

# Designing CSS Layouts for the Flexible Web

June 4, 2009

UNC Webmasters meeting

Chapel Hill, NC

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# A little about me

- Author of *Flexible Web Design: Creating Liquid and Elastic Layouts with CSS*
- Author of lynda.com video course *Web Accessibility Principles*
- Former Design Services Manager at UNC Highway Safety Research Center
- Member, Adobe Task Force of Web Standards Project (WaSP)

# What is flexible design?

- Overall width is not fixed number of pixels
- Liquid (aka fluid)
- Elastic
- Hybrid

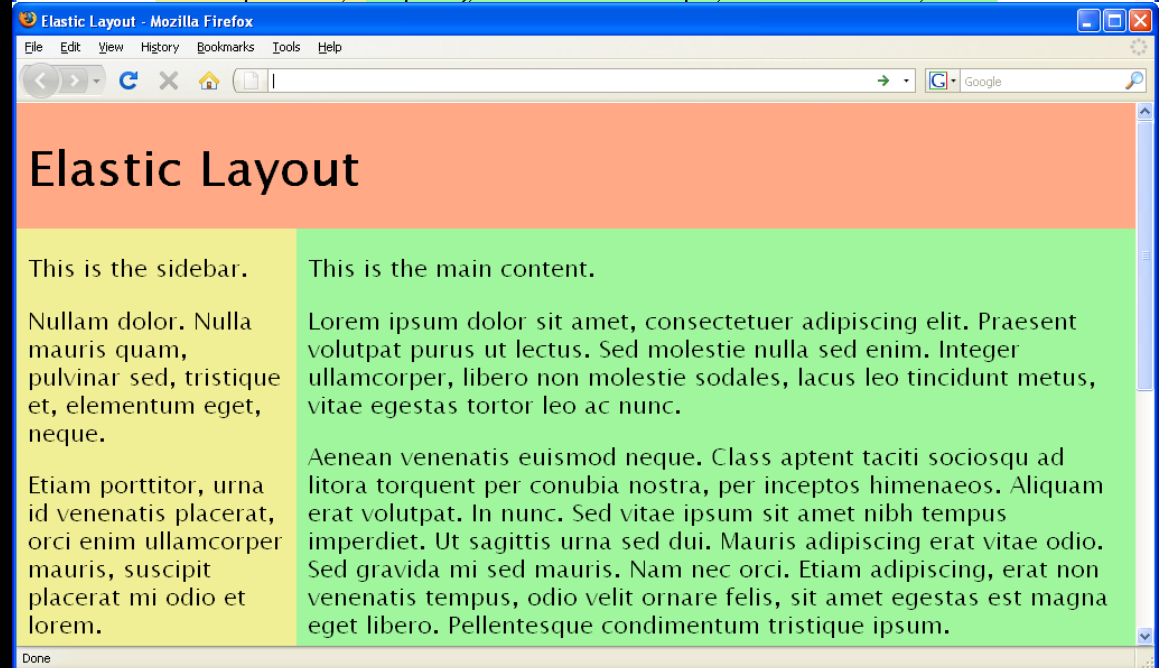
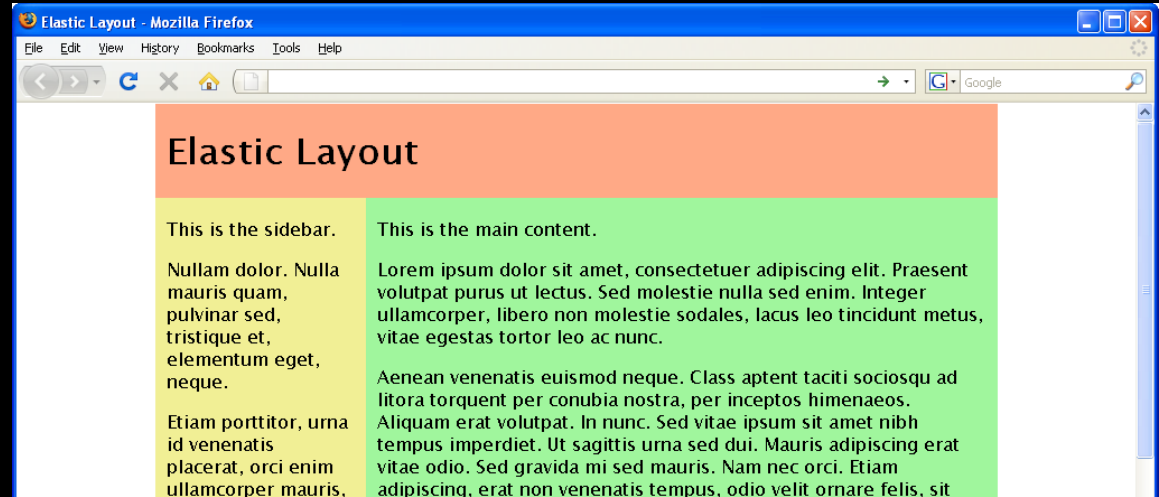
# Liquid

