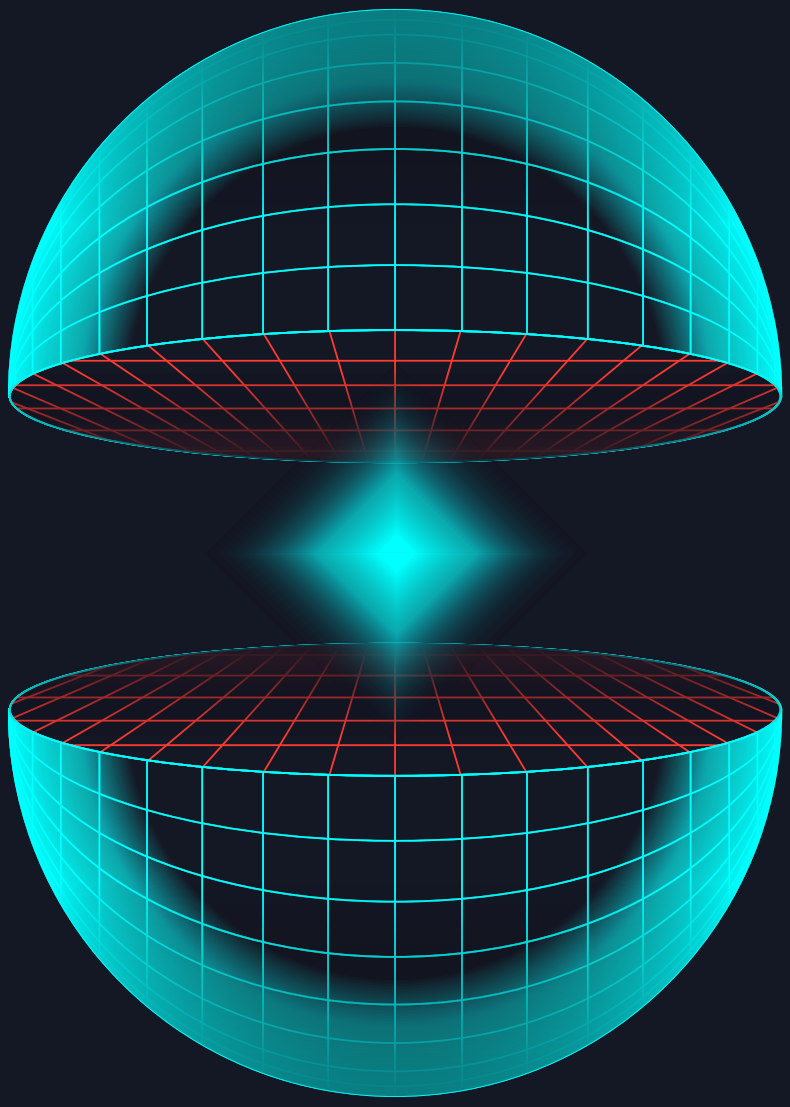
UXPin

The Elements of Successful UX Design

Best Practices for Meaningful Products



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Introduction

In 2004, IA architect Peter Morville (author of many recommended UX books) first posted the "user experience honeycomb," a diagrammed reminder of the seven UX elements required for successful products:

Photo credit: Peter Morville. Used with permission from Semantic Studios. Copyright Semantic Studios. Adapted from original.

All equally important, we can explain each principle accordingly:

1. **Useful** – Does the product solve the right problem?
2. **Usable** – Is the product easy to use?

3. **Desirable** – Is the product enjoyable to use?
4. **Valuable** – Does the product provide business value?
5. **Findable** – Can users find relevant content easily?
6. **Accessible** – Is the product usable by people of varying abilities and disabilities?
7. **Credible** – Does the product feel trustworthy and reliable?

These principles resonated with many designers, and Morville's honeycomb began to represent the basics of UX design. Even though the principles were first laid out over a decade ago, they still remain true as ever in modern product teams.

In this guide, we explain how to fulfill the criteria for successful product design.

Design for Usefulness

The first and most important requirement to successful design: your product must actually be useful.

The other principles don't matter unless people are willing to pay for your product to solve a problem. In fact, some studies placed usefulness at 1.5 times as important as usability.

Photo credit: "Wait Here Until You Are Useful." Matt Brown. Creative Commons.

Let's explore how to determine a product's worth before it even exists.

Painkillers & Vitamins

In an article for Fast Company, Jon Burgstone and Bill Murphy, Jr. suggest psychology's pleasure-pain principles applies to business, meaning customers buy products for two reasons:

1. Avoid pain
2. Receive pleasure

However, it's the avoidance of pain that's more powerful, as Jon and Bill explain.

But that doesn't mean vitamins which provide pleasure can't be successful. Facebook bought Instagram for over $1B, then later offered $3B for Snapchat. Neither of these products necessarily cure a particular pain felt by users.

Rather, the key to usefulness (regardless of product category) is embedding yourself into human habit loops, which we explain further in Chapter 3. Design the right triggers to motivate users to take a certain action with your product, then provide the right reward so they stay invested. If you've designed the right triggers, the lack of your product can actually create a form of pain that lures users back (e.g. why Facebook is so addictive).

If you can validate that the pain you solve or pleasure you provide encourages repeated use, then painkillers or vitamins alike can prove useful to customers. Once you've achieved that traction, your product is in a much better position for profitability.

Embracing Goal-Centered Design

Avoiding pain and receiving pleasure are, in other words, your users' goals. Once you've established the specific goals you're targeting, you can start designing a product that allows users to reach them.

The entire design process should revolve around assisting users in satisfying their goals, as opposed to getting caught up in new features or improvements. Stanford's D School breaks down the the goal-centered approach, also known as "design thinking" into 5 steps:

- **Empathize** – Go deep inside the mind of your users: their feelings and opinions, their behaviors, and their preferences. Consider all of these elements the raw materials of your product.
- **Define** – As you start to see patterns in the user research, create a clear problem statement as a foundation for the product.
- **Ideate** – Brainstorm ways to rectify the problem statement. Now you start to shift from "building the right product" to "building the product right".
- **Prototype** – Take the best ideas from the ideation phase (usually expressed as sketches or wireframes for digital products) and build them into a testable prototype..
- **Testing** – Even after your first lo-fi prototype (e.g. a paper prototype), you can start testing with a minimum of 5 sample users.

For a real-life example, read about how Fidelity applied design thinking to make their website more useful. Even more case studies of offline and digital design thinking are available at IDEO's Design Kit.

As you can see, this method relies on user testing, both in researching users and in testing each iteration. Empathy is a good start, but validation is final.

Quantitative research, like analytics or A/B testing, will show you actual user behavior. Qualitative research like user interviews, surveys, or diary studies helps you understand the "why" behind the user behavior.

In our experience, you can learn a lot from combining user interviews with quantitative analysis of site analytics. You won't need to spend a ton of money, but you do need to set aside room in your timeline.

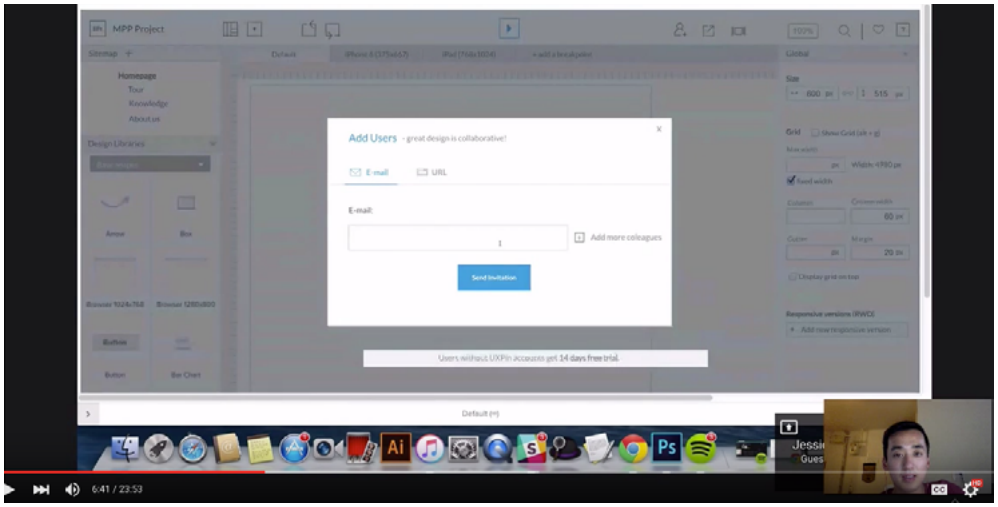


Photo credit: Testing our redesigned interface with designer Jessica Tiao of KissMetrics

When redesigning UXPin, our UX researcher Ben Kim actually interviewed 100 designers (remotely on Google Hangouts) and ran a

total of 25 hour-long usability tests (again through Google Hangouts) throughout the 4-month process.

Test for Relevancy With an MVP

So how much product should you actually build to test your assumptions?

The answer lies in the MVP (minimum viable product). These unfinished iterations are released to gauge demand without sinking more resources than required. Sometimes they are refined prototypes, and other times they are vaporware that you sell before you ship.

By starting small, gathering user feedback, and iterating incrementally, you ensure the product is always useful (e.g., relevant).

You can build an affordable MVP in several useful ways.

1. **The Landing Page MVP**

   Set up a landing page for the product concept you wish to test, explaining that customers will get an email when it's ready. Run paid Adwords campaigns to drive traffic to the page, and then check how many visits and emails you capture.

   To learn more, Lean Startup founder Eric Ries explains in greater detail on his blog.

2. The “Wizard of Oz” MVP

Nick Swinmurn, cofounder of Zappos, actually fronted the online retail giant before any infrastructure existed.

Behind the curtain, he listed shoes for sale, then fulfilled them by buying the shoes locally and shipping them out himself. It required his full-time dedication, but certainly was a cheap and low-tech way of testing his idea.

3. The Concierge MVP

Similar to the Wizard of Oz MVP, except instead of faking a working product, you’re upfront about the manual work. You deliver the product or service as a customized service to handpicked customers.

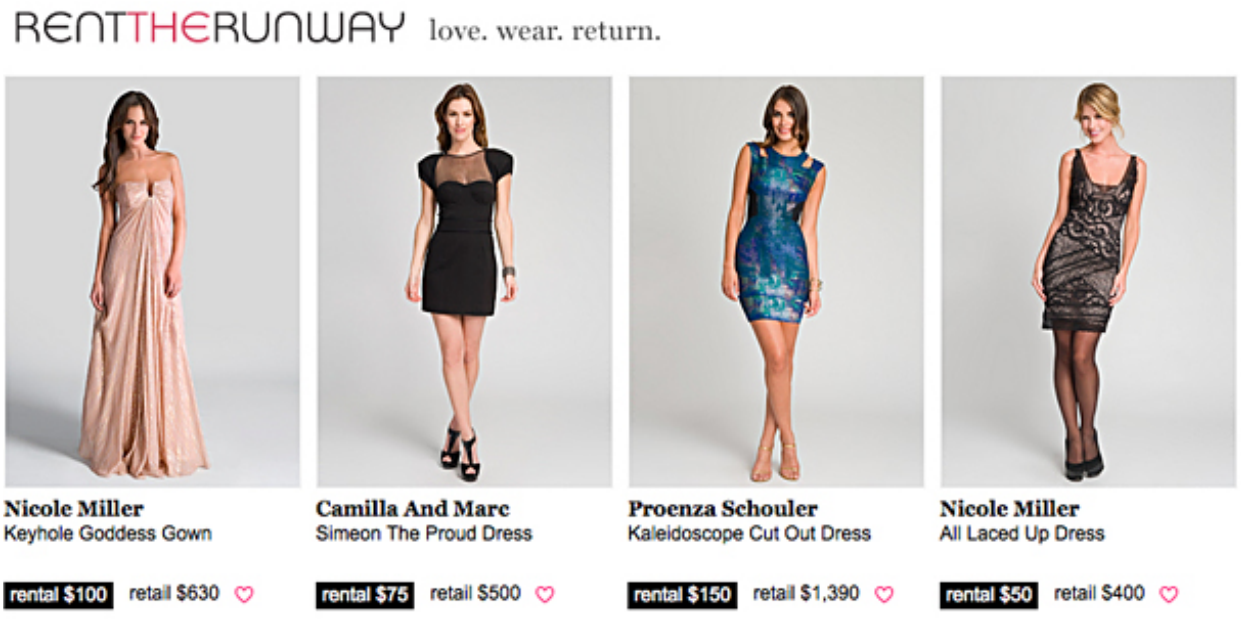


Photo credit: Rent the Runway

Rent the Runway tested its online dress rental business model by providing an in-person service to female college students where anyone could try the dress on before renting them.

This validated its riskiest hypothesis that women would rent dresses and served as a great concierge MVP that put the business in front of customers and got them feedback.

4. **The Fundraising Campaign**

   Like we recommended in *UX Design for Startups*, sell the product before it exists. If you get enough funding on Kickstarter or Indiegogo, that's a strong signal that your product is probably quite relevant for people's lives. As you build the product, keep in touch with your supporters for feedback and ideas.

   If you'd like to learn more about 15 ways to build an MVP check out our article on The Next Web.

5. **The Prototype MVP**

   If you're redesigning an existing product, the other MVP tactics we described might not apply. In this case, your best bet is to validate assumptions through rapid prototyping.

   In our experience, paper prototyping and lo-fi prototyping are the fastest ways to validate your most pressing assumptions. While you won't be able to test if your product is delightful, you will certainly know if the overall concept is viable and if you need to fix any major issues in your user flows.

