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#### **Visual Designing**

Let's look at this example here: Some undifferentiated text. What might we be able to do typographically to improve this and how do we decide whether we did well?

How Might We Improve This? And What Would the Objective Function be?

You are cordially invited to Robert and Alexandra's delectable after-dinner party. Wine and nibbles will be served. when: june 30th, 2012 at 9:30pm. Where: the pad. if you need directions, ping us. Kindly let us know if you'll be attending by june 1st.

One thing that we could is to introduce some white space into a design; and as Robert Bringhurst writes, with **white space**, "Some space must be narrow so that other space must be wide, and some space must be emptied so that other space may be filled."

You are cordially invited to Robert and Alexandra's delectable after-dinner party.

Wine and nibbles will be served.

When: june 30th, 2012 at 9:30pm.
Where: the pad. if you need directions, ping us.

Kindly let us know if you'll be attending by june 1st.

So, let's empty out some spaces and fill up some others. And what you can see here is by adding a little white space, we are able to chunk the visual design so that the salient bits are grouped together and different bits are further apart.

But I bet we could do more. Let's explore using **typographic variation and size contrast** to give some sense of individual hierarchy.

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So here we've done some adding some scale and some weight — you know, this may or may not be the best-designed invitation in the world, but it gives you a sense of the kind of leverage that you can get by adding some typographic variation to your design.

Robert and Alexandra's delectable after-dinner party Wine and nibbles will be served.

WHEN June 30th, 2012 at 9:30pm.

WHERE The pad. if you need directions, ping us.

Kindly let us know if you'll be attending by June 1st

Often, good visual design (like good acting or good eyeglasses) goes unnoticed because the content comes through clearly and un-hindered. Of course, sometimes we do notice good design and good acting for its flavor or for its ability to communicate a certain idea.

But we notice it in a different way than bad design and bad acting. Bad design we notice when we trip over it. Like eyeglasses that are dirty, scratched or have the wrong prescription, we have to squint to make sense of things; and it's not always conscious — sometimes it is just a little bad — it would be subconsciously but we're still squinting and so a lot of design is about trying to make the information that matters come through clearly.

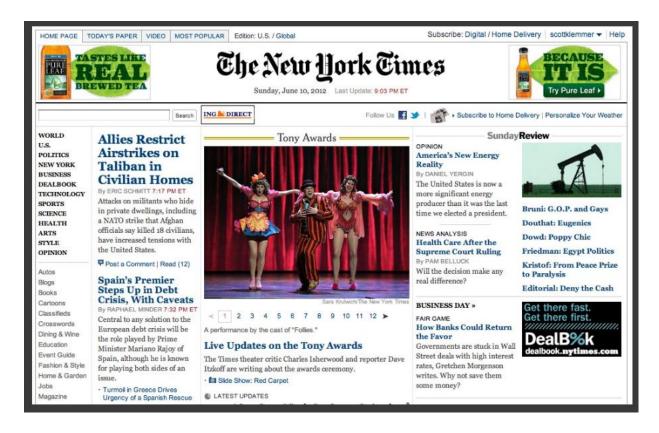
And to do this, I think there are **three major goals** of a lot of visual design.

The first goal is to guide people to convey the structure, the relative importance and relationships. The **second** one is to set up the phase of the interaction to draw people in, help orient and provide hooks to dive deep. And the **third** is to use the visual design to express the message of the information — to give it some meaning and style and breathe life into the content.

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So think about this, I'd like to show four homepages of different sites.

Next is the New York Times.



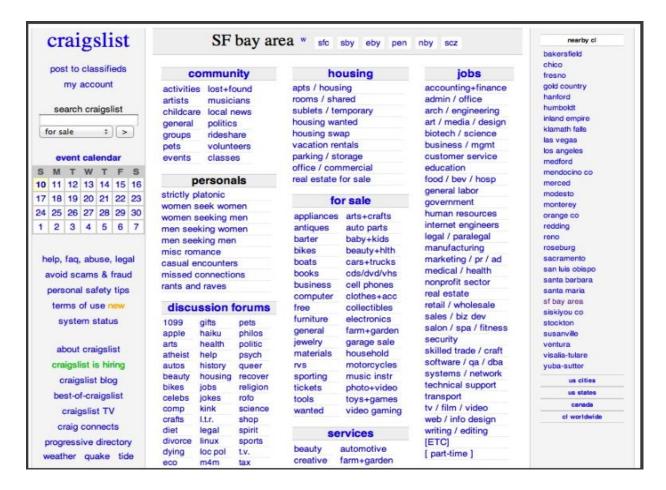
#### Google

iGoogle



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#### Craigslist.



And the Webby Awards.

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And I think in all four cases, each of these is really effective at using the tools of visual design, some more obviously than others. Let's go through them again. This time, I'm going to blur each page to make the hierarchy more salient and by de-emphasizing the actual text.

So, here's the New York Times blurred out, and you can see that the overall hierarchy of the page is still pretty clear.

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You could see the header, the exciting image to draw you in, a set of articles, navigation along the left and another set of navigation along the top.

Here's the Google homepage blurred and the blur on that tells you something about the saliency: With even just a little blur, the highlighted search and the navigation bar disappears into the background as the same as the rest of that navigation bar.

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But that's okay because when most people see the screen, it probably have a good idea what to do.

In a sense, the most important part of the top nav highlighting is to cue the possibility of clicking on other labels to get to other things. The Google logo, on the other hand, even with the fair amount of blurring, still I reads loud and clear. This page's famous minimalism makes the complicated web seem manageable. And combine with that, the primary colors helped to emphasize the easiness of it all.