Width adapts  
to **viewport**



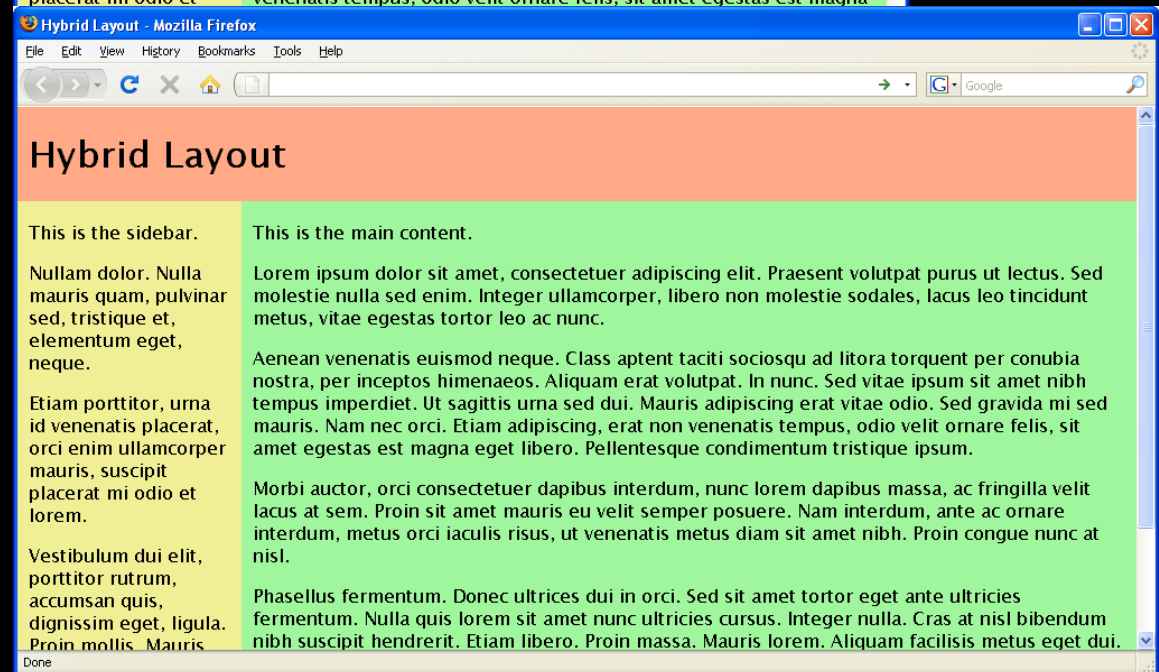
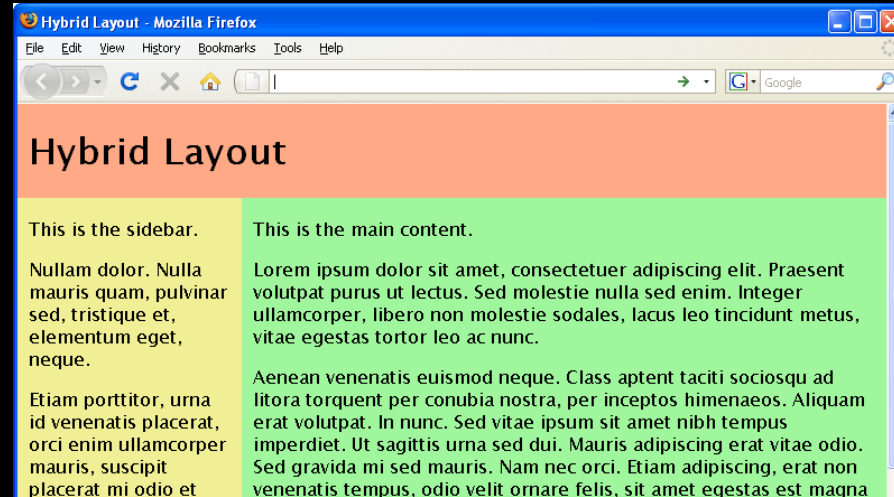
# Elastic

Width adapts  
to **text size**



# Hybrid

**Mixture** of  
fixed-width,  
liquid, and/or  
elastic for  
column widths



~~Why bother?~~

**Why not?**

Why choose fixed-width when web is flexible by default?

Image from flickr, "swimming upstream" by tempo

**Don't swim upstream  
if you don't have to**



# Benefits of flexible layouts

Liquid	Elastic
Increased usability, readability and accessibility	
Respect user preferences	
Less chance of horizontal scrollbars	Increased typographic control
Take advantage of screen real estate	Preserve design proportions

# Design differently from the start

- Not every comp can be turned into liquid or elastic layout
- Learn which design features aren't “flexible-friendly” and how to change them so they are

# Goals of this presentation

## **Fixed-width designer:**

Make designs more adaptive to user preferences

## **Flexible designer:**

Know what to watch out for/plan for in comps to make construction easier, layout more robust

## **Non-designer:**

Identify problematic design elements to convince designer to change or tweak yourself

# Not just avoiding fixed widths

No fixed **heights** for anything containing text

# Width affects height

## Liquid:

Change in viewport width



Text wraps differently



Change in number of lines  
of text



Change in height of block  
text sits in

## Elastic:

Change in font size



Change in height of text  
characters



Change in height of block  
text sits in

**Avoid:**

**Irregular shapes defining a text area**

Irregular shapes defining a text area

# Example:

**Re-Introducing  
THE LIPPINCOTT**

This beautifully restored collection of mid-19th Century buildings in the heart of downtown Wilmington's LOMA Design District will be available for occupancy January 2009 - [Click here for leasing details.](#)

NEWS & UPDATES

JULY 14, 2008

### Verge coworking

Is your independent business on the verge of something big? Do you like the freedom of freelancing but not the isolation of the home office? Is your current work community a group of screaming babies at Starbucks?

{ MORE }

APRIL 18, 2008

### Greener Cleaner Plus

In September 2008 Greener Cleaner Plus will open downtown's first eco-friendly dry cleaning service at the SE corner of 4th & Market. They offer free pick-up and delivery service in Wilmington and surrounding areas, and their retail location at 318 N. Market Street will also feature chemical-free home cleaning products for counters, dishes, floors, and laundry.

greener cleaner PLUS.com

GOING GREEN

LOMA / NEWS UPDATES

Keep up-to-date with latest info on the Lippincott and the LOMA District.

