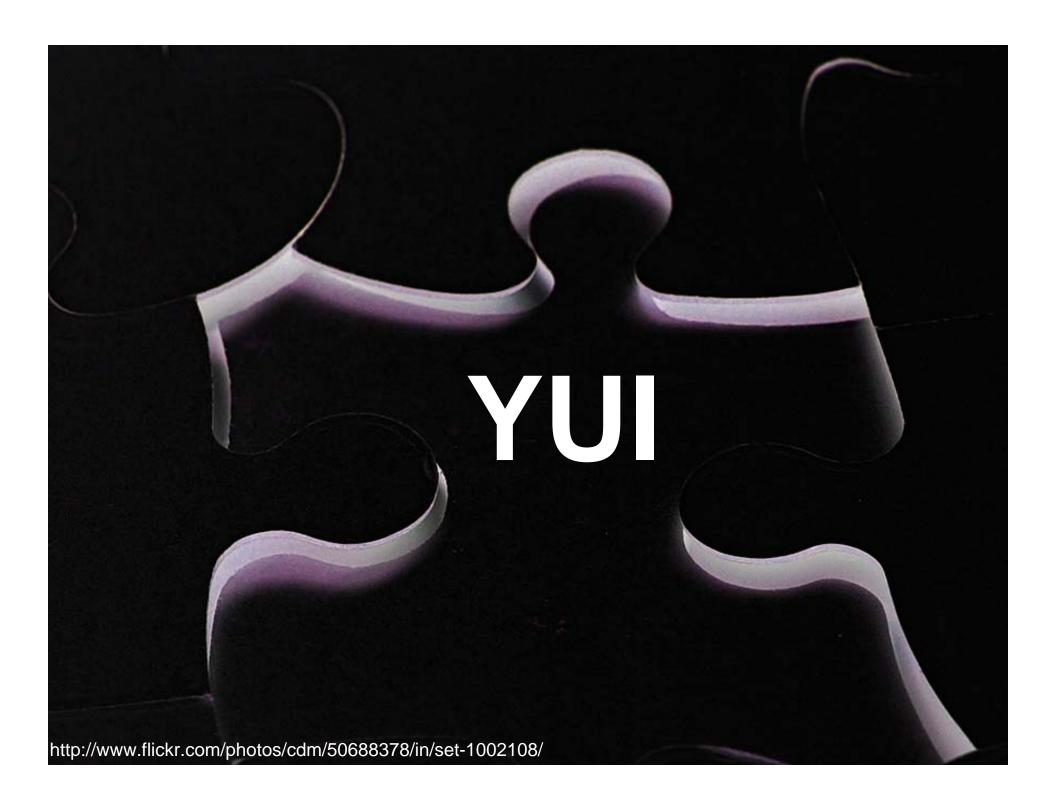


The Yahoo! User Interface Library (YUI)

Nate Koechley
nate@koechley.com
http://nate.koechley.com/blog

Refresh 06 Orlando, Florida 2006.11.17





- Utility and Data Web Services
- Design Patterns Library
- Browser Support Guidelines
- Yahoo! User Interface Library (YUI)



The Yahoo! Developer Network Ecosystem: Utility and Data Web Services

Services

Browser Based Authenticatio (BBAuth), Answers, Local, Maps, Photos, Search, Shopping, Travel, Utilities, (Mail coming soon)

Hackable Sites

del.icio.us, Flickr, Upcoming.org, Webjay

Burnable Feeds

Finance, HotJobs, RSS Feeds, Traffic, Weather

SDKs

Messenger, Music, Search Developer Kit, Widgets

Developer Centers

JavaScript, Flash, NET, PHP, Python, Ruby



The Yahoo! Developer Network Ecosystem: Design Patterns

YAHOO! DEVELOPER NETWORK

Design Pattern Library

Yahoo! Developer Network > Design Pattern Library

USER NEEDS TO

▼ NAVIGATE

Breadcrumbs

- Faceted Navigation Fly-out Menus Horizontal Bar Hub and Spoke Left Navigation
- Tabs

Module Tabs Navigation Tabs

▼ EXPLORE DATA

Auto Complete Calendar Picker

- Pagination Item Pagination Search Pagination
- **▶ ORGANIZE DATA**
- **▼ GIVE FEEDBACK**

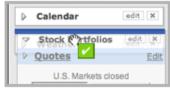
Welcome

Welcome to the Yahoo! Design Pattern Library. You're looking at the second of many periodic releases, many of which include pointers to the Yahoo! User Interface Library code. We're thrilled to be sharing patterns and code with the design and development community, hope it's useful, and look forward to your feedback.

What's a Pattern?

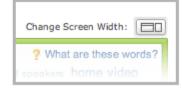
A pattern describes an optimal solution to a common problem within a specific context, more...

Recent Patterns see all...



Animate Transition

Designer needs to communicate that an object is changing its spatial relationship within the page.



Collapse Transition

The designer needs to communicate that an object is no longer of primary importance, yet wants to



Dim Transition

Designer needs to communicate that an object is of secondary importance.