Here is the original Google, they have built their first hard drive and put it in these LEGO bricks, and I am pretty sure that that's where the colors in the Google logo come from or inspired by these LEGOs.



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Here's the Craigslist homepage. A lot of people might think I'm crazy in believing that it has a pretty good visual design. After all, it looks like it was built in about 1996 and in fact it probably was, except for a little bit of updating on the content.

Another reason people often criticize Craigslist is that **there's a lot of abbreviations** and other things on here which just in general can make it feel inelegant or clunky or designed for experts only. However, many Craigslist users are repeat users, and what you see here is in the blurred version there is actually a pretty good information hierarchy that's conveyed.



So again, we can see the title up on top left. We can see the calendar widget. We can see how the administration part things of is separated off to the left hand side. Then we can see a set of categorized content in the middle and can see we have a different kind of navigation on the right; in the un-blurred version, we can see that that's for cities.

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In addition, here is the Webbie Awards. Like with all four of these pages you can see how color is used carefully and very effectively. Most of the page is black-and-white. The main pieces of color we see are in the lower left — there is a block of red text, that tells you to watch the latest Webbie Awards.



on the top left, we see a little bit of color for the social media that links in with the site and again. We see a strong navigation element along the left hand side, the title in the top left. We have the page header in the center here, and the content below it, and then we have a major navigation element along the top.

When you think about it, all four of these pages which include some of the most highly-trafficked sites on the web, are using pretty simple visual tools to be able to convey organization and hierarchy and where to draw your eye on the page.

They're using **typography**, they're using **layout**, and they're using **color.** And these are in a sense, pretty simple tools. What continually amazes me is the power that's

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available with these tools. Putting these together provides the guiding, pacing and messaging that we talked about at the beginning.

And that in turn **helps people read, navigate and make sense** of the world of information.

### **Typography**

Typography: aiming for the right balance of weight and positioning can help lead users to more content.

Let's take a look at the atoms of visual design: **letterforms**. This is the letter R, **typeset in Gill Sans**. Gill Sans was designed by Eric Gill and released in 1928. There are a couple of things that I'd like to point out about this letter.



One of them is that it has the perceptual characteristic of consistent weight all throughout; however; the actual thickness

of the letter varies considerably over different parts. So, if you look at some points of the letter, like the bottom, you can see that they are much thicker than at other points in the letter. And what you see in these atoms is exactly what you'll see throughout the sum of graphic design, which is that we're going for something that feels perceptually balanced — or may have perceptual uniformity — when the actuality may be quite different.

This another letter was also an assignment as a graphic designer, where a letter had to be drawn, one foot high, in black paint, on a white background. It may seem like a silly exercise, but it's a great way to understand intimately **the curves and strokes of the letterform**, and it's also really good at training both your eye and training your hand;

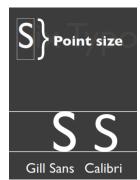
Anyhow, moving along, let us look at the different parts of a **typeface**. One term you may be familiar with from using on your computer is the **point size or the font size**. And what's notable about this is it seems like a number that ought to be set in stone and consistent across all typefaces, but it's really not. Most of our terminology from typefaces comes from when they were set in lead, and the point size of a typeface really

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just means the height of the lead block that the type was set in, which has some relationship to the actual letter size, but is not completely consistent.

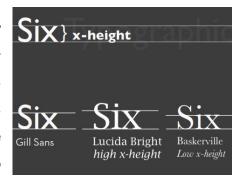
For example, you can see, for the same point size, here is a letter S in Gill Sans, and a letter S in Calibri, and you can that the Calibri S is lower than the Gill Sans S.

Our second term is **leading** (line spacing). If we have solid blocks of lead type that form the letters, the spacing that we get between the lines was achieved by putting thin strips of lead in between the



lines, and that was called the leading. It's customary to have 20% of your font size as your leading; and so, if in your word processor you've set 10-point type, it will usually automatically add an extra 2 points of spacing to put 12 points in between each line.

The height of the lowercase letters is called the x-height, from the "x". Some typefaces have a higher x-height, like Lucida Bright or Georgia; other typefaces have a lower x-height, like Baskerville. And this is important for design — especially online — because typefaces that have a higher x-height will be easier to



read at smaller point sizes and on low resolution devices like most screens.

Conversely, typefaces with a low x-height, like Baskerville, are used when you're trying to give elegance, or a feel to something. Moreover, developing up and dropping down from the x-height are the **ascenders**, like the top stem of the h and the dot of the i. and your **descenders** are like the y, p, g.



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In general, a typeface that has a **low x-height will tend to have long ascenders and descenders**, and a typeface that has a **tall x-height will tend to have more squashed ascenders and descenders**.

Typefaces can also vary in their **weight**. Therefore, here have an example of **light** on the left, **regular** or roman in the middle, and **bold** on the right.

Six Typographic Terms

light regular bold

weight

Sometimes you'll see weights in between like **demi bold or semi bold**, and, even to the further to the right of bold, you'll see **black**.

Number six on the list are serifs. Serifs are the  $\,Mi\,$ 

Six Typographic Terms

serifs

Minion Pro

doohickeys on the end of letters that give them that chiselled look (having an attractive well-formed shape).

[There are] a couple more that are bonus: Some faces (typefaces) will also include small caps — which sure are exactly what they sound like, smaller versions of capital[s and] numbers. These can be used as headers, or they can also be used to put acronyms and other capital texts inside a block of body text.

And one thing that you may not know is — just like letters come in uppercase and lowercase, numbers do too. These numbers, set in Neutraface, provide an example of something that has just small ascenders and descenders; in some cases these can be more dramatic.