FIRST NAME:

LAST NAME:

EMAIL:

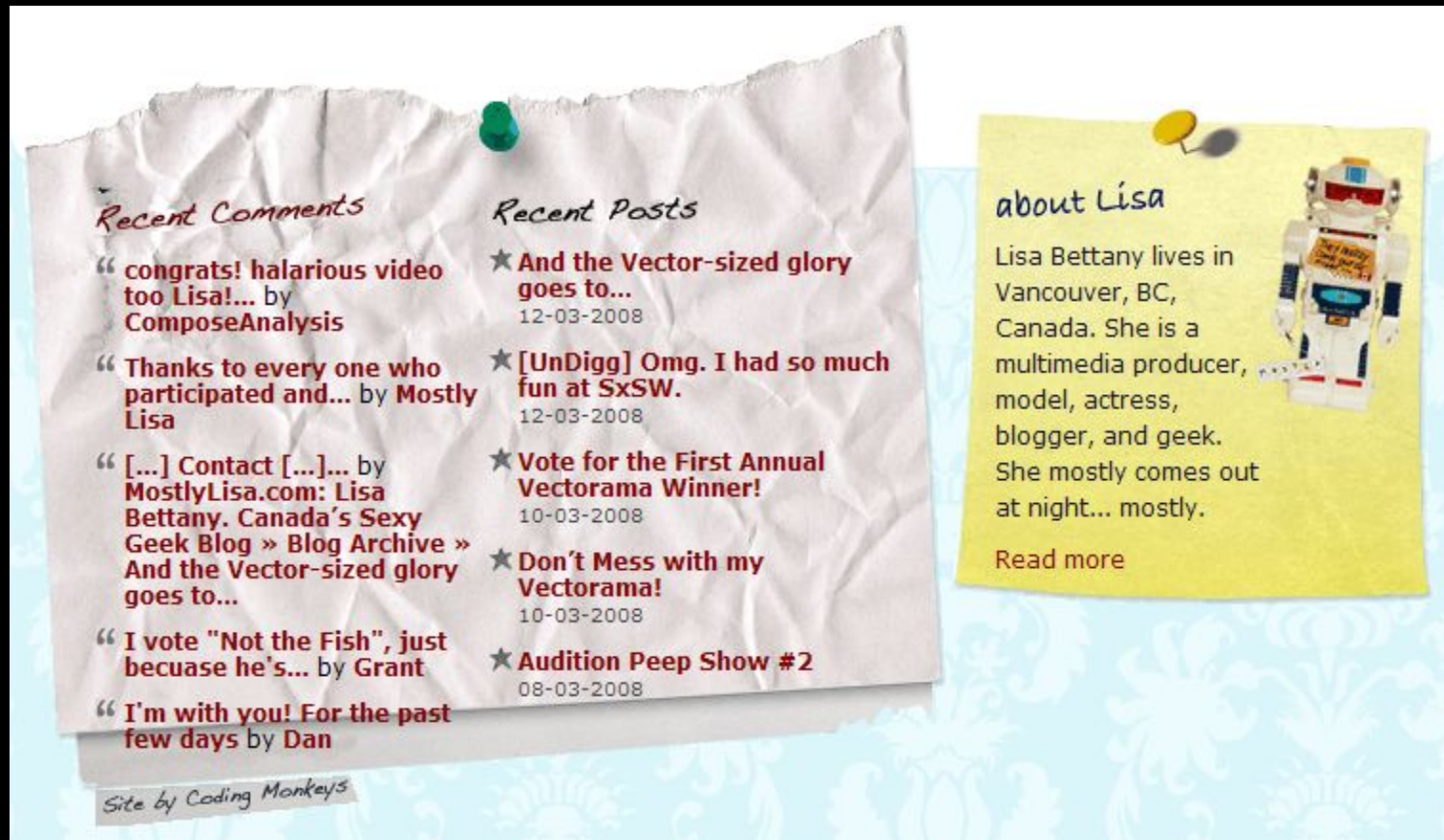
SUBMIT

{ MORE }

The Lippincott, [www.thelippincott.net](http://www.thelippincott.net) (site currently down)

