

# Welcome to DWS II

Designing for Web Standards 2

# What I am Learning Today



## Course Introduction

Why do I need this class?



## CSS3 Selectors

Syntax and vocabulary



## Specificity

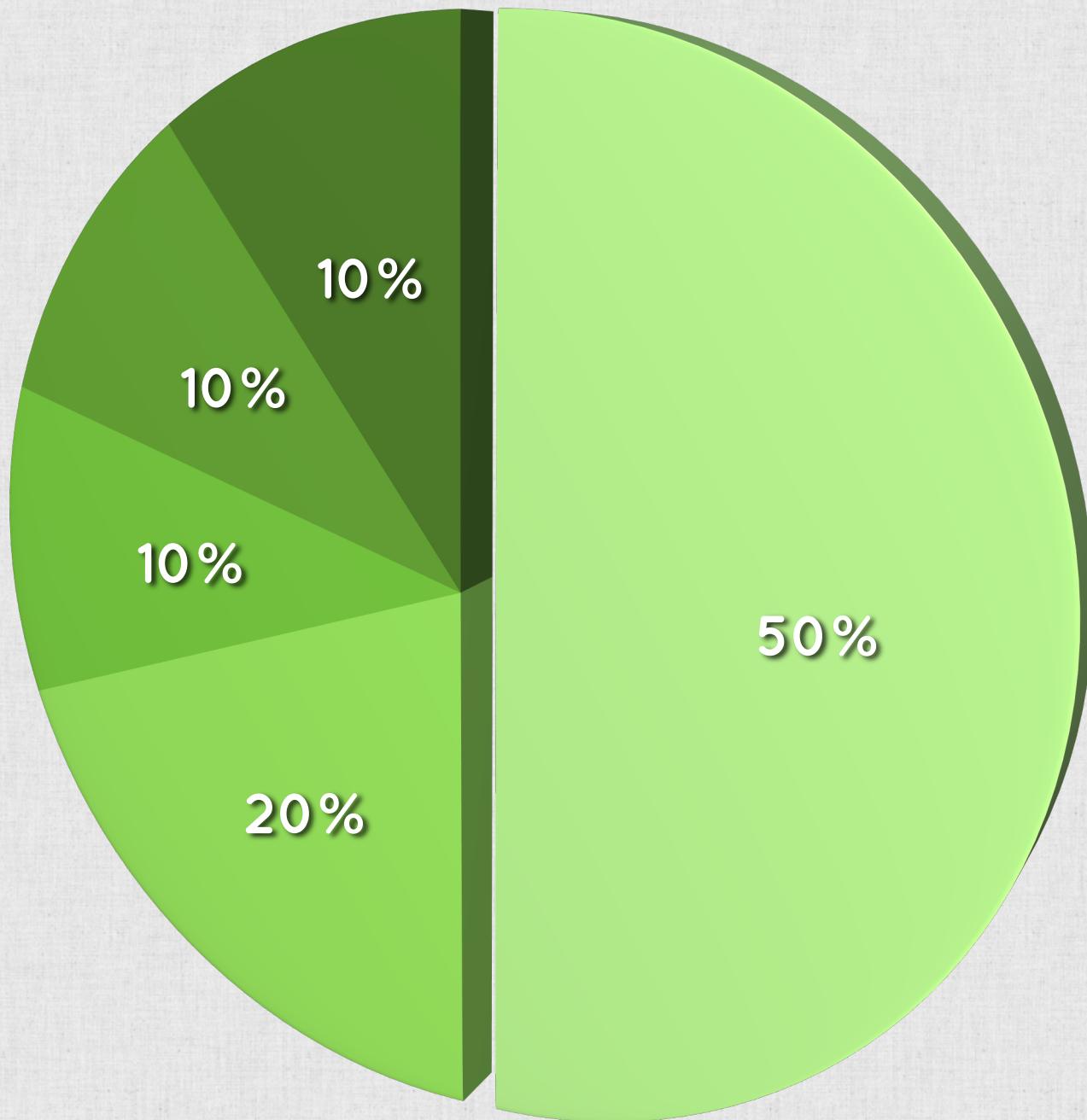
Show me the money



## Introducing Responsive Web Design

Sexy web sites incoming

# Grades



## GPS

Easiest 10% you will ever earn. Be on time, be professional, be respectful.

## Labs

Labs will be independently scored, all of which will cumulate to 50% of your final score. Labs are the backbone of the course.

## Exams

Lecture 5 & 9, you will be given a comprehensive exam covering the material from the previous lectures. Content will be cumulative. Quizzes will be weekly and online. Tests=5% ea. Quizzes=2.5% ea.