Small caps, lowercase numbers: 1234567890 Neutraface

Lowercase numbers are useful when you want numbers to fit in with a larger block of text and not stand out.

One of the most common questions get asked about graphic design is: "Which typeface should I use?" A lot of people have heard a story where serif typefaces are generally recommended for body text and sans serif typefaces are recommended for headers.

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And that's, on the whole, not bad advice. There is an often-repeated claim that the reason that this is a good heuristic is because serif typefaces, with those doohickeys at the end, give your eyes something to latch onto, and consequently they're easier to read. some people read a whole lot faster than others, and so it's difficult to measure differences in the readability of typefaces.

Also, reading requires familiarity: It's not like we're born knowing what a letter **R** looks like; we need to practice. And so if you learn with one style of the letter **R**, you'll probably be faster with that one. And if you learn with another style of the letter **R**, you'll be faster with that one. If even when we got past all those challenges, it can be a little bit difficult to figure out exactly how you should measure this.

Well, I can't go so far as to say that the serif hypothesis is definitively untrue; what I can say is that there's a lot of evidence to support that it actually is real.

It does seem that mixed-case type like you get in a sentence — **upper and lower** mixed together — is faster to read than all caps, presumably because you get greater vertical variation with the ascenders and descenders in lowercase letters, and that gives your eye more information as it's reading.

Also, in general, proportional fonts seem to be faster than mono spaced fonts, like a typewriter. So, typewriter font[s] — slower to read — [but] that stuff only matters if you have to read a whole lot. But the simplest summary is that, in practice, legibility simply amounts to what you're accustomed to.

What do these words say?



The bottom half is obscured. As many of you guessed, "I am a jelly donut".

How about this one here? Here the top half is obscured.

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# lik shake ili nei illi

Seems a little harder? "jfk spoke in berlin." Turns out that more information seems to be encoded in the top half of texts than in the bottom half.

And what does this say? bet many of you saw it as "THE CAT", and fewer people, "TAE CHT". And that's because **expectation plays a really important role in what we read**. And if you're really perceptive, you may have realized that those two middle letters are actually exactly the same letter, so the only difference is what you're expecting to see in each case. Your **prior probability influences your interpretation**.



So, if you put all that together and return to our original question of "Which typeface should I use", the answer is "It depends." If you're putting down a long block of text, it's best to use a typeface that many people will be familiar with; and if you're working online, use something that has a relatively high x-height.



On the other hand, if you're making a **logo or a sign**, or something that's short and intended to be dramatic, then you probably want to use something a little bit funkier as your typeface — something that's going to **catch attention and be unique, memorable**.

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And typefaces, like everything in life, [build] up reputation. Therefore, over time, certain typefaces come to mean certain things.





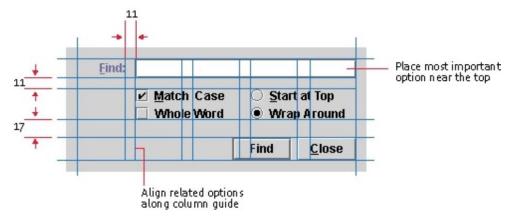
And here's a great example from Hoefler and Frere-Jones, writing on their blog. They talk about how Baskerville seems like it's out of a literary magazine and Optima seems to remind us of cheap 1950's hygiene products. Here are two easy exercises you can use to improve your typographical eye:

The first one is; Look around you for all of the different ways that the same typeface gets deployed; that will give you a sense of its range. And the second one is: Look at how the **same text**, with different typefaces, really changes its meaning.

### **Grids and Alignment**

Here's an example of a grid: This comes from Java Look and Feel Design Guidelines, and it's annotated by Sun and it's [a] web resource. This is a Find dialog box, and what you can see is that all of the elements in the dialog box have been arranged using a grid. And what we mean by a grid is that there's a set of invisible lines that all of the elements on the screen snap to.

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So you can that the top of the dialog box is the Find and then the search area, and then below that are all of the parameters, and below that still are the Find and Close buttons. You'll notice that the left edge of the parameters lines up with the left edge of the search box and the right edge of the buttons lines up with the right edge of the search box. You'll also notice that the Find, which is the title of the dialog box, is hanging off to the left, so that it's easy to identify the title.

You can see that the **most important information is near the top**, and how things that are conceptually more related like the parameters that parametrizes the search system, are **closer to each other** than the buttons. They are still part of the same dialog box but a little further apart and so they get more space.

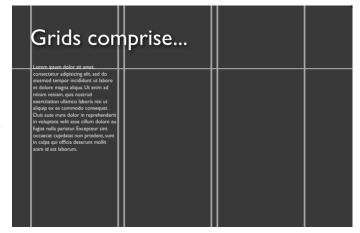
It was at the Bauhaus in Germany in the 1920's that the strategies for designing with grids really came into their own. The Bauhaus, at the time, was a revolutionary design school, and their graphic designer, Jan Tschichold, wrote this book, called "The New Typography" to outlay his vision for modern graphic design. It espouses asymmetric typography, **sans serif** typefaces, and a lot of other things that we've come to think of as Modernism.

One thing that's notable about Tschichold's book on typography is that it reads like a political manifesto: He really had this belief that he was changing what design meant for the world, stripping it of all of its excess and distilling it down to its bare elements.