Irregular shapes defining a text area

# Example:





Irregular shapes defining a text area

# Example:



Bubbles- Black  
\$7.99 CAD

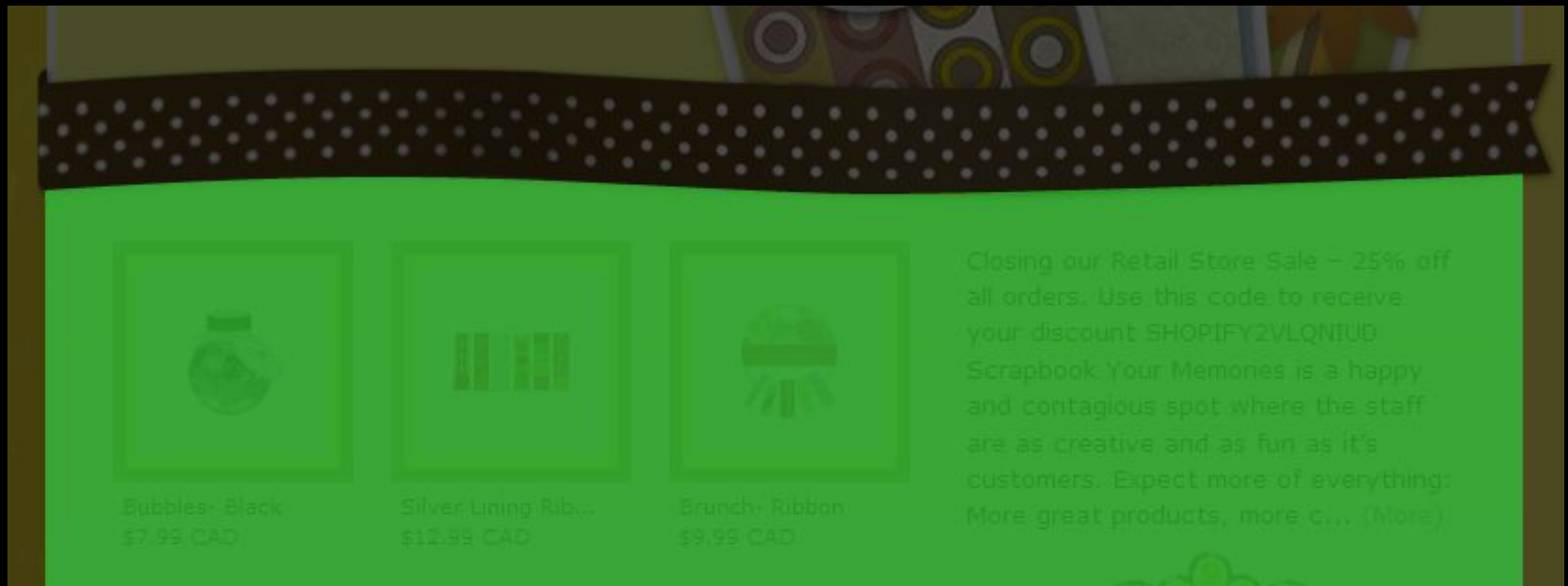
Silver Lining Rib...  
\$12.99 CAD


Brunch- Ribbon  
\$9.99 CAD

Closing our Retail Store Sale – 25% off all orders. Use this code to receive your discount SHOPIFY2VLQNIUD  
Scrapbook Your Memories is a happy and contagious spot where the staff are as creative and as fun as it's customers. Expect more of everything: More great products, more c... ([More](#))

Irregular shapes defining a text area

# Example:

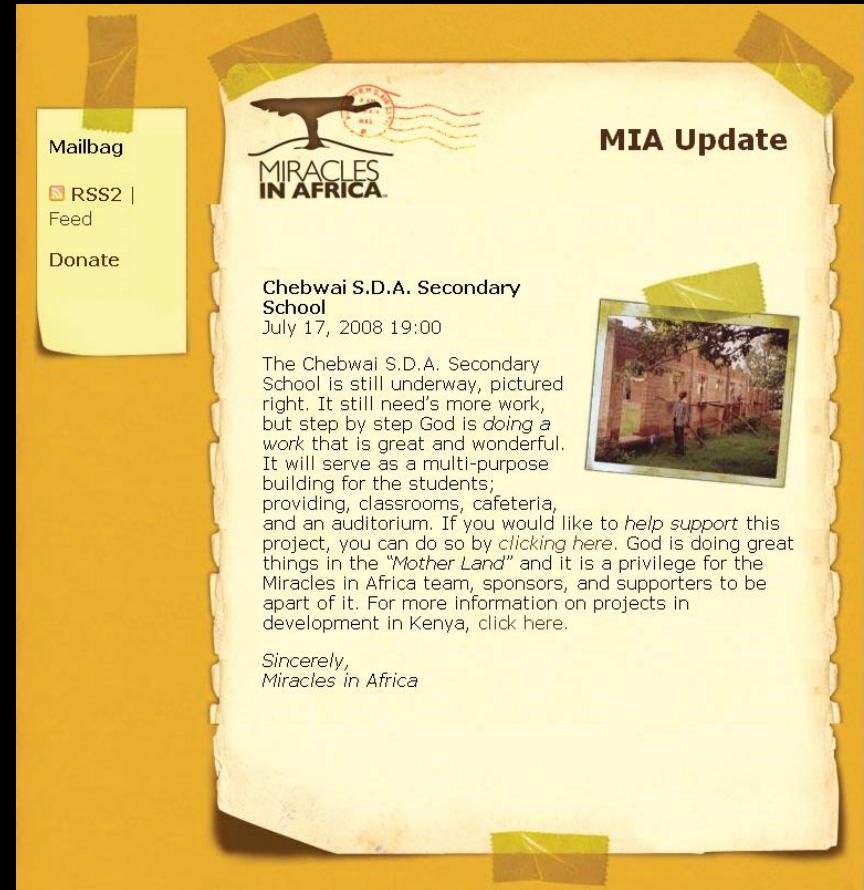
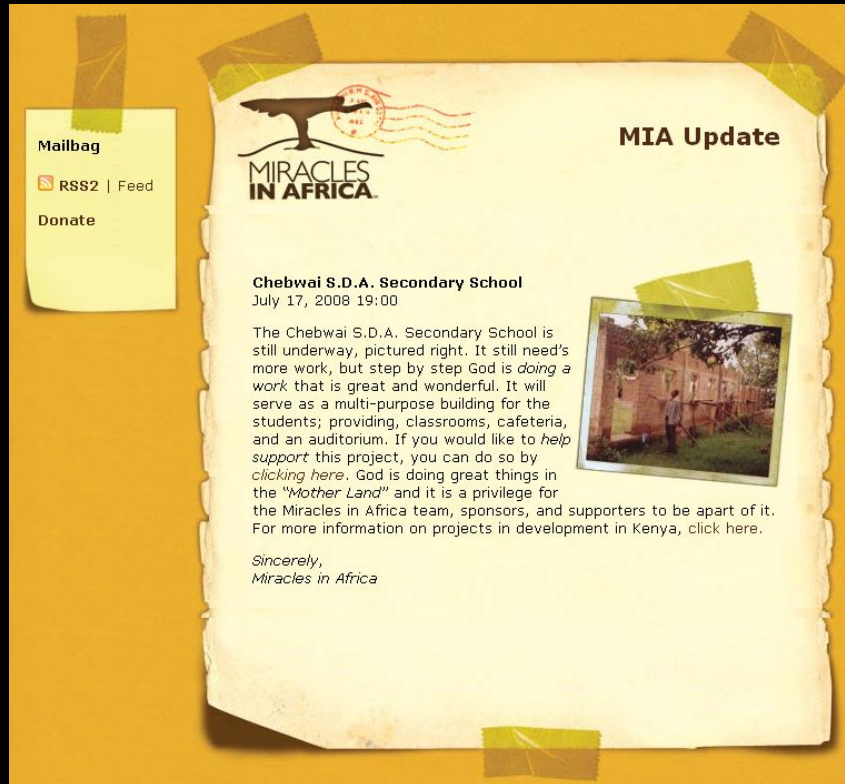




**Are we stuck with only  
straight rectangles?**

Irregular shapes defining a text area

# Solution: Tile irregular pattern



Irregular shapes defining a text area

# Solution: Tile irregular pattern



"So don't let me give up trying, I'm beginning to receive the strength I need. To keep me on the straight and narrow..."

