

jQuery Datatables

Part IV: A New Hope

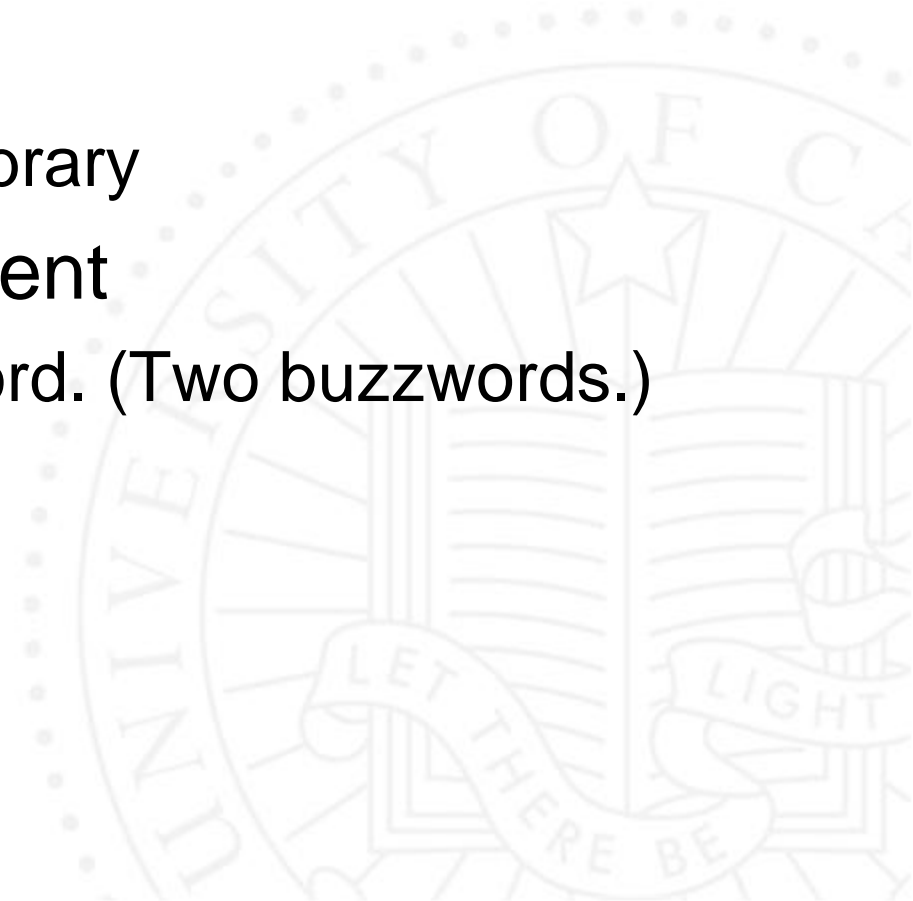
Widget of the Week (WoW) Series

Administrative
Computing &
Telecommunications



Things to know ...

- ▶ DOM
 - ▶ Document Object Model
- ▶ jQuery
 - ▶ Third-party JavaScript library
- ▶ Progressive enhancement
 - ▶ More than just a buzzword. (Two buzzwords.)
- ▶ Datatables.net
 - ▶ jQuery plug-in



DOM

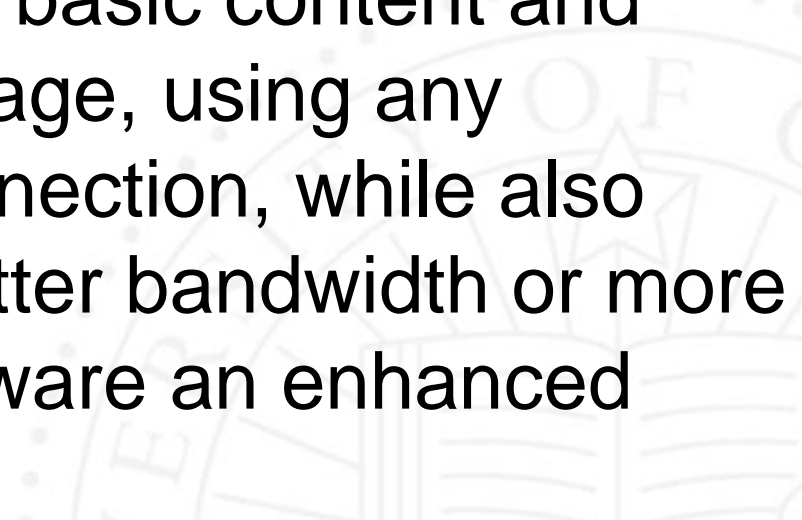
- › “Document Object Model”
- › Way to represent, and interact with, the parts of HTML/XHTML and XML documents
- › Elements, attributes, parents, siblings, children
- › Kinda messy to work with the raw API, which is why we use something like ...

