



GYMNASIUM

UX
FUNDAMENTALS

Lesson 5 Handout

Best Practices

ABOUT THIS HANDOUT

This handout includes the following:

- A list of the core concepts covered in this lesson.
- The assignment(s) for this lesson.
- A list of readings and resources for this lesson including books, articles and websites mentioned in the videos by the instructor, plus bonus readings and resources hand-picked by the instructor.
- A transcript of the lecture videos for this lesson

CORE CONCEPTS

1. Design patterns are another name for helpful conventions. In design, conventions stem out of principles such affordance and signifiers. Affordance in web design is the quality of an object that indicates that it can be interacted with, e.g. buttons that look “clickable.” Signifiers in web design are the individual properties that carry meaning for users, e.g. the color blue or the underline used to indicate a default hyperlink.
2. The right pattern for you to use depends on the situation. Pattern libraries are collections of modular elements that organize items for use in projects, e.g. navigation bars and icons.
3. Design patterns can be used for evil as well as good. Anti-patterns are systems that unintentionally create problems for users. Dark patterns are systems that intentionally confuse, mislead or direct users in a way that benefits the owners of the website or app.
4. If you decide on breaking from best practices or tradition, only do it if your solution is a lot better. Ideally you measure this improvement in an objective way.

ASSIGNMENTS

In this assignment, you'll create a working prototype of the wireframe, or a portion of the wireframes, you made during the earlier session. The goal of this prototype is not to create a fully functioning website, but to eventually test (with a real user) an important interaction in your project.

Note: this session's assignment is just to build the prototype; in the following session, you'll actually test it with a real user or two.

Important note: This prototype need not have a finished or polished graphic design. Using your wireframes as-is is perfectly acceptable (even scans of your wireframes), as long as the text in the wireframes is clear enough to make sense to a reasonable test user.

Applying a graphic design polish can be very time-consuming, and can distract from the purpose of this exercise, which is to build a fast, testable prototype that you can show to a real users.

You may use any tool you like to create the prototype. If you've never made a prototype before, great! Here are some tools you could use:

- A paper prototype (printed versions of all the relevant screens; here's an example: http://www.uie.com/articles/prototyping_risk/)
- Powerpoint or Keynote (here's a tutorial: <http://keynotopia.com/guides-ppt/>)
- Indesign, to create clickable PDFs (tutorial: <http://www.smashingmagazine.com/2013/03/07/creating-wireframes-and-prototypes-with-indesign/%20>)
- Online tool: Justinmind (free version: <http://www.justinmind.com/>)
- Online tool: InVision (free for one project only: <http://www.invisionapp.com/>)
- HTML and CSS (for experienced coders only!)

Important notes to remember while you are creating this prototype:

- **Focus on the most complex or popular interaction in your site.** If this means skipping the home page in your prototype and going straight to the meat, so be it.
- **Don't sweat the graphic design.** Provide enough design and real text so that it's clear to the user what they should do.
- **You'll have to "fake" certain interactions,** like entering a date or a destination. Create pages that already have an example user input. For instance, if you have a form where a user would fill out a credit card, you'll need to include a "finished" page with fake credit card information. This is a normal part of most prototypes.
- **Prototype at least one "error" page,** or what happens if something in the process goes wrong.

When possible and helpful, use a user-interface pattern library to make your prototyping faster and easier. Instead of drawing your own checkbox, pull-down menu or form field, consider using a library's instead. Here are good free libraries for: web browser elements; the iPhone; Android smartphones (one, two).

This will be a challenging assignment! Have patience, and keep your focus small. This assignment often takes longer for students than they first anticipate. (Look at case studies like these -- one, two, three -- for inspiration and examples.)

Note: You'll need screenshots of this prototype for a future assignment, so take some now — or at the very least, make sure you save all your files.

When your prototype is complete, please complete the following:

UX FUNDAMENTALS PROTOTYPE ASSIGNMENT

Your name _____

Project chosen _____

(Booking a flight or finding a restaurant and making a reservation)

Medium chosen _____

(Website or smartphone app)

My user is a _____ who needs to _____.

File format of prototype:

(PDF, HTML, PowerPoint, etc.)

Web address of prototype:

(Prototypes can't be uploaded to the forum directly; you'll need to use a file sharing service like Dropbox and insert the web address to your prototype here.)

What this prototype tests:

(A short description of which part(s) of the prototype are shown in this prototype.)

ASSIGNMENT EXAMPLE

Here's a partial example of this assignment, from a student who completed the course:

Link to click-able wires (note: both are in one, the second scenario starts after you check out in the first scenario): <http://invis.io/KXMVTCAJ>

FIRST SCENARIO:

1. Choose Round Trip > *Adds option for entering second date
2. Chose city you are leaving from > *Fills in all information to save time (normally you will fill in each)
3. Find Flight (Would go to flight listing page, the screen next is after user found the flight they want, N/A)
4. *Top Nav selection has changed (This would appear blank if user went straight to, UNLESS you are logged in and have a trip you have been planning and previously saved)
5. User decides they want to edit their summary and add a bag > *The price changes (don't have go back)
6. Select "Check Out" > Takes you to information and payment form (N/A)

SECOND SCENARIO:

1. Choose "One Way" > *Fills in information (to save time)
2. Hit "Find Flights" > * Finds result(s) & flight selection preferences condense
3. Decide to edit to "No Preference" > *More results appear below
4. Select Flight (Flight list section scrolls with the scroll on your mouse or track pad) *helpful because limits you to one or two flights at a time so you are not overwhelmed with information