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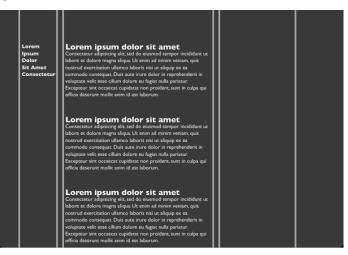
You may or may not elect to follow its principles; some of these ideas now seem a little bit reductive, or overly didactic, or too moralizing; but there's a lot in here that's tremendously useful.

So there's a number of parts that compose a grid system. The main one is a set of columns — in this case they're of equal width, but they don't necessarily need to be. And the second piece is a set of gutters, which is the whitespace in between



the columns. In addition to that, things are generally horizontally aligned using a baseline. You can add text hierarchically.

there's no need for the grids to all be of equal width. So here's a mockup, for example, of a narrow left-hand column that you might use for navigation, and then a wide central column that may have the body article or main content of page.

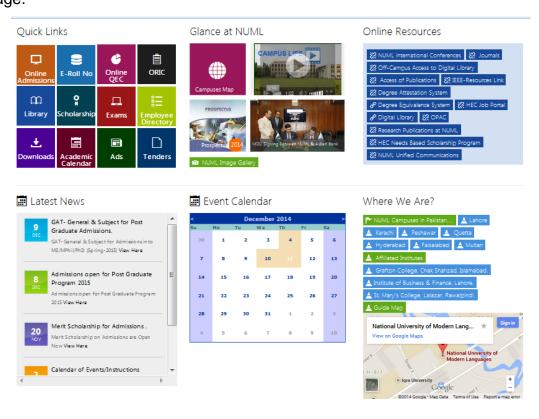


**Grids are used widely in newspapers, in books, and on the web.** Here's an example of **Myspace**, which the home page right now is a **strongly-gridded** design, and you can see a nice combination of pictures and text on its home page.

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Below you can see the NUML homepage (previous design version), and the invisible grid undergirds this whole structure. But that doesn't mean that everything is one-column wide all the way down. One thing that I like about this page is that different elements punch across multiple columns. And you can also see how this three-column grid goes across almost the entire page: You can see how the navigation at the top has three columns; the NUML logo is centred on the first two of those columns; and those three columns travel down throughout the major whitespace part of the page.





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Here is New York Times homepage where, you can see a five-column grid for the content, with a sixth column for navigation on the left-hand side. You can see how those five columns invisibly travel the entire page. some of the content in the middle, e.g., is two columns wide, and which parts are two columns wide vary across the page, and so that makes it a little bit more dynamic, so it doesn't feel too rogue & boring.

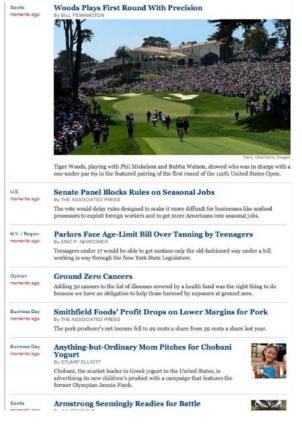


Newspapers have benefitted from grid systems and really pushed the envelope on it for a long time. so [we] saw a couple of the New York Times to give you a sense of the different ways that they use grids. Here's an example that combines both text & pictures.



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Here you can see a "focus plus context" view, where the most recent article at the top is biggest, and the lower articles down are smaller.



an example of a grid on the New York Times homepage that's far below the fold, showing sections and then articles within each section, with a small thumbnail picture for each of the sections.

A grid doesn't have to be nonoverlapping: You can have different rows of content on a page adhere to different grids — often they'll have some relationship to each other.

#### World » Business Day » Opinion » New Political Europe Braces for Greek Op-Ed Columnist: Showdown in Egypt Vote - and Maybe More **Hugs From Iran** Parliament Libya Refuses to Release Hague · Switzerland and Britain Gird · Editorial: Mr. Dimon on the Hill Against the Storm Op-Ed Contributor: Give Obama Russian Official Apologizes for · High & Low Finance: As Europe's Elbow Room on Iran Threatening Journalist Currency Union Frays, Conspiracy Theories Fly U.S. » Technology » Arts » In the Facebook · Time Inc. to Sell Its Art Review: Islands Era, Reminders of Loss if Families Magazines on Apple's Newsstand Buffeted by Currents of Change Fracture With Justices Set to Rule on Nokia to Cut 10,000 Jobs and Living in the Past Is a Full-Time Health Law, 2 Parties Strategize Close 3 Facilities Church Battles Efforts to Ease Sex Bits Blog: Google Wants Love and Critic's Notebook: Heroes, Villains and the Invisible 100 Other Things Politics » Sports » Movies » Obama Says Mets 9, Rays 6: Critic's Notebook: Election Will Shape Heroes, Villains and Mets Get Just the Economy for Enough Hitting to the Invisible Sweep the Rays Romney Assails Obama for Mets Say Wright (and Scorer) Movie Review | 'Rock of Ages': A Favoring Words Over Action Smell of Wine and Cheap Perfume Campaign Aid Is Now Surging Burnett Brings a Steady Presence Movie Review | 'Your Sister's Sister': Solitary Retreat to a to the Pirates Remote Island Leads to Many Mix-Ups

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So see a quick mock-up here below, where we have six elements in two rows, and the grid is zigzagged.



When you've content that comes in multiple pieces, for example titles of classes and course numbers, how should you organize them so that they work well together & are easy to read?

I'm surprised by how frequently books will take some content like this and put these **dots** — or somehow they'll separate the two pieces. It's obviously not impossible to read, but I think we can do better.

