Thursday: Intent in Design

Intent in Design

What is Intent in Design?

Taking stock of the tools that you can use to build interfaces and intentionally coming up with designs taking into account the constraints and features presented by the tools.

What does this entail?

- Understanding Visual Hierarchy
- Making experiences that are obvious
- Understanding of mental loads and how it affects the User Experience
- How people actually read content on the web (Billboard Design 101)
- Learning about progressive disclosure.
- Matching Mental Models and Conceptual Models

Understanding Visual Hierarchy

What is Visual Hierarchy?

This is the arrangement or presentation of elements in a way that implies importance. Visual hierarchy influences the order in which the human eye perceives what it sees.

Making Experiences That are Obvious

Krug's First Law of Usability: Don't Make Me Think!

As far as is humanly possible, when you look at a design, it should be self-evident. Obvious. Self-explanatory

Your users should be able to "get it" - what it is and how to use it - without expending any effort thinking about it.

When your user is looking at a page that doesn't make them think, all the thought balloons over their head say things like "OK, there's the_____. And that's a_____. And there's the thing that I want."

Things that make us think

Any decisions made during design are always on a continuum somewhere between “Obvious to everybody” and “Truly obscure” and there are always trade offs involved.

The tradeoffs should usually be skewed further in the direction of “Obvious” than we think.

There’s almost always a plausible rational - and a good, if misguided, intention - behind every usability flaw.

You may be thinking, “Well, it really doesn’t matter that much. If you click or tap it and nothing happens, what’s the big deal?”

The point is that every question mark adds to our cognitive workload, distracting our attention from the task at hand. Distractions may be slight but they add up, especially if it’s something we do all the time like deciding what to click on.

And as a rule, people don’t like to puzzle over how to do things. They enjoy puzzles in their place- when they want to be entertained or diverted or challenged - but not when they're trying to find out what time their dry cleaner closes.

The fact that the people who built the site didn’t care enough to make things obvious - and easy - can erode our confidence in the site and the organization behind it.

The most important thing you can do is to understand the basic principle of eliminating question marks. When you do, you’ll begin to notice all the things that make you think in the sites and apps you use. And eventually you’ll learn to recognize and avoid them in the things you’re building.

You can’t make everything self-evident, you at least need to make it self-explanatory.

Why is all of this so important?

Oddly enough, not for the reason people usually cite: “On the internet, the competition is always just one click away, so if you frustrate users they’ll head somewhere else”

It’s true that there’s a lot of competition out there. Especially in mobile apps, where there are often many readily available (and equally attractive) alternatives.

But it’s not always true that people are fickle. For instance:

- They may have no choice but to stick with it, if it’s their only option (e.g. a company intranet, or their bank’s mobile app, or the only site that sells the rattan they’re looking for)
- Some people will tough it out on sites that frustrate them, often blaming themselves and not the site. There’s also the “I’ve waited ten minutes for this bus already, so I may as well hang in a little longer” phenomenon.
- Besides, who’s to say that the competition will be any less frustrating?

So why, then?

Making every page or screen self-evident is like having good lighting in a store: it just makes everything seem better!

Using a site that doesn’t make us think about unimportant things feels effortless whereas puzzling over things that don’t matter to us tends to sap our energy and enthusiasm - and time.

Most people are going to spend far less time looking at the pages we design that we’d like to imagine.

If Web pages are going to be effective, they have to work most of their magic at a glance. And the best way to do this is to create pages that are self-evident, or at least self-explanatory.

Understanding Mental Processing and how it Affects the User Experience

The order of loads from most expensive to least is:

1. Cognitive
2. Visual
3. Motor

Making trade-offs

From a human factors point of view, when you're designing a product, application or website you're always making trade-offs.

If you have to add a few clicks, but it means that the person doesn't have to think or remember as much, that's worth it, because adding clicks is less of a load thank thinking.

Increase loads to capture attention i.e. images, animation, video

Minimize motor switching i.e. from keyboard to mouse

Evaluate the loads of an existing product to see if you should reduce on or more of the loads to make it easier to use.

How People Actually Read Content on the Web (Billboard Design 101)

Designing for scanning, not reading

Faced with the fact that your users are whizzing by, there are some important things you can do to make sure they see and understand as much of what they need to know - and of what you want them to know - as possible:

- Take advantage of conventions
- Create effective visual hierarchies
- Break up pages up into clearly defined areas
- Make it obvious what's clickable
- Eliminate distractions
- Format content to support scanning

Take advantage of conventions

One of the best ways to make almost anything easier to grasp in a hurry is to follow the existing conventions. For example:

Stop signs - Given how crucial it is that drivers see and recognize them at a glance, at a distance, in all kinds of weather and lighting conditions, it's a really good thing that all stop signs look the same. (Some of the specifics may vary from country to country, but overall they're remarkably consistent around the world.)