5. Click on flight > *Brings you to Flight Summary
6. Once Flight Summary looks okay it's time to Check Out! (N/A)

RESOURCES

DESIGN PATTERN LIBRARIES

- (Pattern Library) List of UX design patterns, with detailed explanations and examples of each: <http://quince.infragistics.com/UX-Design-Patterns.aspx>
- (Pattern Library) Yahoo! Design Patterns Library: <http://developer.yahoo.com/ypatterns/>
- (Pattern Library) <http://ui-patterns.com/>
- (Pattern Library) <http://www.welie.com/patterns/>
- (Pattern Library) Peter Morville's library: <https://secure.flickr.com/photos/morville/collections/72157623007335402/>
- (Pattern Library) From the book, Designing Interfaces: <http://designinginterfaces.com/patterns/>
- Book chapter on mobile design patterns: <http://www.uxbooth.com/articles/mobile-design-patterns/>
- (Pattern Library) Mobile patterns: <http://www.mobile-patterns.com/>
- (Pattern Library) Responsive pattern library: <http://bradfrost.github.io/this-is-responsive/patterns.html>
- (Pattern Library) Mailchimp: <http://ux.mailchimp.com/patterns/slats>

CAROUSELS

- (Article) Defining Effective Carousels: <http://www.nngroup.com/articles/designing-effective-carousels/>
- (Article) Brad Frost on Carousels: <http://bradfrostweb.com/blog/post/carousels/>
- (Design Pattern) Carousels: <http://ui-patterns.com/patterns/Carousel>
- (Article) Rotating Offers - The Scourge of Homepage Design: <http://www.widerfunnel.com/conversion-rate-optimization/rotating-offers-the-scourge-of-home-page-design>
- (Website) Should I Use a Carousel? <http://shouldiuseacarousel.com/>

OTHER ARTICLES

- (Article) Design Patterns: When Breaking The Rules Is OK: <http://uxdesign.smashingmagazine.com/2012/06/06/design-patterns-when-breaking-rules-ok/>
- (Article) Breaking the Rules: a Case Study: <http://uxdesign.smashingmagazine.com/2011/08/17/breaking-the-rules-a-ux-case-study/>
- (Article) Innovative Navigation Designs: <http://www.smashingmagazine.com/2013/07/11/innovative-navigation-designs/>
- (Collection) UX/UI Innovation: <http://www.pinterest.com/scottbelsky/ux-ui-innovation/>

INTRODUCTION

(Note: This is an edited transcript of the UX Fundamentals lecture videos. Some students work better with written material than by watching videos alone, so we're offering this to you as an optional, helpful resource. Some elements of the instruction, like live coding, can't be recreated in a document like this one.)

Welcome back to UX Fundamentals, an online course developed by Aquent. This is lesson five. Today's session is about best practices in user experience design. And sometimes these best practices, or common practices, are called design patterns.

Today you'll learn how design patterns make your work as a designer easier, and they're better for your users. Folks, that's a win-win. Today's lesson will be quick. It'll be useful. There'll be an assignment and a brief quiz as always.

With that, here are today's big ideas:

1. Design patterns are another name for helpful conventions. We'll talk about what some of those are with plenty of examples.
2. The right pattern for you to use depends on the situation. We'll give some more examples there and how you can choose the design pattern that fits your needs.
3. Design patterns can be used for evil as well as good, and you should beware the dark side. We'll talk about what those are with lots of examples.
4. If you don't want to use a design pattern or best practice, and you want to reinvent the wheel? That's great. But only do it if your solution is a lot better. We'll show you how to figure that out. This is UX Fundamentals.

BIG IDEA #1

DESIGN PATTERNS ARE HELPFUL CONVENTIONS.

We'll start today with the idea that there are helpful conventions on the web. And we call those conventions design patterns. We'll talk about what those conventions are. And I'll give lots of examples to make the point clear.

But let me start by saying that, as designers, we pride ourselves on our creativity and originality. We, as designers, want to make the game-changing design, something that's completely radically new, different, and better-- like the TiVo in 1999 totally changed how people watch television or the iPod in 2001 totally changed how people listen to music or, more recently, responsive design, the idea that we can have different layout for different-sized screens. We, as designers, want to create things that are new and different.



But the flip side of being new and different is that it's unfamiliar. And sometimes being original is not such a great idea, because being unfamiliar isn't so great. Let me give you an example.

This highway sign is on the interstate right outside Los Angeles. The graphic design of highway signs are pretty standard. If you live in the United States, you recognize this typography and this iconography. Even the color of the sign is all pretty standard.

But imagine if a sign all of a sudden looked like this? We can read it, but what a strange thing to see on the highway. And in fact, consistency is a hallmark of transportation signage, like at airports.

Here's an example of an airport sign showing you where different sections of the airport are. And we're accustomed are we to seeing signs that look like this at the airport or maybe like this, and even in another language, can still understand what's happening in these very clear signs.

But what happens when an airport decides to do something a little bit nonstandard like nonstandard language or icons that might be a little different than the norm? It's a little bit harder to understand, right? Here's another airport sign. What exactly is this sign saying? Or this airport sign here? I have no idea what's going on, but it looks like some dangerous fun.

When it comes to airport signs, innovating, coming up with something new and different is not always helpful and, in fact, in some cases can be deadly. In 1996, a fire broke out in this airport in Dusseldorf, Germany. And 17 people died. And investigators think some of those people died because the exit signs weren't in a standard place and weren't easy to understand.

The rebuilding of this airport included a total redesign of the signage to this style right here, which is meant to be much more clear and easy to understand, even by non-German or non-English speakers. It's really important to be able to easily navigate a space like an airport. And the same is true for us in websites. The navigation of a website needs to be clear and easy to understand.