jQuery

- › Arguably the most popular JavaScript library in use today
- › Excels at DOM manipulation, event handling, client-server interaction
- › Good cross-browser support
- › Readily extensible through plug-ins and libraries ...

Progressive enhancement

“A strategy for web design that ... uses web technologies in a layered fashion that allows everyone to access the basic content and functionality of a web page, using any browser or Internet connection, while also providing those with better bandwidth or more advanced browser software an enhanced version of the page.”

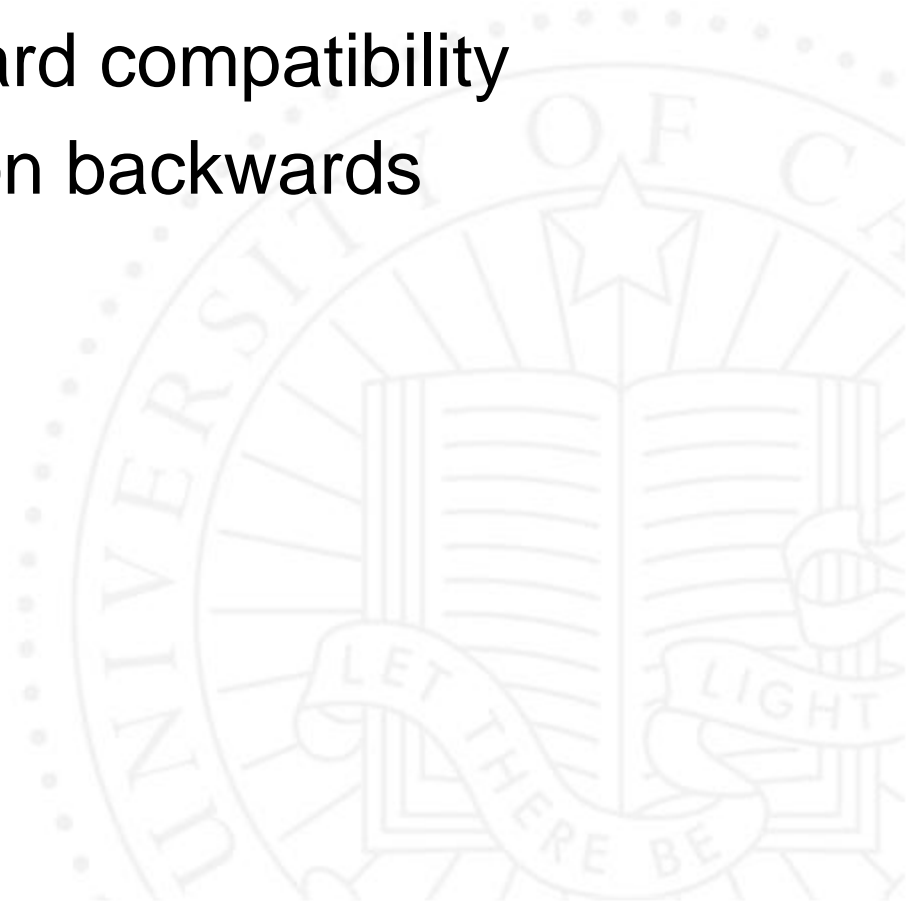


Progressive enhancement

- Create the page using basic low-tech accessible HTML content
- Use JavaScript/CSS/etc. to “enhance” the page with extra functionality / bling
- Enhancements can be minor, or can amount to complete rewrite of page
- Purports to separate content from presentation