   If you'd like to learn more, check out the *Ultimate Guide to Prototyping*.

A Quick MVP Case Study: Buffer

Let's take a quick look at how Buffer went from an idea to a profitable product in 7 weeks. Joel Gascoigne started with an idea for a social media scheduling app.

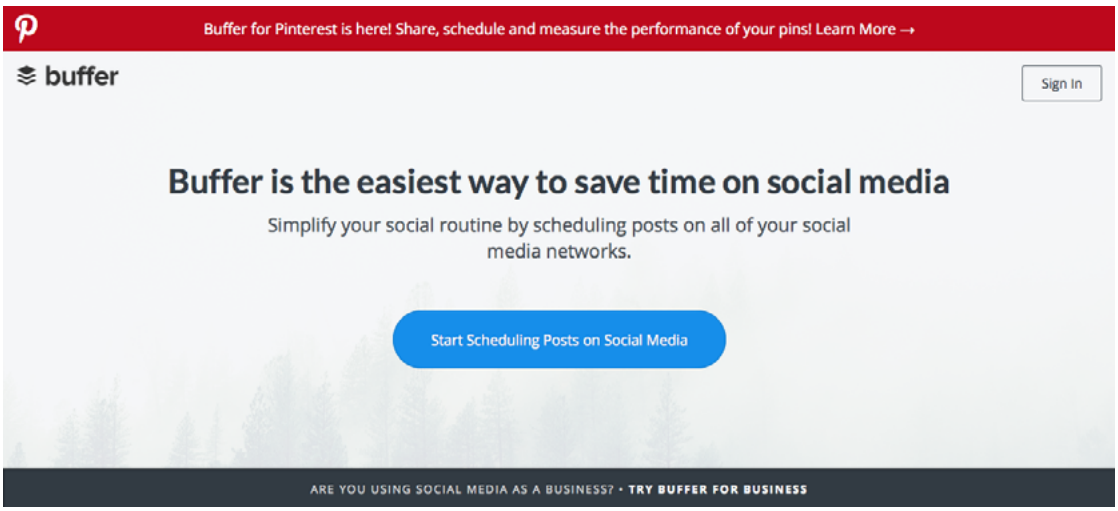


Photo credit: Buffer

Following the principles of Eric Ries's lean startup, his first step was a drastically minimum release to test user interest: a landing page with a call-to-action that explain what the app did (under the pretense that it already existed). If users clicked the call-to-action, they were taken to another apologetic page explaining they were still putting the "finishing touches" on it.

With those emails, Joel personally contacted those "earlyvangelists" for their feedback and ideas in shaping the product. As it turned out, the response was positive enough that Gascoigne went forward to actually build the app. But the takeaway from his story is that – before even an ounce of heavy design work – he made sure his product was useful.

And useful it is – as of June 2015, the company currently rakes in $6.4M per year (and growing).

Conclusion

The reason “useful” tops the list for both Morville and us and simply because it is the most important.

A product must be useful first and foremost before deeper design is even considered. But don’t rely on blind hope to create a useful product.

The customer validation and MVP methods we listed above will get you concrete results about what your users find useful. The first step in any design should be the (tested) confirmation that you’re not wasting your time on a fantastic solution nobody needs.

Designing for Usability

So, you have a product that solves someone's problem. Take a moment to pat yourself on the back – but no more than a moment, there's still a lot of work ahead of you.

As the saying goes, build the right thing, then build the thing right. Usability is how well the product performs at serving its purpose, and encompasses a variety of interface aspects, from function to learning curve, to overall complexity.

Photo credit: "Simple 2." Kristian Bjornard. Creative Commons.

Based on the Nielsen Norman Group's definition, we can break down usability into a few core components:

- **Learnable** – A new user can easily figure out how to use the product for the first time.
- **Efficient** – Users can accomplish tasks quickly and easily.
- **Forgiving** – The design minimizes user errors through careful understanding of task flows. When errors are made, the design does not impose severe consequences and offers clear feedback for solutions.
- **Satisfying** – The design is emotionally fulfilling.

Let's look at some simple tips for design a smooth experience your users need.

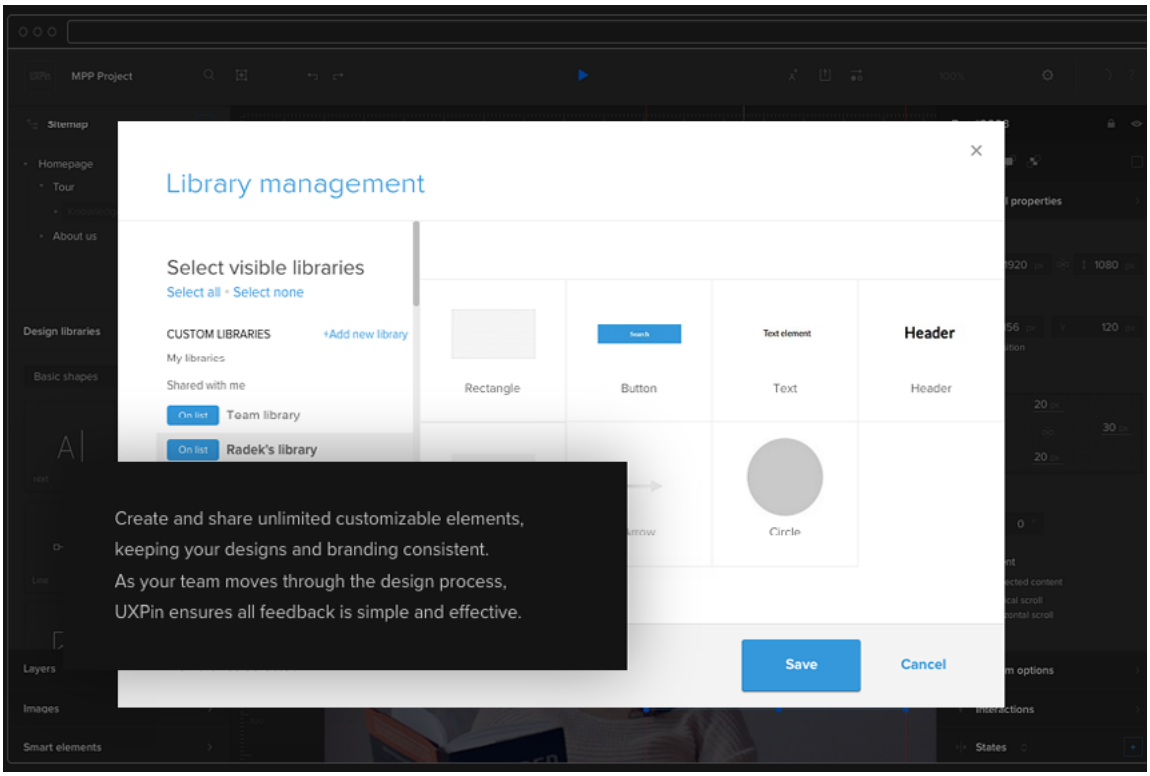
1. **Learnable**

   Learnability depends on context. Different industries have different standards.

   For example, the money-sending app Venmo relies on simplicity and convenience, while Google Drive targets heavier workflows with a variety of advanced actions. The same user would expect almost instant learnability from Venmo, but be more patient with Google Drive as they learn actions like sharing documents and managing permissions.

Still, there are common techniques that aid learnability in any scenario:

- **Use clear signifiers and UI patterns** – Because they're used repeatedly across diverse websites, signifiers (like an envelope representing mail) and UI patterns are immediately recognized. To help designers focus more on perfecting user flows and interactions, we actually included 1000+ built-in elements in UXPin (with the ability to create and reuse your own custom patterns).



- **Design good empty states** – Often seen as a placeholder screen, an empty state communicates what new users can expect from a page after they interact enough to populate it. More than just decoration, these help users orient themselves immediately.

- **Use white space as a design tool** – White space, or emptiness in the screen, can improve comprehension by up to 20% when

used correctly. Placing ample space between elements and text provides breathing room and a welcome pause for people to process what they've just seen.

- **Good onboarding** – The onboarding phase is a golden window in which you show users the product's core functions while also influencing them for upgrades. Focus on the 20% of features that users will need 80% of the time. Be concise, use plenty of visuals, and consider adding a completeness meter. To learn more, check out the 4 types of onboarding in this Digital Telepathy article.

- **Progressive disclosure** – Reveal information gradually instead of all-at-once, even giving the user control so they can choose their pace. Progressive disclosure covers features such as content toggle (hiding/revealing more information), "more" or "expand" links, and instructional overlays.

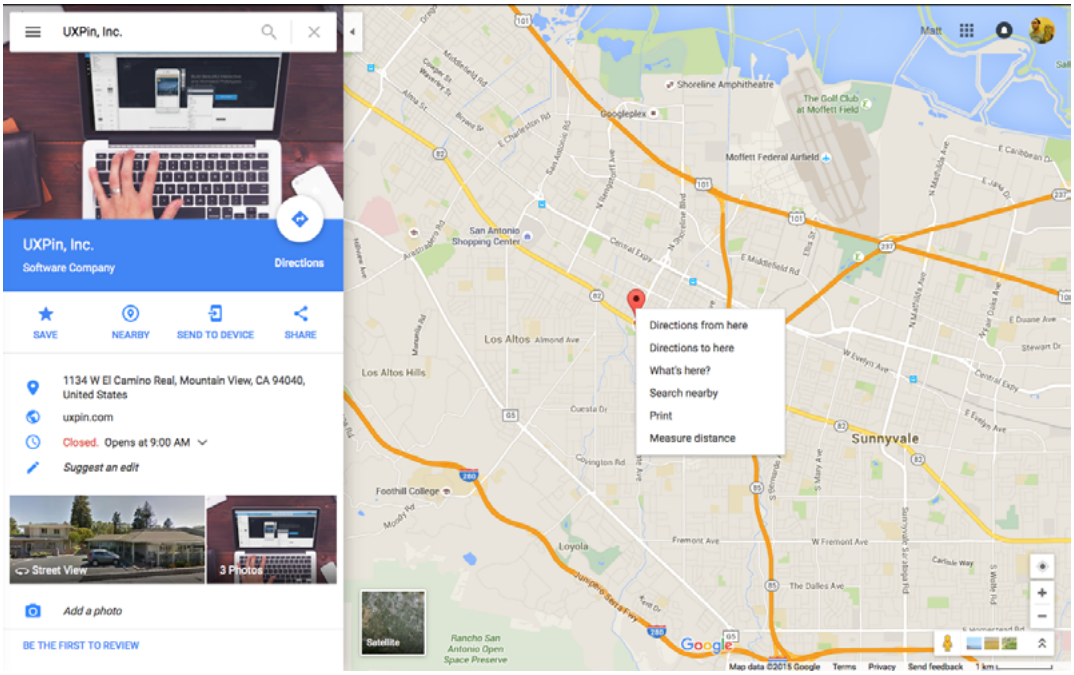


Photo credit: Google Maps

As a product that people use to get from point A to B, Google Maps needs to be instantly learnable. People won't invest much time upfront to learn all the features, so the design must reveal additional functionality over repeated use. Luckily, you'll find plenty of secondary menus in all the right places.

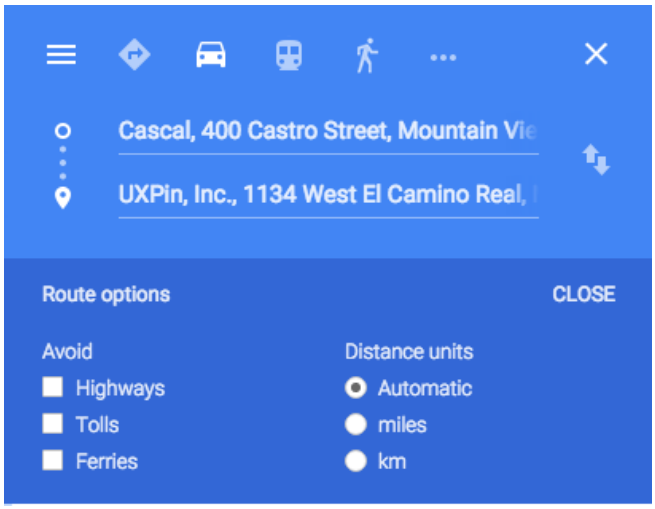


Photo credit: Google Maps

In this particular case, onboarding isn't actually necessary since the core task is so single-minded. People shouldn't need a tutorial to explain how to find directions somewhere. The design must speak for itself. As a fallback, however, Google still includes a voluntary tour.

The most popular actions, such as finding directions, are easily visible, while secondary actions are left out of view until needed. The features are all easily understandable thanks to clear icons (like a star to suggest "favoriting" a location) accompanied by single-word labels. Notice the generous white space highlighting the location (in the search field and in a blue rectangle) as well as instantly understood UI patterns like the pin on the map.