Controls in cars - Imagine trying to drive a rental car if the gas pedal wasn't always to the right of the brake pedal, or the horn wasn't always on the steering wheel.

Where things will be located on a webpage - For example, users expect the website logo to be in the top-left corner (at least in countries where reading is left-to-right) and the primary navigation to be across the top or down the left side.

Conventions have also evolved for different kinds of sites - commerce, colleges, blogs, restaurants, movies and many more - since all the sites in each category have to solve the same set of problems.

When applied well, Web conventions make life easier for users because they don't have to constantly figure out what things are and how they're supposed to work as they go from site to site.

One problem with conventions. Designers are often reluctant to take advantage of them. Faced with the prospect of following a convention, there's a great temptation for designers to try reinventing the wheel instead, largely because they feel (not incorrectly) that they've been hired to do something new and different, not the same old thing.

Occasionally, time spent reinventing the wheel results in a revolutionary new rolling device. But usually it just amounts to time spent reinventing the wheel.

"To live outside the law, you must be honest"

If you're going to innovate, you have to understand the value of what you're replacing, and it's easy to underestimate just how much value conventions provide.

For example, custom scrollbars. Whenever a designer decides to create scrollbars from scratch - usually to make them prettier - the results almost always make it obvious that the designer never thought about

how many hundreds or thousands of hours of fine tuning went into the evolution of the standard operating system scrollbars.

If you're not going to use an existing convention, you need to be sure that what you're replacing it with either:

- Is so clear and self-explanatory that there's no learning curve- so it's as good as the convention
- Adds so much value that it's worth a small learning curve.

Innovate when you know you have a better idea, but take advantage of conventions when you don't.

The rule of thumb is that you can-and should- be as creative and innovative as you want, and add as much aesthetic appeal as you can, as long as you make sure it's still usable.

Consistency is always a good thing to strive for within your site or app. If your navigation is always in the same place, for instance, I don't have to think about it or waste time looking for it.

But there will be cases where things will be clearer if you make them slightly inconsistent.

Clarity trumps consistency.

Create effective visual hierarchies

Another important way to make pages easy to grasp in a hurry is to make sure that the appearance of the things on the page - all of the visual cues - accurately portrays the relationships between the things on the page:

- which things are most important
- which things are similar
- which things are part of other things

In other words, each page should have a clear visual hierarchy.

The more important something is, the more prominent it is.

The most important elements are either

- large
- bolder
- in a distinctive colour
- set off by more white space
- nearer the top of page
- or some combination of the above

Things that are related logically are related visually.

You can show that things are similar by:

- grouping them together under a heading
- displaying them in the same visual style
- putting them all in a clearly defined area

Things are “nested” visually to show what’s part of what. For instance, a site section name (“Computer Books”) would appear above the titles of the individual books, reflecting the fact that the books are part of the section. And each book title in turn would span all the elements that make up the description of that book.

We all parse visual hierarchies every day, but it happens so quickly that the only time we’re even vaguely aware that we’re doing it is when we can’t do it - when the visual cues (or absence of them) force us to think.

A good visual hierarchy saves us work by preprocessing the page for us, organizing and prioritizing its contents in a way that we can grasp almost instantly.

But when a page doesn’t have a clear visual hierarchy - if everything looks equally important, for instance - we’re reduced to the much slower process of scanning the page for revealing words and phrases and then trying to form our own sense of what’s important and how things are organized.

It’s a lot more work parsing a page with a visual hierarchy that’s even slightly flawed - where a heading spans things that aren’t part of it, for instance - is like reading a carelessly constructed sentence.

Break up pages into clearly defined areas

Dividing a page into clearly defined areas is important because it allows users to decide quickly which areas of the page to focus on and which areas they can safely ignore.

Eye-tracking studies of a Web page scanning suggest that users decide very quickly in their initial glances which parts of the page are likely to have useful information and then rarely look at the other parts-almost as though they weren't there.

Banner blindness - the ability of users to completely ignore areas they think will contain ads (extreme case)

Make it obvious what's clickable

Since a large part of what people are doing on the Web is looking for the next thing to click, it's important to make it easy to tell what's clickable.

Eliminate distractions

One of the great enemies of easy-to-grasp pages is visual noise.

Users have varying tolerances for complexity and distractions: some people have no problem with noisy pages, but many find them downright annoying. Users have even been known to put sticky notes on their screen to cover up animation that's distracting them while they're trying to read.

There are three different kinds of noise:

- **Shouting.** When everything on the page is clamoring for your attention, the effect can be overwhelming.

