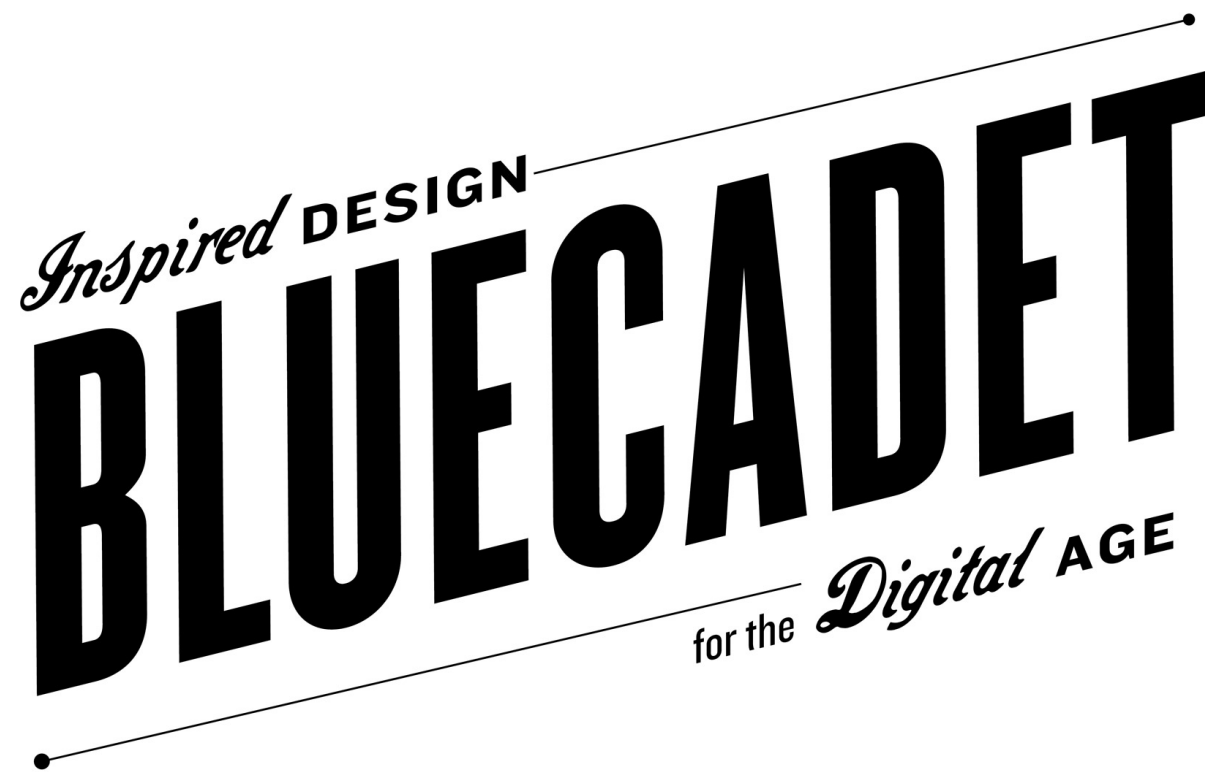


Progressive Enhancement in Drupal 7

**Using Ajax-Include
Patterns**



Mark Llobrera

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@dirtystylus

**Some
groundwork.**

What is Progressive Enhancement?

**Philosophy, not
technique**

Content First

“Understanding Progressive Enhancement”

- by Aaron Gustafson

[http://alistapart.com/article/
understandingprogressiveenhancement](http://alistapart.com/article/understandingprogressiveenhancement)

*"Progressive
enhancement is a
philosophy aimed at
crafting experiences
that serve your users*