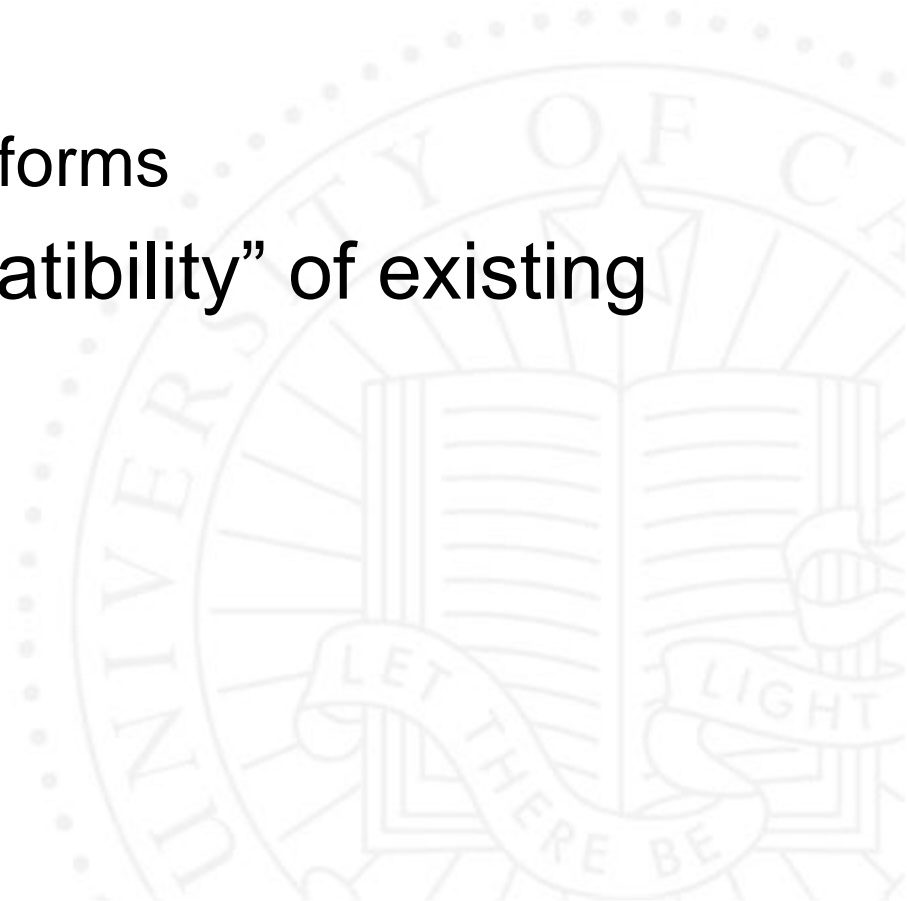
Progressive enhancement

- ▶ Often compared with “graceful degradation”
 - ▶ Former assumes forward compatibility
 - ▶ Latter implicitly relies on backwards compatibility



Graceful degradation

- ▶ “Fault-tolerance” for the web
- ▶ Design pages for current standards
 - ▶ Accessibility
 - ▶ Previous generation platforms
- ▶ Assume “forward compatibility” of existing web technologies



Progressive enhancement

- › Guarantees perpetual employment for client-side developers?



Use the 5Ps approach:

- › Prepare
- › Plan
- › Prototype
- › Plumb
- › Proselytize
- › Secure



Prepare

- ▶ Which widget(s) do I want/need to use?
 - ▶ Datatables.net plugin
- ▶ What docs are available?
 - ▶ jQuery online docs, uxt.ucsd.edu, datatables.net
- ▶ What client-side resources are required?
 - ▶ jQuery core, datatables plugin, HTML table
- ▶ What server-side resources are required?
 - ▶ Sample data source for dynamic example only

Plan

- ▶ How to generate table data?
 - ▶ Output from server side
 - ▶ Output on client side (AJAX-ish)
- ▶ First example: Generating the table on the server side (progressive enhancement)
- ▶ Second example: Build table dynamically

Prototype

- › Create a basic HTML table and play around with the datatables.net plug-in.