## Final

On the final week of class, you will begin building your final project worth 20% of your overall score. You will have lecture and lab to complete your site.

# Expectations - Of You

- CSS syntax
- General Selectors
- Basic Floats
- Some Javascript
- How to style and layout a simple web page
  - Ideally with little to no help.

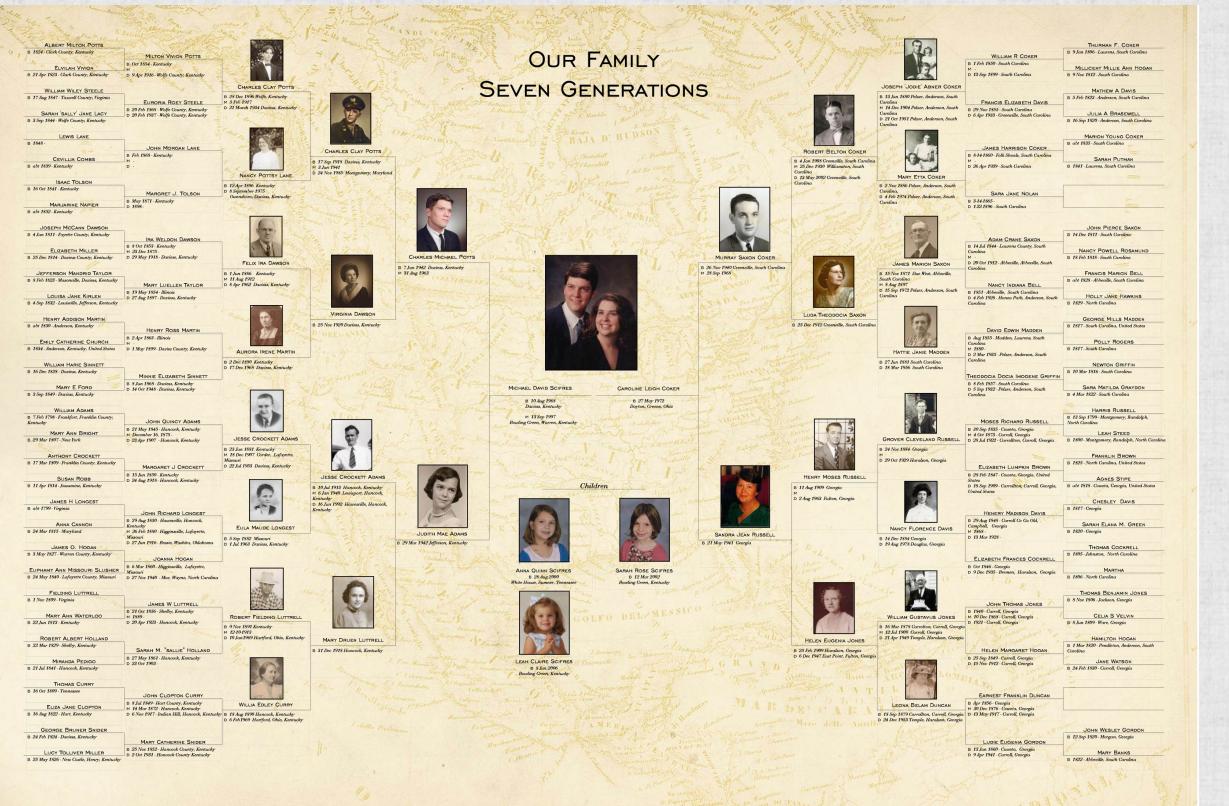
# Expectations - For You

- Advanced CSS techniques
- Responsive Web Design
- Popular frameworks
- CSS3 Selectors
- CSS3 Transitions, Animations, Transforms
- Performance and Cross Browser Compatibility

# 10 Ways to succeed.

1. Pay attention in class
2. Read from your book
3. Complete homework
4. Put in the time outside of class
5. Watch videos
6. Work with your peers
7. Ask questions
8. Be passionate
9. Experiment
10. Have fun

# Family Tree



Not the tree you're looking for.

