for example...

Scott Klemmer
“good grief, I don’t even remember the syntax for forms!”

Joel Brandt et al.
Forms

A form is an area that can contain form elements.

Form elements are elements that allow the user to enter information (like text fields, drop-down menus, radio buttons, checkboxes, etc.) in a form.

A form is defined with the `<form>` tag.

```html
<form>
  .
  input elements
  .
</form>
```

Input

The most used form tag is the `<input>` tag. The type of input is specified with the `type` attribute. The most commonly used input types are explained below.

Text Fields
The Form's Action Attribute and the Submit Button

When the user clicks on the "Submit" button, the content of the form is sent to the file specified in the form's action attribute. The filename of the action attribute defines the name of the file to send the content to. The file action attribute usually does something with the received input.

```html
<form name="input" action="html_form_submit.asp" method="get">
  Username: <input type="text" name="user" />
  <input type="submit" value="Submit" />
</form>
```

How it looks in a browser:

Username: [Input Field] Submit

If you type some characters in the text field above, and click the "Submit" button, your input will be sent to a page called "html_form_submit.asp". The page will show the received input.
The Form's Action Attribute and the Submit Button

When the user clicks on the "Submit" button, the content of the form is sent to the specified file. The form's action attribute defines the name of the file to send the content to. The file's action attribute usually does something with the received input.

```html
<form name="input" action="html_form_submit.asp" method="get">
Username: <input type="text" name="user" />
<input type="submit" value="Submit" />
</form>
```

How it looks in a browser:

Username: ____________________  Submit

If you type some characters in the text field above, and click the "Submit" button, it will send your input to a page called "html_form_submit.asp". The page will show you received input.

More Examples
<form name="input" action="html_form_submit.asp" method="get">
Username:
<input type="text" name="user" />
<input type="submit" value="Submit" />
</form>
<h1>My Awesome Chatroom</h1>
<form name="input" action="html_form_submit.asp" method="get">
<textarea></textarea><br>
Username:
<input type="text" name="user" />
<br>
Message:
<input type="text" name="msg" />
<input type="submit" value="Submit" />
</form>
My Awesome Chatroom

Username: 
Message:  
Submit
The Web lowers the costs of creating, sharing, and accessing examples
<?xml version="1.0" encoding="utf-8"?>
  <mx:Script>
  <![CDATA[
</mx:Script>
<?xml version="1.0" encoding="utf-8"?>
    <![CDATA[
        private function loadData():Boolean {
            return true;
        }
    ]]>  
</mx:Script>
</mx:WindowedApplication>
private function loadData():Boolean {
    // busy cursor
    return true;
}
private function loadData():Boolean {
    busy cursor
    return true
}

</mx:Script>
</mx:WindowedApplication>
You can modify the example in Creating and removing a cursor to use the default busy cursor, as the following example shows:

```xml
<?xml version="1.0"?>
</mx:Script>
</mx:WindowedApplication>

<mx:Script>
<![CDATA[
        import mx.managers.CursorManager;
        import flash.events.*;

        private function initImage(event:MouseEvent):void {
            CursorManager.setBusyCursor();
            Image.load("../assets/bge00054.png");
        }

        private function finishImage(e:Event):void {
            CursorManager.removeBusyCursor();
        }
    ]]>}
</mx:Script>
```
Flex 3 - Using a busy cursor


You can modify the example in Creating and removing a cursor to use the default busy cursor. The following example shows:

```xml

     <mx:Script>
         <![CDATA[
             import mx.managers.CursorManager;
             import flash.events.*;

             private function initImage(event:MouseEventArgs):void {
                 CursorManager.setBusyCursor();
                 ImageLoader.load("/assets/bust00034.png");
             }

             private function loadComplete(event:Event):void {
                 CursorManager.removeBusyCursor();
             }
         ]]>}
     </mx:Script>

</mx:Application>
```
    <![CDATA[
        private function loadData():Boolean {
            //@query:'busy cursor'
            CursorManager.setBusyCursor();

            return true;
        }
    ]]>}
</mx:Script>
</mx:WindowedApplication>
<mx:WindowedApplication xmlns:mx="http://www.adobe.com/2006/mxml" layout="absolute" applicationName="main">