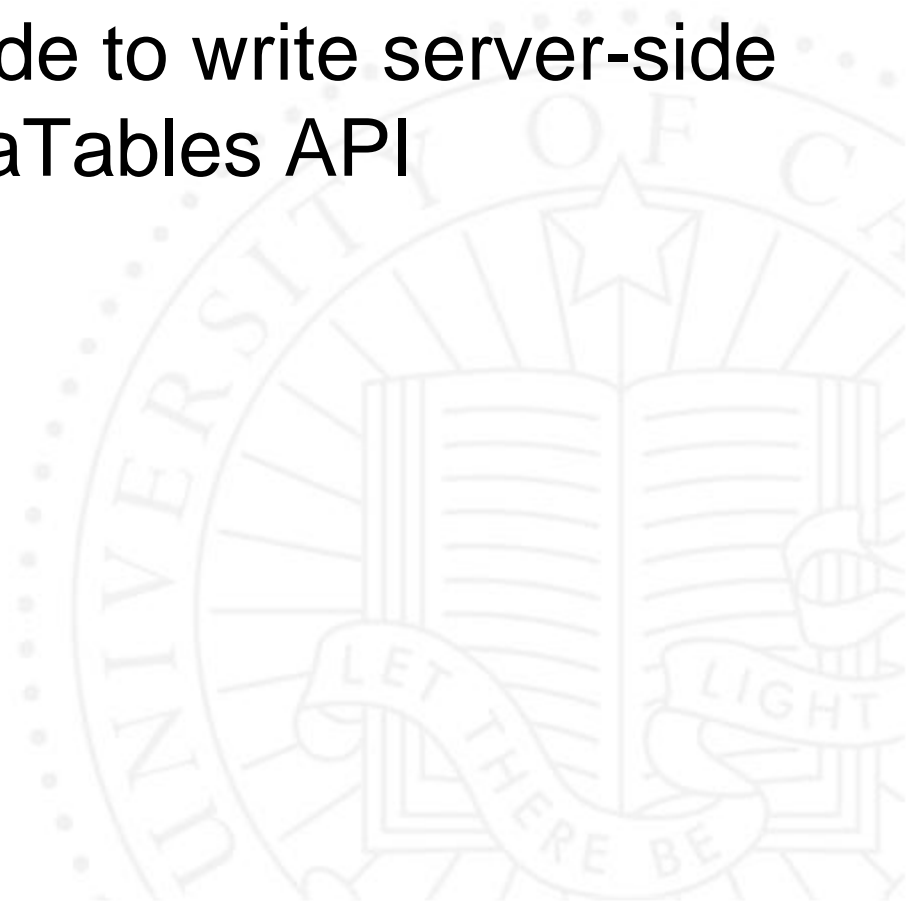


Prototype (cont'd)

```
<table>
<thead>
  <th>Reservoir</th>
  <th>Capacity</th>
  <th>Storage</th>
</thead>
<tbody>
<tr>
  <td>Shasta</td>
  <td>4,552,000</td>
  <td>3,444,300</td>
</tr> ...
```