\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Web Applicationscs   42
Interactive Software Designcs294h
Paradigm Shifts in Mobile & Social Computing
<b>Systems</b> .cs294s
Research Topics in Human-Computer Interactioncs376
d.compress - Designing Calmcs377d
Designing Liberation Technologycs3791
Beyond Bits & Atoms: Designing Technological
<b>Tools</b> cs402
Envisioning the Future of Learningeduc333B
Press Play: Interactive Device Designee47
•

Here's an example where we have **right-aligned** the smaller element, which could be page numbers, or course numbers, or date, or something like that. and then we've **left-aligned** the **larger element**, which is the title or some other larger piece of text.

cs142 Web Applications
cs294h Interactive Software Design
cs294s Paradigm Shifts in Mobile & Social
Computing Systems
cs376 Research Topics in Human-Computer
Interaction
cs377d d.compress - Designing Calm
cs379l Designing Liberation Technology
cs402 Beyond Bits & Atoms: Designing
Technological Tools
educ333B Envisioning the Future of Learning
Press Play: Interactive Device Design

The other thing that we've done here is we've changed the weight of the typeface (font's weight) so that the number is a different weight from the text. Now, which one is heavy and which one is light? It depends on which one you want to emphasize.

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Here, the **course name** is probably more important, that's what you're going to scan first — and then when you want to sign up, you may need to find the course number, and so that's a lighter weight because that's what you'll use second.

```
cs142 Web Applications Ousterhout
cs294h Interactive Software Design Mackay
cs294s Paradigm Shifts in Mobile & Social
Computing Systems Lam
cs376 Research Topics in Human-Computer
Interaction Klemmer
cs377d d.compress - Designing Calm Moraveji, Pea
cs379l Designing Liberation Technology Cohen,
Winograd
cs402 Beyond Bits & Atoms: Designing
Technological Tools Blikstein
educ333B Envisioning the Future of Learning Gilbert, Mehta
ee47 Press Play: Interactive Device Design Ju
```

If you have three pieces of text — for example if you add an instructor name —, you can offset that typographically. Here is just an example of adding it over to the right. Adding a third column can make things a little bit confusing; [but] depending on your content, that can work too.

Another strategy, of course, is you could put that **third element on a separate line**. Here we see the instructors listed below the course number.

And if you're going to do this, have the stuff that chunks together be closer together, and the separate chunks be further apart. So, what we're looking at

cs 142 Web Applications Ousterhout cs294h Interactive Software Design Mackay cs294s Paradigm Shifts in Mobile & Social Computing Systems cs376 Research Topics in Human-Computer Interaction Klemmer cs377d d.compress - Designing Calm Moravėji, Pea cs379 Designing Liberation Technology Cohen, Winograd cs402 Beyond Bits & Atoms: Designing Technological Tools Blikstein

right now is that the leading — the inter-line spacing between every line — is identical, and that's sub-optimal, because that's less clear which element the instructor name goes with.

If we add a **little bit of space** in between our elements, it becomes clear which instructor groups with which course. You can also see a trade-off here, where, by having two lines per course, it reads very clearly, but we're using up more vertical space — maybe less horizontal space. Depending on which screen space or print space

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you're laying out into, that will change your design decisions. Another thing that we might do if we really want to **de-emphasize course numbers** is scale back the **grey value** of that number, to make them recede further.

One quick tip is: when you're creating systems like this, make sure to work with the longest block of text first. It can be easy to design for a short title and then have a grid or alignment system that breaks down when you get to something longer. This is especially true if you're designing for multiple different languages. For example, German text often consumes a lot more real estate than English or Spanish or French text does.

#### Left aligned text is faster to skim (scan)

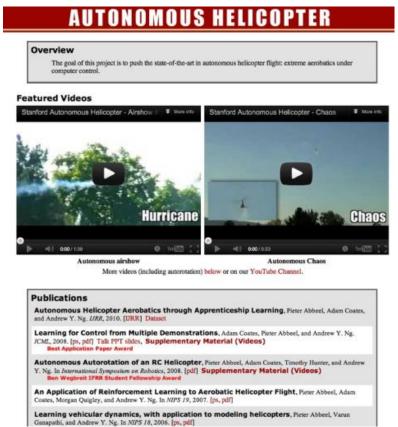
In general, a high-order rule of thumb is that for left-to-right-reading languages, left-aligned text is the fastest for skimming. And you can see that below: same content and centred it, and left all the tabs in, so that's why you get the crazy ragging. It looks kind of cool, actually, and if you're going for dynamism, this might work pretty well.

cs142 Web Applications
Ousterhout
cs294h Interactive Software Design
Mackay
cs294s Paradigm Shifts in Mobile &
Social Computing Systems
Lam
cs376 Research Topics in Human-Computer Interaction
Klemmer
cs377d d.compress - Designing Calm
Moraveji, Pea
cs379l Designing Liberation Technology
Cohen, Winograd
cs402 Beyond Bits & Atoms: Designing
Technological Tools
Blikstein

However, if you wanted to be able to quickly scan things, this (centred aligned) will be a little bit slower than if everything is aligned.

Here's an example of one common design strategy, where "everything is centred." And you can, of course, get the information off of this page [when] you need to; but the centring makes it hard to scan for the things that you need.

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Also, there's a lot of chart junk on this page — so the boxes around the overview and the publications are pretty unnecessary and **makes it slower for your eye to get to the things that you need to**. If this page were designed using a grid, and the chart junk eliminated, then the content itself would move to the fore more strongly.

#### Alignment guides the eye, reducing clutter

So, to sum up, using alignment well helps guide your eye and reduce clutter. We automatically notice patterns and also deviations from them, and so use patterns when you want to convey consistency, and deviate from them only when you intentionally want to distinguish that content. If your deviation from the pattern is accidental or laziness, it will leap out to the eye and distract from the message that you're trying to get across.