<mx:Script><![CDATA[
    private function loadData():Boolean {
        //@query:'busy cursor'
        CursorManager.setBusyCursor();

        return true;
    }
]]>

</mx:Script>
</mx:WindowedApplication>
<?xml version="1.0" encoding="utf-8"?>
    <![CDATA[
        private function loadData():Boolean {
            //@query:'busy cursor'
            CursorManager.setBusyCursor();

            return true;
        }
    ]]>}
</mx:WindowedApplication>

![CDATA[
private function loadData():Boolean {
    //@query:'busy cursor'
    CursorManager.setBusyCursor();
}
]]>
</mx:Script>
</mx:WindowedApplication>
<?xml version="1.0" encoding="utf-8"?>
    <![CDATA[
        private function loadData():Boolean {
            //@query: 'busy cursor'
            CursorManager.setBusyCursor();
        }
    ]]>}
</mx:Script>
</mx:WindowedApplication>
    <![CDATA[
        private function loadData():Boolean {
            //@query:'busy cursor'
            CursorManager.setBusyCursor();

            URLLoader| return true;
        }
    ]]>"
</mx:Script>
</mx:WindowedApplication>
<mx:WindowedApplication xmlns:mx="library" ng="ng">
    <![CDATA[
        private @public url;
        private @public data;
        private @public request:
            URLRequest;
        private @public loader:
            URLLoader;
    ]]>}
</mx:WindowedApplication>

Warning: The code example below may contain security vulnerabilities. To learn more about writing Flash/Flex code, please read the following article.

For example, to upload an XML packet to a server-side script, you could use the following ActionScript 3.0 code:

```actionscript
var secondsUTC:Number = new Date().getTime();
var dataXML:XML =
    <time>{secondsUTC}</time>
    <username>Ernie</username>
    <password>guru</password>
</login>;
var request:URLRequest = new URLRequest("http://www.yourdomain.com/login");
request.data = dataXML.toXMLString();
request.method = URLRequestMethod.POST;
var loader:URLLoader = new URLLoader();
try
```
```
Flex 3 - Working with external data


Warning: The code example below may contain security vulnerabilities. To learn more about writing Flash/Flex code, please read the following article.

The following code demonstrates how setting the URLLoader.dataFormat property to URLLoaderDataFormat.VARIABLES allows you to automatically parse loaded data into a URLVariables object:

```xml
package {
    import flash.display.Sprite;
    import flash.events.*;
    import flash.net.URLLoader;
    import flash.net.URLLoaderDataFormat;
    import flash.net.URLRequest;

    public class URLLoaderDataFormatExample extends Sprite {
        public function URLLoaderDataFormatExample() {
            var request:URLRequest = new URLRequest("http://www.[yourdomain].com/externaldata.xml");
            var variables:URLVariables = new URLVariables();
            request.dataFormat = URLLoaderDataFormat.VARIABLES;
            request.addEventListener(Event.COMPLETE, onLoaderComplete);
            request.addEventListener(Event.CONNECT, onLoaderConnect);
            request.addEventListener(Event.ERROR, onLoaderError);
            request.addEventListener(Event.SECURITYERROR, onLoaderSecurityError);
            request.addEventListener(Event.SYNTAXERROR, onLoaderSyntaxError);
            request.addEventListener(Event.TIMEDOUT, onLoaderTimedOut);
            request.addEventListener(Event.TYPEDERROR, onLoaderTypedError);
            request.addEventListener(Event.URI_ERROR, onLoaderURIError);
            request.addEventListener(Event.WIRE_ERROR, onLoaderWireError);

            var loader:URLLoader = new URLLoader();
            loader.load(request);

            function onLoaderComplete(e:Event) {
                variables.parseVariables();
                trace("Parsed Variables:");
                trace(variables.toString());
            }

            function onLoaderConnect(e:Event) {
                trace("Loading..." + request.url);
            }

            function onLoaderError(e:Event) {
                trace("Error: "+e.statusText);
            }

            function onLoaderSecurityError(e:Event) {
                trace("Security Error: "+e.securityError);
            }

            function onLoaderSyntaxError(e:Event) {
                trace("Syntax Error: "+e.syntaxError);
            }

            function onLoaderTimedOut(e:Event) {
                trace("Timed Out");
            }

            function onLoaderTypedError(e:Event) {
                trace("Typed Error");
            }