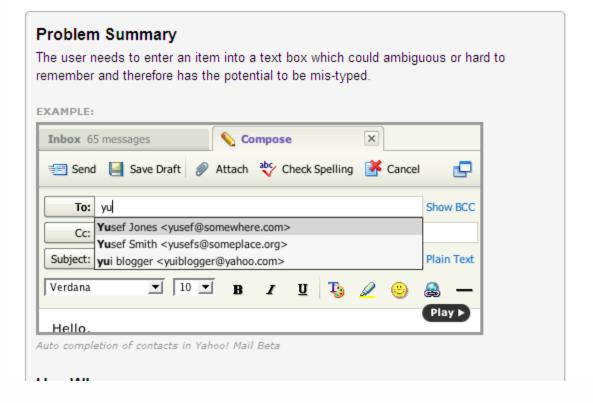
The Yahoo! Developer Network Ecosystem: Design Patterns



Design Pattern Library

Yahoo! Developer Network > Design Pattern Library > Auto Complete

Auto Complete



QUICK JUMP

- Solution
- Rationale
- Accessibility

RELATED PATTERNS

- Button Sequence
- Chooser
- Input Guidance

AS USED ON YAHOO!

- Yahoo! Mail Beta
- Yahoo! Maps Beta
- Yahoo! My Web 2

BLOG

Blog Article

Y! UI CODE EXAMPLES

 Auto Complete Component



The Yahoo! Developer Network Ecosystem: Y Design Patterns

Hello

Auto completion of contacts in Yahoo! Mail Beta

Use When

- The suggestions can be pulled from a manageable set of data.
- The input item can be entered in multiple ways.
- The input item can be matched with a specific data item in the system.
- Speed and accuracy of entry is an important goal.
- The total number of items would be too large or inconvenient for displaying in a standard drop down box.

Solution

Lavout

- Use a standard text box for input.
- Label the text box to match the user's expection of what field will be searched against.

Interaction

- As the user types, display a list of suggested items that most closely match what the user has typed. Continue to narrow or broaden the list of suggested items based on the user's input.
- Display the suggested items list in a drop down box directly underneath the text box. The suggested items list may be based on the complete set of data or more narrowly based on other criteria such as each item's frequency of use.
- When available, show multiple fields of information for each suggested item. In the

Y! UI CODE EXAMPLES

- Auto Complete Component
- Y! Search (JSON)
- Y! Search (XML)
- In-Memory (array)
- In-Memory (function)
- Flickr (XML)
- Flat data
- Playground

Show with revisions



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The Yahoo! Developer Network Ecosystem: Browser Support Guidelines

YAHOO! DEVELOPER NETWORK

Yahoo! UI Library: Graded Browser Support

Yahoo! UI Library

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YUIBloa

YUI Discussion Forum

YUI on Sourceforge

API Documentation

Examples & Implementations

YUI Theater

YUI Articles

Graded Browser Support

Table of A-Grade Browsers

YUI Components

Animation

AutoComplete

Calendar

Connection Manager

Container

Dom

Drag & Drop

Event

Logger

Menu

Slider

Tab\/iew

TreeView

Graded Browser Support

By Nate Koechley Senior Front-End Engineer Yahoo! Inc. February 13, 2006

In the first 10 years of professional web development, back in the early '90s, browser support was binary: Do you - or don't you - support a given browser? When the answer was "No", user access to the site was often actively prevented. In the years following IE5's release in 1998, professional web designers and developers have become accustomed to asking at the outset of any new undertaking, "Do I have to support Netscape 4.x browsers for this project?"

By contrast, in modern web development we must support all browsers. Choosing to exclude a segment of users is inappropriate, and, with a "Graded Browser Support" strategy, unnecessary.

Graded Browser Support offers two fundamental ideas:

- A broader and more reasonable definition of "support."
- The notion of "grades" of support.

What Does "Support" Mean?

Support does not mean that everybody gets the same thing. Expecting two users using different browser software to have an identical experience fails to embrace or acknowledge the heterogeneous essence of the Web. In fact, requiring the same experience for all users creates a barrier to participation. Availability and accessibility of content should be our key priority.



The Yahoo! Developer Network Ecosystem: Browser Support Guidelines

YAHOO! DEVELOPER NETWORK

Yahoo! UI Library: Table of A-Grade Browsers

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A-Grade Browser Support Chart

This chart lists all browsers that receive A-Grade support as defined by Graded Browser Support.

	Win 98	Win 2000	Win XP	Mac 10.3.x	Mac 10.4
IE 7.0			A-grade		
IE 6.0	A-grade	A-grade	A-grade		
Firefox 2.0.*	A-grade	A-grade	A-grade	A-grade	A-grade
Firefox 1.5.*	A-grade	A-grade	A-grade	A-grade	A-grade
Opera 9.*	A-grade	A-grade	A-grade	A-grade	A-grade
Safari 2.0*					A-grade

Changes

Primary Changes

- REITERATION of A-Grade support, IE 7, Win
- 2. TERMINATION of A-Grade support, IE 5.5, Win
- 3. INITIATION of A-Grade support, Firefox 2.x, Win/Mac
- 4 TERMINATION of A-Grade support Firefox 1.0 x Win/Mac.

YAHOO! DEVELOPER NETWORK

Yahoo! UI Library (YUI)

Yahoo! UI Library

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YAHOO Global Object

Donat CCC

Yahoo! User Interface Library

The Yahoo! User Interface (YUI) Library is a set of utilities and controls, written in JavaScript, for building richly interactive web applications using techniques such as DOM scripting, DHTML and AJAX. The YUI Library also includes several core CSS resources. All components in the YUI Library have been released as open source under a BSD license and are free for all uses. Download the entire library, its documentation and examples from Sourceforge.

The library's developers blog at the YUI Blog and the YUI Library community exchanges ideas at YDN-JavaScript on Yahoo! Groups.