And you **use visual proximity**; keeping chunks close together and self-contained, and separating chunks further apart to distinguish what the elements are. And you can use

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scale and hierarchy; making the important things bigger and the less important things smaller or scaled back in colour as a way of emphasizing what the more and less important parts of the page are.

#### When to use top, left and right alignment

So, when are some examples of when you might use different alignments for different purposes?

We have a nice example on Amazon's web site. Amazon actually has different parts of their site that they use different kinds of alignment for. you can see the first example here, where in the "Add an address" dialog box, the form is aligned so that all of the labels are right-aligned and that the entry fields are **left-aligned** to that, so you get this **clear gutter**, like what we saw in our courses and titles example.

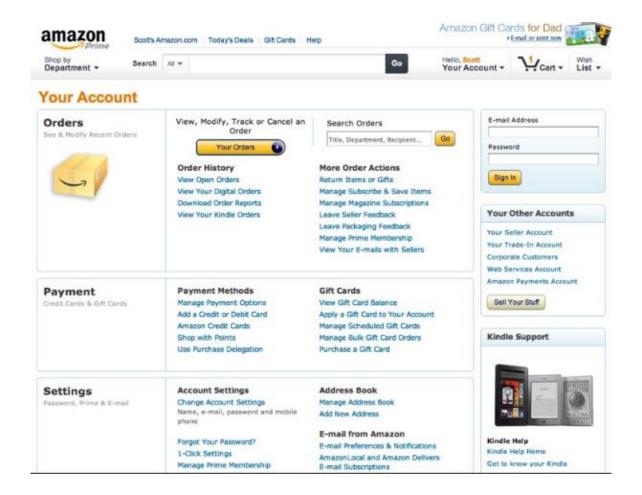
Full Name:	
ruii Name:	
Address Line1:	Street address, P.O. box, company name, c/o
Address Line2:	Apartment, suite, unit, building, floor, etc.
City:	
State/Province/Region:	
ZIP:	
Country:	United States
Phone Number:	
Optional Delivery Prefere	INCES (What's this?)
Address Type:	Select an Address Type
Security Access Code:	For buildings or gated communities

This makes what you need to fill out extremely clear.

Here, on the Account page, you can see all of the labels are **left-aligned**. This page also offers a **nice example of visual hierarcy**, where the key piece of the label is very

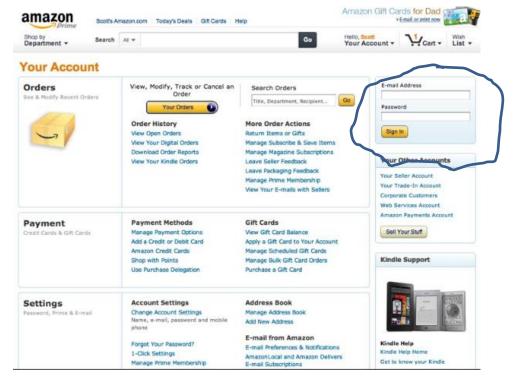
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large, and the sub-header — which explains in a little more detail — is much smaller and is also scaled back in grey value.



And finally, on the right-hand side of this very same page (above), we can see an example of top alignment, where the headers for the form are above the form cell. And this diversity is not because **three different Amazon** designers made three different parts and they never coordinated — or at least I assumed that's not the case.

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A hunch is that Amazon decided strategically what the most important part of each element was, and how to make clear to the viewer what they should pay attention to: For things that we're familiar with, the headers may be less important than for things that we're unfamiliar with. So, for sign-in, the headers need to stick out less, whereas for the aspects for our account, which we may go to less frequently as a page element, we need to have that stick out more.

#### Colors

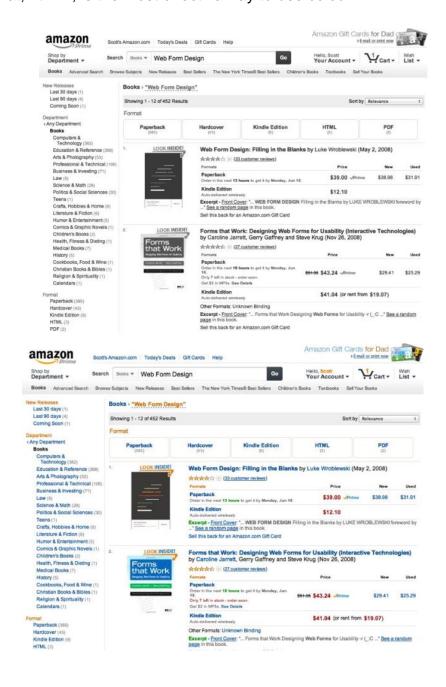
The first and most important thing to say about color is **Pay attention to it!** And if I can give you one strategy for using **color effectively**, it's to **design in greyscale first.**Often people rely on colour as a crutch for making visual distinctions in designs, and, really, you'll want to use the other tools first: Start up by working with scale and layout as ways of distinguishing elements on the page.

Then, once you've used scale and layout as much as you can, you can use luminance as a way of indicating what's more and less important — **luminance** is just a fancy word for grey value, so if you're designing in greyscale, that means some stuff is black, some stuff is grey, some stuff is white. And once you've got the best design that you can in

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greyscale (in black-and-white), then add color as a way of giving it an additional redundant coding for salience.