Download songs here

"So don't let me give up trying, I'm beginning to receive the strength I need. To keep me on the straight and narrow..."

Download songs here

Straight & Narrow © S. Wiffen 2005

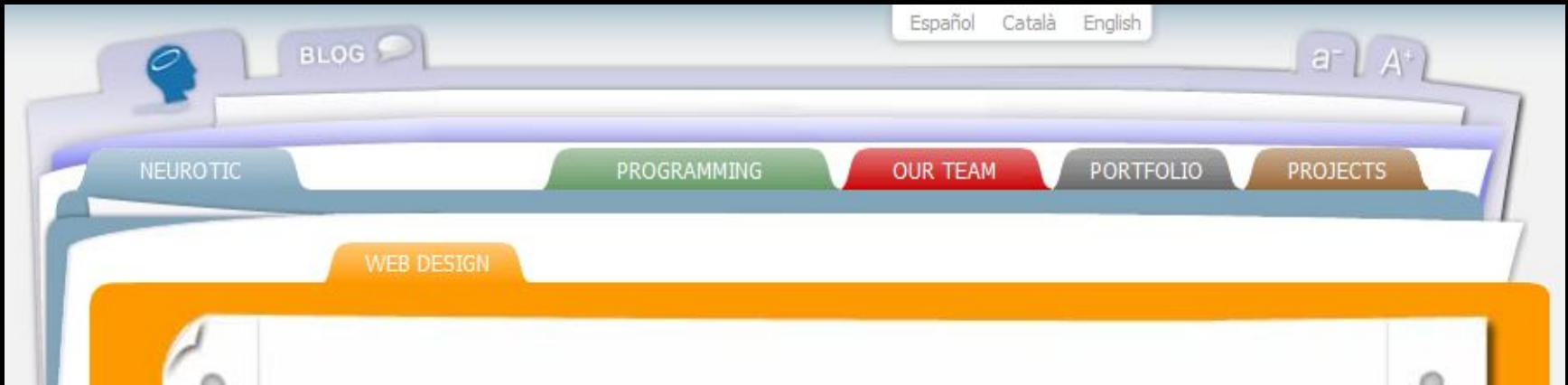
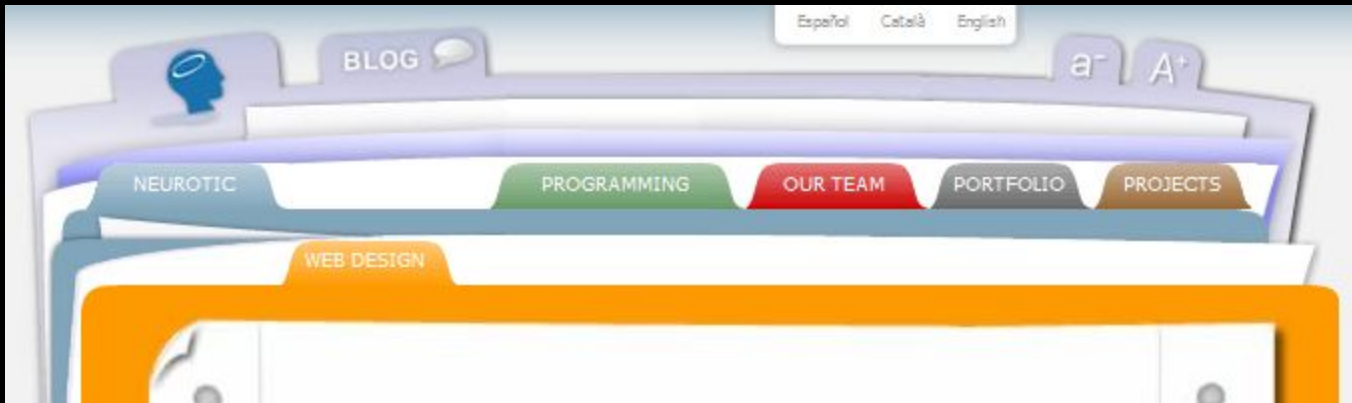
join mailing list

Enter your email to receive regular updates

Signup

Irregular shapes defining a text area

# Solution: Tile straight piece



# #2

**Avoid:**

**Text matched with images that can't expand**

Text matched with images that can't expand

# Example:

The image shows a screenshot of the etonDIGITAL website. The header features the etonDIGITAL logo (ED WEB 2.0 EXPERTS) on the left and a navigation menu with links for Home, Why etonDIGITAL?, Services, Our work, Weblog, and Contact us. The main content area is divided into two sections. The left section, titled 'Web 2.0 experts at your service', contains a paragraph of text describing their services. The right section, titled 'Featured projects', features a project for pod3.tv. The pod3.tv project is presented as a sticky note with a paperclip, containing a screenshot of the website's header and a brief description of the work done.