*by giving them
access to content
without
technological
restrictions."*

**Design and build
for everybody.**

**The same
content for
everybody.**

**(Not necessarily the same
experience.)**

Components

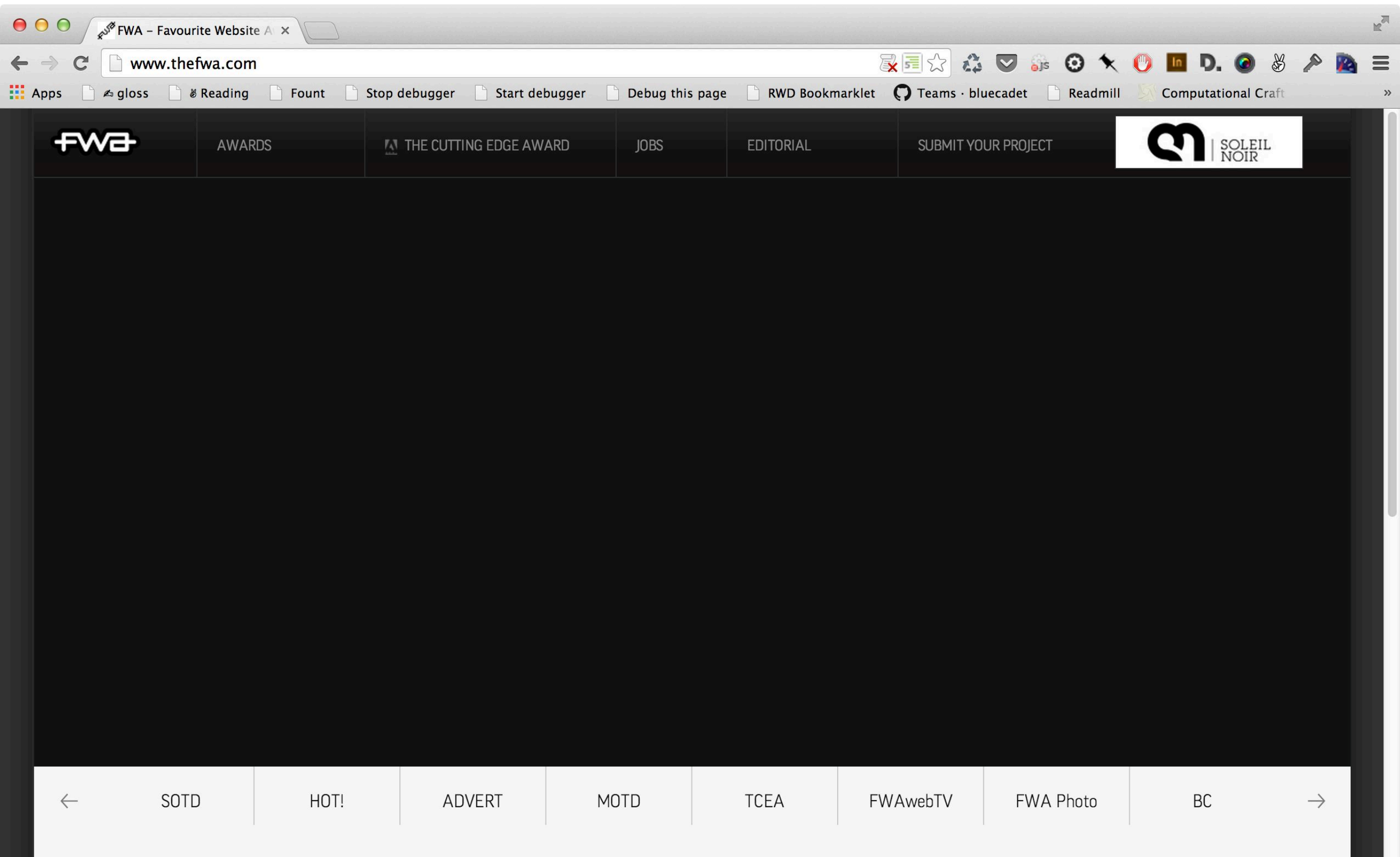
- Semantic HTML Markup