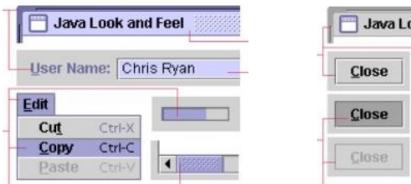
To use Amazon as an example, here's one of their search results pages in greyscale. And you can see that all of the information that you need is clearly set up in terms of the visual order of the page — what elements are larger, what elements are smaller. So the whole thing works in greyscale (in black-and-white), but if you add colour, it gets even better. And that, I think, is the most effective way to use colour.

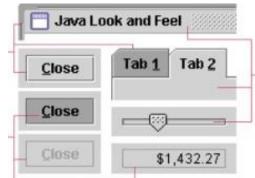


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The other thing to say about colour that I think is useful is: **By and large, don't overdo** it! All things equal, fewer colours is generally more powerful and less overwhelming than more. This is obviously going to depend on your taste, and this is obviously going to depend on what you're trying to convey.

Again from the Java Look and Feel Guidelines, here's an example of how this version of Java used six colours — **three shades of grey, three shades of purple** — as a way of organizing all of the elements in their widget library.





One way that they used colour is that anything that you **could click on was some shade of purple**, and anything that **you couldn't click on was some shade of grey**. And that **provides a nice organizing characteristic, and gives a sense to the user** of what they can do when they see a particular screen.

And because colour is used so consistently — **colour means clickable** — it's really easy to learn, even if subconsciously. And I'd like to close with this example of a book. Here's the first page of Umberto Eco's book, « The Island of the Day Before », and it's a **beautifully typeset book**. I'd like to point out a couple of things about this book.

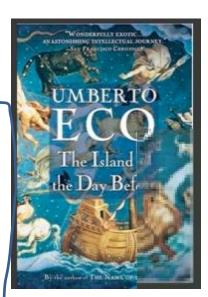
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I take pride withal in my humiliation, and as I am to this privilege condemned, almost I find joy in an abhorrent salvation; I am, I believe, alone of all our race, the only man in human memory to have been shipwrecked and cast up upon a deserted ship.

THUS WITH UNABASHED conceits, wrote Roberto della Griva presumably in July or August of 1643.

How many days had he been tossed by the waves, feverish surely, bound to a plank, prone during the hours of light to avoid the blinding sun, his neck stiff, strained unnaturally so as not to imbibe the water, his lips burnt by the brine? His letters offer no answer to this question: though they suggest an eternity, the time cannot have been more than two days, for otherwise he would never have survived the lash of Phoebus (of which he so poetically complains), he, a sickly youth, as he describes himself, a creature condemned by a natural defect to live only at night.

He was unable to keep track of time, but I believe the sea grew calm immediately after the tempest swept him from the deck of the Amaryllis, on that makeshift raft a sailor had



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For starters, there's a quotation from a diary that's at the beginning of the page that's set off in italic to show that it's different. Then, each chapter begins with a couple of words of text in small caps, and there's a good amount of space above that line of text.

And finally, there's a lot of whitespace around the text in general, and providing whitespace is important. Books and texts that have a little bit of room around them are easier to read than ones that are jam-packed out to the edges of the margins.

That's one reason why you'll see hard covers have more whitespace than cheaper paperbacks. In the paperback case, they're trying to save pulp to make it a lower price; but the hard covers, which they can charge a little more for, offer more room and are easier on the eyes to read.

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### **Reading and Navigation**

I'd like to talk [about] an amazing creature: **people.** In life, people are often seeking information. That led to psychologist George Miller to describe people as "informovores".

**Informovores** try to find and devour information, much like foragers (searcher/hunter) seek and devour food. Both informovores and foragers are trying to figure out how to get lots of info quickly.

Pete Pirolli, a research scientist at PARC and his colleagues has spent more than a decade trying to figure out what features of information resources help or hinder people's ability to find out what they want.

One of the major attributes that informovores use to guide their searching is called the "scent" of information. As we browse the web, we're using cues of the pages that we look at to try and figure out whether we can get to the information we want from where we are, whether the site is trustworthy, whether it's solving a problem. And we're also looking at these cues to figure out what options are available to us.

If you have a web page and like to know whether the "scent" on the page is **poor** for the people that come to that page or site, there are several telltale signs: If you watch people use your site, you can see them **whirl** (spin) around when they get to a particular page; they don't know where to go.

Another technique that Jared Spool and colleagues have used successfully in user interface engineering is to look at people's **confidence** as to whether they are on the right track, right before and right after they click a link. **Before clicking, it tells you whether the link that you're looking at is a good one, if it has high "scent".** In addition, people's confidence after, tells you whether the page that you land on beacons the information that you're trying to get to.

Another great way to tell when people are having trouble with the scent of information in how to follow the trail is the use of the **Back button**. Lots of use of the Back button — major problems for your navigation.

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Here's an example of a menu bar of a web page that exhibits low scent. This is the menu bar for the Stanford bank.



To give you a feel of what it looks like [interactively], if you mouse over any of these navigational elements, you'll get a second level of navigation.



However, even with that second layer, this page exhibits many of the scent problems that I think are common for low-scent pages. For starters, the categories aren't written in terms that I think most of the people that come to the site are familiar with. It's hard to figure out what's behind "Loan Click" or "Transact".

Often when this site is visited, several different options have to be tried before anyone can figure out which one of the options has the particular page we are looking for.

Also, the navigational links on this page are short — there's only a couple of words. And this combination of jargon by the designers as opposed to user-centred terms and the shortness of the links makes it very difficult to see behind those links.

As we see, a lot of the cues that would help me figure out what's behind "Transact" or "Loan Click" or "Account View", those are hidden in a secondary layer of navigation. You [of] course can hover a mouse onto the links and get to them, but it's relatively slow.

