Jordan 5 A TINEC ZUWHI YAPU

SHOP NOW



• • • • •



.html

Content

.css

Presentation

.js

Behavior

The HTML `<script>` element is used to tell the browser to load the JavaScript file.

Comments

In HTML, a comment can be written using this syntax:

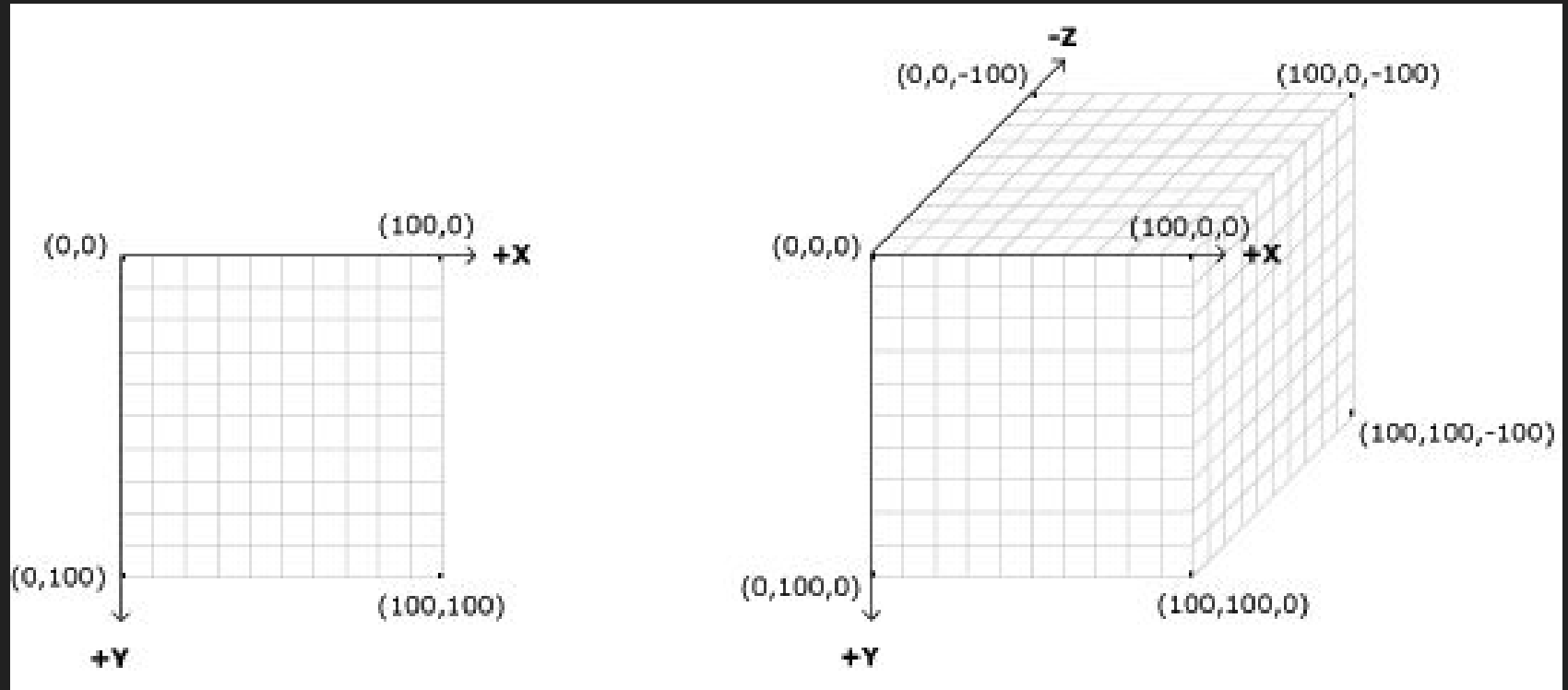
```
<!-- COMMENT TEXT GOES HERE -->
```

In CSS, comments use this syntax:

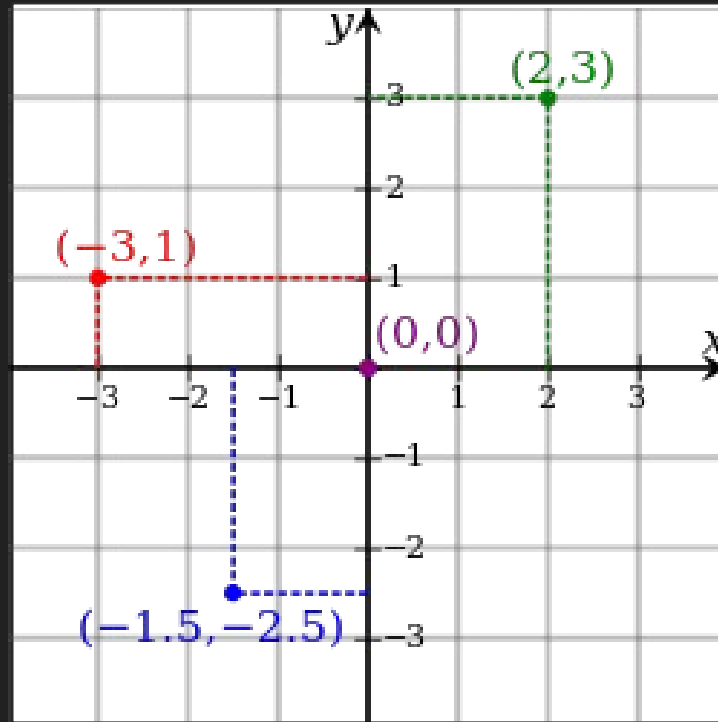
```
/* COMMENT IS HERE */
```

Any Questions so far?

Cartesian Coordinate System



Cartesian Coordinate System



HTML5 Canvas

The HTML5 **Canvas** is a relatively new HTML element introduced with the HTML5 standard around 2011 to implement graphical programming within the web browser.

The canvas can be used to draw graphics on the screen using JavaScript. This can be done in **pure JavaScript** but there are many libraries that make drawing to the canvas easier.



Homework

Send me an email (kyle.greenberg@nyu.edu) so I can invite you to the slack channel

Create a website that is a self portrait, as well as space that you can use as a portfolio. It should include:

- Image
- Stylesheet
- Text

Bonus points Menu & p5

Watch these Daniel Shiffman Coding Rainbow