- Semantic HTML Markup
- CSS

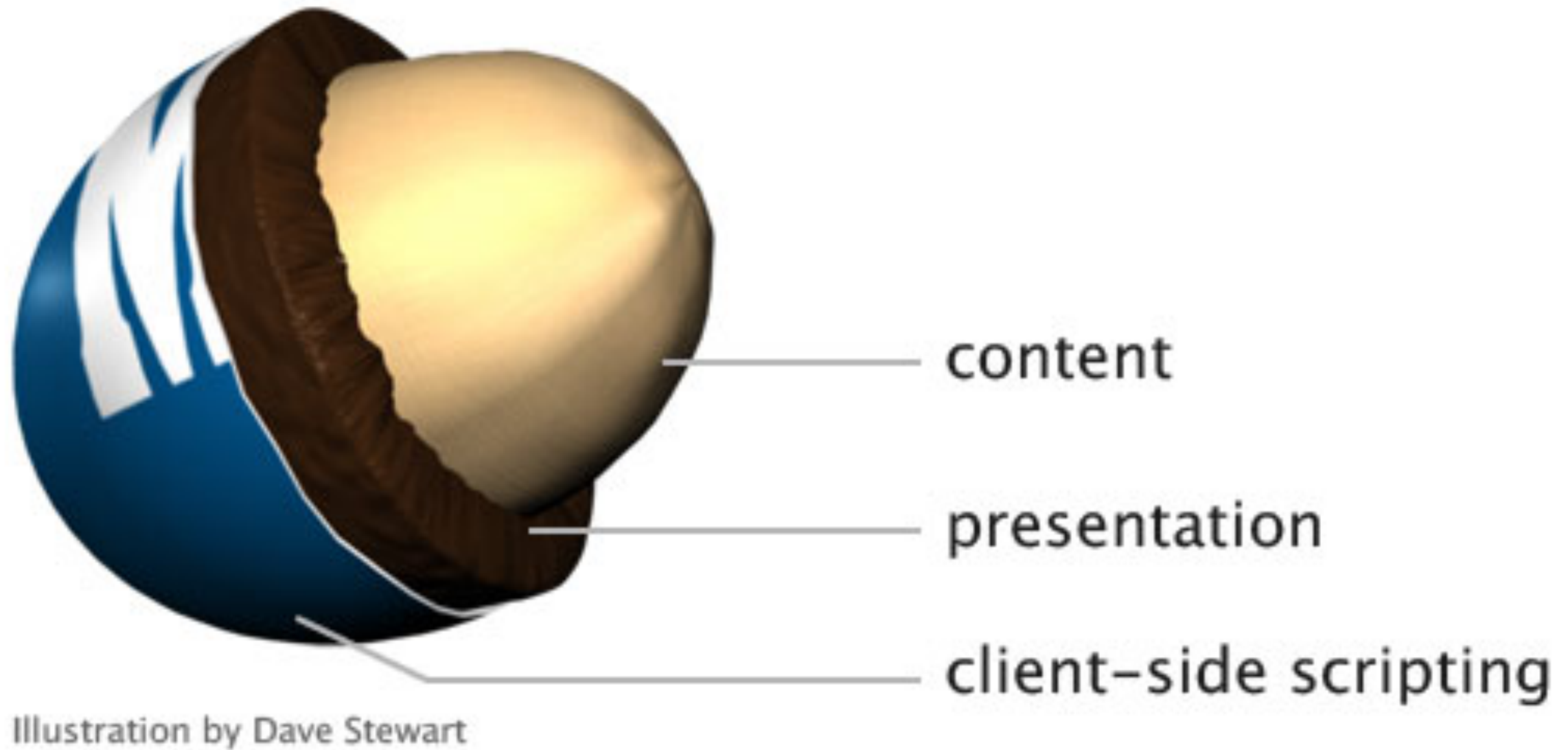
HTML and CSS
are fault-tolerant

- Semantic HTML Markup
- CSS
- JavaScript

**JavaScript is *not*
fault-tolerant**



- giant expanse of nothing
- menus don't work



(Image © A List Apart)











Why?