On This Page:

Getting Started

Licensing Download

Components

Design Patterns

<u>Articles</u>

Cheat Sheets Support &

Community

Searchable API Documentation NEW!

API docs are availabe for every YUI component. You can

YUI Library Utilities:

YUI Library Controls:

Calendar

Container

Logger

Menu

Slider

TreeView

AutoComplete

(including Module,

Overlay, Panel,

Tooltip, Dialog,

SimpleDialog)

TabView NEW!

The YAHOO Global Object

Event Utility
DOM Collection

Connection Manager

Drag and Drop Utility

Animation Utility

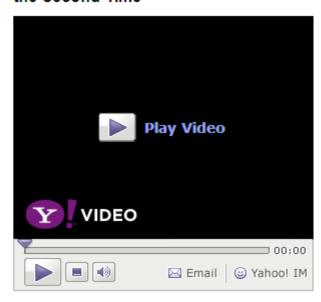
YUI Library CSS Tools:

CSS Grids CSS Fonts CSS Reset

YUI Theater:

[more videos]

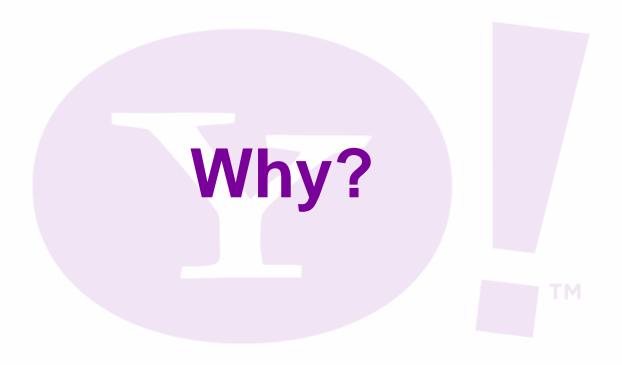
Matt Sweeney, "Web 2.0: Getting It Right the Second Time



YUI developer Matt Sweeney delivers a talk on frontend architecture for Web 2.0 at Yahoo!'s Open Hack Day. (Visit Yahoo! Video for the full-format version.)

Yahoo! User Interface Blog RSS

Graded Browser Support: Q4 Update Nate Koechley 11/15/2006 1:42 AM



changing seasons



on the web

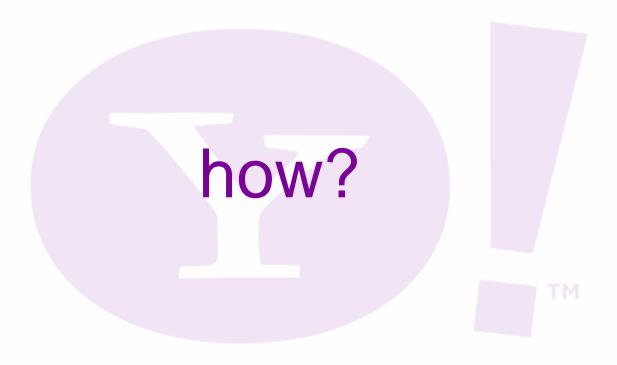
People expect less online.

But we are online...

... and tied to the browser.

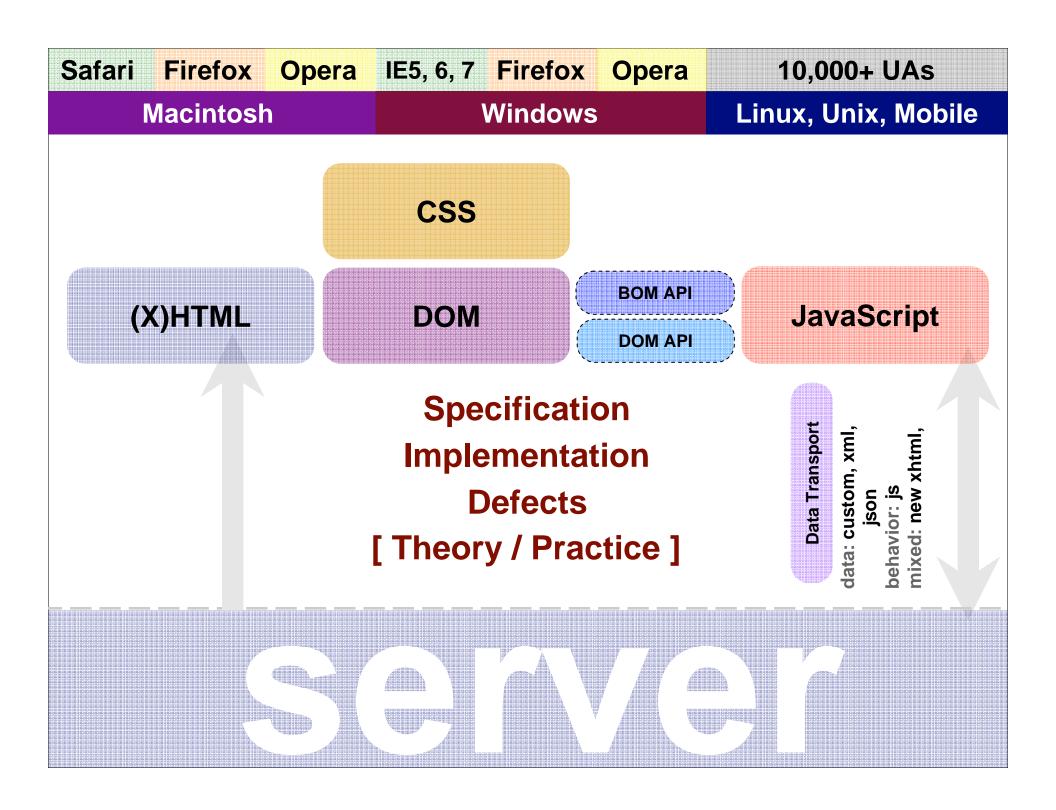
So we must level the playing field.