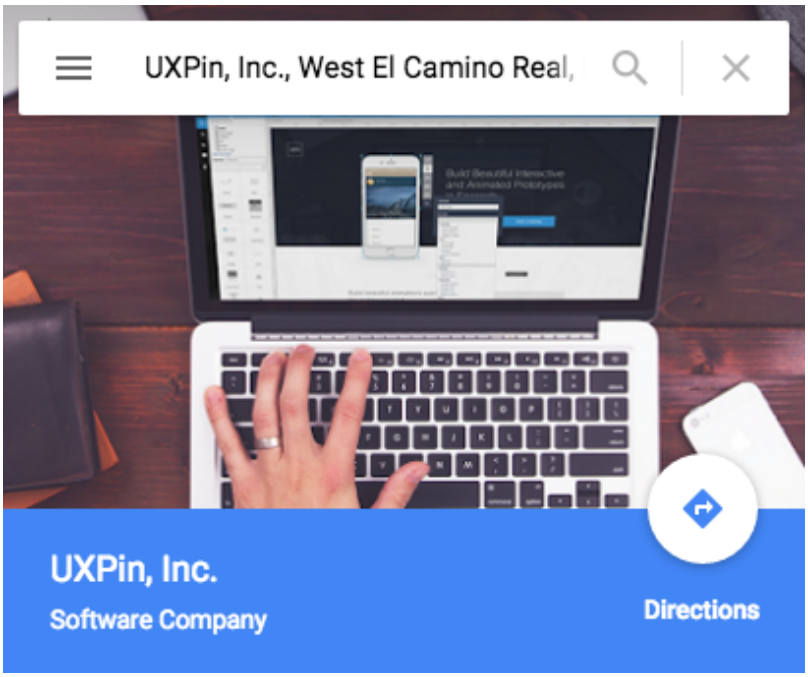


Photo credit: Google Maps

2. Efficient

There's a duality to efficiency in UX: part of it is streamlining how users accomplish their goal, while the other part, perhaps more important, is making the system *feel* efficient to the user.

Follow these guidelines to add both absolute and relative efficiency to your product:

- **Use color saturation to set visual hierarchy** – Saturated colors are more vibrant and attract more attention, while desaturated colors have the opposite effect. As Anthony Tseng of UX

Movement suggests, apply saturation to the elements you want seen (like CTAs, alerts, system messages) and desaturate colors in menus and panels to minimize distraction during core tasks.

- **Simple (not less) clicking** – Some might think that every page should be accessible within three clicks of another – but this isn't as accurate as people think. A better methodology is designing simple clicks with clear labels and navigation. As long as every click brings the user closer to achieving their goals (and feels effortless), exceeding three isn't a problem.

- **Speed matters** – Jakob Nielsen pointed out the importance of reaction times on a microscopic level. Don't neglect site or app performance. Users only feel in control if reaction times are under 0.1 seconds. Users lose their feeling of control for delays exceeding 1 second.

- **Time users during testing** – Time the completion of tasks during user testing. Usability expert Jeff Sauro offers some great advice for measuring and interpreting task efficiency.

- **Write out task flows** – Make a list of each step it takes to complete a task [i.e., (1.) open Gmail, (2.) click "Compose," (3.) Type recipient's emails, etc.]. Review the list for redundancies and trim as many steps as you can.

- **Reorganize layouts** – Cognitive load is the enemy of efficiency. Rearrange the screen layout to minimize the number of distracting, secondary elements so that only the elements related to the goal are visible.

- **Chunking** – On a related note, if you can't get rid of certain content, try regrouping it. Chunking is an effective technique for reducing cognitive load without reducing the visible elements.

3. Forgiving

Part of goal-focused design is anticipating user errors. For a good UX, the UI must be forgiving of user errors. Consider the following:

- **Undo vs. Confirm** – Popular opinion is that Undo creates a smoother interface than Confirmations about consequential actions, such as deleting. As Aza Raskin explains, users develop a habit loop with popup windows, where it's habit to click "Okay" before fully understanding what they're confirming. An Undo feature accounts for the habit loop instead of challenging it. There are some exceptions, namely when undoing is complicated, as with publishing something publically, or for critical actions (like deleting a whole email database).

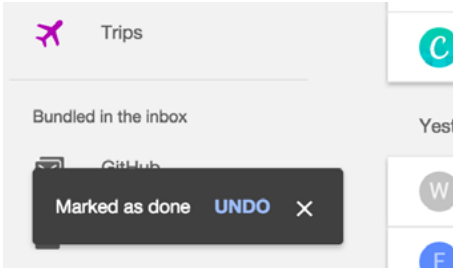


Photo credit: Inbox

- **Forgiving format for inputs** – Input forms must accommodate multiple formats. The forgiving format UI pattern allows users to type in what they want, they sorts it out in the back end. Announce this feature through input hints, like Yelp's placeholder text, "tacos, cheap dinner, Max's."

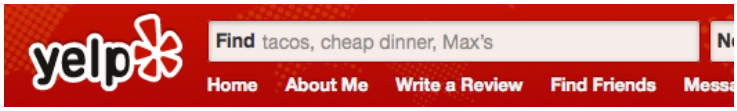


Photo credit: Yelp

- **Autosaving** – Cheap data storage makes autosaving great protection against users losing data, whether human error or other accidents like browser crashes or power outages. To maximize its effects, give a subtle indicator like Gmail below – something that doesn't require interaction, so not to distract.

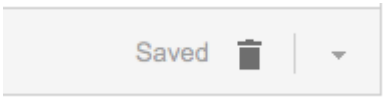


Photo credit: Gmail

- **Exceptional error feedback** – You can't defend against errors forever. When they do occur, provide feedback in a helpful way to get users back on track. Clearly explain what happened and how to rectify the situation, even providing a call-to-action for their next step. Just keep it succinct, as they'll likely be skimming anyway.

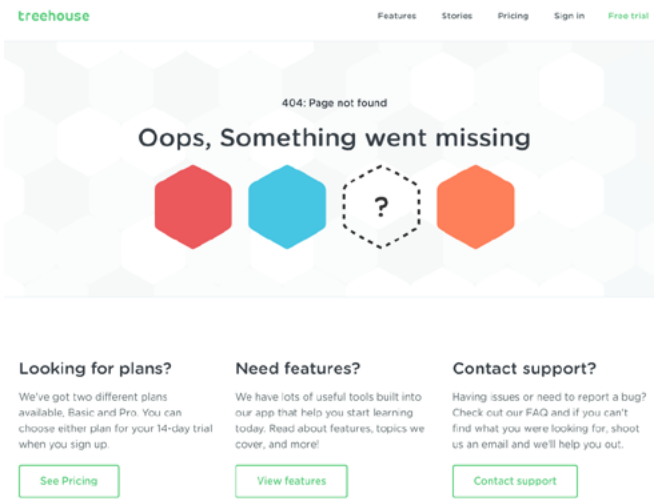


Photo credit: Team Treehouse

4. Satisfying

When we transfer Maslow's hierarchy of needs into web design, functionality and usability form the base, while more abstract concepts such as satisfaction fall to the top.

A user's enjoyment is nonetheless a large component in memorable UX. Take advantage of the following tips for a more satisfying product:

- **Microinteractions** – The tiniest interactions add up to a cohesive experience. Microinteractions make the interface smooth and enjoyable. Adding a fun animation or surprising element makes using the system more interesting, not to mention how they can improve usability.
- **Meaningful gamification** – Gamification tends to be viewed as overused today, but when done well it can enhance the experience. Steer away from tired ideas like badges and currencies, unless you have an innovative spin on them. Gamification works best as a way to streamline user task flows, so remove interruptions. Show users their progress without patronizing or using a condescending tone.
- **Personality** – Interacting with a digital product should feel as human as possible. A banking app that feels like a friendly advisor works better than one that feels like a call center agent. Personality involves the tone of the copy, the visual styling, and the pace of the interactions. There's no wrong answers as long as you build around your type of user. Start with user personalities (check their personas) before building your own.

The 6-Step Process to Improve Usability

Let's examine a design process that we've found quite helpful. We understand that design isn't a linear process, so you might not follow everything in order.

You should, however, always research your users, prototype, and test your designs with users.

1. **Conduct user research**

   Good usability is designed before the first sketch or wireframe. Learn as much as possible about users and their needs through these research methods:

   - **Analyze customer data** – Using tools like KISSMetrics, you can create events for your site or app (for instance, "created wireframe" or "logged in"). On a periodic basis, you can then export this data and create user segments based on behavioral patterns. This process helps you begin to understand who does what, and then you can interview a handful of users from each segment to understand the "why".

   - **User interviews** – When talking directly with your users, focus on their behaviors more than opinions. Their opinions may be clouded or biased, while their behavior gives you solid data to draw on for motivation and psychology. Open-ended questions (not yes-or-no) encourage users to explain deeper, as does following a question with silence.

- **User surveys** – As an alternative (or addition) to user interviews, user surveys reach more people, take less time and effort, and work faster – however, they lack the direct control of user interviews, such as asking for elaboration, and the quality of the responses varies (not to mention the unavoidable response bias). For a great approach to surveying that also recruits users for in-person interviews, read this article from Google Ventures.
- **Card sorting** – Information Architecture is the foundation of all digital products, so don't neglect it. Card sorting is a test that reveals the IA your users find most intuitive. We explain more in Chapter 5.

All this information helps you create realistic personas supported by data, which serves as a compass for the rest of the design process.

2. **Map out content and user flow**

   Design and research work in parallel.

   For example, you can quickly sketch out user flows based on what you've learned thus far. Before committing to a path, however, create a simple prototype. It doesn't have to be anything fancy – your prototype can be done on paper so you can start understanding how users flow between content and actions.

   If you want to outline the flow, you can use the writing-first approach, which Jessica Downey writes about in her excellent article "Jumpstarting Your App Conception Without Sketching UI."

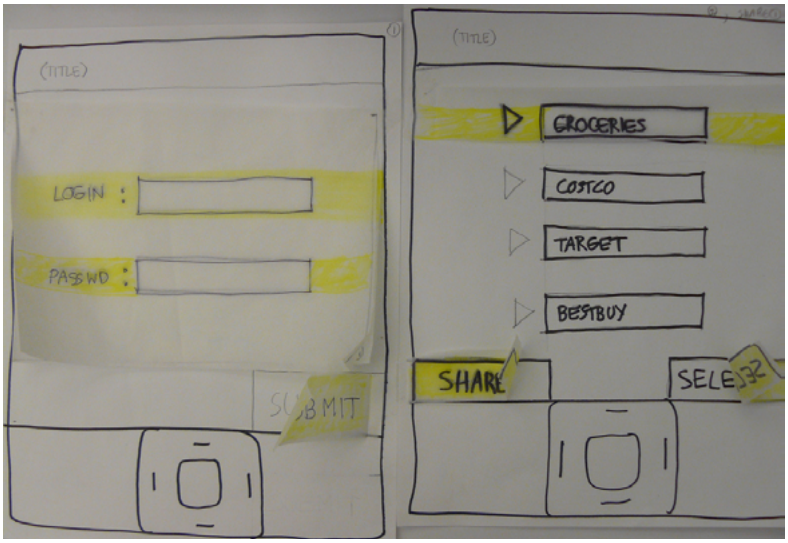


Photo credit: Rodolphe Courtier, Creative Commons 2.0

This outlining method helps flesh out app ideas and build a "common understanding" of each page of your app.

Let's create one for, say, a banking app. The scenario: someone wants to turn on auto deposit.

Auto-deposit off

[Set auto-deposit]

Select Deposit Frequency

[Once per month][Twice per month]

[Every other week][Every week]

Deposit

Once Per Month

[Select calendar day]

Set Amount

[Enter amount]

[Set auto-deposit]

Before sketching or prototyping, a written outline helps you explore the most important part of your app – the content. Building flows around content gives you a much more accurate assessment of the total number of pages required for your app.

As a next step, you could then create a sketch or wireframe for each page of your flow (in this case, you could create 4 sketches). From there, you could continue iterating the sketches on paper and cut them out for a paper prototype, or move to a digital prototyping tool like UXPin.

The outline helps you quickly explore different page flows. The sketches/wireframes bring those flows to life with more detail around layout and structure. Finally, a quick prototype helps you test those ideas with users.

3. Wireframe

This is the preliminary stage of the design, where you solidify the structure, layout, and information architecture. We start exploring what each page of our user flow looks like.