As website users ourselves, we've come to expect navigation to behave in a particular way. On this website, for instance, where's the navigation? Yup, it's this strip here at the top. And when we put our mouse over or click on one of these items, a box comes up. And we can click on other items. We come to expect navigation to behave in that way.

That's not the only way, of course. This website here, where's the navigation? Yup, it's here on the left. It looks a little bit different because each of the items is in its own typeface. But generally speaking, it looks and behaves in the way that we have come to expect navigation to look and behave.

And this is a design pattern. It's a convention. And the convention or the design pattern we're talking about right now is navigation, that navigation usually appears at the top or left of a website, and that sometimes you can click or mouse-over something and it drops down. That convention or design pattern is useful to us. And it helps us interpret sites, even if we might not understand the language.

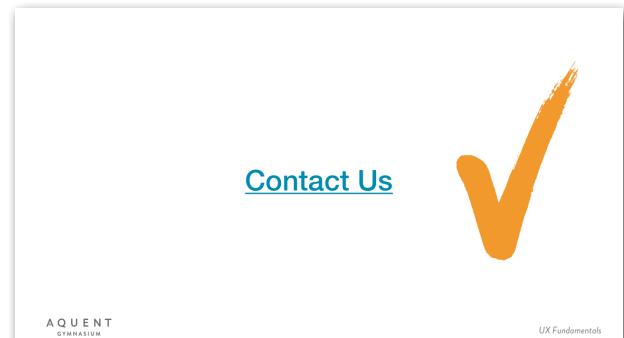
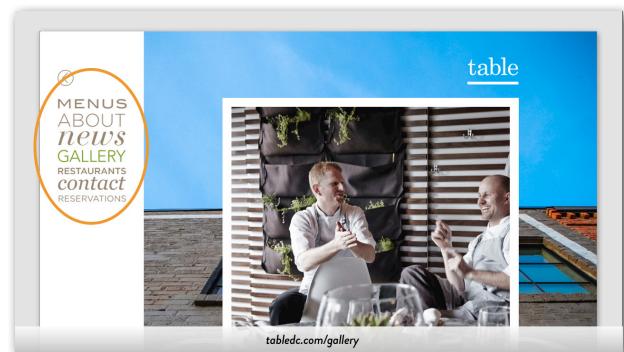
Can you figure out where the navigation is on this website? Yep, it's this strip up here. It looks like navigation is supposed to look, even if you don't read Japanese.

And what about this website right here? Where's the navigation? Yeah, it's this box on the left. It looks like navigation is supposed to look.

Navigation is one of those things that's like a highway sign. And when a website decides to veer way off of the norm and do something completely different sometimes the results are disastrous. Here's a website that Paramount Pictures put out. And it had a navigation carousel here up top, where you could rotate through lots of different movie covers.

And it was absolutely awful to use. It was confusing. And the text bled together. That's what they got for being innovative-- something really confusing.

Here's another example of navigation that's innovative but confusing. You see the numbers here on the side? That's the navigation. But you can't tell what the things are until you hold your mouse over them. And then the items show up, and you can click them.



At best, it's slightly confusing when you've got a mouse. But what about if you're browsing this website and you don't have a mouse? How on earth are you supposed to figure out what's underneath those numbers? Being original with navigation isn't always a good idea.

So let's drill down a little bit more into navigation and, more specifically, into links. And let's do so by playing a game together. This is a game that your brain plays every time you look at a web page. And the game is "can I click it," where you look at a piece of text and your brain has to figure out, is this clickable or not?

So if you saw this piece of text on a web page, does it look clickable? It absolutely does. This is absolutely something that you could click if you saw this on a web page.

What about this piece of text right here? Does it look clickable? Yup, sure does, looks very clickable to me.

What about this piece of text? Does it look clickable? No, it doesn't look clickable, does it? It doesn't have any of the signifiers that suggest that this is something that you can click.

Well, what about something like this? Is this clickable? Well, hm, it doesn't look like a button. It's not underlined. But it's got that little arrow thing. It's maybe clickable. It might be clickable. You might have to do that trick of holding your mouse over it to see if it changes into a hand.

What about this text here? Is this clickable? Huh. Well, OK, so the header here is underlined-- How to Contact Us. But the text doesn't suggest that that's something you can click, because it's got the contact stuff underneath.

And what about Email Us? Is that clickable or not? This is a piece of mystery meat. I have no idea whether this is clickable or not. And the only way for me to know really is to try it.

So from these examples, we can generalize that things can be clicked on web pages if it's blue and underlined or if it looks like a button and that it can't be clicked if it looks like regular text. This is a design pattern. It's a design pattern that has to do with hyperlinks, that things can be clicked if they're blue and underlined or if they look like a button.

And things that look like this, say, with an arrow or that it's underlined but it has text that doesn't suggest that it's clickable or it's bold and italicized but is not underlined, each of these things cause us to ponder and wonder whether they're clickable. They're not obvious signifiers that they can be clicked.

► CONTACT US



How to Contact Us

Call 202-456-1111
Or **Email us**



www.jnd.org

CONTACT US

Our brain goes through this thought process every time we look at a web page. Researchers study this. One of the most important researchers to study this is a fellow named Don Norman.

Don Norman is a cognitive science researcher. And he's sometimes called the Father of User Experience Design. His labels for the kinds of things we're talking about are "affordance" and "signifier."

You may have heard these two labels, here's what they mean. Affordance is a general term for something that's on a web page or on an app or out in the real world for something that looks the way that you should use it.