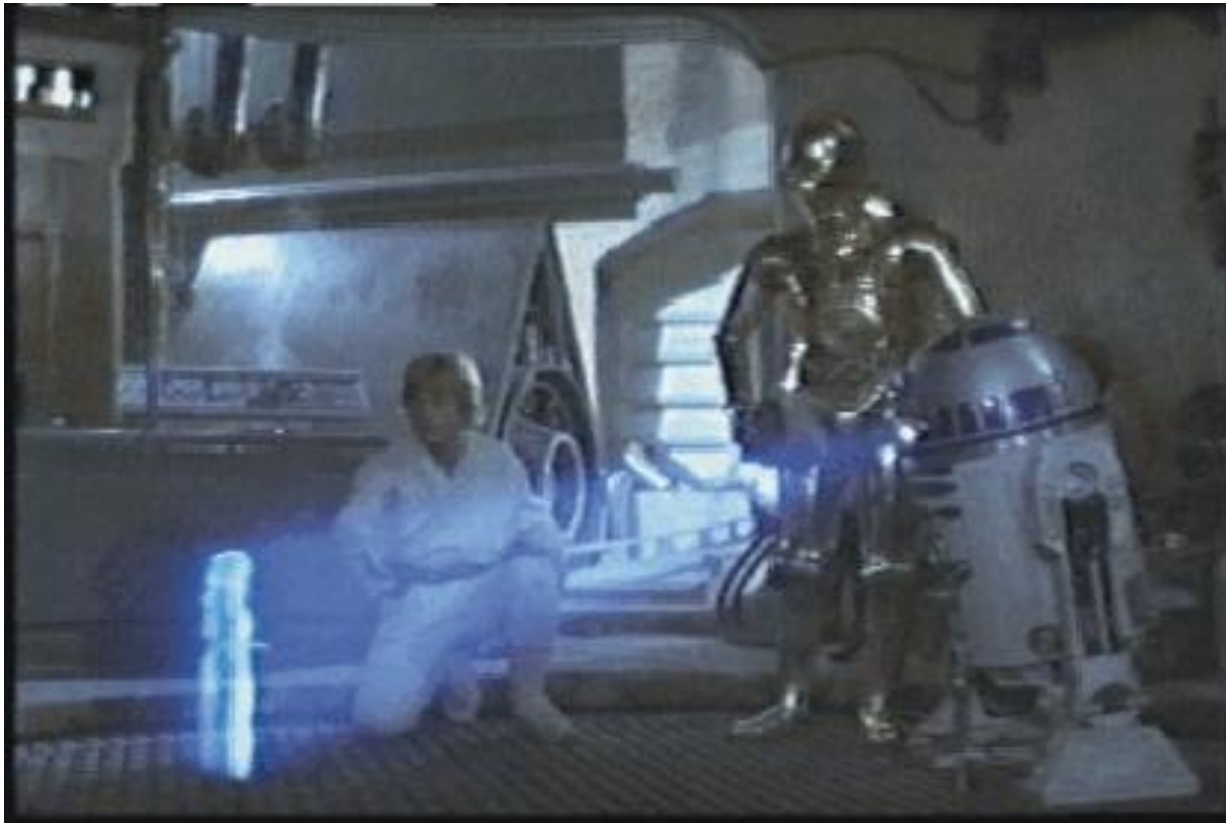
Plumb

- › Create sample data source and skeleton table on page
- › Add JavaScript glue code to write server-side data to page using DataTables API



Proselytize

- › Tell your friends!