http://www.flickr.com/photos/probek/44480413/





We must improve our technology



knowledge areas: 7

(X)HIIML

dimensions: x 4

platforms: x 3

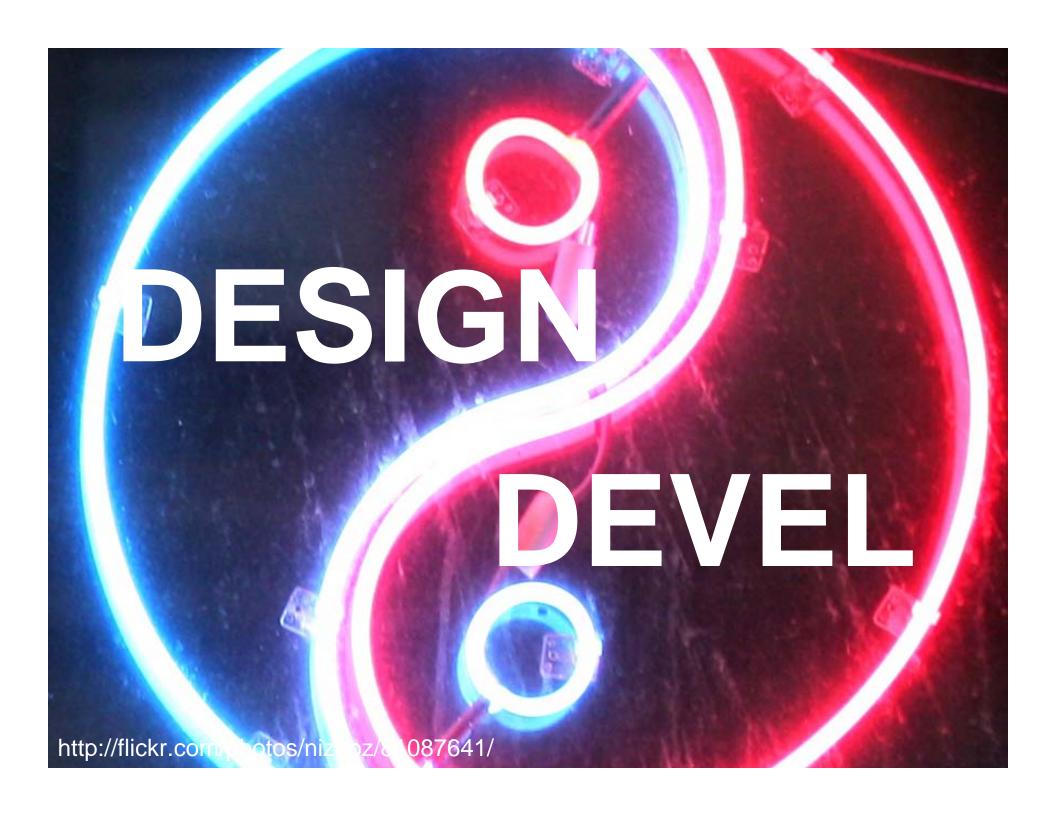
browsers per platform: x 4 rendering modes: x 2



(we need a robust platform!)

raise expectations

(so users engage and explore with confidence!)



from Implementation Models

{design}

to Mental Models

from Heterogeneous Environments

{development}

to Compelling and Consistent APIs



Six commitments to the platform

1] Meet properties where they are today. Facilitate incremental enhancement

("Transitional Internet Applications")

2] Provide a broad, inclusive platform for Web 2.0's "Rich Internet Application" development

(a la carte, not framework)

3] Extensible and adaptive, to meet the needs of our diverse product portfolio

(lots of different contexts)

4] Support all A-grade browsers – an evolving and still demanding challenge (Graded Browser Support)

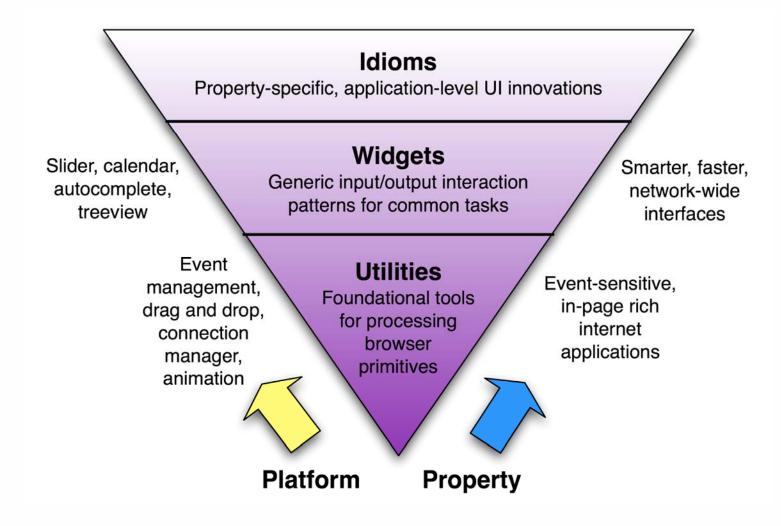
5] Support our scale and scope (industrial grade)