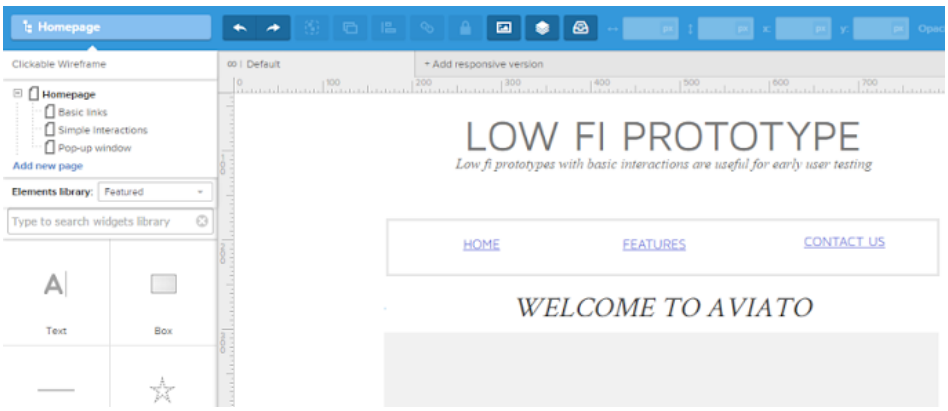


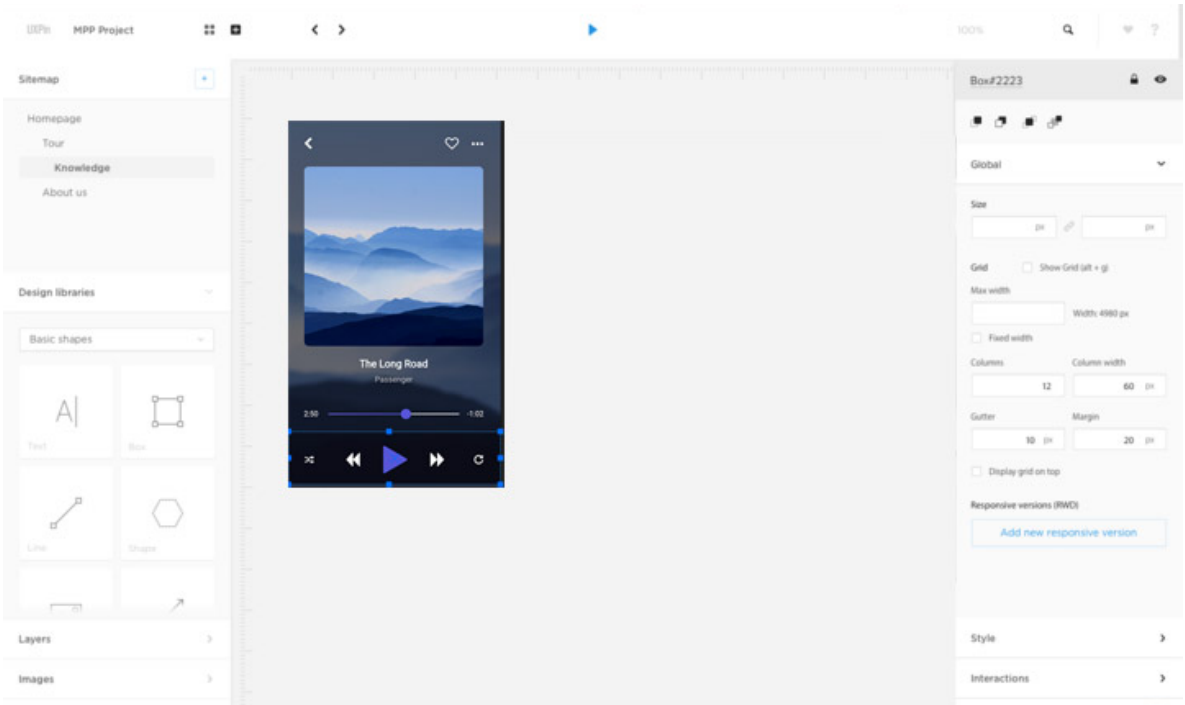
Photo credit: UXPin

The wireframe is the skeleton. Wireframing helps you plan your hierarchy of content so that it's easy to access and visually pleasing. You can draw your wireframe as a sketch or in a digital tool.

If you're using a prototyping tool, you can add some interactions to your wireframes for a quick prototype to test with users. For tips on smoothly transitioning from static to interactive design, check out the free *Guide to Interactive Wireframing*.

4. Prototype

We describe the prototyping process in greater detail in our *Ultimate Guide to Prototyping*.



Start in low-fidelity so you focus on user flows and ease of completing tasks (the bread and butter of usability). Resist the temptation of visual finesse since it doesn't matter how pretty the paint looks if the house is crooked.

As you prototype, make each click feel as effortless as possible. It's great if you can minimize the steps required for user actions, but it's more important that steps feel frictionless.

5. Test with users

Build a workable prototype, then test it with at least 5 users as they complete core tasks.

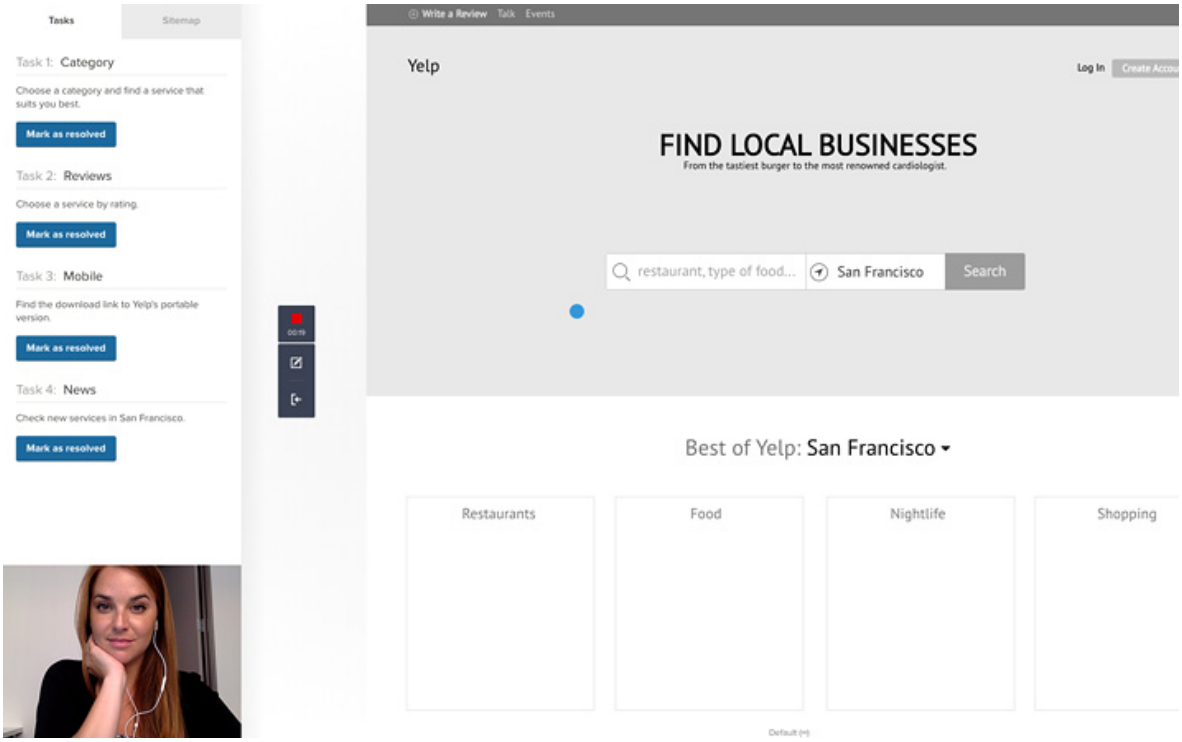
Even if your prototype is rough, you should be able to test for all usability factors except satisfaction (since your design isn't polished enough to elicit accurate responses).

For testing, get both quantitative and qualitative feedback. Observing how users complete tasks, and how long it takes, provides quantitative data – you can count the number of clicks or pages visited. As users run through the app, encourage them to think aloud and record their qualitative feedback.

Usability tests fall into two categories:

- **Moderated Usability Tests** – Tests with moderators on location give you more control, but cost more effort and resources. They're recommended for early designs that might require explanation, such as rough prototypes, or those with a steep learning curve.
- **Unmoderated Usability Tests** – Tests without a moderator are cheaper and faster, and are usually more feasible for most companies. They take less time since multiple tests can happen

simultaneously, recruitment is easier, and – above all – they are highly scalable. Online tools like UserTesting, Usabilla, UserZoom, or UsabilityTools are all great options.



6. **Iterate and repeat until ready.**

   The cycle of rapid prototyping is design, test, implement feedback, and start the cycle over.

   You'll want to repeat step 4 over and over again until your product is getting excellent feedback.

Conclusion

Just like with usefulness, great usability stems from how well you know your user. The testing methods we discussed here will teach you what kind of system your user needs – not the kind the you think they should want (or what they tell you), which is a common trap for designers.

Because the right usability is impossible to guess from the start, implement a cycle of testing every iteration and incorporating the feedback into the next iteration. The iterative process hones your design organically, so only the successful elements survive.

Designing for Desirability

In a post for Treehouse Blog, Aarron Walter adapted psychologist Abraham Maslow's famous hierarchy of human needs to product design.

The bottom of the pyramid, the fundamentals of human life such as food and shelter, were replaced with like functionality and usability. The top, more intangible factors like esteem and actualization, were replaced with delightful design.

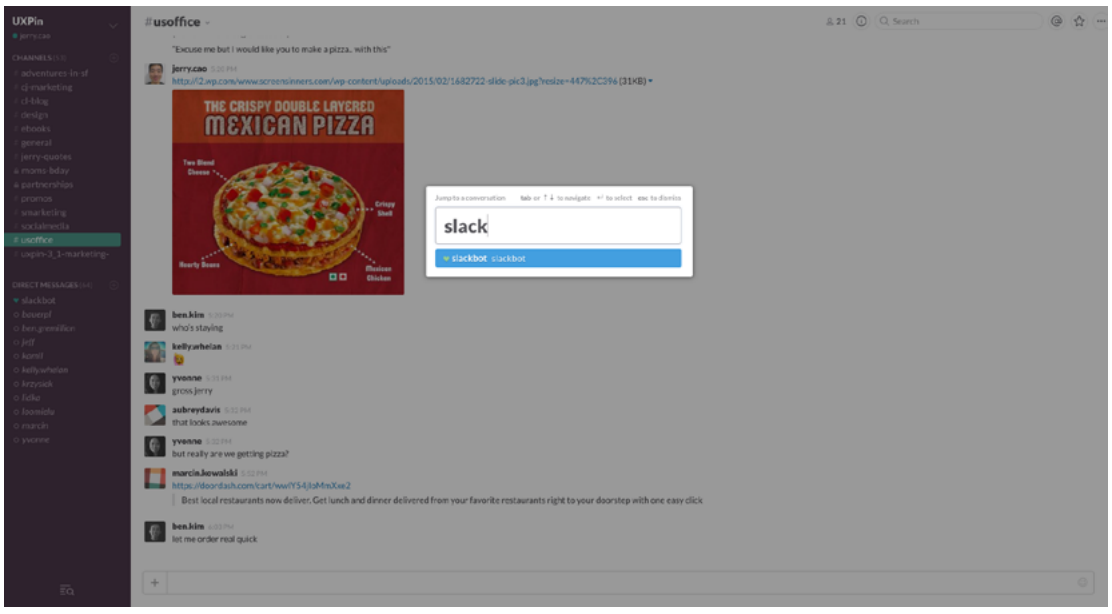


Photo credit: Slack

Make no mistake about it – delight is not as important as usability, which itself is not as important as usefulness. But since we're talking about *great* UX design, your product definitely needs all three.

Unexpected delights easily transforms what could be a bland, mediocre experience into a memorable one. After all, we'd rather sit through a movie with interesting twists and turns than one that meanders toward an ending.

But surprises aren't enough to sustain our attention. Surprises need substance. A movie with plenty of twists and turns but a lackluster plot will only turn off the viewer.

Delightful interactions must be well thought out without sacrificing usability for the sake of enjoyment. There's a fine balance so that you can thrill your users while at the same time empowering them to better accomplish their goals.

Desirable Products Are More Usable

What we mean by delight, enjoyability, and desirability is that certain "X factor," that keeps people coming back. Stefan Klocek calls it a "passive magic," when everything feels so intuitive and effortless. As the most abstract of the three elements listed here, this might be the hardest to apply. But the rewards are great enough to put in the effort to figuring out how.

As Don Norman points out, humans are not the most logical creatures.

Studies have shown that emotional responses are one of the most important determiners in how we make decisions – often surpassing logic. He explains this is for biological reasons, as our ancestors needed to make split-second life-or-death decisions in the wild; but whatever the reason, that's how we're programmed today.

Photo credit: megawatts86. Creative Commons.

Perhaps this explains why another study by Masaaki Kurosu and Kaori Kashimura showed that users *perceive* more pleasing products as more usable. These researchers tested two ATMs that functioned identically. Testers cited the attractive ATM as actually working better, meaning a delightful design can, in a way, improve usability.

Don Norman explains that when users are enjoying themselves, they're more relaxed, and when the brain is relaxed, it functions

better overall. This means learning new concepts, recalling past data, even motor skills occur more fluidly.

Interestingly enough, desirability can be tested right alongside of usability, with a few select questions during the post-test interview. In fact, Microsoft even has their own downloadable Desirability Toolkit, with information and examples to help you get started.

Desire Is Relative to Users

Different users perceive different attributes as desirable. A desirable design is much more than something that looks pretty. Again, this is why you must know your user like an old friend.

Let's look at two popular online retailers to better illustrate the point.

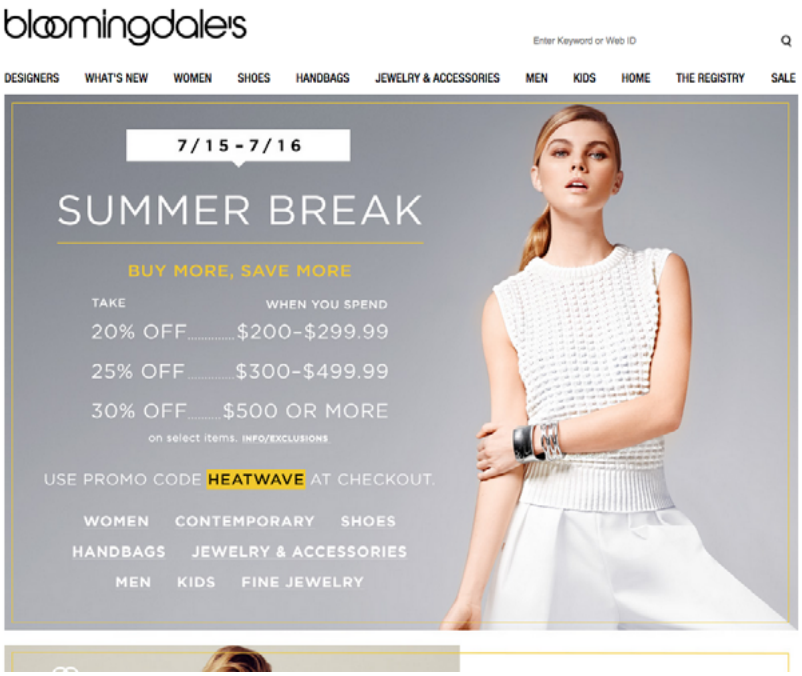


Photo credit: Bloomingdales

Bloomingdales appeals to the high-end shopper. As a result, notice how their sales ad almost blends into overall aesthetic. It doesn't scream "LOOK HERE SAVINGS", but rather "By the way, you might be interested". As you scroll down, you'll see most of the homepage showcases beautiful photos of the latest collections. For those with expensive taste, you might find this particular design desirable because you can easily browse the collections without distraction.