For us and web pages, a perfect example would be this. The word Contact Us is surrounded by a gray field, a rounded box with a shadow underneath it. This to our brains looks clickable, whereas this does not look clickable.

Why does this look clickable to us? Because it is a direct reference to something we've seen in the physical world. It looks like a button that you can actually physically push. The fact that it looks like a physical button makes this graphic design what Don Norman would call an affordance.

Here's another example of an affordance, and that is a door opener like this. It looks like you should push it. It does not look like you should pull it. In fact, it would be very, very hard to pull this door. But it absolutely looks like you should push the door to get it open.

Whereas a door handle that looks like this could go either way. You could push it. You could pull it. It works either way. And haven't you used a door like this where you get it wrong, where you pushed where instead you should have pulled or vice versa? Really frustrating, right?

And that's because the design of the door handle does not afford how you should use it, whereas this one does. An affordance means the thing looks like how you should use it. And designers sometimes use this term to describe the buttons or the controls that they create.

Don Norman had another term, though. And he actually prefers this term. It's called a signifier. A signifier is anything visual that gives you a clue as to what's happening and to what you should do. So a signifier is sort of a more generalized affordance.



upload.wikimedia.org/wikipedia/commons/4/4c/Panic_bar.jpg



A screenshot of a website. At the top, there is a navigation bar with several items. Below the navigation, the text "Contact Us" is displayed in blue and underlined. An orange arrow points from the text "Blue and underlined means it's clickable!" to the "Contact Us" link. The footer of the page includes the text "AQUENT GYMNASIUM" and "UX Fundamentals".

A screenshot of a website. At the top, there is a navigation bar with several items. Below the navigation, there is an orange rectangular box containing the text "OUR CONTACT INFORMATION IS LISTED BELOW.". Two orange arrows point from the text "Colorful box..." and "but not action text!" to the orange box and the text inside it respectively. The footer of the page includes the text "GYMNASIUM" and "UX Fundamentals – Lesson 5".

Here's an example of a signifier, this right here. This link looks like it's clickable, right? Because it's blue and underlined. But it doesn't look like something in the physical world. So it's not an affordance. An affordance refers to something in the physical world.

However, the fact that this is the color blue and underlined is a signifier. We, as web users, have come to understand that things that are blue and underlined means that they're clickable. Of course, not all hyperlinks have to be blue and underlined. There are lots of variations on hyperlinks that we've become accustomed to.

For instance, this in the context of a page might be clickable because it's bold and colorful. That bold weight and strong color is a signifier that this is probably clickable. This also is a signifier that it's clickable because it looks like a real button. It's also an affordance because it's something that's in the physical world. But it's a signifier that you can click this thing.

This is also a signifier, this reverse text in a colorful box. That is a signifier that it's clickable. What about this? It's reversed text in a colorful box, but does this look clickable? No, it actually doesn't look clickable.

The reason it doesn't look clickable is because the text itself is not an action verb. It's a colorful box, but it's not action text. So this does not look clickable.

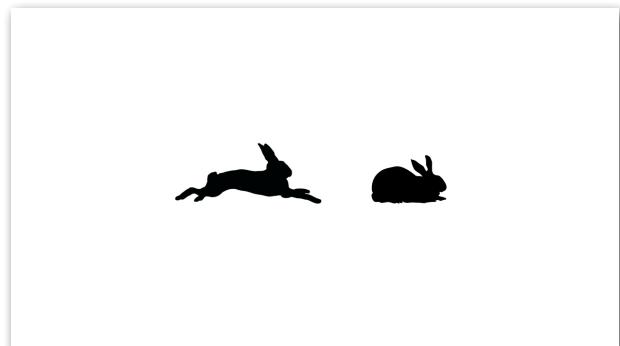
The signifiers conflict with one another, right? So the signifier that it's colorful says this is clickable. But you read the text and you think, no, wait a second. This is not clickable. It's some kind of header.

Text can be a signifier too. Contact Us is a simple verb. That suggests that it's clickable. But simple nouns can also look clickable. That's fine too, depending on the context.

All of these are signifiers that, in this case, the thing is clickable. And for the fastest, easiest user experience, we want to use the most common signifier for the task at hand. Here's another example that doesn't have to do with hyperlinks. And that is video.

If we're watching a video on, let's say, YouTube, how do you start and stop the video. Yep, it's this control right here-- the triangle that faces to the right. Now, the very first time we looked at a video on the internet, we might not have known what this triangle meant or what these two bars meant. But as web users, we've all come to understand that the shape on the left means that you can play something and the shape on the right means that you can pause or stop something.

These icons are extremely well-known. They're conventions. They're design patterns. They're signifiers that you can start and stop a video or a song or some other piece of media.



How did these shapes come to mean what they mean? Well, because they were used on reel-to-reel recorders in 1970s. Somebody came up with it then. And it's been used that way ever since.

Of course, that doesn't mean that we have to use that. We're graphic designers. We could make play and pause buttons that looked like this. Or you could start and stop a video with icons that look like this.

But that would be a terrible idea, wouldn't it? Why would you want to innovate on the icons used to start and stop a video? This convention is helpful and easy to understand, and we should use it. It's a design pattern. And design patterns are helpful conventions.

BIG IDEA #2

THE PATTERN DEPENDS ON THE SITUATION.