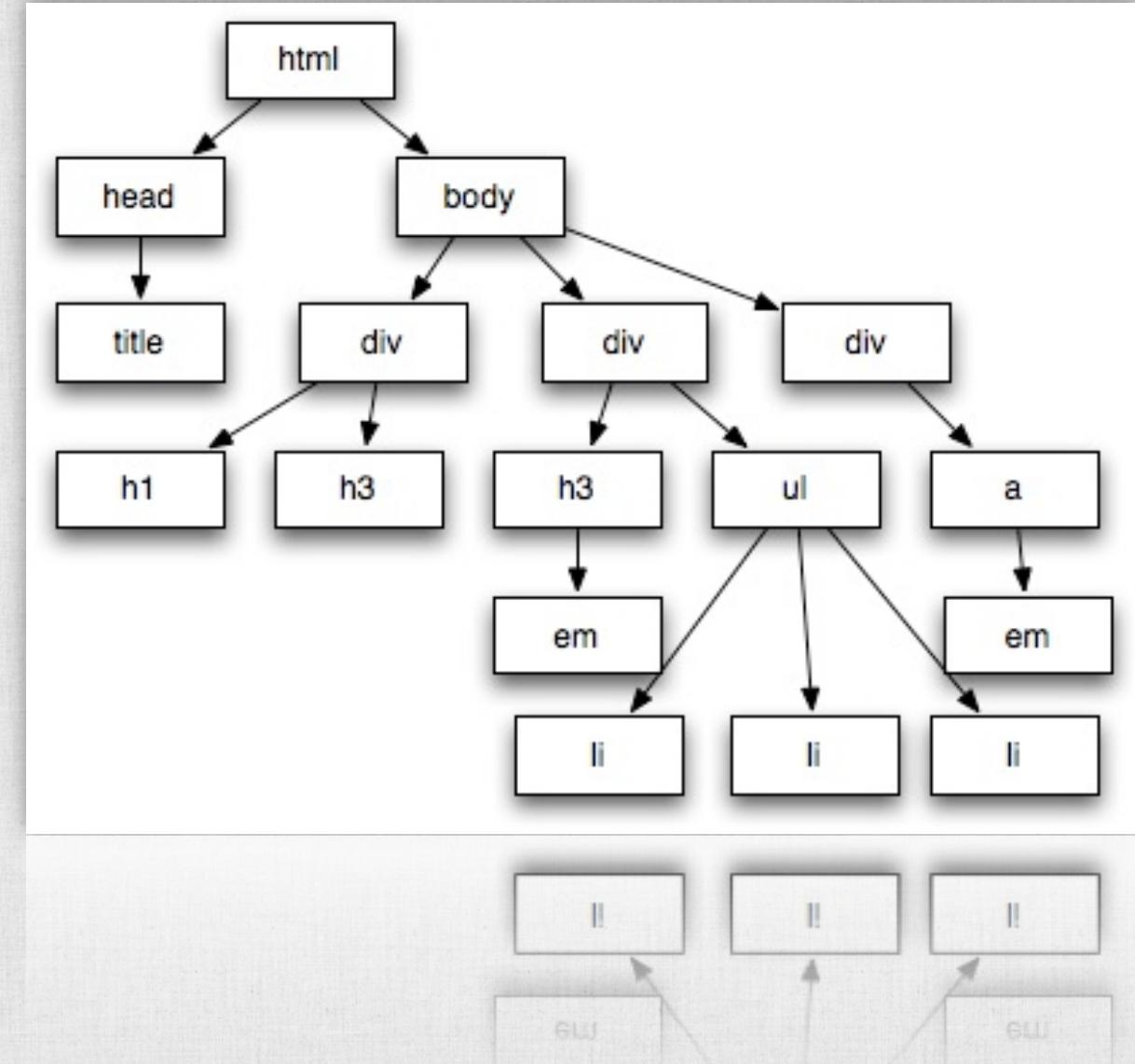
This family tree is very detailed. Provides a bird's eye view on how people are related to one another. Who is a sibling, a child, a parent, and so on. We need a way to have this view of our mark up so we know how and what to select elements.

# HTML Tree

Bingo!

The idea is the same as a family tree. We are able to examine the relationships one element shares with another. Can you point out children, siblings, ancestors, descendants, and parents?

What is the difference between parents, ancestors, and descendants?



# Selectors

- Currently you should know the following:
  - Element or Type
  - Universal
  - Class
  - ID
  - Descendant
  - Pseudo-class and Pseudo-element

# CSS3 Selectors

- CSS3 added many new selectors designed for more precise selection
  - Attribute
  - Structural Pseudo-classes(12 of them)
  - Negation Pseudo-class
  - Combinators

# CSS2 Attribute Selector

- **E[attr]** {} /\* Simple Attribute Selector \*/
- **E[attr='value']** {} /\* Exact Attribute Value Selector \*/
- **E[attr~= 'value']** {} /\* Partial Attribute Value Selector \*/
- **E[attr|= 'value']** {} /\* Language Attribute Selector \*/