***"It's good for
you."***

-Mom & Dad

**"It's good for
your users."**

-Mom & Dad

- Accessibility

- Accessibility
 - Older Browsers



Photo by Grant Hutchinson: <https://www.flickr.com/photos/splorp/6141775264/in/set-72157624225682388>

BostonGlobe.com on
Apple Newton

- Accessibility
 - Older Browsers
 - Newer “Browsers”: game consoles, wearables



Thaaaanks, Apple.

- Accessibility
 - Older Browsers
 - Newer “Browsers”: game consoles, wearables
 - Users of assistive devices: browsers for sight/mobility impaired users

- Accessibility
 - Older Browsers
 - Newer “Browsers”: game consoles, wearables
 - Users of assistive devices: browsers for sight/mobility impaired users
- Performance
 - mobile (cell) networks

Some Scenarios

- A list of headlines

- A list of headlines + thumbnails loaded after initial load

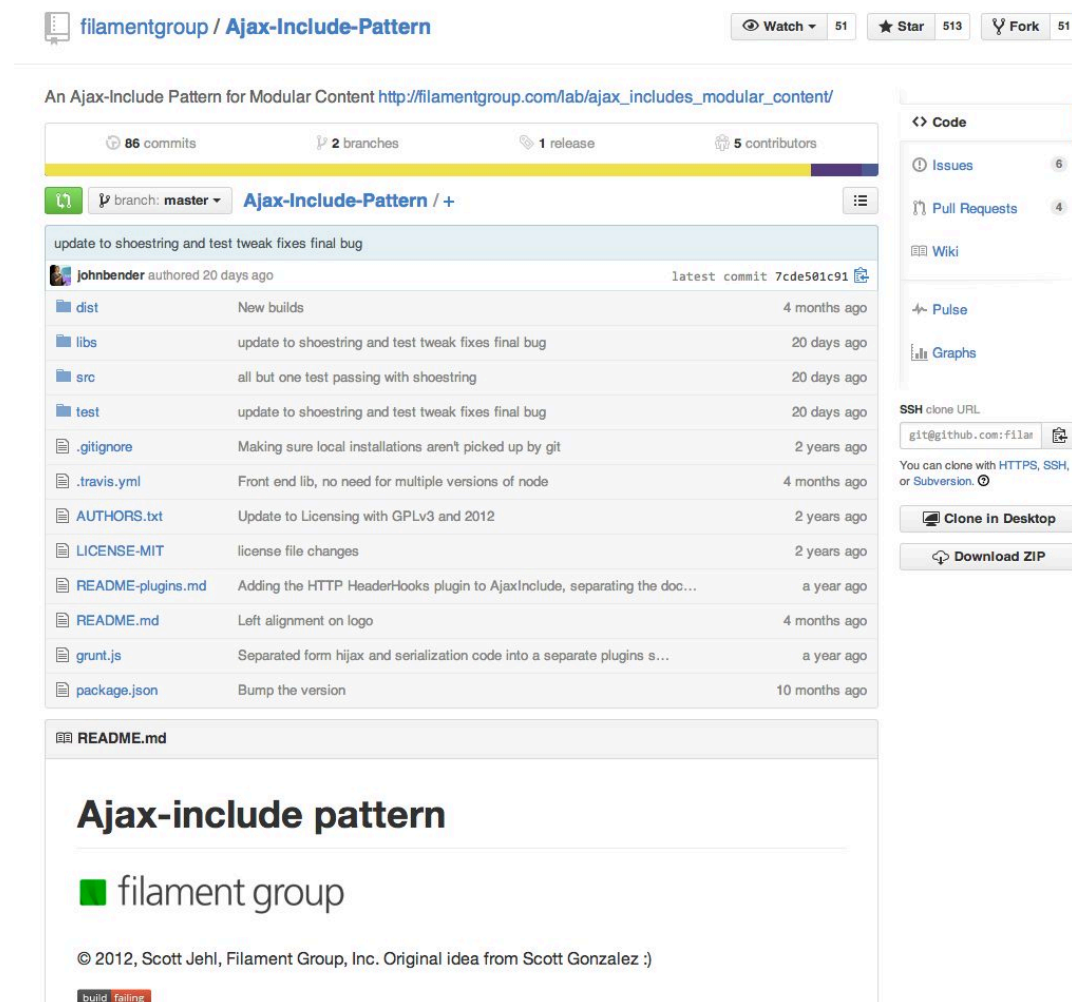
- A list of headlines + thumbnails loaded after initial load
- A list of topics, each topic loaded on click.