Photo credit: Macy's

On the other hand, Macy's targets the more mid-range shopper.

Notice the drastic difference: their homepage practically screams "SALE". They've even presented the on-sale product categories in sharp contrast so users can immediately click through to what's most

interesting. The images feel almost secondary to the sales language. If you're a mid-range shopper who can afford quality items but appreciates a bargain, you might find this price-focused layout more desirable.

If you want to master the art of delightful UX, you must rely on your understanding of users to prevent you from creating what you feel is most aesthetically pleasing.

Elements of Desirable Design

Desirable design exists on two levels: surface delight and meaningful delight.

Like we explained in the free e-book *Demystifying Delightful Interaction Design*, surface delight includes refined visual design, design consistency, and an overall sense of professionalism. A quirky error message or a surprise animation also counts as surface delight.

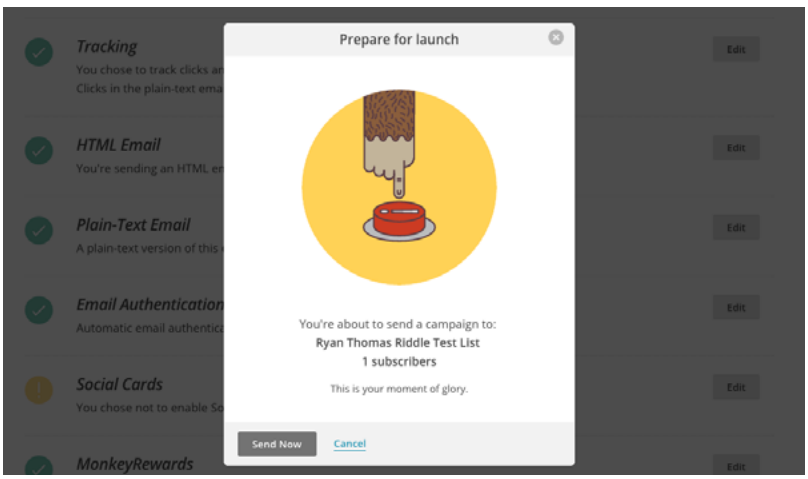


Photo credit: MailChimp

While surface delight is certainly important, we must explore the intangible side of UX to better understand how to create meaningful delight. If you want to give users lasting enjoyability – the kind that creates evangelists – your design needs to empower users.

Stefan Klocek dissects this deeper layer of delight in an incredibly insightful article for Cooper. We completely agree with his breakdown of the following attributes:

1. **Transformation** – There must be some change to add new meaning, utility or a useful action.
2. **Instantaneous** – Hesitations will flatten the surprise and magic of each micromoment.
3. **Uniformity** – The action should coincide with the other elements of the site. Otherwise, the action will be jarring.
4. **Subtle** – Whatever is happening shouldn't distract from the experience as a whole.
5. **Minimal Preparation** – It shouldn't involve work or effort.

The best kind of delightful designs follow the iceberg principle: there's much more than you can see on the surface. The less the design draws attention to itself, the more "magical" the experience seems.

The Core of Desirable Design: The Habit Loop

While delightful moments increase desirability, the product must reinforce the habit loop if it hopes to sustain long-term use. The habit loop is a powerful tool for building desirability, since more than 40% of our time is spent in habitual action.

According to product design expert Nir Eyal in his seminal book *Hooked*, a habit loop is formed by four interconnected phases that entice a user to repeat an action over and over until it becomes instinct. Let's explore these phases through a popular example, Pinterest.

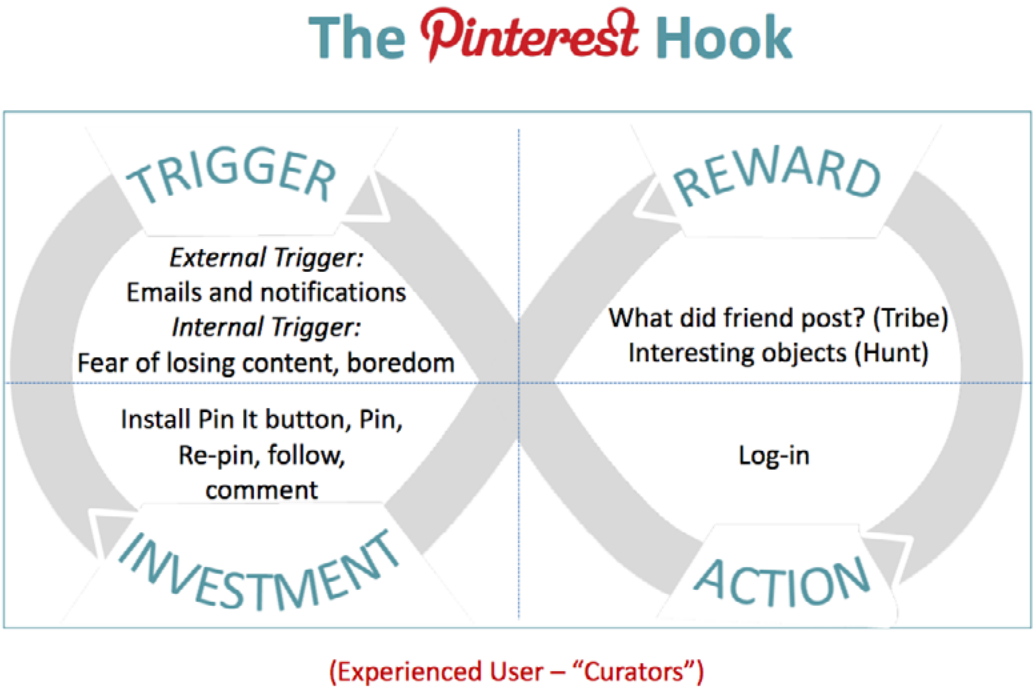


Photo credit: Nir Eyal via Intercom

6. **Trigger** – A cue to start the action. These can be either external visual cues, even something slight like seeing Pinterest in your bookmarks, or something internal, like user's desire to alleviate boredom (*avoiding pain*, as we discussed in chapter 1).

7. **Action** – The specific action taken, in many ways the habit itself. In this case logging in and browsing Pinterest.

8. **Reward** – The reason to take the action, whether completing a task or even a few moments of entertainment. In Pinterest, Eyal describes the rewards in terms of Tribe (relating to how we fit into our social circles), or Hunt (the thrill of finding new content that justifies the search).

9. **Investment** – Each session of the habit should end with deeper investment. This might be slight at first, such as retaining the location of functions, but with more usage comes more investment, such as installing the Pin It button.

Implementing the habit loop hooks makes interacting with the product more enjoyable to users, plus allows UX designers to encourage repetition for key actions.

A Quick Case Study

Duolingo, for example, adds a natural element of delight through gamification.

Unlike some academic language learning apps, Duolingo lives on the exact opposite end of the emotional spectrum. Colorful and, Duolingo allows you to earn “Lingots” currency as you progress in your language. You can then redeem Lingots for challenges like timed quizzes. It sounds boring, but the execution is so charming and fun.

In this case, the Lingot UX trick fulfills the criteria of delightful design. The lingot achievement is mostly unexpected, it's certainly transformative (since you can actually use what you earn), it happens without thought, and definitely without effort.

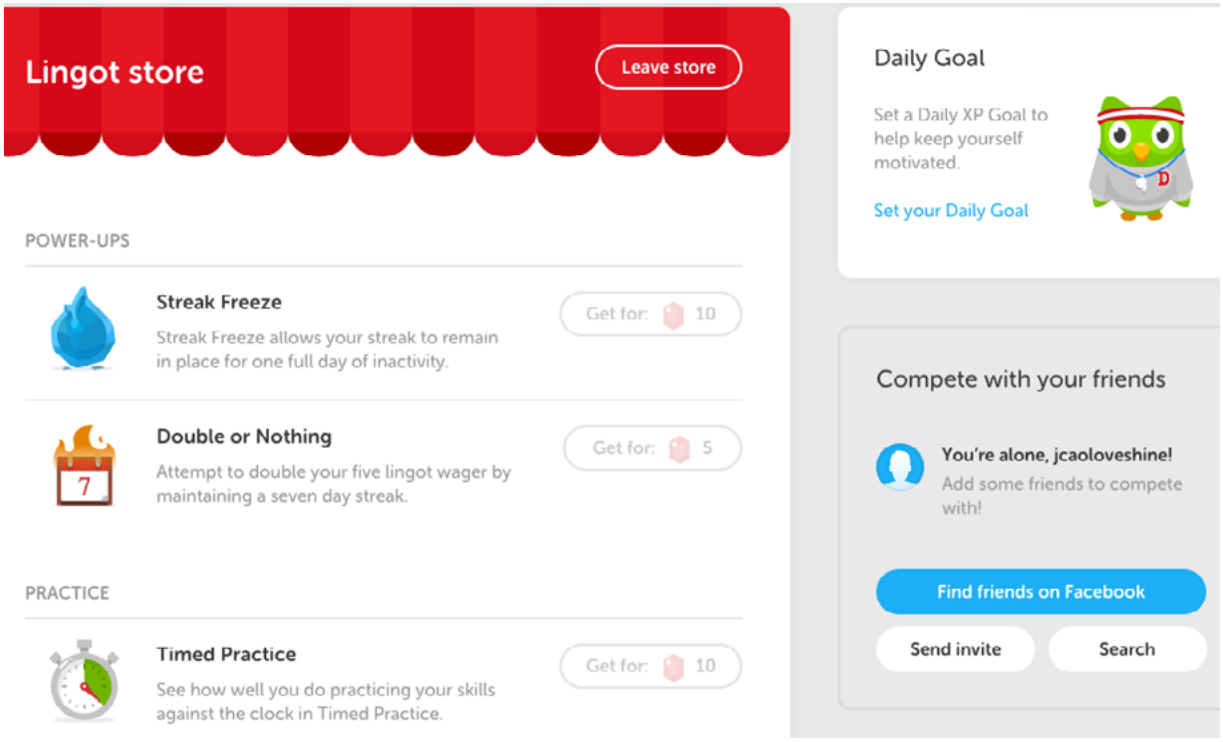


Photo credit: Duolingo

More importantly, the interface is friendly, inviting and stupidly simple to use. It strikes just the right emotional chords for someone who has finally taken the initiative to finally start learning a new language).

You'll also notice how the experience fits into Eyal's habit loop:

1. **Trigger** – The product's email notifications act as an external trigger, while the user's own desire to learn a language internally triggers them to visit and revisit the site. Notice how, with deeper investment (and enjoyment), the internal triggers become stronger until it becomes habit.

2. **Action** – The user logs into Duolingo and begins language training where they left off. This action remains the same every time, although the content of the training changes.

3. **Reward** – The improvement of language skills might be reward enough, but Duolingo strengthens the habit loop by offering Lingots. The site's cheerful graphics and the games encourage repeated use.

4. **Investment** – Duolingo shows users their progress (in terms of completed lessons and daily goals met). Both pride at what they accomplished and disappointment over insufficient progress further motivate users.

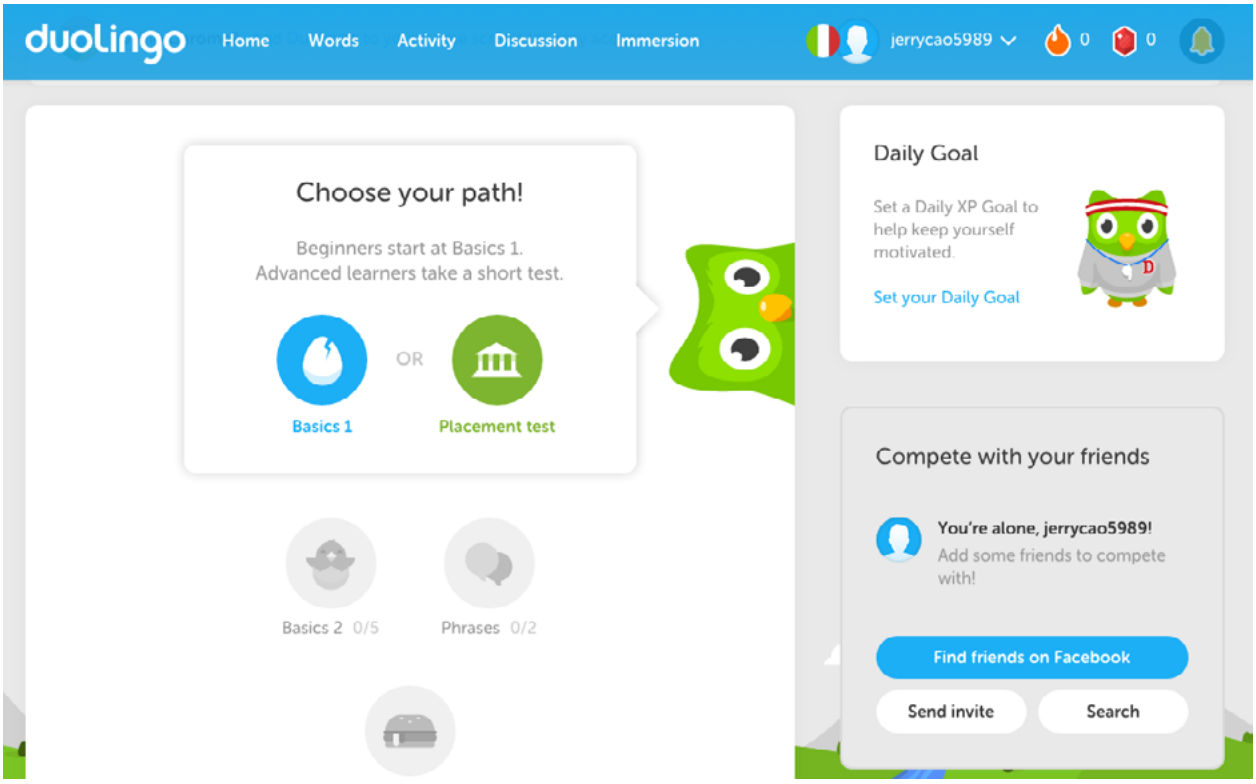


Photo credit: Duolingo

Now compare this to a website that overuses humor for the sake of appearing clever. Which is more useful? Which is just for show?