# CSS3 Attribute Selectors

- `E[attr^~='value'] {} /* Beginning Substring Attribute Value Selector */`
- `E[attr$='value'] {} /* Ending Substring Attribute Value Selector */`
- `E[attr*= 'value'] {} /* Arbitrary Substring Attribute Value Selector */`
- Realize that attribute selectors can be chained together:
  - `a[href^='http://'][href*='/folder2/'][href$='.pdf'] {}`

# CSS Sibling Selectors

- `E + F {} /* Adjacent Sibling Combinator [CSS2] */`
- `E ~ F {} /* General Sibling Combinator [CSS3] */`
- While not a sibling selector, the child selector is very similar:
  - `E > F {} /* Child Combinator [CSS2] */`

# CSS Pseudo-class Selectors

- Means of selecting elements on information not specified in the document tree
  - `E:first-child { } /* [CSS2] */`
  - `E:nth-child(N) { } /* [CSS3] */`
  - `E:nth-last-child(N) { } /* [CSS3] */`
  - `E:nth-of-type(N) { } /* [CSS3] */`
  - `E:nth-last-of-type(N) { } /* [CSS3] */`
- The “N” above can represent keywords, numbers, or numeric expression in the  $a+b$  format.

# CSS Pseudo-class Selectors

- Means of selecting elements on information not specified in the document tree
  - **E:last-child** {} /\* [CSS3] \*/
  - **E:only-child** {} /\* [CSS3] \*/
  - **E:only-of-type** {} /\* [CSS3] \*/
  - **E:first-of-type** {} /\* [CSS3] \*/
  - **E:last-of-type** {} /\* [CSS3] \*/

# CSS Vendor Prefixes

- Required to implement certain CSS3 features
  - **Microsoft:** -ms-
  - **Mozilla:** -moz-
  - **Webkit:** -web-
  - **Opera:** -o-
  - **Konqueror:** -khtml-
- Always include the non prefixed version as well!

# Keep it short



# Inheritance

- Mechanism through which certain properties are passed on from parent to children
- Not all CSS properties are inherited
  - Sometimes it wouldn't make sense

# When styles collide



# The Cascade

- Cascade is a system which governs conflicts
  - Mechanism that controls the end result when multiple, conflicting CSS declarations apply to the same element
  - Conflicts occur in two cases
    - inheritance
    - one or more directly applied styles target the same element

# The Cascade

- How do styles cascade?
  - Inherited styles accumulate
  - Nearest ancestor wins
  - Directly applied style wins