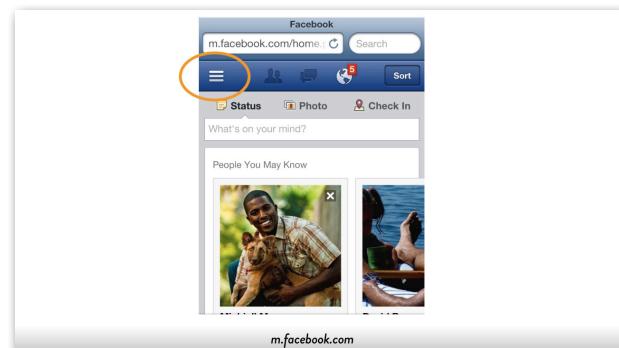
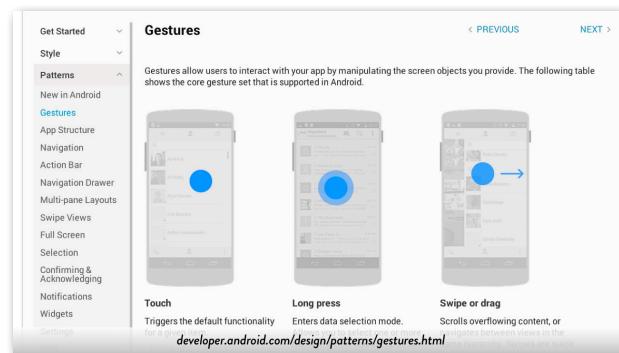
Big Idea #2 centers around the idea that the design pattern you decide to use depends on the situation you use it in. Remember, design patterns are conventions. And sometimes these conventions are imposed on us, like for instance, the way that we can tap or swipe or pinch a tablet or a smartphone.

The makers of smartphones and tablets get to decide what happens when we do those things. Here are the user interface guidelines from Android, where they articulate exactly what should happen if a user taps or if they press for a long time or if they swipe the face of a smartphone. They describe what needs to happen.

The same is true of desktop interfaces. Here's Windows' website. This is where they describe how balloons should work or check boxes or radio buttons. They've articulated exactly how those things should work inside Windows. Apple does the same thing.

Oftentimes, these design patterns aren't dictated by software or hardware companies. Instead, they can happen naturally. Here's an example of a design pattern happening naturally.

This is the mobile version of Facebook's website. And you see this icon up here on the upper left-hand side, the three horizontal lines? You may have seen this before. But Facebook was one of the first big sites to use this icon.



And here's what the icon does. I can click on the icon here, and it pops out a menu, in this case, on the left-hand side. And this menu is navigation. This icon with the three horizontal lines is sometimes called a hamburger or a sandwich icon.

Facebook needed a way to handle their navigation. And so they started using it. And when Facebook started using it, others started copying. And now, it's become a convention. There are a bunch of different websites and apps that use that icon to signify a menu.

This is like that old architectural saying about paving the cow paths-- in this case, seeing the trails that folks like Facebook are blazing and then turning that into a convention. And sometimes industrious designers can collect and record these conventions into libraries. They're called design pattern libraries. And they can look like this.

This is a very popular site called ui-patterns.com. It collects and articulates a bunch of different conventions, like slide shows and galleries and paywalls. And it's just the work of one designer who decided that they wanted to collect this stuff.

Sometimes companies do it, too. Yahoo has created its own design pattern library with nearly 60 entries in it. There are books that are also great design pattern libraries because they can articulate the different ways you can do things. These libraries and books are kind of like design style guide. But instead of being for visual design, they're for interactions, like for instance, how calendars work.

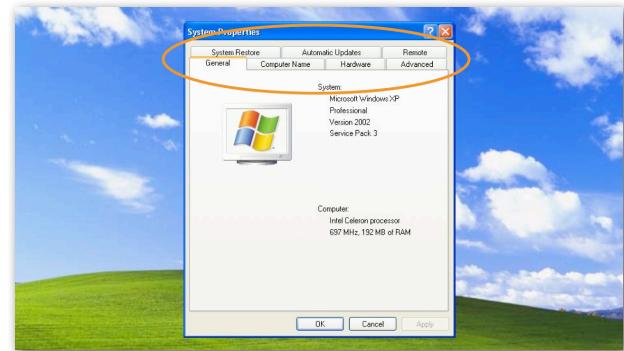
You've used these calendar pickers, right? It's where you need to enter a date, and up pops up a little window where it's got a couple of calendars and you can choose the date. Well, this entry on this website, ui-patterns.com, articulates exactly how those things should work to make the most sense to users.

Here's Yahoo's design pattern library. This is the entry on navigation tabs. And navigation tabs are actually a great example. Let's spend a second with them.

You may have seen tabbed interfaces before. Here's an example. It's the homepage of Wells Fargo. It's got a tab here under Personal. Small Business and Commercial are two headers next to it.

If you were to click on Small Business, that tab would move over there. And the content of the page changes. The same is true for Commercial.

The graphic design of these tabs is meant to mimic file folders that we might use in real life. They're what Don Norman would call an affordance. And we see them not just on websites, but in the operating system. Here's Windows XP. And



you might even be able to see them here, in the browser that you're using to look at this website right now.

Navigation tabs are used in a lot of different places on computers. And so Yahoo's entry not only describes what navigation tabs are, but it describes what the navigation problem is that the tabs are trying to solve. It also says when you should use tabs and when you shouldn't, because tabs aren't always the answer to navigation problems.

For instance, here they are in Windows XP. This is when you want to change the way that your monitor looks. And they work pretty well here. They're easy to understand. You can tell that you're on the Settings tab and that there's an Appearance and a Screensaver and Desktop. These are the other tabs that are available to you.

But here's another use of them in Windows XP. And the problem here is that there were too many tabs to fit on one line. So they created this double-decker tab navigation.