Usability is your entree and delight is the sauce. Add just enough delight to make the functionality memorable, then get out of the way and let the product speak for itself.

Conclusion

Designer Dave Gorum says this about his approach to desirable design:

> *My rule was and is to add fun up to the point that it distracts from the message.*

That more-or-less sums it up (though it's nice to know the specifics). Websites and apps should be fun – or at least interesting if fun is not an option due to professionalism or content. But the moment that fun encroaches on usability, functionality, or reliability, it stops being fun.

What delights your user most isn't clever wordplay or superfluous interactivity – it's a product that always accomplishes what it promises.

Designing for Value

While design draws from art, creativity, and personal expression, at the end of the day it's still a business.

A product's UX must account for the company's goals, which extends beyond customer satisfaction, to show a tangible return on investment.

In this chapter, we discuss six strategies for increasing the UX business value.

1. **Know the Business Model Canvas**

   The business model canvas is a handy document for quickly visualizing any business model. These canvases come in different variations, the Service Model Canvas or Lean Canvas to name a few, but their purpose is the same: find the perfect balance between user needs and business needs amidst all competition.

   UX designers may not be the ones filling out this form (usually the duty of a product manager, business analyst, or cofounder), but you should certainly understand the framework. The canvas

helps defines the direction of the product's design (which is why we include the above template in UXPin).

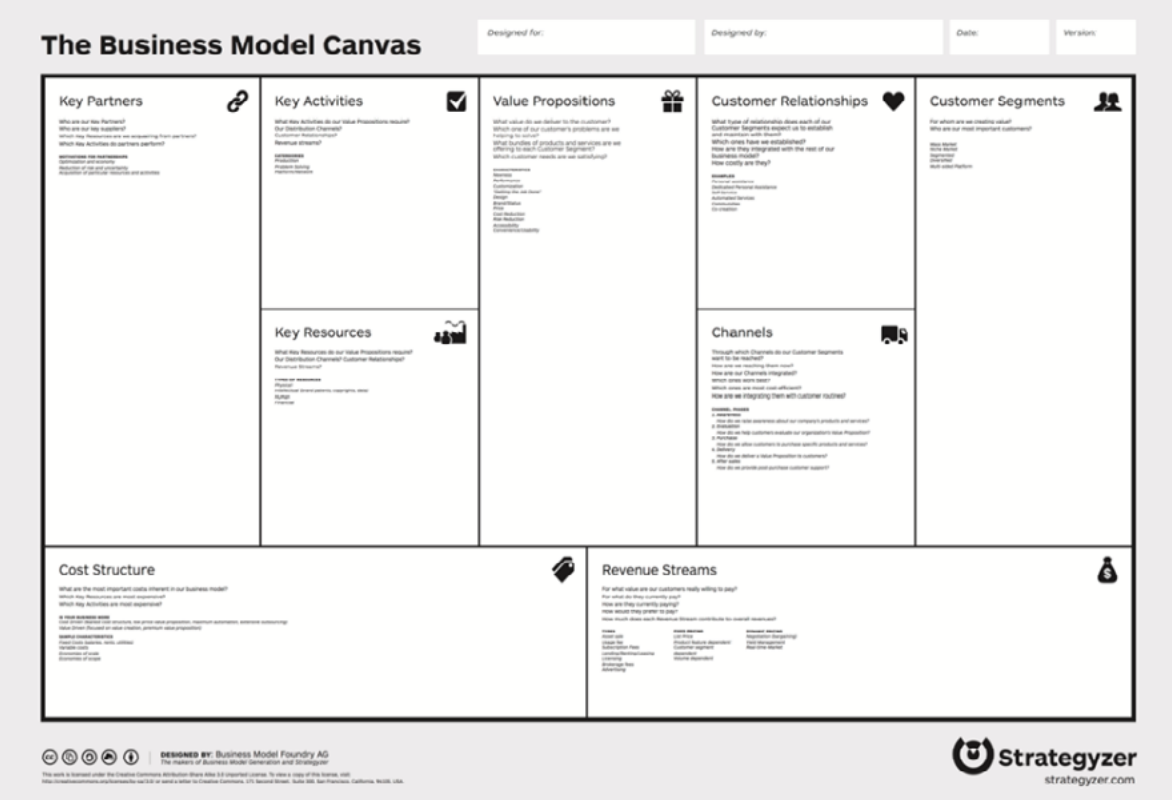


Photo credit: Strategyzer. Creative Commons.

Pay attention to the following fields:

- **Customer Segments** – Which customer groups the product targets. Note which ones are most important, and the differences between mass/niche markets, and between diversified/segmented.
- **Value Proposition** – The point of the product: what user problem it solves. Note the differences in value between different customer segments.
- **Key Activities** – The actions necessary to achieve the value proposition. What needs to happen?

- **Key Resources** – Physical, intellectual (patents, data, etc.), human, and financial resources required to turn concept into reality.
- **Channels** – Which channels work best for the product. Note costs, how they differ between customer segments, and how they fit in with the user preferences and daily routines. Channels can be divided into 5 phases:

  1. Raising awareness about the product
  2. Influencing the user's evaluation of the product
  3. Allowing users to access or purchase the product
  4. Delivering the promised value
  5. Providing services after the sale

- **Cost Structure** – All the relevant costs, fixed and valuable. Note which costs are most expensive, and whether your company is cost-driven (Walmart) or value-driven (Gucci).
- **Revenue Streams** – Everything related to money coming in: how much customers are willing to pay, how they're paying (one-time or recurring like SaaS?), and how much each stream contributes to the overall revenue.

While all of this information might feel overwhelming, you don't need to know every single detail by heart. The process of uncovering the information is much more important since you'll likely collaborate with other departments and reach shared understanding together.

It's easy for us designers to get lost in the world of "clean interfaces," "responsive frameworks," and "fluid interaction design." But the people making the most important decisions think in terms of "monthly churn," "conversion rates," and "net income."

The better you understand their language, the easier you can communicate and earn buy-in for your own ideas. For further reference, Jared Spool's PDF "Revealing Treasures from the Amazon" is a fantastic case study for designing great experiences rooted in business logic.

2. **Understand the 5 Business Goals**

   The business model canvas above only applies to a specific company and product, but it's important to understand how all business works in general.

   In an article for Forbes, Anthony Wing Kosner expounds on a talk by usability design expert Jared Spool. He lists the 5 main priorities for any business as:

   1. Increase revenue
   2. Decrease costs
   3. Bring in new business
   4. Expand existing business
   5. Increase shareholder value

   Examine everything you design through each of these aspects, and reevaluate your decisions if they fall short.

Photo credit: "Destroying Money." eFile929. Creative Commons.

However, not all of your design choices will serve these business goals, directly.

These 5 priorities help you map out your decisions into business terms that executives will understand. Even if the connection is not readily apparent, you should be able to show a link to one of these goals indirectly.

3. Quick Case Study: Bertucci's

The story of Bertucci's illustrates these principles in action. The 30-year-old restaurant chain needed to appeal to the next generation of diners – in other words, increase revenue from a new customer segment.

Photo credit: 2ovens

As described in this Forrester case study, they followed the classic user-centered design model:

- Interview users to learn about eating habits
- Survey users about food preferences
- Invite users out to eat, then document their food choices and eating habits
- Revise the existing dining experience based on user research insights
- Test new design in a prototype restaurant, iterate, then release to public

What was the core UX decision? The designers decided to completely rebrand the restaurant around the existing ovens and place them in full view of diners. Young diners wanted transparency, speed, and a visually captivating dining experience. The 30-year legacy of the old brand simply could not sustain the required experience.

Renaming the restaurants 2ovens, the company successfully re-invented itself and earned profits from an entirely new customer segment. The design decision remained low-cost and high-impact since it did not cause any rippling infrastructural changes (like modifying recipes, altering supply chains, or requiring new culinary skills).

In most cases, the designers might only help redecorate the existing restaurant. But for Bertucci, the designers drove the rebranding – a decision that traditionally falls within marketing.

Great design does not restrict itself to departmental boundaries.

4. Talk to Stakeholders

As the Bertucci example demonstrates, collaboration between departments is required for all great design decisions.

Talk directly with your stakeholders to find out what they want and why. Discussing the issues openly always reveals compromises or miscommunications that satisfy the problem for everyone. Kim Goodwin provides an excellent guide for interviewing stakeholders from multiple departments.

Now let's put this into context with an example.

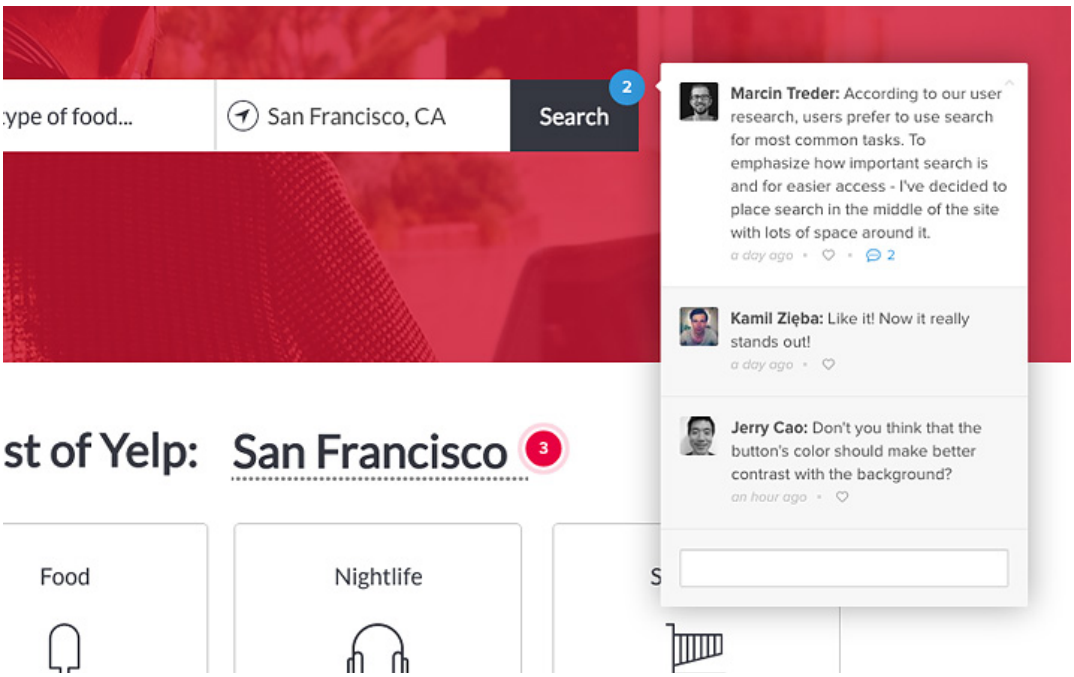
You're working on a landing page redesign, and the sales team wants a signup form with 8 fields to better profile and qualify leads interested in gated materials. This weakens the UX, but their concerns are valid. Do you violate design principles and create a bulky form? Or do you stand your ground no matter what?

The answer is neither.

Think beyond the page so you can tweak the whole flow. In this case, perhaps you could suggest a technical solution like "progressive profiling" that asks a little bit more information from users at each signup touchpoint. During their first download, you could capture their email. On the second download, you ask for their title. Work with the sales team to trim their original 8 fields to 5, then start testing the progressive forms.

You'll probably get more signups than the original 8-field single form (thus delivering high business value), and get cleaner data (since people aren't filling out gibberish to get past the form).

Design collaboration shouldn't mean compromise. When executed correctly with a clear design leader, unexpected solutions begin to reveal themselves to everyone.



5. Add Strategic Friction

Don't get us wrong: under normal circumstances, friction is the enemy of great experiences. You should remove any obstacles.

So why are we suggesting adding friction? Under specific conditions, and with the utmost care, friction works to the advantage of the user and the business.

For example, a modal window alerting users of a crucial update (or confirming a serious decision like leaving an invite-only chatroom) provides information without disrupting the experience. Redirecting users to a separate page, on the other hand, adds too much friction.