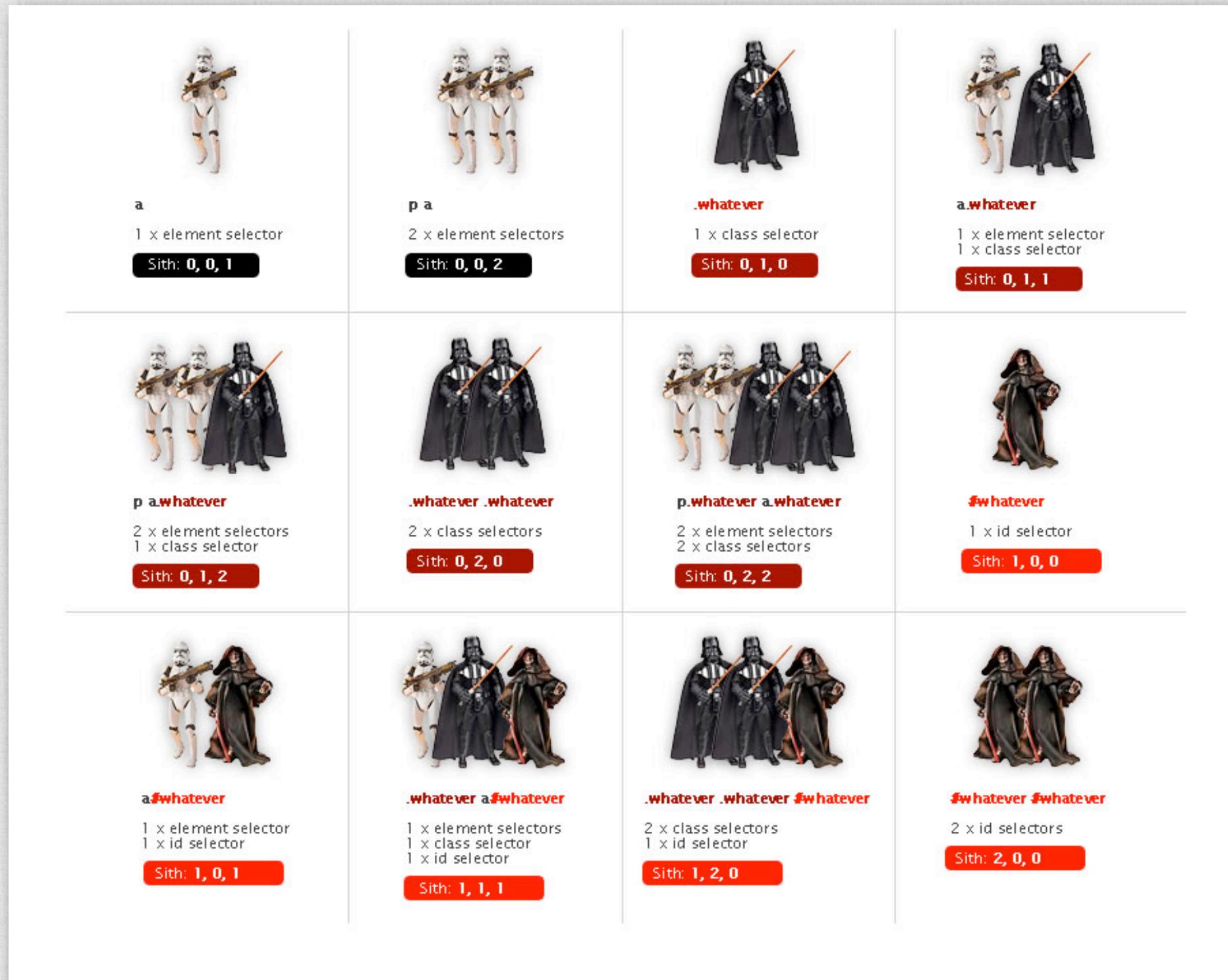
# One tag, Many styles

- What style should the browser obey when multiple styles are applied to a given element?
  - It depends!
    - The tag has both an element selector and a class style applied to it
    - Same style name appears more than once in the stylesheet
    - Tag has both a class and an id
    - More than one stylesheet containing the same style name
    - Complex selectors targeting the same element

# Specificity

- Measure of how specific a rule's selector is
  - Selectors with low specificity may match many elements, while a selector with high specificity might only match a single element on the page
  - How do we measure specificity?

# When styles collide



# Source Order

- If two declarations affect the same element, have the same importance and the same specificity, the final distinguishing mark is the source order
  - The declaration that appears later in the style sheets will “win” over those that come before it

# Origin Styles

- 3 separate locations styles can originate from
  - User Agent/Browser
  - Author
  - User

# Importance

- The conflicting declarations will be applied in the following order; later ones will override earlier ones:
  - User Agent
  - Author normal
  - User normal
  - Author important
  - User important