            function onLoaderURIError(e:Event) {
                trace("URI Error");
            }

            function onLoaderWireError(e:Event) {
                trace("Wire Error");
            }
        }
    }
}
```
import flash.display.Sprite;

public class ExternalDocs extends Sprite {

    public function ExternalDocs()
    {
        var request:URLRequest = new URLRequest("http://www.[yourdomain].com/data.xml");
        var loader:URLLoader = new URLLoader();
        loader.addEventListener(Event.COMPLETE, completeHandler);
        try {
            loader.load(request);
        }
        catch (error:ArgumentError)
        {
            trace("An ArgumentError has occurred.");
        }
        catch (error:SecurityError)
        {
            trace("A SecurityError has occurred.");
        }

        private function completeHandler(event:Event):void
        {
            var dataXML:XML = XML(event.target.data);
            trace(dataXML.toXMLString());
        }
    }
}
The executing SWF file for the previous example is shown below:
Blueprint’s content is written as examples.
Blueprint Query Handling

1. User query: "chart"

2. Blueprint Client/Blueprint Plugin

3. Blueprint Server
   - query: "chart",
   - language: "flex3",
   - augmented query: "chart + flex3"

Example Cache Database

Google
Blueprint Query Handling

1. User query: "chart"
2. Blueprint Client Blueprint Plugin
3. Blueprint Server
   - augmented query: "chart + flex3"
4. Google
   - result: (list of urls, suggestions)
5. Example Cache Database
   - query: (list of urls)
   - result: (list of examples)
Does example-centric search affect quality and efficiency?

- Between-subjects study w/ Flex programmers (n=20) “retrieve text from a URL and place it in a text box”
- Same tools. Only difference is Blueprint.
Results

• Faster example finding -> faster programming
  • 57s v. 121s to paste
    Wilcoxon-Man-Whitney statistic = 2.38, p < .01
  • total time correlated with paste time
    Spearman correlation coeff. = 0.52, p < .01
• ...and the code was rated higher quality!
  • Wilcoxon-Mann-Whitney statistic = 2.15, p < .02
Does example-centric search change how programmers work?

- Released on Adobe Labs (since May 2009)
- Logged queries and interface actions
- Analyzed logs after 3 months
  - Conducted interviews to generate hypotheses
  - Compared Blueprint logs to Adobe Community Help logs from the same period
- Blueprint: 17,012 queries from 2,024 users
- Community Help: 26,036 queries from 13,283 users
Hypotheses

- Example results often show sufficient information. People click through less often.
- Blueprint users query with code more often.
- The time cost of finding examples is lower in Blueprint. People will re-find more often.
Results

• Example results often show sufficient information. People click through less often. **Clicks per query: 0.38 v. 1.32**

• Blueprint users query with code more often **CamelCase in 49.6% v. 16.2% of queries**

• The time cost of finding examples is lower in Blueprint. People re-find more often. **People re-find 57% more with Blueprint**
Blueprint: Summary
Examples can increase conformity...

This creature can walk on land and swim in water very well.

A very funny creature, it is so soft that it makes no noise when it walks.

This is a blue-green creature that is very wrinkled but gentle.
...without reducing novelty

This creature can walk on land and swim in water very well.

A very funny creature, it is so soft that it makes no noise when it walks.

This is a blue-green creature that is very wrinkled but gentle.

Marsh et al. 1996
“There are no rules of composition in photography, there are only good photographs”
The Web is also changing...
Raise your hand if... you have made a Web page
Raise your hand if...
seeing other pages helped you learn HTML
My Cool Web Page Title

Lorem ipsum dolor sit amet

Ligula suspendisse nulla pretium, rhoncus tempor placerat fermentum, enim integer ad vestibulum volutpat. Nisl rhoncus turpis est, vel elit, congue wisi enim nunc ultricies sit, magna tincidunt. Maecenas aliquam maecenas ligula nostra, accumsan taciti. Sociis mauris in integer, a dolor netus non dui aliquet, mollis. felis sodales, dolor sociis mauris, vel eu libero cras. Interdum at. Eget habitasse elementum est, ipsum purus pede porttitor class, ut adipiscing, aliquet sed auctor, imperdiet arcu per diam dapibus libero duis. Enim eros in vel, volutpat necpellentesque leo, temporibus scelerisque nec.