6] Be responsive and accountable to the community of designers and engineers

(your P1 bugs are our P1 bugs)



Learn from Desktop History



The Yahoo! User Interface (YUI) Library

TreeView AutoComplete Slider Calendar Control TabView Menu Control Logger Control **DHTML** Windowing Animation Drag & Drop itives] Connection **Event Utility** Manager (Ajax) Dom Collection Loader CSS Reset, Fonts, Grids

YUI DOM Collection

- isAncestor(parent, potentialChild)
- inDocument(el)
- getDocumentHeight, getDocumentWidth
- getViewportHeight, getViewportWidth
- getElementsBy

```
- YAHOO.util.Dom.getElementsBy(function(el) { return
  (/^http:\/\/www\.yahoo\.com/.
  test(el.getAttribute('href'))); },
  'a',
  'content'));
```

Class management utilities



Event

- Flexible batch assignment
- onAvailable and onContentReady
- Scope correction and assignment
- Automatic cleanup
- Custom Events

```
    var myEvent = new
YAHOO.util.CustomEvent('myEvent');
    myEvent.subscribe(function() {
        alert('event fired'); });
    myEvent.fire();
```

YUI Animation

```
var anim = new YAHOO.util.Anim(el, {
  width: {to: 400},
  height: {by: 400, unit: 'em' },
  opacity: {from: 0, to: 1}
  1);
anim.animate();
```

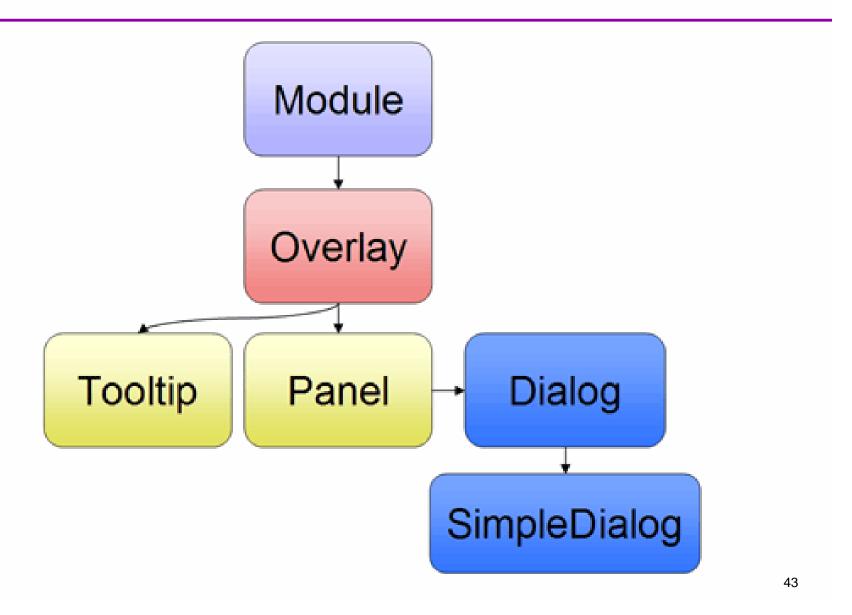
Includes support for Bezier math control



- File uploading in addition to XHR
 - Easy implementation of file uploading across the A-Grade browsers
 - Use the upload member of the callback object (instead of "success" or "failure")
- XHR callback with extra arguments



YUI Container Family





- It's easy, sorta, but easy to get wrong too
- Point, Region, Multiple Handles, !Handles
- Exposes 15 interesting moments

Drag and Drop Interaction Storyb

Page	Page Load	Mouse Hover	Mouse Down	Property: Drag Initiated	Drag Leaves Original Location	Drag Re-Enters Original Location	ID: Drag Enters Valid Target	Drag Exits Valid Target	Drag Enters Specific Invalid Target	D Inv
Cursor Tool Tip Drag Object	ng:mgl	mouse is pressed on the draggable object but dragging								
Drag Object's Parent Container	ng/mal	© aggability grabbable area	selected	has not	Initiate	d'?		estly to		whether proceed and the displant of the displa
Drop Target	ng/mg		drap invitatiqu	drap invitation; passibly statis in neutralistate (not valid/invalid) while drag is positioned over drag object is original location	draphrill lase its neutral state, Yane has been assigned, becoming englicitly valid or invalid	drop will be invalid as neutral; a distinct, treat ment, for a riginal location may be needed so that visual messaging doesn't signal that the drop's a rigin's not valid	d-up will be valid	any nightighting altarget, showld be removed as an instead all far reliect that. The drag's facus has left this target.	drap will be invalid	anytro this spr (e.g. at whythis should an imply
	What does the page contain to indicate drag and drop?	What happens when the mouse have save the diaggable object?	What happens when the mouse is pressed in the draggable object but dragging has not initiated?	What happens when drag starts?	What happens when the drag leaves its original location?	What happens when the drag object, having been dragged away from its original location, is dragged back to that location? (E.g., a neutral state can resume, or the original location can be treated as a valid or invalid dragtarget.)	What nessens when I drag over a valid drop target?	What happens when the diag laws a valid target? (Eig. that target is high lighting turns off ar animates off.)	What happens when Ediag over an invalid droptarget?	