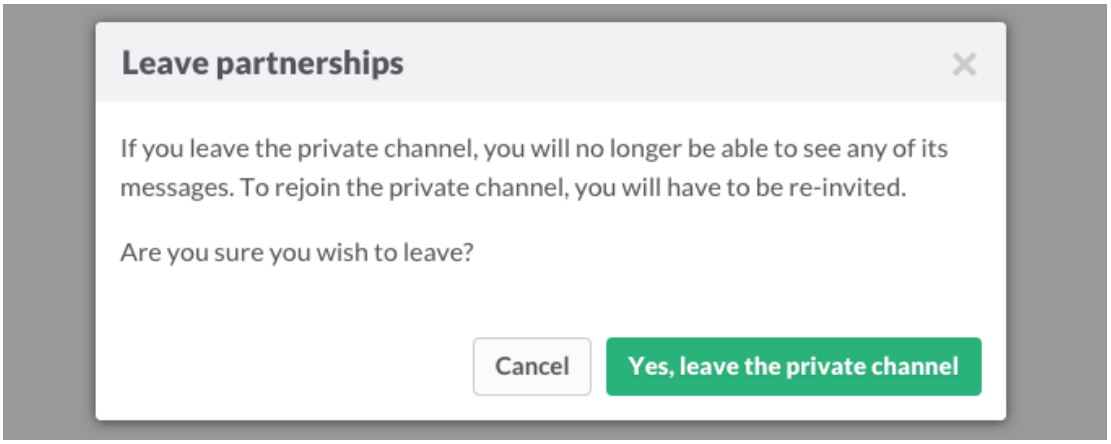


Photo credit: Slack

The right friction can also help improve comprehension.

For example, left-aligning labels on signup forms encourages users to pause and read each line carefully, as opposed to top-aligned labels. This tweak only adds slight friction, but can improve the experience for users and result in better lead gathering.

Friction has other uses as well. Slightly increasing the effort can filter out undesirable users like spammers (think of Dribbble's invite-only system). It can also improve memorability, as the act of figuring something out leaves a stronger impression.

6. Run Experiments

Alissa Briggs, Director of UX at Brigade, told us a powerful story of experimentation at Rosenfeld Media's Enterprise UX 2015 conference.

When she was at Intuit, the UX team conveyed customer feedback suggesting that they simplify multiple tiers of products into one license. Executives resisted, until the team tested their assumption on a small set of users using the experiment grid and found the single license sold better. With the quantitative data in hand, they sold the executive team on the idea and that single-license product now outsells everything else.

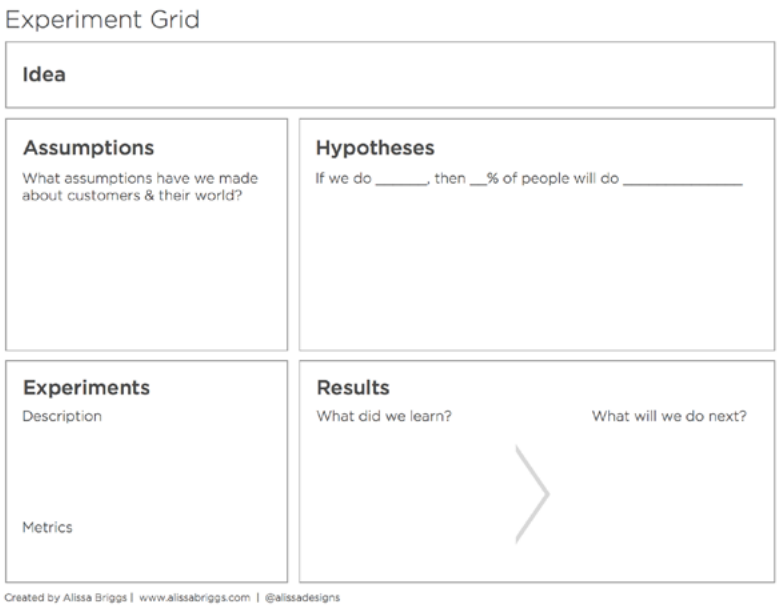


Photo credit: Alissa Briggs

Moral of the story? Learn hypotheses-driven UX design.

But it isn't enough to just present that data. You need to weave that data into a narrative that executives can relate with and digest quickly. Because, as Google's Daniel Waisberg points out, the combination of data and meaningful story engages people on both an emotional and intellectual level.

7. **Go Beyond the Daily Grind**

   We're big fans of Smashing Magazine's Business section and Google Venture's Library because they provide practical design perspectives on very real and pressing business issues. To bring fresh perspectives to your own company, you must learn beyond the daily grind.

   Whether it's virtual learning or a real mentorship, seek the wisdom of others.

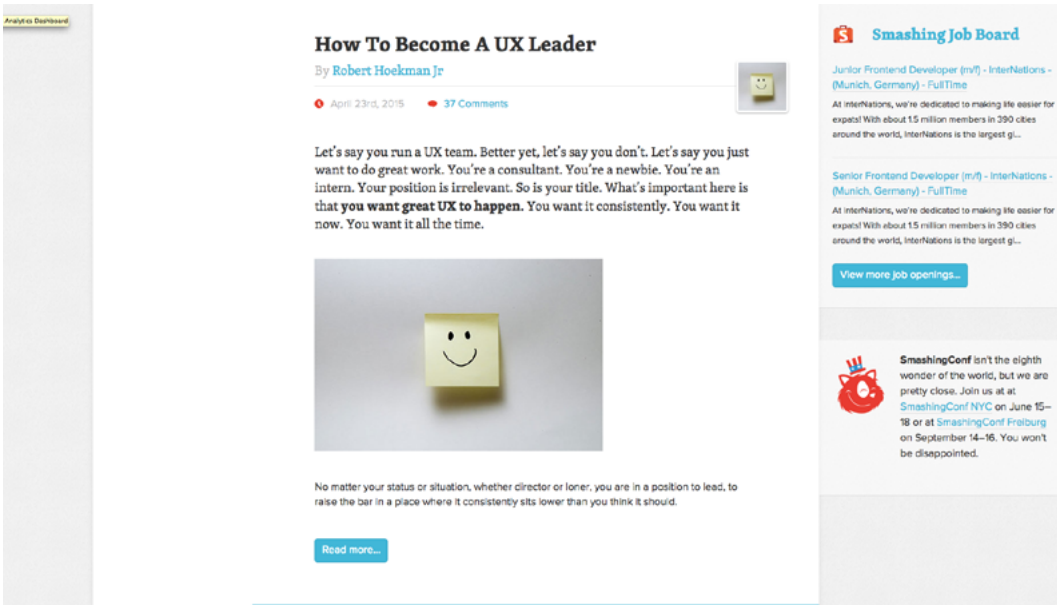


Photo credit: Smashing Magazine

> Once you have a stronger business grasp, you don't just design better - you also have a stronger position from which to defend your design.
>
> It might feel like extra work in the beginning, but better business fluency always pays off in the long-term for your career. It certainly helped our CEO tremendously when authoring *UX Design for Startups* and the *UX Guide for Product Managers*.

Conclusion

Good UX designers are Renaissance people. They may specialize in a certain discipline, but their expertise covers more than just design skills.

What we discussed are just the bare essentials of business every designer should know, but the more you understand about the bottom line, the better your designs will be. Going beyond the daily grind, as we suggest above, keeps you and your product's UX in top form.

Good design is good business. Design without a clear business objective is just directionless art.

Designing for Findability

"Findability" relates to how well users can find relevant content in a site or web/mobile app's navigation.

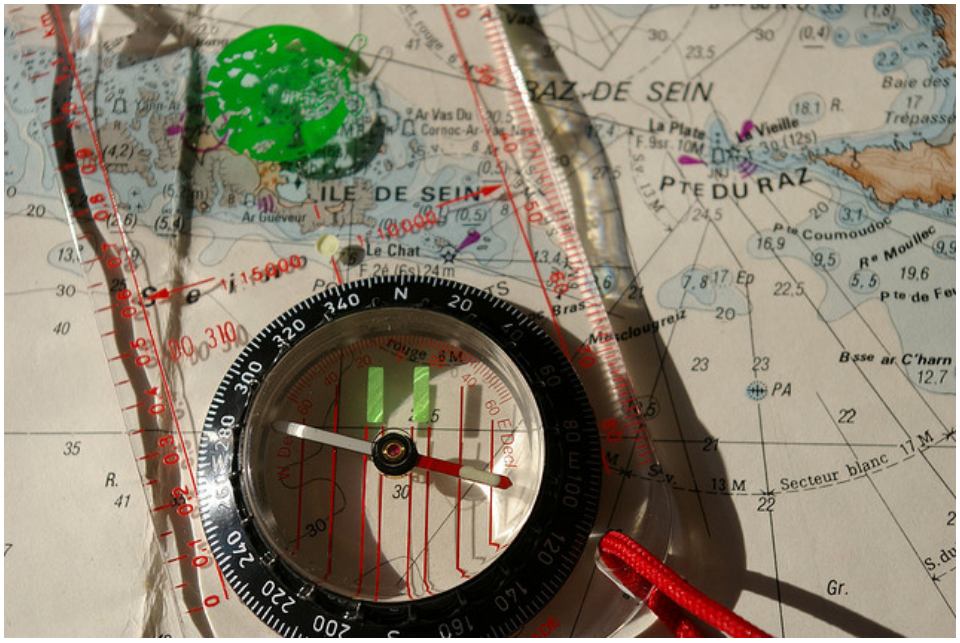


Photo credit: "Navigation (compas regle)." mikou07kougou. Creative Commons.

Time, convenience, understandability, and visual design are all factors to work around. Information architecture (content structure), menu design, and testing are what you work with.

We'll explain the best practices for each in this chapter.

Building the Right Information Architecture

It's easy to get lost in the complexities of IA – you're literally organizing every piece of content in your product. We'll take you through step-by-step what you need to know, starting with the broadest perspective and working inwards.

1. **Top-Down vs. Bottom-Up**

   The two main, and opposing, ideologies for navigation structure are top-down and bottom-up.

   The top-down approach looks at the big picture. It identifies the business and user goals, and then organizes the navigation along those lines. Once the high-level decisions are made, designers can then focus on the details.

   The other side of the coin is the bottom-up approach, which focuses on the details first and builds upwards to the high-level decision. The bottom-up approach considers user data – especially personas and past research – to predict common user behavior and build the navigation system to suit that.

   Despite these two approaches being opposite, the best strategy is to incorporate both. Start with a top-down approach so that you're best able to satisfy your and your users' goals, and then refine the structure with a bottom-up approach, making modifications based on what you know for sure about your users.

2. **Meta Data and "Crucial Categories"**

   When it comes time to start actually organizing your content, assigning meta data to each piece of content helps the process run smoothly. Meta data is simply data about data. Take a shoe for example: information like the style of shoe, the brand, the color, the size, left or right, men's or women's, etc – these are all meta data, and each are different options for how to best categorize it.

   Meta data can get as detailed as you like (the shoe's stitching, the width of the laces, etc.), but you can drive yourself mad unless you reign it in. Stick with only the meta data that's useful to your user.

   Once you have your meta data laid out, determine the "crucial categories," a term Anastasios Karafillis coined in his Smashing Magazine article. Crucial categories are the ones that are likely to be understood by *all* target users, i.e., people are more likely to search for shoes first by brand or style than by size.

   Direct user testing will shine a light on which are crucial categories – we'll explain this later in the chapter.

3. **The Best Practices for Information Foraging**

   The Nielsen Norman Group explains navigation with the analogy of the information scent. Every link or menu option gives a "scent" so that users can predict what will happen if they go there. If the scent suggests that where their target content is, they'll follow.

This feeds into their theory of information foraging, which compares users finding their way to animals in the wild. Animals change their eating behaviors based on the environment, and only exert effort if the outcome seems beneficial. In other words, the user will follow a link only if the scent "smells" like the one they want.

In practical terms, we can take away these six points about IA structure:

1. **Descriptive links and categories** – Give vital details about where the link will take them to strengthen the scent.
2. **Avoid format-based navigation** – Organizing navigation by format gives a weak scent. Sure, having a "Videos" link lets your users know the site features videos, but it doesn't give enough information to entice a click. Moreover, it distracts users from accomplishing their goals because they have to calculate *which* format their target content is in.
3. **Be honest** – You can give a link any scent you want, but if you don't deliver what you promised, it will frustrate the user, cause mistrust of the entire system, and hurt sales/conversions.
4. **Basic language** – For the sake of clarity, use simple language and recognizable words. This means avoiding buzzwords or your own company's terminology.
5. **Cross-reference** – Users won't notice everything on the screen, so get in the habit of cross-referencing links in case they missed the initial one.

6. **Showcase sample content** – Showing samples gives users an exact example of what to expect deeper in the site. If you have samples of tutorials videos on your home page, your users will know exactly what's in store if they click the link for "Tutorial Videos."

What we discussed above should help you wrap your head around the sometimes intimidating task of shaping your navigation system. Now we'll get into the more hands-on advice, starting with existing navigation patterns that can shoulder some of the responsibility.