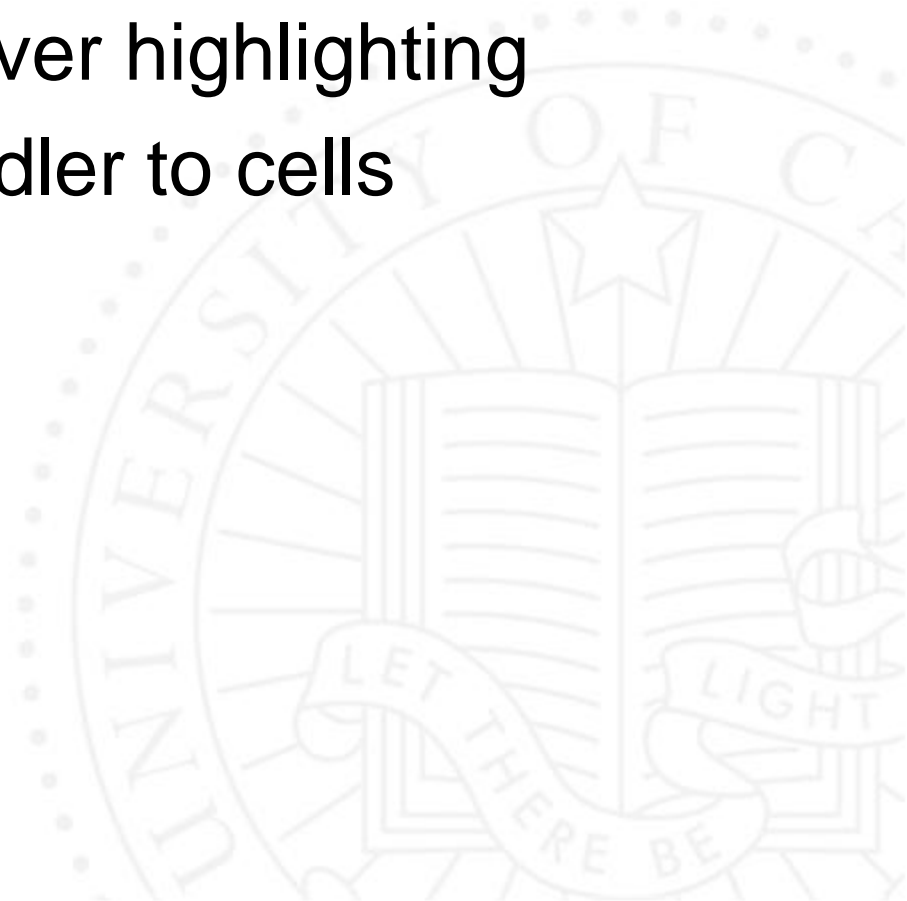
Secure

- ▶ How do you keep unauthorized users from gaining access to your services?
 - ▶ Use Jlink Security Filter to control access by role
 - ▶ Roll (role?) your own session-based authentication
 - ▶ Use Spring Security (a subject for another lunch hour)

Exercise IV

Create static HTML table and “enhance” with jQuery DataTables

- Optional: Add mouse-over highlighting
- Optional: Add click handler to cells



Exercise V

- ▶ What's happening behind the scenes?
 - ▶ Examine in Firebug
 - ▶ Examine pageable table in Firebug



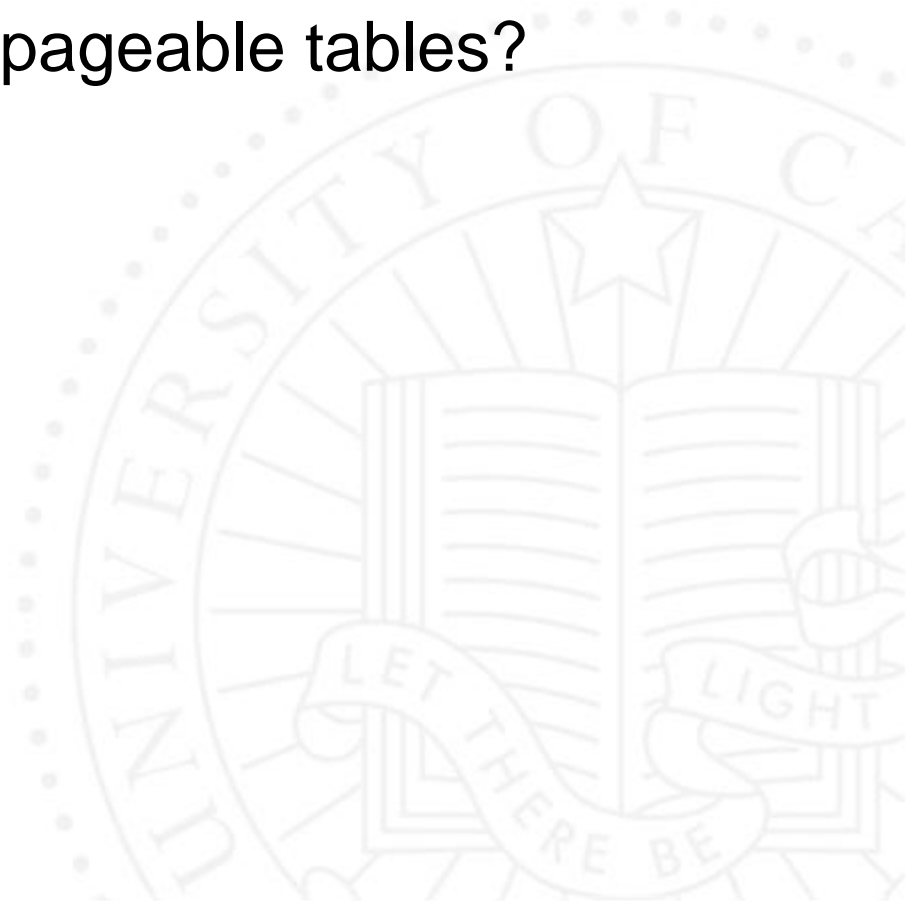
I AM YOUR FATHER!

DOM



Exercise V

- › What are the implications?
 - › Can we write data directly to the DOM?
 - › Can we embed forms in pageable tables?



Exercise VI

- › Dynamically generated table
- › Optional: Dynamically generated column data



Clone Wars

- › Yahoo! UI data table component
- › jQuery Tablesorter
- › jQueryTreeTable



Middleware, UI, and database



Coming soon

Datatables Part I: “The Phantom Menace”