And if you've used this, you've probably noticed that it's a little bit weirder. If you click one of the tabs on top, it jumps down to the bottom. It's kind of a strange interface. And it's a little unsettling because it doesn't follow the way that we might expect tabs to work in real life.

So there are good tabs and bad tabs when it comes to this kind of navigation. Here's another way a tab can be a bad tab. And that has to do with color coding.

Here, back in the Wells Fargo example, I'm on the Commercial page. How do I know I'm on the commercial page? Well, I know because Commercial is bolded.

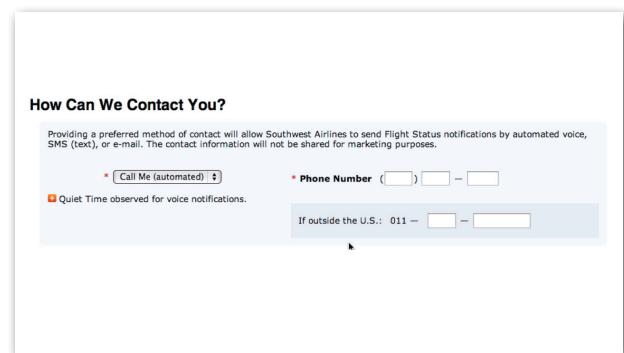
I also know because of the color behind this tab. Do you see how the gray color here blends into the page below? The same is true here in Windows XP. The color behind Settings blends into the page below.

But here's a website in which that doesn't happen. Now, these look like fine tabs. There's no problem with them so far. They're on one line. They're easy to understand.

But if I were to click on this one, Logos. Here's the page I come to. Logos is still in blue. There's no indication that I'm actually now on the Logos page, even though I am.

If I click on Printing, it's the same way. This interface would be a whole lot clearer if they had just changed the color behind the Printing tab like this. But they didn't.

They did tabs in an imperfect way. They almost got it right. But they didn't get it completely right, because we expect tabs to match the physical file folders that we're used to.



A good design pattern library will articulate this and say, hey, the deal with tabs is, the background color needs to match when you're on that tab. That's the benefit of design pattern libraries. They help you select the right tool for the job. A design pattern library is half how you should do it and half how you can use this to make your life easier, in that, for instance, sometimes tabs might be right for your situation and sometimes they're not. The design pattern that you use depends on your situation.

BIG IDEA #3

BEWARE THE DARK SIDE.

So far we've only talked about design patterns as being best practices. But sometimes they do have a dark side. Design patterns are conventions. But not all conventions are best practices.

Some conventions actually work against the user, these conventions are sometimes called *anti-patterns*. If design patterns are our best practices, well, then these are kind of worst practices. They're conventions that are used by many sites, but they don't always provide the best experience.

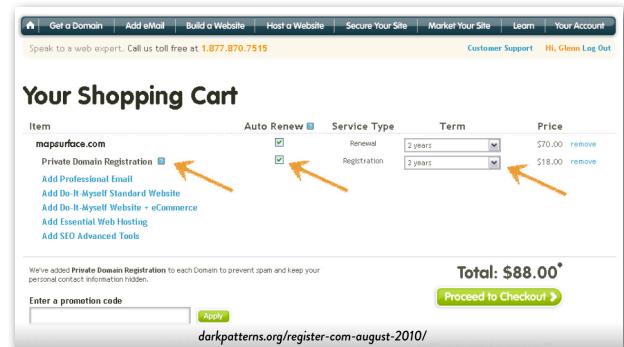
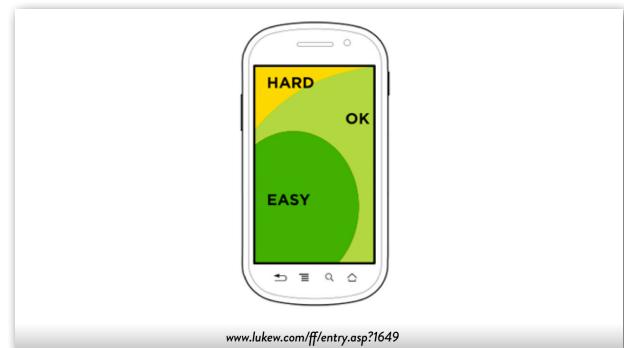
Here's a pretty mild example. Have you ever tried to enter a phone number into a set of boxes? And you enter the digits, and then it tabs over for you?

But at the same time, you've already hit Tab. So you go over two boxes-- augh! Then you've got to copy and paste and you've got to move everything over. A real pain, right? The site is trying to be helpful by moving the cursor over for you. But it ends up just being frustrating.

Here's another example of that. It's got a cute name. It's called "the thumb stretch." You remember the example I showed you a few minutes ago of Facebook's mobile site and the sandwich or hamburger icon that's up in the upper left-hand corner?

Well, the icon itself is fine. But the placement is an example of an anti-pattern. It's in a spot that's actually the hardest to reach for folks who are right-handed. Their thumb has to stretch all the way up to the upper left-hand corner in order to reach that spot. And it's the hardest to reach.

Here's a diagram of the spots on a smartphone that are the easiest and hardest to reach, if you're holding it with one



hand and you're right-handed. And that Facebook menu is in exactly the toughest spot. A better solution might be a move that hamburger icon over to the right-hand side.

Now, in all these examples, the websites are trying to be helpful. There might just be a slightly better way to do things. But not all design patterns are that way.

Sometimes, there are patterns that are intentionally against the user. And they're driven by business goals. These anti-patterns have a funny nickname that have been given to them by designers. They're called *dark patterns*.