- A list of headlines + thumbnails loaded after initial load
- A list of topics, each topic loaded on click.
- An image gallery, loaded on click

Techniques

Ajax-Include Patterns

“An Ajax-Include Pattern for Modular Content”
by The Filament Group



The screenshot shows the GitHub repository page for `filamentgroup / Ajax-Include-Pattern`. The repository has 86 commits, 2 branches, 1 release, and 5 contributors. The latest commit, `7cde501c91`, was authored by `johnbender` 20 days ago. The repository includes a table of files and their commit history:

File	Commit Message	Time Ago
<code>dist</code>	New builds	4 months ago
<code>libs</code>	update to shoestring and test tweak fixes final bug	20 days ago
<code>src</code>	all but one test passing with shoestring	20 days ago
<code>test</code>	update to shoestring and test tweak fixes final bug	20 days ago
<code>.gitignore</code>	Making sure local installations aren't picked up by git	2 years ago
<code>.travis.yml</code>	Front end lib, no need for multiple versions of node	4 months ago
<code>AUTHORS.txt</code>	Update to Licensing with GPLv3 and 2012	2 years ago
<code>LICENSE-MIT</code>	license file changes	2 years ago
<code>README-plugins.md</code>	Adding the HTTP HeaderHooks plugin to AjaxInclude, separating the doc...	a year ago
<code>README.md</code>	Left alignment on logo	4 months ago
<code>grunt.js</code>	Separated form hijax and serialization code into a separate plugins s...	a year ago
<code>package.json</code>	Bump the version	10 months ago

The repository also includes a `README.md` file with the following content:

Ajax-include pattern

■ filament group

© 2012, Scott Jehl, Filament Group, Inc. Original idea from Scott Gonzalez :)

build failing

- Lazy-load non-essential content: create **data attribute patterns** for JavaScript to target based on certain rules
 - Hyperlinks to content can be enhanced
- Load can be done in a staggered fashion, or on demand (click)

No Pattern

```
<h2><a href="/path/to/content">Related Articles</a></h2>
```

Data Attribute Pattern

- data-before
- data-after
- data-replace
- data-interaction

Data Attribute Pattern

- data-before
- data-after
- data-replace
- data-interaction

```
<h2><a data-after="/path/to/content?ajax=1"
href="/path/to/content">Related Articles</a></h2>
```


Example:

**Temple Computer
Services**

Service catalog:

- Over *100* articles covering topics such as Internet/Phone Access, Security, Email.
- Each article can contain multiple sub-sections.

Wireless Access Article

- Instructions for numerous OSes
- Two issues: bandwidth and accessibility. Wide range of devices with many capabilities
- Loading every subsection would be wasteful in terms of time/bandwidth
- Loading every subsection would be problematic for devices without JavaScript, like some screenreaders

TABLE OF CONTENTS

Overview
Locations
Connecting
Troubleshooting
Requirements
Guest Access
FAQs
Policies

Overview

- Requires either [AccessNet username and password](#) or [guest login credentials](#)
- May require device configuration
- Provides a secure network
- Supports [Print on the Go](#) remote printing for students
- Available 24 hours a day except during periods of scheduled maintenance or unforeseen network or electrical problems.
- Available in specific [campus locations](#). Wireless coverage is not 100% in all areas across all campuses. Some classrooms, conference rooms, athletic facilities and outside areas are not covered or are not designed for 100% capacity. Please see Temple's [wireless coverage map](#).

Locations

See [Wireless Locations](#).