# Keep it short



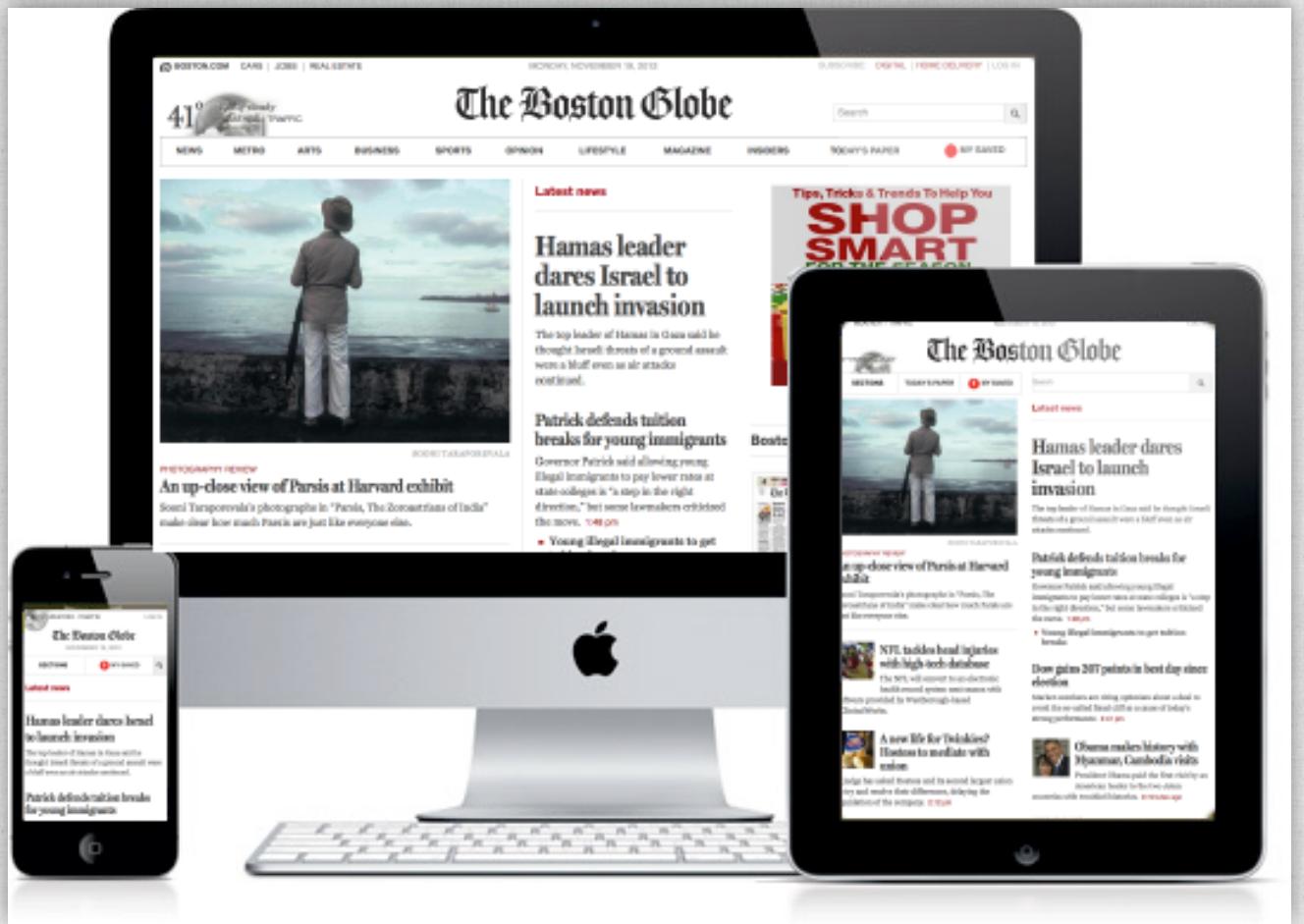
# Pioneers in Web



# Responsive Web Design



# RWD Goals



A website designed using RWD principles/techniques will adapt to the device screen and potentially change its layout/appearance based on the screen resolution in order to offer the best user experience. This means that it can go from a three-column format (for desktop) to a one-column format (for mobile phones) and it can do this without relying on server side detection and serving different pages to different clients.

# RWD Inspiration

<http://mediaqueri.es/>

Sometimes we need to draw inspiration and ideas on how to create a superior responsive design and user experience. A great site for this is the Media Queries gallery page.



# Viewport Testing

Chrome

<https://chrome.google.com/webstore/detail/window-resizer/kkelicaakdanhinjdeammilmgefognfh?hl=en>

Firefox

<https://addons.mozilla.org/en-us/firefox/addon/firesizer/>

Safari

<http://resizesafari.com/>

“A media query consists of a media type and zero or more expressions that check for the conditions of particular media features.