Here's a common example of a dark pattern. It's called "the door slam." It's when you go to a website or a mobile app, and before you can do anything, you're presented with a little pop-up window that asks you for something, like to download their app or for your name and email address. It's like a door slamming before you can get to the content that you were looking for.

It's a pattern. It's done on a number of websites and apps. And it's driven by business goals.

Now, it's probably effective at getting email addresses, otherwise, people wouldn't do it. But it's, generally speaking, probably frustrating for users in much the same way that pop-ups were back in the '90s and the 2000s. In fact, they're the exact same thing as pop-ups. They just use a different technology.

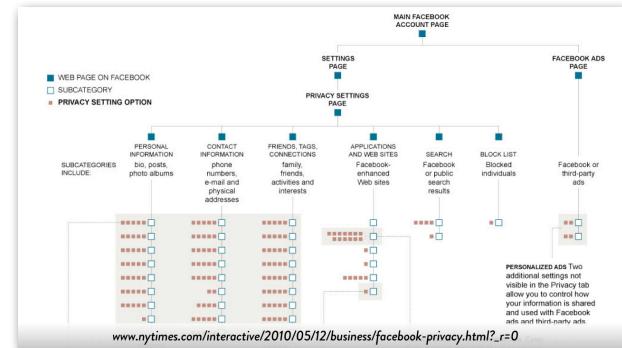
Here's another dark pattern. It's called "sneak into cart." It's the practice sometimes done by e-commerce stores of sneaking additional services or products into your shopping cart.

If you registered for a domain name with register.com, you'd get the domain name, but it would add on this extra service of private domain registration and give it to you for two years and automatically renew it for you. And there's not a clear indication that that's an optional service. It gives it to you automatically, hoping that you'll go ahead and pay for that extra premium service.

Here's another dark pattern-- "friend spam." That's a great name, isn't it? This is when a website or an app send emails or messages on your behalf and without your express permission.

A good example of this happened just last year at Comic Con in New York. When ticket holder showed up to this convention, they were given a badge and a badge number. And they were told to hook up this badge number to their Twitter account and cool things would happen.

Well, what happened was the convention started tweeting out messages without the person's permission. They would say things like this. "So much to see, so much to do! New York Comic Con 2013, I love you!"



Now, Greg Miller didn't send this tweet. It was sent for him. And the fine print and the badge said that might happen. But he and many other folks obviously weren't aware of it.

Greg Miller tweeted back and said, hey, I didn't tweet this. What's going on here? After an uproar, Comic Con apologized and shut down the service. But this was an example of a service that sent emails or messages on a user's behalf without their express permission.

The last dark pattern I'll talk about has a funny name. It's called "privacy zuckering." It's named after Mark Zuckerberg of Facebook. And it's the practice of making privacy settings somewhat hard to understand or complex.

In fact, The New York Times created this infographic describing all of the different ways that you can change your privacy settings on Facebook. But Facebook's not the only one. Lots of other social media websites can be guilty of this too.

So these are some dark patterns. And, in fact, there are dark pattern libraries too, where designers collect these patterns and articulate what they're seeing out in the wild. It's kind of like a style guide of worst practices.

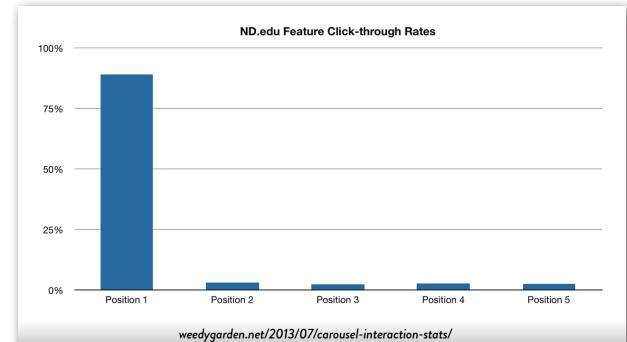
Now, let me talk about these for second. No designer wants to do these things. We know that a customer's goal is to make their own life easier or to save money or to be better at what they do. But a client's goal, your client's goal is often to make money.

Now, the challenge here is that the client is the one who's writing your paycheck, so they may try to ask or convince you to do something that's against your user's interest but for the good of the company. Honestly, for user experience designers like us, it's a balance. I mean, it's your job to advocate for the user and making users unhappy or mad, well, that's bad for business.

On the other hand, the business does need to survive, sometimes you need to be able to get email addresses or make sales in order to do so. So we don't want to make users mad, but sometimes we may end up having to make them just a teensy bit mad in order to achieve business goals. Just don't go too far, OK? Beware of the dark side of design patterns.

A screenshot of the Yahoo! Developer Network Design Pattern Library. The page title is "Yahoo Design Pattern Library". Under the heading "Accordion", there is a sub-section titled "YAHOO! SPORTS EXPERTS" with several news items. A yellow arrow points from the text "Lots of other social media websites can be guilty of this too." to the "Accordion" section on the right.

A screenshot of the UI Patterns website. The main heading is "UI Patterns". Under the heading "Carousel", there is a "Problem summary" section and an "Example" section showing a movie trailer player. A yellow arrow points from the text "But a client's goal, your client's goal is often to make money." to the "Carousel" section on the right.



BIG IDEA #4

ONLY REINVENT THE WHEEL IF IT'S A LOT BETTER.

We've talked a lot in this session about conventions and patterns, sometimes it's good to break out of those, to actually do something new and innovative, even when it comes to something like navigation. But my suggestion to you is to only reinvent the wheel with something like that if your solution is a lot better.

One of the keys to breaking the conventions is understanding what the conventions are. The Dalai Lama agrees. He said, "Know the rules well so that you could break them effectively." Design pattern libraries are like repositories of the rules or of the conventions used in websites.

