

Unobtrusive Ajax

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What is Unobtrusive Ajax?

- It's the separation of:
 - Content (HTML),
 - Presentation (CSS),
 - and Behaviour (JavaScript)
- It involves separating these:
 - Physically (.html, .css & .js files)
 - and Conceptually (independant layers)

What is Unobtrusive Ajax?

- Separating HTML, CSS and JavaScript is a lot like separating:
 - Model (HTML),
 - View (CSS),
 - and Controller (JavaScript)
- Model-View-Controller separation is very popular
- Similar code is grouped in layers
- Each layer is (mostly) independant

Physical Separation

- CSS in .css files, JavaScript in .js files
- No onload, onclick or style
- No deprecated HTML like or align

Conceptual Separation

- Content and forms available in plain HTML
- Forms and links work without JavaScript
- Presentation is in CSS, not HTML or JavaScript
- Anyone can access the content with any client, without CSS, JavaScript, or even a mouse

What's the difference?

How are physical separation and conceptual separation different?

- Site can work great without CSS or JS but still use `onclick` and `style`
- Site can be totally broken without JavaScript even with all JS in a separate file
- Physical Separation benefits developers the most
- Conceptual Separation benefits visitors the most

Unobtrusive HTML

- Use the full range of HTML tags semantically
 - header tags (<h1>, etc.) for headers,
 - <label> for form labels
- Use tables only for displaying tabular data
- Avoid <div> and

Unobtrusive CSS

- All CSS is unobtrusive
- Use reusable classes when possible
- `<h1>` is better than `<div class="header">`
- Keep CSS in an external file or a `<style>`

Unobtrusive Flash Objects

- Replacing HTML with Flash using JavaScript
- A script from Bobby van der Sluis (bobbyvandersluis.com)
- Content can be duplicated in HTML
- Browsers that support Flash get a sexy Flash version
- Keeps messy Flash code out of the HTML

Unobtrusive JavaScript

- Start with plain HTML
- Enhance HTML with JavaScript
- Don't assume: test everything (IDs, functions)
- If JavaScript is broken, the page still works
- Don't use `onclick` or `javascript:void(0)`
- Keep JavaScript in an external file or a `<script>`

Why use Unobtrusive Ajax?

- If you don't, nobody will want to hang out with you
- You will have to eat alone at lunch
- You won't get invited to all the good parties
- Kids will throw eggs at your house
- Just kidding!

Why use Unobtrusive Ajax?

- Fact is, you don't have to
- Most people don't
- Some notable examples:
 - Google Maps (maps.google.com)
 - TWERQ (twerq.com)
 - Marlboro (marlboro.com)

Why use Unobtrusive Ajax?

It's not hard

- You may need only a few changes
- Sometimes it is easier to write Unobtrusive code
- You can often gradually improve existing sites

Why use Unobtrusive Ajax?

Code is cleaner and easier to maintain

- Easier to read and understand means easier to change
- Redo entire look of site with just CSS
- JavaScript can be changed easily
- HTML can even change safely

Why use Unobtrusive Ajax?

It improves Accessibility

- Accessibility means letting everyone access the content
- You can't make assumptions about everyone
- You **can** assume that all browsers understand HTML
- ~10% have JavaScript disabled
(www.w3schools.com/browsers/browsers_stats.asp)
- Some use screenreaders, some can't use a mouse

Why use Unobtrusive Ajax?

It improves Search Engine Friendliness

- Web spiders don't have JavaScript or CSS
- Web spiders only follow <a> links
- People can't search the content in your JavaScript/Flash
- More content and structured HTML makes a page more relevant

Why use Unobtrusive Ajax?

Sometimes you need JavaScript

- Of course, JavaScript games won't work without it
- Many web statistic scripts depend on JavaScript
- Google Ads require JavaScript
- Just do the best you can

How do you use it?

Just do it

- Don't ask your client/boss "Can we assume everyone has JavaScript?"
- You don't ask about other design decisions
- It's up to you to keep your code clean and manageable
- They don't know how easy Unobtrusive Ajax is

How do you use it?

Start off without JavaScript

- Use plain HTML with links and forms
- Use CSS to add hover & scroll effects
- Use HTTP features (eg. "Location" header for redirect)

How do you use it?

Respect the link

- All the links on your site should work without JavaScript
- This means no `javascript:` protocol
- Don't even use ``
- If you need a JavaScript-only link, add it with JavaScript

How do you use it?

Add in hooks for CSS and JavaScript

- Add IDs on elements that are unique on a page
- Add classes on elements that are repeated
- Use lists and other semantic structures

How do you use it?

Browser tools

- You need to be able to disable JavaScript and CSS
- Get Web Developer toolbars for Firefox and IE
- Get Firebug for Firefox! (johewitt.com)

How do you use it?

JavaScript tools

- addEvent and removeEvent ([QuirksBlog](#))
- httpRequest
- addDOMLoadEvent ([thefutureoftheweb.com](#))
- addClassName, removeClassName
- DOM Scripting... and innerHTML

How do you use it?

Use proven techniques

- Start with plain HTML and CSS
- Override links and forms to update page dynamically
- Offer content through both HTML and JSON/XML
- Have extra CSS for those with/without JavaScript
- Have separate sites for JavaScript / non-JavaScript

Examples

Google Suggest

- Simple: it becomes a regular search box without JavaScript

Examples

Click to vote

- Start with regular link or form submit
- Override with `onclick`
- Do background Ajax call and update page dynamically

Examples

Google Maps

- Remember MapQuest?
- Could have regular links/buttons for move, zoom
- Override controls with `onclick`
- Use Ajax to get new data
- Update map dynamically

Examples

Drag-n-drop

- No way to implement without JavaScript
- Offer alternative, eg. link or button to sort/add to cart
- If functionality is trivial, just require JavaScript
- May want to show move cursor for just JavaScript

Examples

Calendar / Date Picker

- Only show "view calendar" link with JavaScript
- People without JavaScript can just type a date

Examples

Form validation

- Have server-side validation as well
- Client-side is nice and faster, but not trustable

Examples

Pop-up windows

- Start with regular link and `target="_blank"`
- Override link with `onclick` and `window.open`

Examples

Chat

- Start with old-school frames, meta refresh and form + target
- Replace frame with regular `<div>`
- Open Ajax communication for updates
- Override form submit with Ajax call

Examples

Tree

- Start with it expanded completely
- Use JavaScript to collapse it
- Add clickable nodes that expand branches

Examples

Sortable table columns

- Start with regular table
- Add `onclick` to table headers
- Class names can specify how to sort (number, alpha)

Conclusion

- Unobtrusive Ajax is easy
- Ajax doesn't have to break the web
- Thanks!

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