<http://www.w3.org/TR/css3-mediaqueries/>

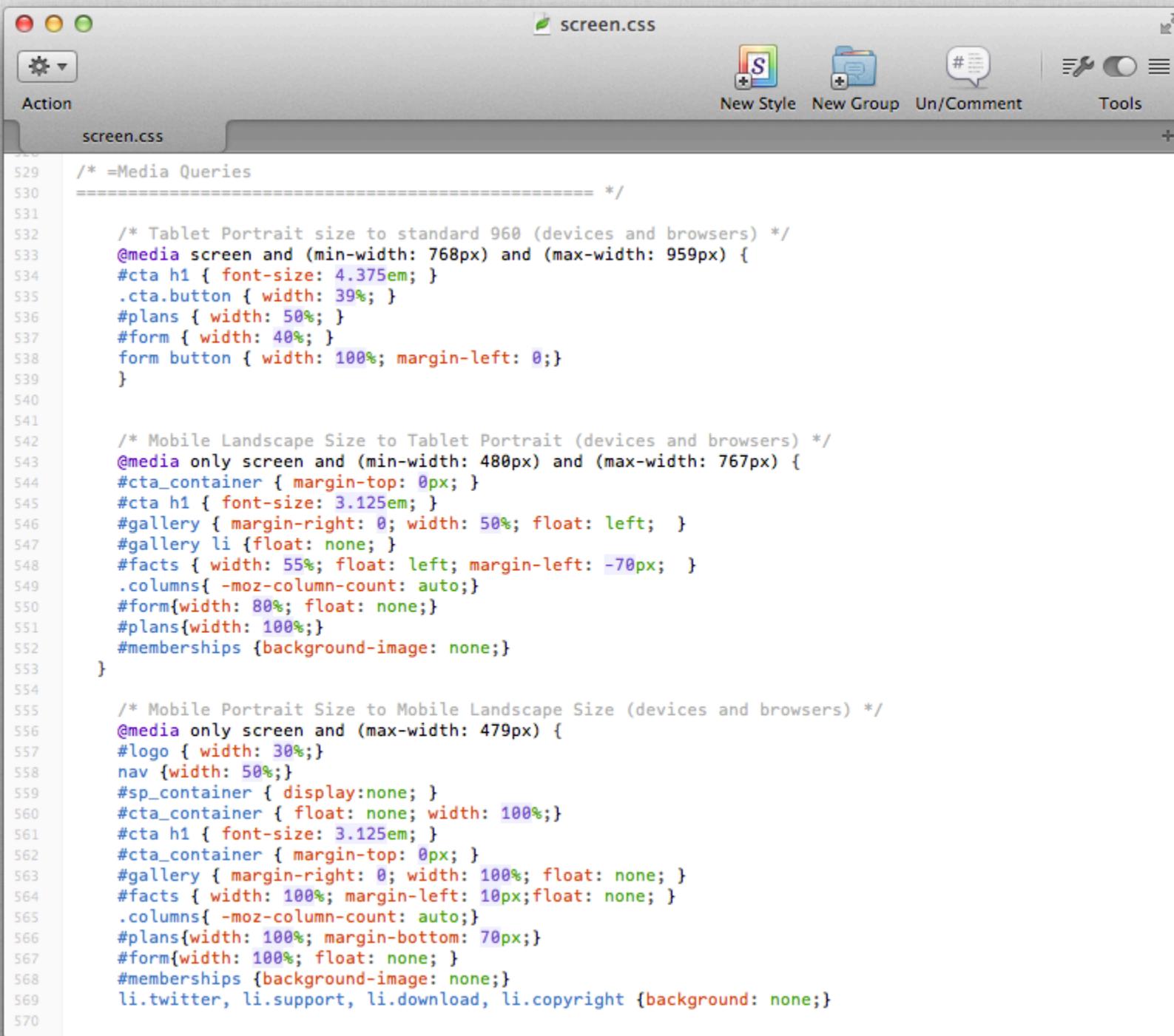
# Query Syntax

- Media queries are used with stylesheets using the @media rule.

```
@media logic media and (expression){ rules }
```

```
@media screen and (max-width: 480px){  
    body{  
        background-color: purple;  
    }  
}
```

# Query Placement



The screenshot shows a CSS editor window titled "screen.css". The code is organized into three main sections using media queries:

- Tablet Portrait size to standard 960 (devices and browsers):** This section starts at line 529 and includes rules for elements like #cta h1, .cta.button, #plans, #form, and form button.
- Mobile Landscape Size to Tablet Portrait (devices and browsers):** This section starts at line 542 and includes rules for #cta\_container, #cta h1, #gallery, #facts, .columns, #form, #plans, and #memberships.
- Mobile Portrait Size to Mobile Landscape Size (devices and browsers):** This section starts at line 555 and includes rules for #logo, nav, #sp\_container, #cta\_container, #cta h1, #cta\_container, #gallery, #facts, .columns, #plans, #form, #memberships, and li.twitter, li.support, li.download, li.copyright.

```
/* =Media Queries
=====
 * Tablet Portrait size to standard 960 (devices and browsers) */
@media screen and (min-width: 768px) and (max-width: 959px) {
    #cta h1 { font-size: 4.375em; }
    .cta.button { width: 39%; }
    #plans { width: 50%; }
    #form { width: 40%; }
    form button { width: 100%; margin-left: 0; }
}

/* Mobile Landscape Size to Tablet Portrait (devices and browsers) */
@media only screen and (min-width: 480px) and (max-width: 767px) {
    #cta_container { margin-top: 0px; }
    #cta h1 { font-size: 3.125em; }
    #gallery { margin-right: 0; width: 50%; float: left; }
    #gallery li { float: none; }
    #facts { width: 55%; float: left; margin-left: -70px; }
    .columns{ -moz-column-count: auto; }
    #form{width: 80%; float: none; }
    #plans{width: 100%; }
    #memberships {background-image: none; }
}

/* Mobile Portrait Size to Mobile Landscape Size (devices and browsers) */
@media only screen and (max-width: 479px) {
    #logo { width: 30%; }
    nav {width: 50%; }
    #sp_container { display:none; }
    #cta_container { float: none; width: 100%; }
    #cta h1 { font-size: 3.125em; }
    #cta_container { margin-top: 0px; }
    #gallery { margin-right: 0; width: 100%; float: none; }
    #facts { width: 100%; margin-left: 10px;float: none; }
    .columns{ -moz-column-count: auto; }
    #plans{width: 100%; margin-bottom: 70px; }
    #form{width: 100%; float: none; }
    #memberships {background-image: none; }
    li.twitter, li.support, li.download, li.copyright {background: none; }
```

# Auto-resizing Mobile browsers

```
<!DOCTYPE html>
<head>
  <title></title>
  <link rel="stylesheet" href="css/style.css" />
</head>
<body>
<h1> Analog anomaly, for record in digital broadband. </h1>
...