And finally, the designers of the site presumably **offered icons** for each of the menu elements with the intuition that **icons** make things better; they provide a picture and pictures are good, right? But these icons don't provide **much additional information**.

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While good icons can often improve the usability of a site, generic icons rarely help.

Another example of generic icons are the web page icons that you usually see along the left-hand side of the web page.

(Shown in fig to the right)

The generic internet-globe [icon] doesn't tell me much about the link, so it doesn't add any information; those pixels could be better put to use with a more specific icon, or with additional words.

Home

NS

Je. Video Lectures

Assignments

Quizzes

Ut

Discussion Forums

Id

Course Information

Syllabus and Calendar

**Icons are also really helpful** when you know what something looks like, **but not** what it's called —and that could be because it's **a language you're not familiar with**, or it could be because there are **multiple different terms**, and you may not understand which one is being used in this case.

**So how can we improve the scent of links**? One of the most effective strategies for improving the scent of your web site is to **lengthen** the links that you have on the site, as opposed having one short word, add a longer explanation. When you do this, add specific, recognizable terms.

Long, specific links titles (like 7 or 8 words) not only can help improve the scent of website, it can help improve accessibility, because many of your users who're accessing your site through a screen reader will really value the specificity of those links to be able to understand what's going on.

es, abilities, values, and situation. In this ne. You can find the video here. Go throat, and brainstorm ideas for how you we least 20 different ideas. Ask a couple of a bilities, values, and situation. In this are ne. Here is the video of waiting in line. Go and material, and brainstorm ideas for how y

with at least 20 different ideas. Ask a coup

One example of that is that when a form of an academic institute had a link that I think was called "Grading Policy." Few people realized that behind that link was where we explained the different tracks of the course: And for good reason: the word "track" was

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nowhere in the link. After a week of confusion on the forum, it was realized and were able to redesign the link to be longer and more specific, and includes multiple different trigger words that might bring people to that page.

Another example is we had a video where the link had a **really short "here" as the only word in the link**. After somebody emailed asking where the video was, and though it was on that page. It was realized that link has to be redesign, therefore it was expand out to be multiple words; and since redesigning that link to be longer, nobody's

emailed after that saying they had any trouble.

One of the biggest barriers to **improving the scent** of navigational elements on a site is that we have a good general-purpose impulse to try and not put too much cruft (unnecessary complicated stuff) on things and make it too long. However, with navigation, often more is better. Great strategy for effective navigation is what's called "speaking block navigation." this set of examples, collected by Smashing Magazine,

Front Page
This is where it all begins

Our Portfolio
Let us show you our work

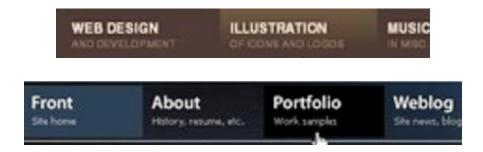
Who We Are
Get to know us a little better

What We Do
A rundown of our services

Contact Us
How to get in touch with us

provides a good intuition as to what speaking block navigation is.

By adding multiple different words, perhaps subheadings that are underneath the structure or an explanation of what the main word or catchphrase is, that can help users get to the place that they want to go.



When you provide links or content on a page, does it matter where on the page you put them?

Absolutely!

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One way that you can see this is with a number of eye-tracking studies that have been done over the last decade or so. This one is compliments of Ed Cutrell from his

research group at Microsoft.

What you can see here is that the places on a page where a user looks most are visualized here in red as a "hot spot," and places where people look less frequently are in blue colors. The distribution of gaze is remarkable: A huge fraction of people's time is spent looking at a relatively small portion of the real estate on the screen, and these are habits that we build up and carry across to multiple different websites.

Very cleverly, we'd built up a sense of where the good stuff often is, and we SCORCE

MINISTER

ignore where the bad stuff often is. you can then use this to design for "glanceability."

The Poynter Institute has produced this diagram which shows where, in general, people mostly look and these results are for English-language web pages. Presumably, they generalize to most pages that have a left-to-right reading order.

A lot of the **key stuff is in the top-left** (the red area). Then there is a secondary ring around that. Finally, below the fold and off



to the far right is where the lowest priority stuff is. Now these priority areas are obviously going to be genre-dependent and based on an individual user's expectations; but, as a good heuristic, "more important; as you get lower or further to the right, less important."

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So, in short, our prime real estate is above the fold (top left), and it's in places where people expect to find stuff. So this is going to be where other pages put similar content: If you have pages that your users are familiar with, following the location on screen where they have their navigational elements or prime real estate will help people get used to your site as well.

And definitely **don't put the navigational stuff where people expect to see ads**, because, by now, many people mostly ignore whatever locations they think is going to be advertising. While your prime real estate is above the fold, people are more than happy to scroll if they think that they're going to see something that's worthwhile.

Often, when there's valuable information below the fold that people don't see, it's because the stuff above the fold didn't look very good; People assume you're putting your best stuff there. So, if that's your best stuff, whatever is got to be below that, that can't be so good. But if you have lots of great content up top, people will infer that there's even more further down.

And Jacob Nielsen was able to demonstrate the effects of taking this into account by changing the writing strategy and then measuring the impact on usability. Jakob Nielsen tried three separate techniques to improve the usability of these websites by

- Making the text more concise.
- Making it more scan-able by using subheadings, bulleted lists, and short paragraphs.
- Using more objective language as opposed to what Nielsen calls "marketese".
   (Marketese: A choice of words with a promotional tone; marketing jargon.)