YUI Logger and Firebug

- alert("stop the insanity");
- YAHOO.log("There IS a better way");

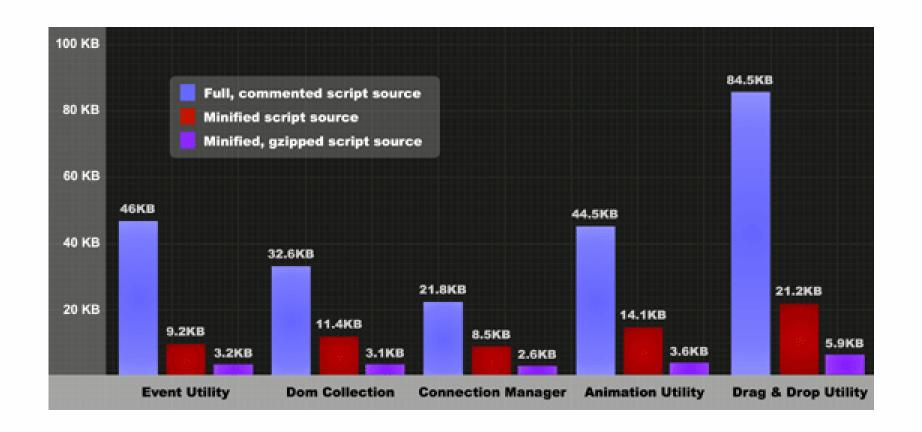
Debug with Logger or Firebug directly.



- Page Widths
- Template Presets
- Nesting Grids

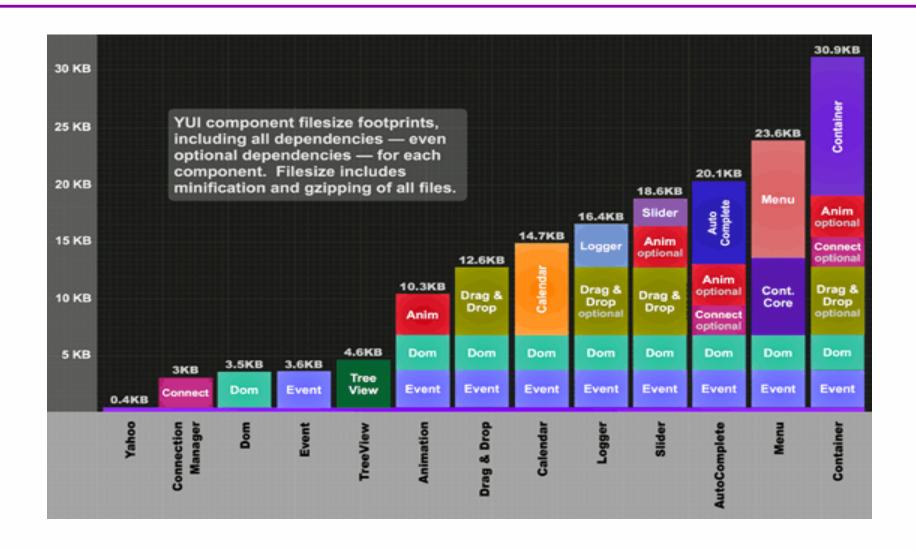
Together, 200 layouts for 2kb.





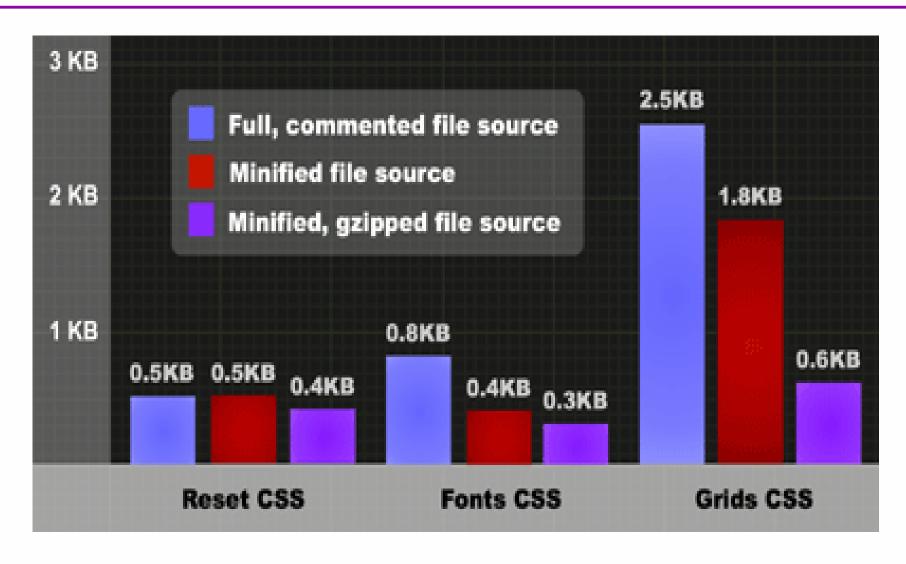
http://yuiblog.com/blog/2006/10/16/pageweight-yui0114/

À la carte Dependencies





Lightweight CSS Foundation



Why Open Source?



What about the timeline?

- 2005, January
 - Initial development
 - One-person team
- 2005, July
 - Initial internal release
- 2006, February 13th
 - Open-source release
 - #1 on Delicious, Digg,
 Techmeme
 - 36,000 downloads

- 2006, September 18th
 - 3000th member on ydn-javascript
- 2006, November 7th
 - Linux Journal Editor's
 Choice Award: <u>Best</u>
 <u>Software Library</u>
 - 300k downloads
- 2006, November 13th
 - Current release
 - 9 person team

What about the namespace?