```

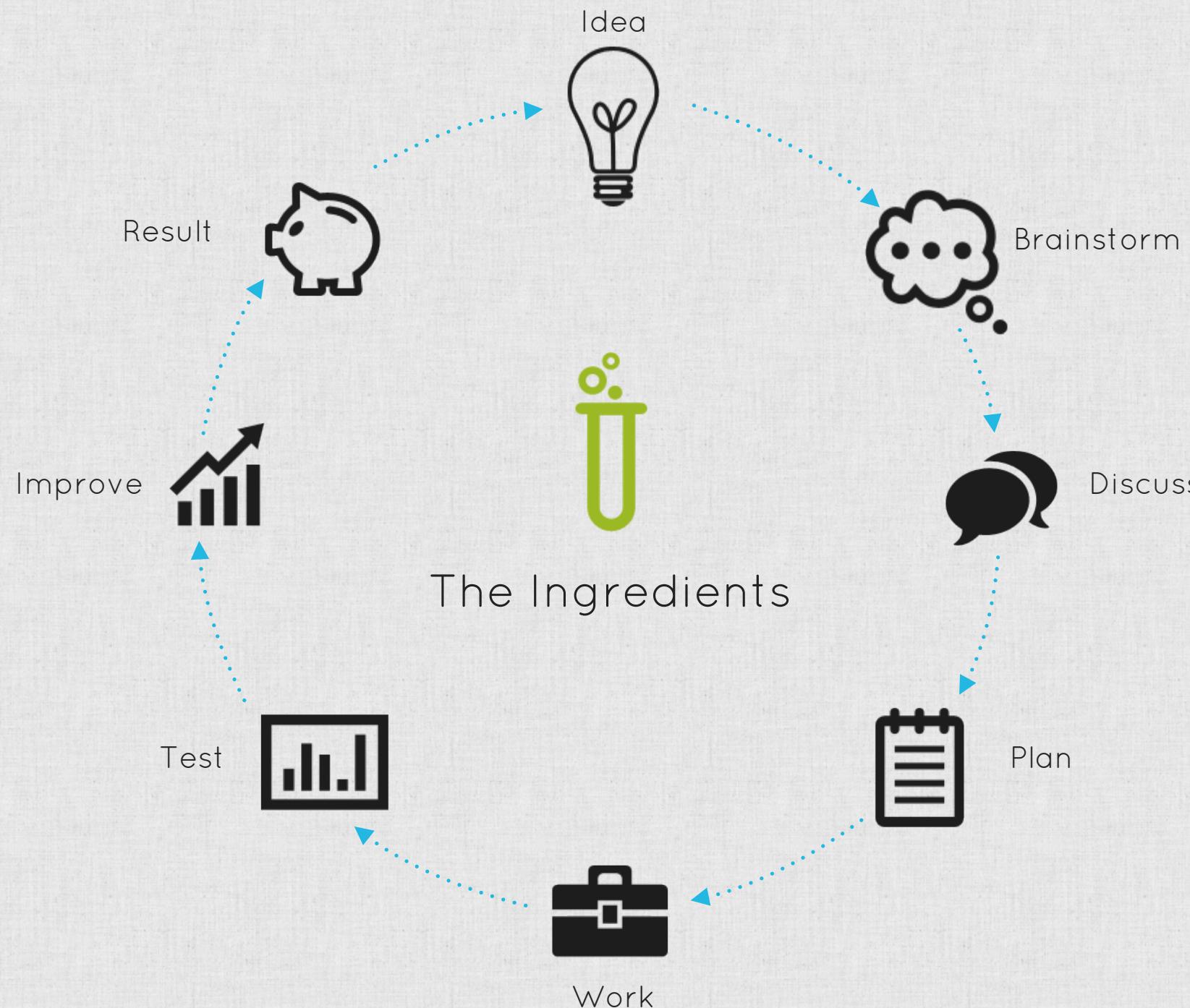
Becomes



```
<!DOCTYPE html>
<head>
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title></title>
  <link rel="stylesheet" href="css/style.css" />
</head>
<body>
<h1> Analog anomaly, for record in digital broadband. </h1>
...

```

# Queries are just the beginning:



# Q & A

Let me answer your questions

# Thanks!

## Contact

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