Design pattern libraries are also similar to style guides. They provide best practices. They help you save time. They can serve as a shortcut for design work. And they can encourage consistency across different websites.

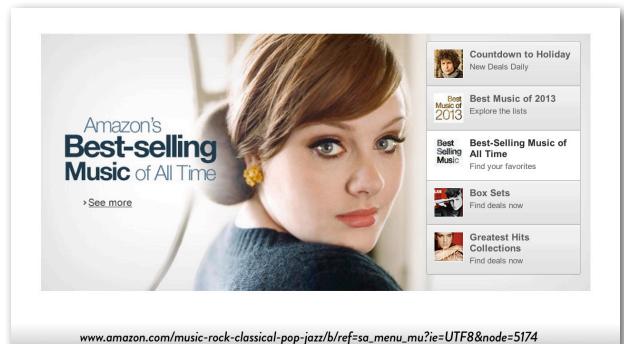
But they're kind of like style guides in the bad way, too. Style guides and design pattern libraries can be easy to ignore. They're really hard to maintain. And they can sit in a drawer and not get used.

They can also be unnecessarily limiting. I mean, heck, the Yahoo design pattern library hasn't been updated since 2009. Technologies change. Behavior changes. And tactics become less effective. We need to be able to adapt and innovate and can't hold onto conventions just for the sake of it.

Let's take as an example the carousel. Carousels are frequently used at the top of homepages, like Yahoo or Hulu. They resemble slide shows that automatically rotate and show different content. Carousels are certainly design patterns. They've even got entries in ui-patterns.com and Yahoo, explaining what they are and how to use them.

Carousels are really, really popular. You want to know one of the reasons why they're really popular? Because they help solve problems with clients.

A client or a stakeholder at a client's company might need to have something on the homepage. Well, often times there are other stakeholders that also need to have their things on the homepage. With all these people wanting their thing on the homepage, the carousel can be a great solution.



Ta-da! Everybody wins. Everybody gets their stuff on the homepage.

The problem is that carousels have issues. One issue is that analytics show that, generally speaking, only the first slide in the carousel gets clicked. Here's a study from the University of Notre Dame showing that their carousel got the most clicks on the slide that was in the first position.

Now, the study showed that the carousel only got about 10% of the page click overall. But of those, position number one was the clear winner. And that was true even if the slides were randomized or if they automatically rotated. So they're not always good at distributing traffic evenly.

Another problem with carousels is that they can get overlooked. Here's a heat map of an eye tracking study. The colors here show where people's eyes were looking.

There's a carousel up top. But you see how the red spots down below, they all miss the carousel. They skip right past it. That's probably because carousels can look like ads and web users have gotten very good at sniffing out and skipping ads.

Here are some more heat tracking studies. Do you notice in these three screens there's almost no color on the top or the right-hand side where the advertising is? Again, users are skilled at sniffing out the content and ignoring the ads, which carousels resemble. Now, this is not to say that carousels are anti-patterns. They're not detrimental to the user. It's just that they're not very effective.

Some designers have even united to protest the use of carousels and to say, let's not use these anymore. Of course there's a website for it called shouldiuseacarousel.com. And here's what it says-- you really shouldn't. Isn't that funny, right? So you can try to convince your client not to use care carousels, or you can try to fix carousels and make them better, finding new ways to make that space work.

Here's how Roku does it. They got rid of their carousel. But they replaced it with a single frame that has a very, very large call to action.

Amazon has kept their carousels, but they've redesigned them, creating this bar on the right-hand side. It changes as the carousel moves up and down. You can put your mouse on and click one of these items, and it jumps back up to that spot in the carousel. They say it's more effective than the carousels they had before.

Here's another example of a carousel redesigned. This is a heat map of an eye tracking study for a Swedish pet store's website.

There's a carousel here that gets a fair amount of eye attention. You can see the yellow and red on it. But this section down below is getting a lot more attention. This is navigation that sits underneath the carousel.

Well, what they did was they experimented. Instead of having a traditional carousel, they tried a single frame that had these buttons in it, buttons for Hund and Katt and Fisk and Fagel. Anyway, they put this here in place of the rotating carousel.

So here's what the heat map looked like before. And here's what it looked like after. All the attention got drawn up out of that navigation into the carousel space because that space started to become more useful. Sales went up, too.

So if it's time to break the rules, if you want to innovate, just make sure that your solution is very clear and that it adds value. In other words, make sure your design is easier and better. And only reinvent the wheel if your solution is a lot better.

ASSIGNMENT

That's it for this lesson. So once again, it's time for today's assignment. As always, the complete assignment instructions are in the classroom files. But here's a brief overview.

In this assignment, you'll build a prototype. A prototype, of course, is a working version of your wire frames--one that's actually clickable. You can use any tool to create a prototype, and I've provide lots of examples in the classroom materials. You can use design patterns to help speed your design process and make the prototyping easier.

Now, we're not asking you to prototype the entire site or smartphone app. That would be really time consuming. Instead, pick the most important or difficult parts of your website or app's interaction and prototype those. The reason for creating this prototype is that, in the next session, you're going to actually test the prototype with real people.

Now, you're not doing as part of this assignment. We'll do it in the next session. For this assignment, you're building the prototype. Now, the prototype does not have to look perfect. However, it does have to work, and it has to show your most important or complex interactions.

This is a challenging assignment. I'm giving complete instructions, examples, tips and tricks in the classroom. So be sure to check them before you get started. When you're done, post a link to your prototype in the forum, I look forward to seeing it.