Can examples scaffold design ability?
Adam Barth

Adam is currently a full-time Ph.D. student in the Computer Science Department at Stanford University. He received his M.S. in Computer Science from Stanford in the summer of 2005. In May 2003, Adam graduated magna cum laude from Cornell University with a B.A. in Mathematics and Computer Science. He attended high school at Henry M. Gunn Senior High School in Palo Alto, CA.

Visit my blog >>

Selected Publications

- Protecting Browsers from DNS Rebinding Attacks (To appear: CCS 2007)
- Privacy and Utility in Business Processes (CSF 2007)
- An Evaluation of Extended Validation and Picture-in-Picture Phishing Attacks (USEC 2007)
- Privacy and Contextual Integrity: Framework and Applications (Oakland 2006)
- Managing Digital Rights using Linear Logic (UICS 2006)
- Private Encrypted Content Distribution Using Private Broadcast Encryption (FC 2006)
- High Performance Imaging Using Large Camera Arrays (SIGGRAPH 2005)
- Enterprise Privacy Promises and Enforcement (WITS 2005)
Results

- Pages created in the Examples condition were rated more highly than those in the Control condition ($M=4.04$ vs. $3.37$, $p<0.05$)
- Experienced participants created more highly rated pages than novices ($M=4.00$ vs. $3.41$, $p<0.05$)
- No significant interaction between expertise and manipulation: experienced designers and novices benefited equally
MY TIPS

MONDAY, 27 APRIL 2009

DRAMA IN COLOR

Dignissim hendrerit similis amet quis abico oppeto appellation conventio suscipit hoero commodo.

Zelas torqueo velit ad suscipit vindico luptatum premo. Ut metuo suscipere autem suscipit si fere facilis abluo ille. Mas suoi, rusticus facilis inimbea suscipit loquor indeles, sagaciter opto captro, premo. Consectetuer arc ipsum ornare pellentesque vehicula, in vehicula diam, ornare magna erat falsi visi a risus, justo fermentum id.

Consectetuer arc ipsum ornare pellentesque vehicula, in vehicula diam, ornare magna erat falsi visi a risus. Justo fermentum id. Malesuada eleifend, tortor molestie, a fusce a vel et. Mauris ut suspendisse, neque aliquam faucibus adipiscing, vivamus in. Wisi metioiOS suscipit nec amet, nisl fermentum tempor ac a, augue in eleifend in venenatis, cras ut id in vestibulum falls in, sed ligula.

In sodales suspendisse moriis quam easiam erat, quia tellus convallis eras rhoncus diam arc, porta lectus esse adipiscing posaure et, nis arc vitae laoreet.

What if any Web page could be a template?
What correspondences do people produce?
Why did you pick that mapping?

Both are text blocks that belong to an image/text block.
Results

- Average of 5.4 minutes/pair
- Consistent (78.3%)
- Driven by two components
  - Visual/semantic features
  - Preservation of structure
- People generally – *but not always* – preserve ancestry
Machine Learning

- Bound/prune/update model for mappings
- Learn cost model $\bar{w}$ to balance visual/structural

Randomly pick a training pair

$\bar{w}_i = \bar{w}_{i+1}$

$\bar{w}_0 = 0$

$\{T_1, T_2\}, M$

$\hat{M} \approx \arg\min_M \bar{w}_i^T F_M$

$\bar{w}_{i+1} = \bar{w}_i + \alpha_i (F_{\hat{M}} - F_M)$
<table>
<thead>
<tr>
<th>Metric</th>
<th>Cost Model</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Similarity</td>
<td>$c_v, c_a, c_s$</td>
<td>61.8</td>
</tr>
<tr>
<td></td>
<td>$c_v, c_s$</td>
<td>58.1</td>
</tr>
<tr>
<td></td>
<td>$c_v, c_a$</td>
<td>53.8</td>
</tr>
<tr>
<td></td>
<td>$c_v$ alone</td>
<td>44.6</td>
</tr>
<tr>
<td></td>
<td>$c_v, c_a, c_s$</td>
<td>73.0</td>
</tr>
<tr>
<td>Nearest Neighbor</td>
<td>$c_v, c_s$</td>
<td>65.4</td>
</tr>
<tr>
<td></td>
<td>$c_v, c_a$</td>
<td>61.5</td>
</tr>
<tr>
<td></td>
<td>$c_v$ alone</td>
<td>53.2</td>
</tr>
<tr>
<td></td>
<td>$c_v, c_a, c_s$</td>
<td>82.6</td>
</tr>
<tr>
<td>Edge Frequency</td>
<td>$c_v, c_s$</td>
<td>71.1</td>
</tr>
<tr>
<td></td>
<td>$c_v, c_a$</td>
<td>65.6</td>
</tr>
<tr>
<td></td>
<td>$c_v$ alone</td>
<td>64.4</td>
</tr>
</tbody>
</table>
Welcome to the portfolio of Rik Catlow, Internet Product Designer & Developer.

Creativity + Technology