Connecting

Pick your operating system

- | | |
|----------------------------------|-------------------|
| Windows 8 | + |
| Windows 7 | + |
| Mac OS | + |
| iPad/iPhone/iPod | + |
| Android | + |

Troubleshooting

Pick your operating system:

- | | |
|----------------------------------|-------------------|
| Windows 8 | + |
| Windows 7 | + |
| Mac OS | + |
| iPad/iPhone/iPod | + |
| Android | + |

Requirements

Eligibility

- Anyone with a current AccessNet username and password<<link>>
- Sponsored guests, such as parents, friends, product vendors, conference attendees, and outside organizations, such as news media personnel

General System Requirements

- WiFi (802.11 b/g/n) enabled device (laptop, tablet, or smart phone)

Laptop Operating System Requirements

- Windows 7 or later
- Mac OS X v. 10.6.8 or later

Guest Access

If you are visiting Temple University or the Temple University Health System, you can register for free wireless network access using the TUguestwireless network. Once you are registered and receive your password, you can then log in to the TUsecurewireless network for up to 24-hours. If you need additional time, you can simply re-register.

Notes: You will need to have your cell phone with you when registering. A cell phone is needed because your pre-assigned password will be sent to your cell phone as a text message.

Register	+
--------------------------	-------------------

FAQs

See the [Knowledge Base](#).

Policies

- [Technology Usage Policy](#)
- [Granting Systems Access and Guest Cards to Guests](#)

You may also need:

- [Wireless in Residence Halls](#)
- [Eduroam](#)

Android	+
---------	---

Troubleshooting

Pick your operating system:

Windows 8	+
-----------	---

Windows 7	+
-----------	---



Mac OS	+
--------	---

iPad/iPhone/iPod	+
------------------	---


Android	+
---------	---

Requirements

Eligibility

-  Anyone with a current AccessNet username and password<<link>>
-  Sponsored guests, such as parents, friends, product vendors, conference attendees, and outside organizations, such as news media personnel

General System Requirements

-  WiFi (802.11 b/g/n) enabled device (laptop, tablet, or smart phone)

Solution

- Hyperlinks to subsections, progressively enhanced with JavaScript
- Users without JavaScript can click on the hyperlink and go to the subsection, loaded as a separate node page
- Users *with* JavaScript would have the subsection loaded via Ajax

Fulfills accessibility and performance goals:

- Users of devices that don't use JavaScript can get to content
- Users on slower networks don't wait for entire page to load

How?

URL Pattern (node template)

```
<a data-interaction
data-after="<?php print $node_url . '?is_ajax=1' ?>"
href="<?php print $node_url; ?>"
rel="bookmark">
<h3<?php print $title_attributes; ?>>
<?php print (render($content['field_display_title'])); ?>
</h3></a>
```



```
<a  
data-interaction  
data-after="/topic/applicant?is_ajax=1"  
href="/topic/applicant">  
<h3>Applicant</h3>  
</a>
```

How?

JavaScript

- Include *ajaxinclude.js* in theme **.info** file

<https://github.com/filamentgroup/Ajax-Include-Pattern>

- **On click** make request to URL in **data-after** attribute

```
Drupal.behaviors.computer_servicesLoadInstructionSet = {  
  attach: function (context, settings) {  
    $( "a[data-interaction]" ).once( "instructionajax", function() {  
      $( "a[data-interaction]" ).unbind().bind( "click", function() {  
        $( this ).removeAttr( "data-interaction" ).ajaxInclude();  
        $( this ).on( "ajaxInclude", function () {  
          // ... do some things after load here  
        });  
        return false;  
      });  
    });  
  });  
};
```

How?