**ED** etonDIGITAL  
WEB 2.0 EXPERTS

Home Why etonDIGITAL? Services Our work Weblog Contact us

## Web 2.0 experts at your service

*Here at etonDIGITAL we do everything web and more. From web design and development, to interactive Flash development, and everything in between - we deliver polished, professional, and affordable products that get you the attention you deserve.*

www.w

### Featured projects

pod3.tv

Because everyone's got a story to tell

Website: [www.pod3.tv](http://www.pod3.tv)  
We did: Design, XHTML/CSS, Drupal CMS



A close-up photograph of a hand holding a single, ripe, dark red cherry. The cherry is the central focus, with its stem still attached. The hand is positioned to the right, with fingers gently gripping the fruit. The background is a soft-focus green, suggesting a cherry tree or a garden setting. The lighting is bright and natural, highlighting the texture of the skin and the smooth surface of the cherry.

**Pick the right images**

Text matched with images that can't expand

# Solution: Masked images

Get Inspired ▾ To the Point ▾ The Buzz ▾ Nuts & Bolts ▾ Behind the Scenes ▾ Home

**Maximize Productivity:**  
Please Choose: ▾

**Grow Your Practice:**  
Please Choose: ▾

**Get Found:**  
Please Choose: ▾

**See Solutions in Action: DEMOS**  
Please Choose: ▾

## Everything the Doctor Ordered!

Sesame is the one-stop communications solution connecting 1,000,000+ patients to their orthodontists and dentists online right now. Sesame keeps patients connected to your office, reminds them what's great about your practice, and makes it easy for them to spread the word.

[Meet your new patient ▸](#)

Home

Maximize Productivity:  
Please Choose: ▾

Grow Your Practice:  
Please Choose: ▾

Get Found:  
Please Choose: ▾

See Solutions in Action: DEMOS  
Please Choose: ▾

## Everything the Doctor Ordered!

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[Meet your new patient ▸](#)

Text matched with images that can't expand

# Solution: Masked images

Use the proper CSS to ensure text has enough space to sit in



Text matched with images that can't expand

# Solution: Masked images

## Anchoring the background image:


```
div {  
    padding: 20px 20px 100px 20px;  
    background: #fff url(image.jpg) no-repeat bottom left;  
}
```

Text matched with images that can't expand


# Solution: Variable cropping

CSS technique, but requires designing with right type of images

Case Studies




East Riding of Yorkshire Council: Play and free-time strategy




East Lindsey District Council: Play Strategy

Case Studies



East Riding of Yorkshire Council: Play and free-time strategy



East Lindsey District Council: Play Strategy

Text matched with images that can't expand

# Solution: Variable cropping

## Background image:

```
div {  
  width: 50%;  
  min-height: 100px;  
  background:  
  url(image.jpg) no-repeat;  
}
```

```
<div></div>
```

## Foreground image:

```
div {  
  width: 50%;  
  min-height: 100px;  
  overflow: hidden;  
}
```

```
<div></div>
```

Text matched with images that can't expand

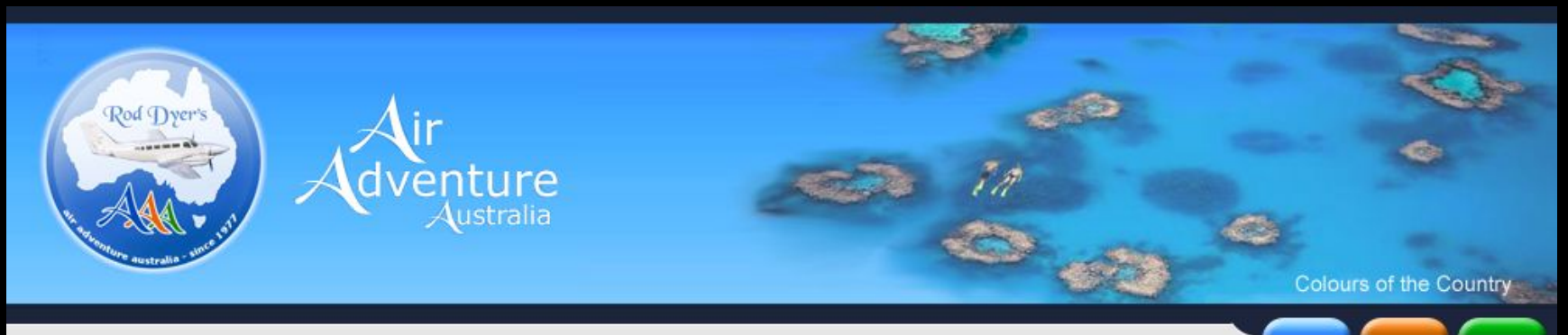
# Solution: Variable cropping

Can stitch together multiple to make longer



Text matched with images that can't expand

# Solution: Blend into background





Text matched with images that can't expand

# Solution: Blend into background



Text matched with images that can't expand

# Solution: Scalable images

## CSS technique, but requires designing with right type of images

### LA STORIA DEL CASTELLO DI BOLGHERI



Le origini del Castello di Bolgheri risalgono al 1200. Fin da allora proprietà della famiglia dei Conti della Gheradesca. Nella seconda metà del 1700 vengono effettuati restauri e migliorie al palazzo e la costruzione delle cantine. Nel 1895 viene modificata la facciata del castello, con la realizzazione della torre e dei merli così come ancora oggi essa appare. **La Storia del Castello**

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### VINO ED OLIO



\* CASTELLO DI BOLGHERI

### AGRITURISMO



\* PODERE SAN SEBASTIANO

### VINO ED OLIO



\* CASTELLO DI BOLGHERI

### AGRITURISMO



\* PODERE SAN SEBASTIANO

Text matched with images that can't expand

# Solution: Scalable images

## Liquid image:

```
img {  
  width: 50%;  
}
```

```

```

## Elastic image:

```
img {  
  width: 20em;  
}
```

```

```

**Avoid:**

**Fixed-width, full-width content**

Fixed-width, full-width content

# Example:

## What We Offer

Classes & Programs

**Personal Training**

Fitness Center

Aquatic Center

Child Care

Medical Services

Nutrition



*“My successes have been numerous and wonderful, I have lost 20lbs and many inches, I have cut my blood pressure*

## Personal Training



Quickly and safely achieve your fitness goals under the direct supervision of a qualified fitness professional with Roseville Health & Wellness' personal training programs. Train with some of Northern California's finest degreed and nationally certified professionals to fine-tune your fitness regiment.