(because I really like \$)



Global Variables are Evil

- Ideally, only a single global per app|lib|widget
- Speed unaffected; self documentation; reliable
- Shorten locally if you want.

• var \$ = YAHOO.util.Dom.get;

http://yuiblog.com/blog/2006/06/01/global-domination/



- 100s of files
 - All examples
 - All documentation
 - All development builds
 - All production builds
 - All minimized builds

Yahoo! is powered by the exact same bits we offer to you.

What is the license?

The most-open there is: BSD

Who's Using It?



External Implementations

- Wall Street Journal
- Technorati
- IndyCar.com
- SugarCRM
- SmugMug

- PayPal
- eBay
- Yuriz
- PowerReviews.com
- Madonet
- You?

Documentation?

Landing Page Guides

Maximum Results Displayed

When query results return, an HTML unordered list element () of up to ten items () elements) are rendered into the container that you specify. If fewer than ten results are returned, the container's element will only have that number of elements. Keep in mind that the height, width, and other style characteristics of the container are determined by CSS. You may use the following code to change the maximum number of elements that may populate the element:

```
view plain | print | ?
1 // Display up to 20 results in the container
2 myAutoComp.maxResultsDisplayed = 20;
```

Minimum Query Length

By default, as soon as a user starts typing characters into the input element, the AutoComplete control starts batching characters for a query to the DataSource. You may increase how many characters the user must type before triggering this batching, which can help reduce load on a server, especially if the first few characters of the input string will not produce meaningful query results. A value of 0 will enable null or empty string queries, which is particularly useful in conjunction with the Always Show Container feature. A negative number value will effectively turn off the widget.

```
view plain | print | ?
1 // Require user to type at least 3 characters before triggering a query
2 myAutoComp.minQueryLength = 3;
```

Query Delay



Complete API Documentation

Modules

animation autocomplete

calendar

connection

container

dom

dragdrop

event

logger

menu

slider

tabview

treeview

vahoo

Classes

YAHOO.widget.AutoComplete YAHOO.widget.DataSource YAHOO.widget.DS_JSArray YAHOO.widget.DS_JSFunction YAHOO.widget.DS_XHR

Files

AutoComplete.is DataSource in

Class YAHOO.widget.AutoComplete

The AutoComplete class provides the customizable functionality of a plug-and-play DHTML auto completion widget. Some key features:

- Navigate with up/down arrow keys and/or mouse to pick a selection
- The drop down container can "roll down" or "fly out" via configurable animation
- Ul look-and-feel customizable through CSS, including container attributes, borders, position. fonts, etc.

Constructor

YAHOO.widget.AutoComplete (elInput , elContainer , oDataSource , oConfigs)

Parameters:

```
elInput <HTMLElement> DOM element reference of an input field.
```

elInput <String> String ID of an input field.

elContainer <HTMLElement> DOM element reference of an existing DIV.

elContainer <String> String ID of an existing DIV.

oDataSource <Object> Instance of YAHOO.widget.DataSource for guery/results.

oConfigs <Object> (optional) Object literal of configuration params.

Properties

aListItems - private Array

Array of elements references that contain query results within the results container.

bContainerOpen - private Boolean

Whether or not the results container is currently open.



Examples and Tutorials

YAHOO! USER INTERFACE LIBRARY

YUI Container: PhotoBox: Subclassing Panel

Subclassing Panel to Create PhotoBox

Container classes can be subclassed to create all kinds of rich custom controls. The PhotoBox, which we will build in this tutorial, is an example of how Panel can be subclassed and styled to create a basic popup photo viewer with back and forward navigational controls.

The first step to subclassing the Panel is writing the constructor for the new subclass (PhotoBox, in this case) and specifying its inheritance from the Panel class using YAHOO.extend:

```
view plain | print | ?
  // BEGIN PHOTOBOX SUBCLASS //
2 YAHOO.widget.PhotoBox = function(el, userConfig) {
     if (arguments.length > 0) {
          YAHOO.widget.PhotoBox.superclass.constructor.call(this, el, userConfig);
  // Inherit from YAHOO.widget.Panel
9 YAHOO.extend(YAHOO.widget.PhotoBox, YAHOO.widget.Panel);
```

```
CO Linked to my nickname as natekoechley Tags:
```

Next, we will define a few constants for use by the PhotoBox class: "CSS PHOTOBOX", which defines the CSS class to apply to the Panel, and "NAV FOOTER HTML", the HTML that will be used for the footer navigation.

```
view plain | print | ?
// Define the CSS class for the PhotoBox
YAHOO.widget.PhotoBox.CSS PHOTOBOX = "photobox"
```