Developing a product on the web requires many different skill-sets, from information architecture, user interface design, web site design and development, to usability analysis, content management, search engine optimization and more. It’s not enough to have a great design or a strong technology platform; these need to be seamlessly integrated. In the last 12 years, I’ve worked for ground-floor start-ups to multi-national corporations and gained the experience for managing, building and developing web products from concept to launch.

Enjoy! — Rik Catlow

About Rik Catlow
This site is designed, coded and updated by me, Rik Catlow. I live with my wife Wassa, daughter Becca, and a fat tabby cat named Bo in Charlotte, NC. I currently work for Bank of America as Senior Visual Designer. I advocate for web standards, the user and visual design simplicity.

Learn More ...
We are avid web evangelists who create attractive websites that enhance business growth and success online.

Strategize
We complete detailed competitive analysis, user experience reports and plan intuitive architectures.

Create
We design beautiful websites, create targeted content and develop websites to the highest standard possible.

Market
We help generate targeted traffic, manage quality and sustainable campaigns, and measure results to ensure a great ROI.

The Lounge

- **Swish**
  A different take on Dribbble.com

- **Mission Arlington**
  A humble yet successful ministry reaching out to the community of Arlington, Texas.

- **Fancy Print?**
  We have a print fancy. Check how and why you should ensure your brand image is consistent in all mediums.
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- 2.24 Simplicity as Innovation
- 6.27 The Laws of Simplicity
- 6.09 Should Designers Do Their Own...
- 4.25 Webkit Team Moving CSS Forward
- 4.07 Command Shift 3

Contact Info
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- Email: rikcatindustries@gmail.com
I DESIGN beautiful & user-friendly websites, FOCUSING on small or individual projects. Find out more ABOUT me and GET IN TOUCH ...

Who I am?
Hello, I am Rui, a freelance web designer/developer living in Boston Massachusetts.

Featured work
Matcha Chocolat, an artisan chocolate company that sells both tea and tea infused, handmade chocolates.

Get in touch
Please don’t hesitate to contact me if you have any questions, comments or just want to say hello.
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Personal Site: rikcat.com
Twitter: @rikcat
Status: Interested in full-time opportunities
We are Sofa

Sofa is a software and interaction design company. We develop products and help others design theirs.

Software »
We make some really good Mac and web applications.

Design »
A sample of our work, from icons to entire interfaces.

Company »
Sofa was founded in 2006 and is based in Amsterdam.

Blog »
Our thoughts on design, code and everything else.
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Creativity + Technology

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Contact Info

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Personal Site: rikcat.com
Twitter: @rikcat
Status: Interested in full-time opportunities
Next Steps
1) Save the New York Times
Spring 2010 jQuery Talks

I gave a number of talks this spring on jQuery and especially on some of the recent additions made in jQuery 1.4. Below are all the slides and demos that I've given.

The conferences / meetups that I spoke at (or will speak at, in the case of MIX), and the talks that I gave, are [...]  

24 Comments · Posted: March 4th, 2010 · Tags: jQuery, speaking, talks, workshop

.closest(Array) in jQuery 1.4

A new method signature is slated for jQuery 1.4: .closest(Array). It builds upon the previous .closest() method and hyper-optimizes the logic needed for handling event delegation (and live events).

closest() (and by extension, is()) has become a critical function in jQuery. With more people using live events reducing any overhead has become of the utmost importance. [...]  

50 Comments · Posted: December 18th, 2009 · Tags: close, live, jQuery

 nodeName Case Sensitivity

When working with the DOM .nodeName property there are two hard-and-fast rules that most people abide by:

The node names of HTML elements are always uppercase, even if they're explicitly created using lowercase characters. <html> will result in a nodeName === "HTML" (see the HTML 5 draft).