Our personal trainers will help you decrease body fat, improve strength and increase coordination, flexibility and muscular balance. You'll learn the correct way to use equipment and the appropriate form and technique necessary to maximize your results.

Fixed-width, full-width content

# Example:

The screenshot shows the homepage of the Roseville Health & Wellness Center. The header features the center's logo on the left, which consists of a square containing the letters 'R' and 'H' above a stylized 'W' and 'C'. To the right of the logo, the text 'ROSEVILLE HEALTH & WELLNESS CENTER' is displayed in a clean, sans-serif font. In the top right corner, a dark red badge states 'Voted Roseville's Best & #1 in Nation'. Below the header is a navigation menu with five green buttons: 'Home', 'What We Offer', 'Success Stories', 'Membership', 'About', and 'Contact'. A large, dark red banner below the navigation contains the text 'it's all about total body wellness in a comfortable and supportive environment' in a white, cursive font. Below this banner are three photo-based sections. The first section shows two women smiling, with the text 'it is possible!' and a 'MORE' button. The second section shows a group of five people of various ages smiling together, with the text 'you can do it!' and a 'MORE' button. The third section shows three women in a pool, with the text 'feel your best!' and a 'MORE' button. Below these sections are three columns of text. The first column is titled 'Wellness Memberships for' and lists 'Individuals', 'Families', and 'Seniors'. The second column is titled 'Whatever your' and lists 'Age', 'Shape', and 'Size'. The third column is titled 'Our Wellness Center has' and lists 'Fitness Center', 'Aquatic Center', and 'Personal Training'.

ROSEVILLE  
HEALTH & WELLNESS  
CENTER

Voted Roseville's Best & #1 in Nation

Home What We Offer Success Stories Membership About Contact

*it's all about total body wellness in a comfortable and supportive environment*

*it is possible!* MORE

*you can do it!* MORE

*feel your best!* MORE

**Wellness Memberships for**

- Individuals
- Families
- Seniors

**Whatever your**

- Age
- Shape
- Size

**Our Wellness Center has**

- Fitness Center
- Aquatic Center
- Personal Training

Fixed-width, full-width content

# Solution: Non-full-width images

**Recent Work**

 **Odyssey Learning Stystems Inc.**  
XHTML / CSS

 **Vancouver Comedy Fest**  
Print Design

 **HMA**  
Print Design

**Recent Work**

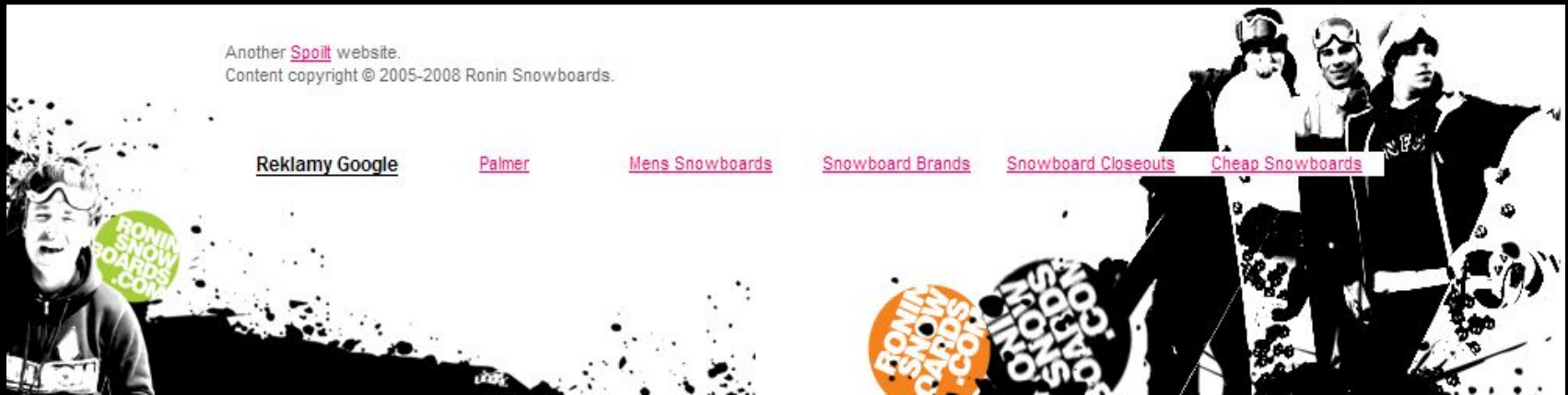
 **Odyssey Learning Systems Inc.**  
XHTML / CSS

 **Vancouver Comedy Fest**  
Print Design

 **HMA**  
Print Design

Fixed-width, full-width content

# Solution: Composite images



Ronin Snowboards, [www.roninsnowboards.com](http://www.roninsnowboards.com) (since redesigned)



Text matched with images that can't expand

# Solution: Composite images

```
<div id="outer">  
  <div id="inner">  
    ...  
  </div>  
</div>
```

```
#outer {  
  background: url(leftimage.png) no-repeat bottom left; }  
#inner {  
  background: url(rightimage.png) no-repeat bottom right; }
```

Fixed-width, full-width content

# Solution: Scrollbars for large content

CSS technique using overflow property



The screenshot shows a web browser window displaying a comic strip. The comic is titled "Consumption" and is dated February 15th, 2008. It is by Joshua Porter and has 8 comments. The comic depicts two characters: a blue one and a green one. The blue character says, "Since you bought 'Consumed: How Markets Corrupt Children, Infantilize Adults, & Swallow Citizens Whole' we recommend you buy...nothing. Nothing at all." The green character says, "Now TH recomme". The comic is displayed within a browser window that has a scrollbar at the bottom, indicating that the content is wider than the browser's viewport.