The truth is, everything can't be important. Shouting is usually the result of a failure to make tough decisions about which elements are really the most important and then create a visual hierarchy that guides users to them first.

- **Disorganization.**

- **Clutter.** It's hard to find and focus on the messages you actually care about. You end up with what engineers call a low signal-to-noise ratio: Lots of noise, not much information, and the noise obscures the useful stuff.

When you're editing your Web pages, it's probably a good idea to start with the assumption that everything is visual noise (the "presumed guilty until proven innocent" approach) and get rid of anything that's not making a real contribution. In the face of limited time and attention, everything that's not part of the solution must go.

Format text to support scanning

Much of the time that users spend on your Web pages is spent scanning the text in search of something.

The way your text is formatted can do a lot to make it easier for them.

- **Use plenty of headings.** Well-written, thoughtful headings interspersed in the text act as an informal outline or table of contents for a page. They tell you what each section is about or, if they're less literal, they intrigue you. Either way they help you decide which parts to read, scan, or skip.

Also be sure to format headings correctly. Two very important things about the styling of headings that people often overlook:

1. If you're using more than one level of heading, make sure there's an obvious, impossible-to-miss visual distinction between them. You can do this by making each higher level larger or by leaving more space above it.
2. Don't let your headings float. Make sure they're closer to the section they introduce than to the section they follow. This makes a huge difference.

- **Keep paragraphs short.** Long paragraphs confront the reader with a "wall of words". They're daunting, they make it harder for readers to keep their place, and they're harder to scan than a series of shorter paragraphs.

You may have been taught that each paragraph has to have a topic sentence, detail sentences, and a conclusion, but reading online is different. Even single-sentence paragraphs are fine.

If you examine a long paragraph, you'll almost always find that there's a reasonable place to break it into two. Get in the habit of doing it.

- **Use bulleted lists.** Almost anything that can be a bulleted list probably should be. Just look at your paragraphs for any series of items separated by commas or semicolons and you'll probably find likely candidates.

And for optimal readability, there should be a small amount of additional space between the items in the list.

- **Highlight key terms.** Much page scanning consists of looking for keywords and phrases. Formatting the most important ones in bold where they first appear in the text makes them easier to find. (If they're already text links, you obviously don't have to.) Don't highlight too many things, though or the technique will lose its effectiveness.

Learning About Progressive Disclosure

What is progressive disclosure?

Providing only the information needed at the moment.

People process information better in bite-sized chunks

One mistake that designers sometimes make is giving too much information all at once.

By giving users a little information at a time, you avoid overwhelming them, and also address the needs of different people: some may want a high-level overview, whereas others are looking for all the details.

Counting clicks isn't what counts

Progressive disclosure requires multiple clicks. The number of clicks is not as important.

People are very willing to click multiple times. In fact the won't even notice they're clicking if they're getting the right amount of information they are looking for.

Know who needs what when

Progressive disclosure assumes that you know what most people want most of the time therefore it only works if you know what most people will be looking for at each part of the path.

Matching Mental Models and Conceptual Models

People create mental models

What is a mental model?

A mental model represents a person's thought process for how something works i.e. a person's understanding of the surrounding world, a device or software

Mental models are based on incomplete facts, past experiences and even intuitive perceptions.

An important reason for doing user or customer research is so you can understand the mental models of your target audience.

What is the difference between a mental model and a conceptual model?

A mental model is the representation that a person has in mind about the object he is interacting with.

A conceptual model is the actual model that is given to the person through the design and interface of the actual product.

Someone designed an interface is communicating to you the conceptual model of the product.

If there is a mismatch between the person's mental model and the product's conceptual model, then the product or website will be hard to learn, hard to use or not accepted.

How do mismatches occur?

- The designers thought they knew who would be using the interface and how much experience they had with interfaces like this and they designed according to these assumptions without testing them and it turns out their assumption is wrong.
- The audience or the product or website is varied. The designers designed for on persona or type of audience and the mental model and conceptual model match for that group, but not for others.
- There are no real designers. The conceptual model wasn't really designed at all. It's just a reflection of the underlying hardware or software or database, so the only people whose mental model it fits are the programmers. If the audience is not the programmers, then you are in trouble.

What if it is brand new and I purposely want a mismatch?

Sometimes you know that the mental model of the target audience will not fit the conceptual model and instead of changing the design of the interface you want to change people's mental model to match the conceptual model you've designed.

The way to change a mental model is through training i.e. video

One of the best purposes of training on a new product is to adjust the audience's mental model to fit the conceptual model of the product.

Design the conceptual model purposefully. Don't let it bubble up from the technology.