The node names of XML elements are always in the [...]  

31 Comments · Posted: November 24th, 2009 · Tags: dom, javascript, browsers

« Previous entries
Automatically adapting web pages to heterogeneous devices

Chinmay Kulkarni  
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Scott R Klemmer  
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Abstract

Smartphones and other handheld devices have become popular and powerful Internet access devices, yet the Web is still largely optimized for the desktop. We describe a system that automatically transforms desktop-optimized pages to ones better suited to the target device. The system leverages existing platform-customized sites as examples of good design, identifies consistent components across these sites, and renders the desktop page into these components.

Keywords

Mobile phones, Internet access, UI adaptation

ACM Classification Keywords

H.5.4 [Information Interfaces And Presentation]: Hypertext/Hypermedia—User issues

General Terms

Algorithms, human factors.

Introduction

While computing devices are highly heterogeneous – including smartphones, tablets, laptops, large monitors, and wall-scale displays, much of the Web is still optimized for viewing on desktop/laptop screens and input devices. This may be because the desktop is still the...
2) How might people search for examples?
Web Design Search

Search Results

Current Query

minimal

Style Attribute
Importance
Based on the ratings you've provided
Search for these terms to find pages that are strong in an attribute
You can search for colors, too.
3) Flexibly Support Users with Different
Future Work

• **Bigger tasks**
  How could I adapt a set of pages, or a whole site?

• **Other domains**
  Where else can examples help?

• **Scaffold expertise**
  How can tools help novices become experts?

• **Integrate benefits of patterns, examples, templates**
  Get the best of all worlds

• **Find and adapt distant examples**
  Help people find far away, inspiring examples

• **Technical and legal systems**
  Facilitate ethical open culture
“Good artists borrow, great artists steal”
- Pablo Picasso

Les Demoiselles d'Avignon

19th century Fang sculpture
Quantity vs. Quality?

Bayles and Orland, 2001
Quantity vs. Quality?

“While the quantity group was busily churning out piles of work—and learning from their mistakes—the quality group had sat theorizing about perfection, and in the end had little more to show for their efforts than grandiose theories and a pile of dead clay”

Bayles and Orland, 2001
BELIEVE IN PROCESS
(How) can we measure creative results?

Steven Dow et al.
Design an Egg Drop Device
I went with the whole parachute idea and what I had from the beginning...

This is the best approach for such a design...

I am not a very good outside-the-box thinker, so I kinda just had one idea and I was going to try to make it work...

No... for some reason... this seems to be the only idea. There needs to be a platform and then as good of cushion as possible... I don’t see any other

Participants picked their concept early...
Functional fixation

Duncker, 1945
Functional fixation

Duncker, 1945
Research question

How does parallel design — rather than a serial approach — affect performance?
Task: design an advertisement

issue 11

Spring 2009: Space

As children some of you may have dreamed of becoming astronauts, or at least vied for a spot in Space Camp. Maybe you were inspired by the worlds of Flash Gordon or those created by Frank Lloyd Wright. In this issue of Ambidextrous, we tackle space and beyond in all of its frontiers.

An Ode to White Space
Ellen Lupton
Procedure \((N=33)\)

**Serial prototyping condition**

**Parallel prototyping condition**
Expert critique

overall theme
Ambidextrous wants an ad that reaches out to design practitioners, students, and researchers.

composition and layout
Try to create visual flow for the viewer; what should the viewer see?

surface features
Use color to create emphasis, to separate different elements, or to categorize content.
Web advertising analytics
Users clicked Parallel ads at a higher rate than serial ads

Clicks per million impressions

<table>
<thead>
<tr>
<th></th>
<th>Parallel</th>
<th>Serial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>445</td>
<td>398</td>