**Comic: Consumption** February 15th, 2008  
by [Joshua Porter](#) | [8 Comments](#)

**Consumption**

Since you bought "Consumed: How Markets Corrupt Children, Infantilize Adults, & Swallow Citizens Whole" we recommend you buy...nothing. Nothing at all.

Now TH recomme

bokardo.com

[Porter](#), a web designer/developer, researcher, and writer. I live in Newburyport, MA, USA.

WHAT IS SOCIAL DESIGN?

SOCIAL DESIGN is design that focuses on the social lives of users. It deals with the activities, behaviors, and motivations of people who work and play together through software interfaces. It is built on the observation that many of the decisions we make are greatly affected by those we surround ourselves with in our social lives: our family,

Fixed-width, full-width content

# Solution: Scrollbars for large content

```
div {  
    overflow: auto;  
}
```

```
<div>
```

```

```

```
</div>
```

# Summary of what to avoid:

- Irregular shapes defining a text area
- Text matched with images that can't expand
- Fixed-width, full-width content

# What's wrong with this picture?

**Beechwood Animal Shelter**

Search:   [Skip to Main Content](#)


[Home](#) [Adopt a Pet](#) [Get Involved](#) [Our Programs](#) [News and Events](#) [About the Shelter](#)


Beechwood Animal Shelter is a no-kill animal rescue and adoption center that works tirelessly to help rescued dogs and cats find loving [adoptive parents](#). Find out more [about us](#), our [programs and services](#), and [how you can help](#).


*you can help*  
please donate today


*meet us*  
May 10 next adoption fair


**Another happy ending**  
"We adopted Bailey earlier this spring. Bailey is doing great and loves to play in the yard with our other two dogs. Everyone she meets wants to take her home. She's very well behaved, great around children of all ages and loves giving doggie kisses."

 **Styx**  
Shorthair, black  
Male, 2 years

 **Shelby**  
Yellow lab mix  
Female, 8 years

 **Picasso**  
Shorthair, orange tabby  
Male, 10 months

 **Alley**  
Longhair, gray  
Male, 5 years

 These are just a few of the hundreds of dogs and cats we have available for adoption right now. You can use the form at right to find your perfect pet. Please also consider fostering a pet until it can find a permanent home.

Type:  
 Dog  
 Cat

Breed Type:  
 Any  
 Purebred  
 Mixed Breed

Sex:  
 Any  
 Male  
 Female


Length of Care:  
 Adopt  
 Foster

# A more flexible-friendly version


**Beechwood Animal Shelter**

Search:  go [Skip to Main Content](#)


[Home](#) [Adopt a Pet](#) [Get Involved](#) [Our Programs](#) [News and Events](#) [About the Shelter](#)




Beechwood Animal Shelter is a no-kill animal rescue and adoption center that works tirelessly to help rescued dogs and cats find loving adoptive parents. Find out more [about us](#), our [programs and services](#), and [how you can help](#).



May 10  
next adoption fair  
*meet us*




*you* can help  
please donate today




### Another happy ending


"We adopted Bailey earlier this spring. Bailey is doing great and loves to play in the yard with our other two dogs. Everyone she meets wants to take her home. She's very well behaved, great around children of all ages and loves giving doggie kisses."




**Styx**  
Shorthair, black  
Male, 2 years



**Shelby**  
Yellow lab mix  
Female, 6 years




**Picasso**  
Shorthair, orange tabby  
Male, 10 months



**Alley**  
Longhair, gray  
Male, 5 years

These are just a few of the hundreds of dogs and cats we have available for adoption right now. You can use the form below to find your perfect pet. Please also consider fostering a pet until it can find a permanent home.



**Type:** \_\_\_\_\_  
 Dog  Cat

**Breed Type:** \_\_\_\_\_  
 Any  Purebred  Mixed Breed

**Sex:** \_\_\_\_\_  
 Any  Male  Female

**Length of Care:** \_\_\_\_\_  
 Adopt  Foster


# How it might look narrower

*Beechwood*  
Animal Shelter

Search:   [Skip to Main Content](#)

[Home](#) [Adopt a Pet](#) [Get Involved](#) [Our Programs](#) [News and Events](#) [About the Shelter](#)


Beechwood Animal Shelter is a no-kill animal rescue and adoption center that works tirelessly to help rescued dogs and cats find loving [adoptive parents](#). Find out more [about us](#), our [programs and services](#), and [how you can help](#).




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**May 10**  
next adoption fair  
*meet us*


*you can help*  
please donate today




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Shorthair, black  
Male, 2 years




**Shelby**  
Yellow lab mix  
Female, 6 years



**Picasso**  
Shorthair, orange tabby  
Male, 10 months



**Alley**  
Longhair, gray  
Male, 5 years



These are just a few of the hundreds of dogs and cats we have available for adoption right now. You can use the form below to find your perfect pet. Please also consider fostering a pet until it can find a permanent home.

**ADOPT ME!**

Type:

Dog  Cat

Breed Type:

Any  Purebred  
 Mixed Breed

Sex:

Any  Male  Female

# Learn more

## Tutorials:

[www.zomigi.com/blog/](http://www.zomigi.com/blog/)

[foreground-images-that-scale-with-the-layout](#)

[hiding-and-revealing-portions-of-images](#)

[creating-sliding-composite-images](#)

## Flexible design inspiration:

[www.zomigi.com/blog/inspiration-for-flexible-web-design](http://www.zomigi.com/blog/inspiration-for-flexible-web-design)

## Book:

[www.flexiblewebbook.com](http://www.flexiblewebbook.com)



# Questions?

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design@zomigi.com

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