YUI Container: Tutorials

Module: Quickstart

Overlay: Quickstart

Tooltip: Quickstart

Tooltip: One Tooltip, Many Elements

Panel: Quickstart

Panel: Advanced Skinning using CSS

Panel: Creating a 'Loading' Popup

PhotoBox: Subclassing Panel

Subclassing Panel to Create PhotoBox

Functional Example

ResizePanel: Creating a Resizable Panel

Dialog Quickstart

SimpleDialog Quickstart

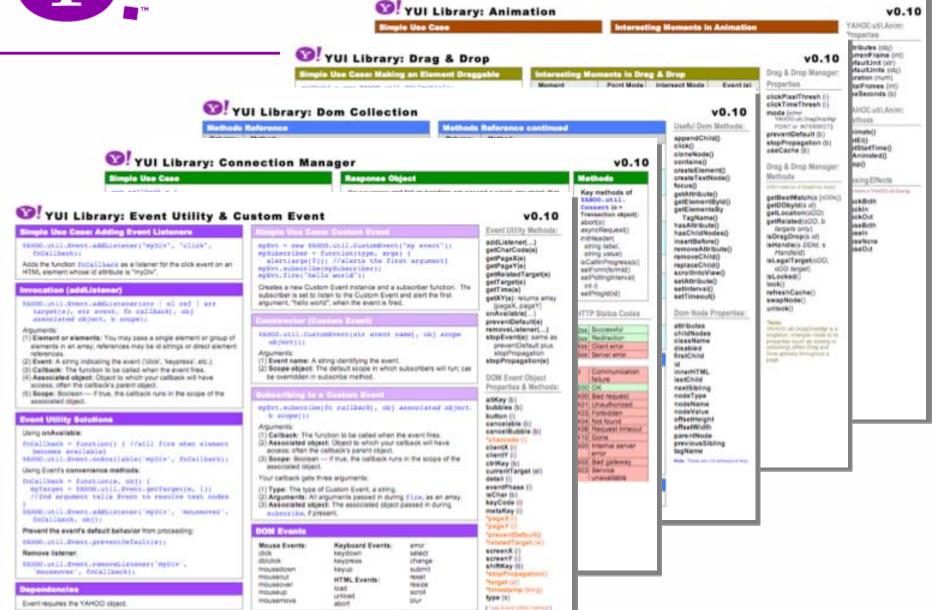
Using ContainerEffect

Using OverlayManager

Using KeyListener



The YUI Cheat Sheets



v0.10

64





Video: Douglas Crockford, "An Inconvenient API: The Theory of the Dom"

October 20, 2006 at 7:42 am by Eric Miraglia | In Development |

Update 20 October 2006: This video was originally posted with no link to the slide deck that Douglas uses in the talk. That deck is in PowerPoint format and can be downloaded here.

Douglas Crockford is Yahoo!'s leading JavaScript Architect. He has written extensively on JavaScript and has been among the protagonists of the JavaScript developer community for more than a decade. Douglas is the discoverer of the JSON data format and a frequent contributor to YUIBlog.

At Yahoo!, Douglas has been teaching a series of classes on the JavaScript programming language. These classes bear his unique style and perspective and benefit from the depth of

SYNDICATE

All Entries:

MY YAHOO! RSS

All Comments:

MY YAHOO! RSS

RECENT POSTS

Graded Browser Support: Q4 Update

YUI version 0.12.0: TabView Control, Improved API Documentation, and More

JavaScript, We Hardly new Ya

Design Pattern Conversation: What's the Best Way to Communicate Patterns? Part Five.



- http://yuiblog.com
- http://groups.yahoo.com/group/ydn-javascript
- http://www.jackslocum.com/yui/ YUI.ext
- http://blog.davglass.com/ YUI.addons
- SourceForge

Jack Slocum's Blog

Using the Yahoo! UI library - Beyond the Examples







Alloys-Precision stamping machining and assembly in low to medium volumes www.Hydroblanking.com

Feedback - Ads by Google

To A

>>

Navigation

When I first started looking at the Yahoo! UI library, one of the things I noticed was a lack of real world examples. Sure, the examples make little boxes fly and fade, make them drag and drop and other cool effects but how do you take that and put it into your website or application? This blog is going to be dedicated to demonstrating how to do that.

While writing this blog a small library of reusable components based on YUI has been started. The library was namespaced YAHOO.ext (short for Yahoo! UI extensions), and already has a few very useful classes that make day to day development with YUI much easier. All of the classes are well-documented and there are some examples of using them found in the posts on this blog. The code is of course free and has the same unrestrictive (BSD) license as Yahoo! UI.

Jack

"Build your own" Download Dialog and RC1 Release

November 11, 2006 by Jack Slocum | 33 Comments »

This post is to notify everyone the .33 RC1 build is up. This release is primarily bug fixes. There's also a new download dialog with a "Build your own" feature that I think demonstrates how easy it is to rapidly build something with YUI + yui-ext. The download dialog consists of a modal BasicDialog with a BorderLayout embedded. It uses a YAHOO.ext.UpdateManager with a JSON renderer to build the list of options. It's ... more »

Download YAHOO.ext

Downloads

Online Documentation

Report Bugs

Help Forum

Help support YAHOO.ext

PayPall PAYMENTS

Need a custom component? Need help implementing YUI or YAHOO.ext? I can help. Send me an email for details.

Ads by Google

CodeThatGrid JavaScript

Web grid: preview, edit, post data right in the browser window

Zimbra Web 2.0 Email

AJAX email server, calendar contacts, outlook

How is it different from GWT?

We believe in JavaScript.





nate.koechley.com/talks/2006/11/refresh06/YUI/

Nate Koechley:

- nate@koechley.com | natek@yahoo-inc.com
- http://nate.koechley.com/blog

Yahoo! Developer Network & Y! UI Blog:

- http://developer.yahoo.com
- http://developer.yahoo.com/yui
- http://developer.yahoo.com/ypatterns
- http://www.yuiblog.com
- http://groups.yahoo.com/group/ydn-javascript



Josie Aguada: jaguada@yahoo-inc.com

Usual suspects:

JavaScript, PHP, CSS, HTML, ActionScript...