Drupal *theme_preprocess_html* hook (template.php)

```
function computer_services_preprocess_html(&$variables) {  
    if (!empty($_REQUEST['is_ajax'])) {  
        print render($variables['page']['content']);  
        die();  
    }  
}
```

Result

To recap:

- A simple unordered List is progressively enhanced to an image slideshow
- List is perfectly understandable content without JavaScript

Image Gallery

 **RESOURCES & FACILITIES**

 **AVAILABLE SEATING**



RESOURCES



HELP DESK



WELCOME CENTER



**TEACHING AND
TECHNOLOGY COMMONS**

**We worked backwards
here, which is harder**

Progressive Enhancement

**is easier when you're
adding complexity
*gradually***

DEMO

1. Basic site

2. Site with ajaxinclude.js

**3. Site with
ajaxinclude.js
and template
overrides**

4. Loading a view via Ajax

Conclusion

- We want our content to reach the widest possible audience
- We want to be able to scale the user's experience to their device's capabilities

Conclusion

- Think of layers: HTML can be rendered/understood by almost everything
- Layer on CSS for presentation
- Layer on JavaScript as an enhancement
- If you rely on JavaScript pause and ask why

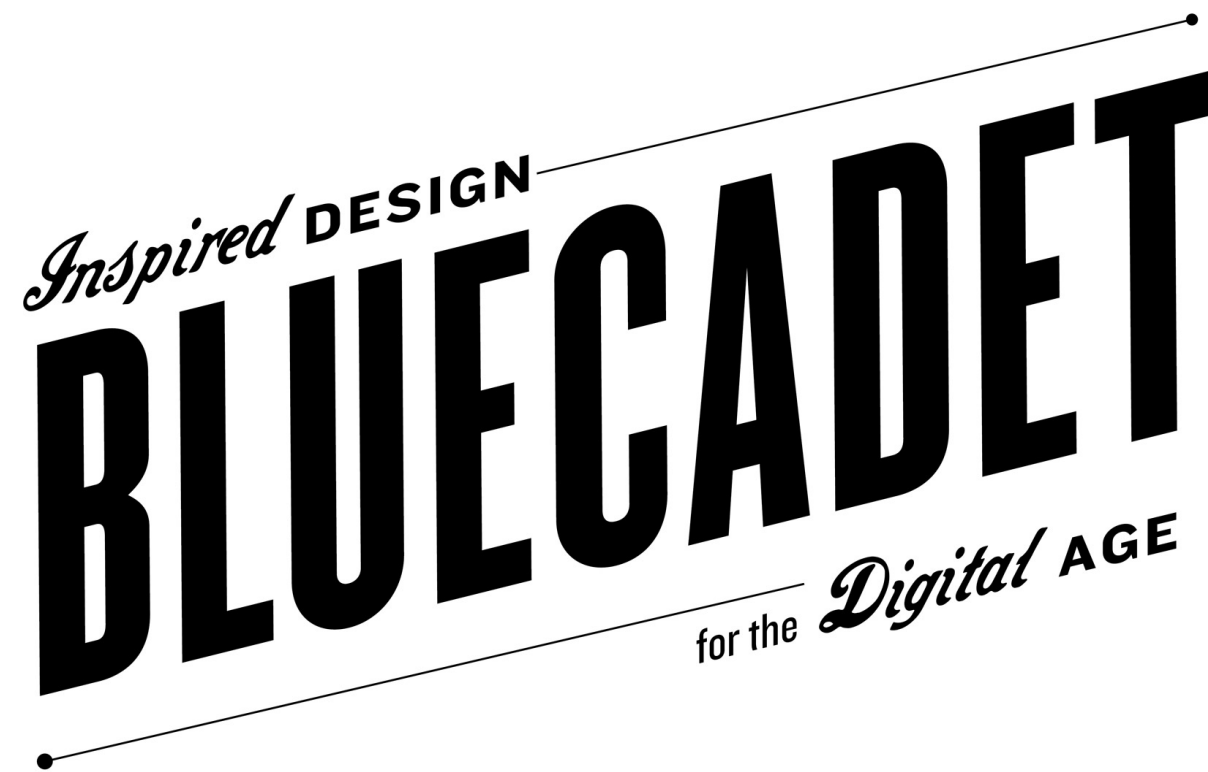
**Don't break the
URL.**

**This is hard work, and it
takes time to get it right.**

Thank you.

Github

- Presentation: <https://github.com/dirtystylus/drupaldelphia-2014>
- Demo Site: <https://github.com/dirtystylus/drupaldelphia-2014-demo>



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