</tr>
</tbody>
</table>

$F(1,30)=4.227$  
$p<.05$
Visitors from parallel ads spent more time on the client website.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Average Time on Client Site (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel condition</td>
<td>31.3</td>
</tr>
<tr>
<td>Serial condition</td>
<td>12.9</td>
</tr>
</tbody>
</table>

F(1, 493) = 3.172, p = 0.076
Experts rated Parallel ads higher than Serial ads

Likert-scale rating (0-50)

Parallel condition: 24.4
Serial condition: 21.7

F(1,5)=7.948
p<0.05
Why does a parallel design approach lead to better results?
I tried to find a good idea, and then use that idea and keep improving it and getting feedback. So I pretty much stuck with the same idea.

--Serial participant
Comparison aids learning

training session

SEPARATE CASES

CASE#1
“Describe the solution.”

CASE#2
“Describe the solution.”

COMPARISON CASES

CASE#1

CASE#2
“Describe the parallels of these solutions”

learning outcome

Solutions to a landlord- renter lease

~ 3x

Gentner, Loewenstein, & Thomson, 2003
Critique provides advice and stirs emotions

“There was a short period where the emotional response overwhelmed any positive logical impact that this ended up having. These guys, you know, are telling me I am completely doing something wrong here. So, it took me a while to get past...I’m a failure at this....”
Parallel ads more diverse

(7 = very similar, 0 = not similar)

- Parallel condition: 2.78
- Serial condition: 3.18

F = 181.853, p < 0.001
“Never go to a client meeting without a prototype.”
Stefan Thomke, IDEO case study, Harvard Business School, 2000
Research question

Does preparing and sharing multiple prototypes improve design results?

Hypothesis “sharing multiple” outperforms
Task: design an advertisement

REAL FACES.
REAL FEARS.
REAL HOPE.

FACE AIDS
A student campaign to fight AIDS in Africa

Together.
Together we can.
Together we can FACE AIDS.

In 2006, young people accounted for 40% of new HIV infections.

Help us change this. FACE AIDS.

FACE AIDS | A student campaign to fight AIDS in Africa

Help change their lives.

Start a FACE AIDS chapter at your school and join the fight against HIV.
Method

• 84 participants (42 pairs)
• Balanced across conditions for prior ad design experience and gender
• Placed into one of three conditions (share *multiple*, share *best*, & share one)
Web users clicked more “Share Multiple” ads per appearance

![Chart showing clicks per million appearances for Share Multiple, Share Best, and Share One. The chart indicates that Share Multiple had 1072.1 clicks per million appearances, Share Best had 734.9 clicks, and Share One had 774.6 clicks. The chi-squared test statistic is $\chi^2=4.72$, with p-value $<0.05$.](chart.png)
Why does sharing multiple designs lead to better results?
Examples improve web designs

Lee, Srivastava, Kumar, Brafman, and Klemmer, CHI 2010
Measuring feature sharing
Share Multiple partners borrowed more features

$\chi^2 = 4.05, \ p < 0.05$
Comparison aids learning

**Training session**

**Separate cases**

- CASE#1
  - “Describe the solution.”

- CASE#2
  - “Describe the solution.”

**Comparison cases**

- CASE#1
- CASE#2
  - “Describe the parallels of these solutions”

~ 3 times

**Learning outcome**

Solutions to a related problem

Gentner, Loewenstein, & Thomson, 2003
Alternatives facilitate user feedback

Tohidi, Buxton, Baecker, Sellen, CHI 2006
Benefits of sharing multiple

• More individual exploration
• More feature sharing
• Increase in group rapport
• More conversational turns
• Better consensus
Can We Algorithmically Predict Similarity?*
(and other things)

Shai Avidan
• Input: pairs of image descriptors, similarity measure
• Features: color correlogram, color histogram
• Dataset: 14,280 samples (20% learning; 80% Test)
Design is Changing
UIST 2011

- October 16-19, Santa Barbara, CA
- Paper submissions due April 22
- Poster/demo submissions due July 1
- Keynote speakers: Ge Wang, Dan Jurafsky
http://hci.stanford.edu

**Blueprint**
Joel Brandt, Mira Dontcheva, Marcos Weskamp

*CHI09, CHI10, IEEE09, No Code Required*

**Examples**
Brian Lee, Ranjitha Kumar Savil Srivastava

*CHI10*

**Bricolage**
Ranjitha Kumar Jerry Talton Salman Ahmad

*CHI11*

**Parallel**
Steven Dow, Daniel L Schwartz

*CHI11, TOCHI10, Creativity & Cog. 09,...*