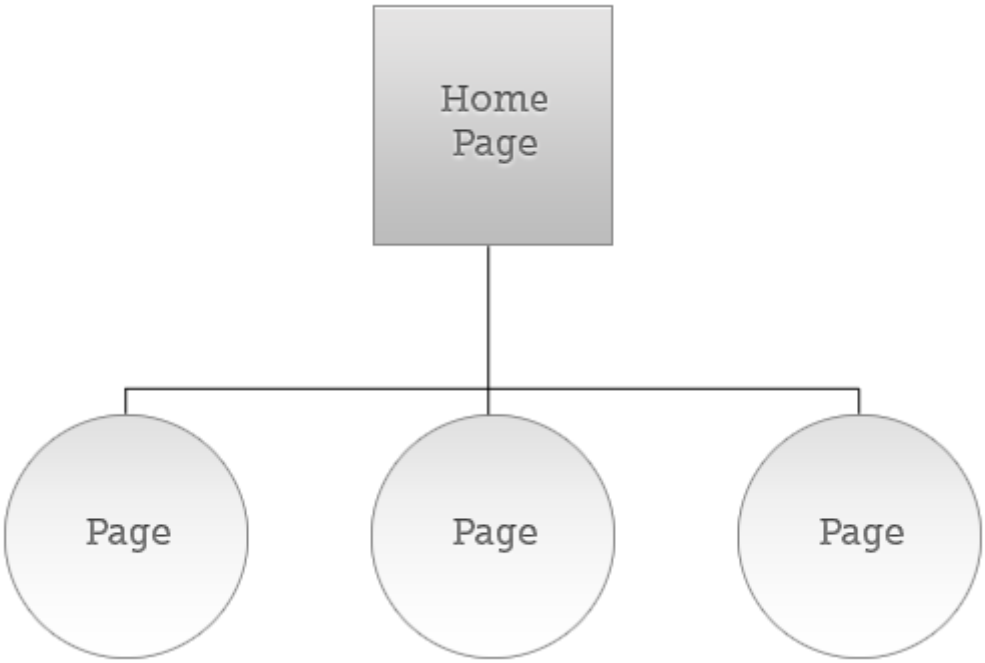
5 IA Layouts for the Web

We can categorize the layout of pages into five categories, from simplest to most complex, as suggested by Cameron Chapman at Six Revisions.

1. **Single Page** – The most basic and easy-to-use navigational layout. If your entire site focuses on only a single central theme, such as a promoting an individual product, this organization will save you and your user time. However, the more information you have, the less effective it becomes.

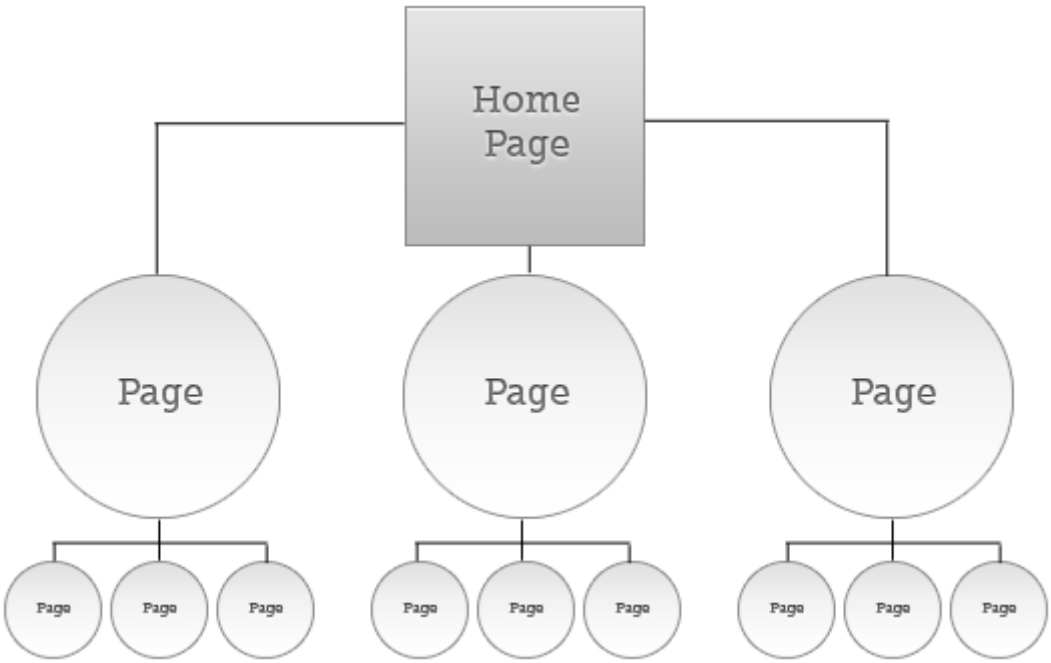
2. **Flat Structure** – A step up from a single page, but still simpler than sites with more complex navigation needs. The flat structure treats each page as equal, and allows users to move laterally between them. This layout is the online equivalent of a brochure.

3. **Index Page** – The most common website page layout features a central "home" page that guides users to the page they want, with all necessary navigation information displayed on that main page.



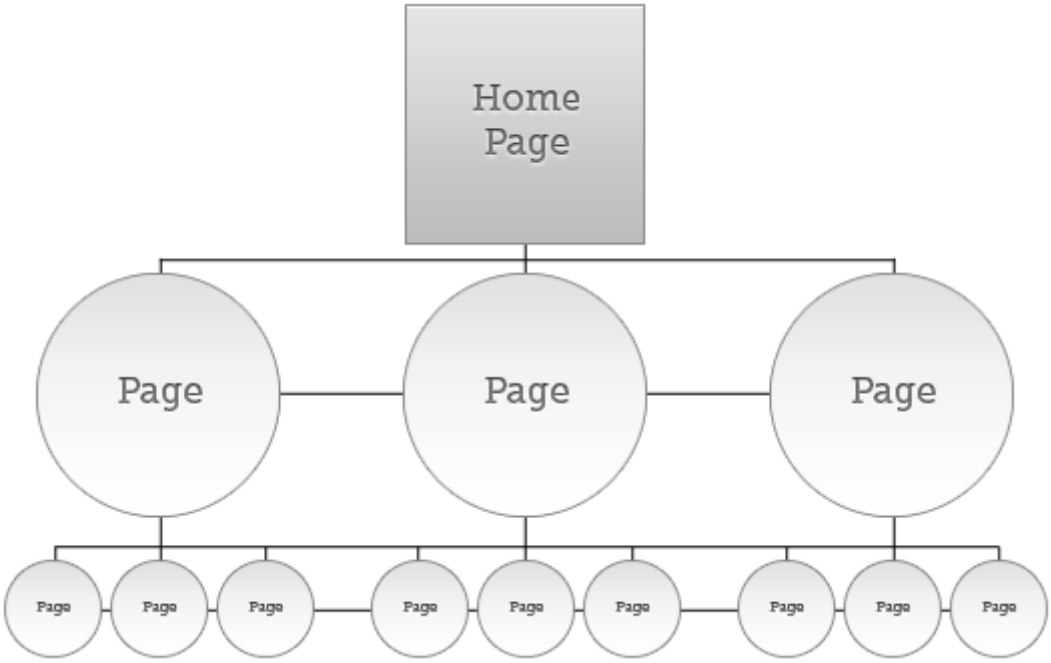
4. **Strict Hierarchy** – For complex sites with a lot of information and pages, a more controlled organization may be necessary. This still revolves around a central index page, however, each second-tier page hosts their own set of third-tier pages (parent and child pages, respectively).

   For example, Squarespace's central page links out to its different services, like Websites, Cover Pages, or Commerce. Clicking on one, say Websites, then offers links to examples divided by industry, like Restaurants, Portfolios, or Weddings, each of which offers multiple links to examples of that type.



5. **Coexisting Hierarchy** – A mix of strict hierarchy and flat structure which allows users to more freely navigate between pages of different divisions. This layout works for sites with a lot of data that isn't exclusive to a single category.

> Take Amazon, for example: users can find their target in a strict parent-child hierarchy style (Electronics => TVs => LCD), but can with a single click go to a page for relevant accessories or even completely unrelated best-sellers.



When deciding which layout is best for you, consider not only the amount of data, but also the amount of overlap between sections.

5 Navigational Menu Patterns

When it comes to navigation (and usability in general), the less you have to explain, the better.

For this, navigational menu patterns work especially well since the user already knows how they work. Anastasios Karafillis explains the five most common ones, again organized from simplest to most

complex. Consider combining these patterns as well, such as a menu bar with secondary drop-down menus.

1. **Menu Bar** – The most basic navigational method, and common enough to be self-explanatory. If your site is simple enough, with only a handful of pages, a prominently placed horizontal or vertical menu is all you need. You can even hide the menu bar in a drawer or hamburger-like icon to conserve space.

2. **Drop-down Menu** – If you have too many pages to fit comfortably into a single menu bar, incorporate drop-downs. These are simply secondary menu bars within the primary menu bar, and fit the parent-child layouts of sites with involved hierarchies.

3. **Mega Menu** – When a drop-down menu is insufficient in displaying all your data, use a mega menu, which incorporates images, grouping, subsections, etc., to make the lists less overwhelming.

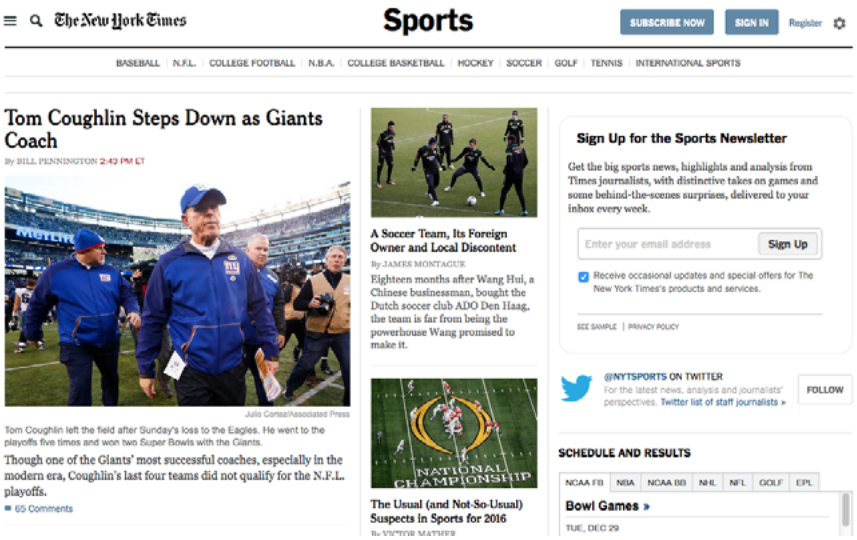


Photo credit: The New York Times

4. **Separate Pages** – Sometimes items require textual explanations, or are simply too much to fit within a mega menu. For these

circumstances, divide your navigation into separate pages. The New York Times lists its main categories (Politics, Sports, etc.) in a menu bar on the home page; clicking one goes to a separate page, with its own menu bar of new subsections (such as Sports' Baseball, N.F.L., etc.).

5. **Dynamic Filters** – For sites with a massive amount of data that can be overlapped, dynamic filters are the best way for users to narrow down their search items. Google Images, with the entire Internet to sift through, allows users to filter their searches by age, size, color, even type.

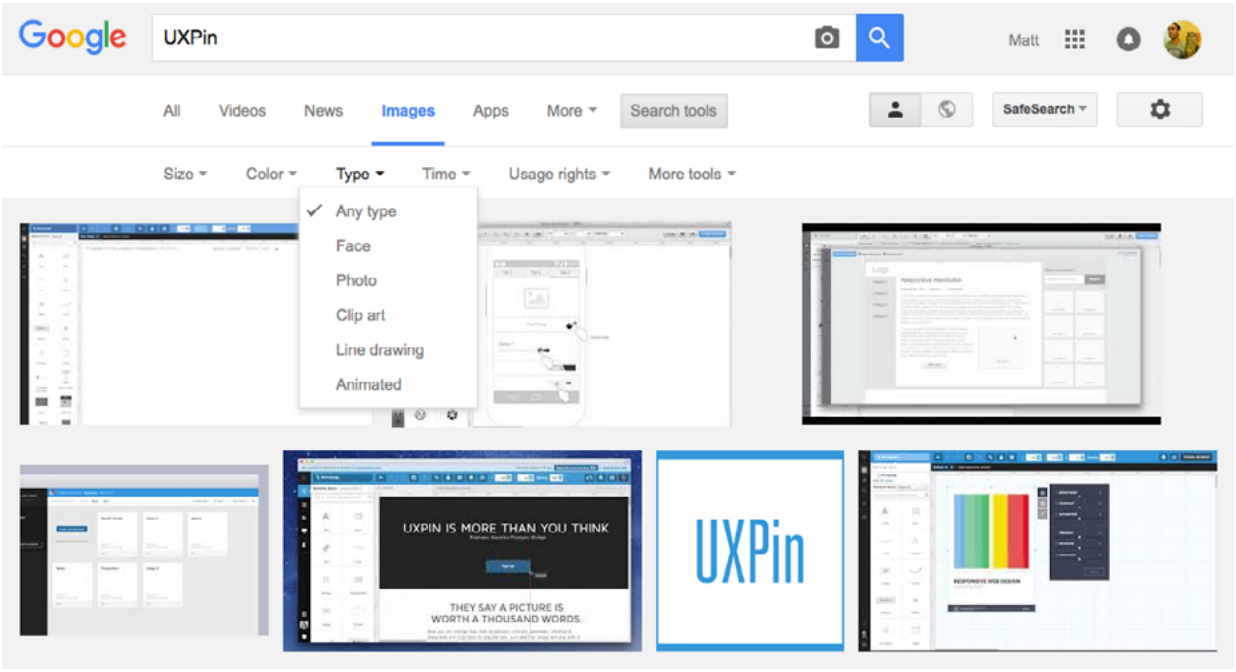


Photo credit: Google Images

Remember these can be combined for even more efficiency. Google Images lists its dynamic filters in a menu bar, with the selections in drop-downs.

Testing Findability

Here are the three useful methods for testing findability.

1. **Card Sorting** – Closed card sorting asks users to organize pages or sections under existing categories, while open card sorting lets users determine the categories. Tools like Optimal Workshop even allow you to conduct the test remotely and organize the data for you.

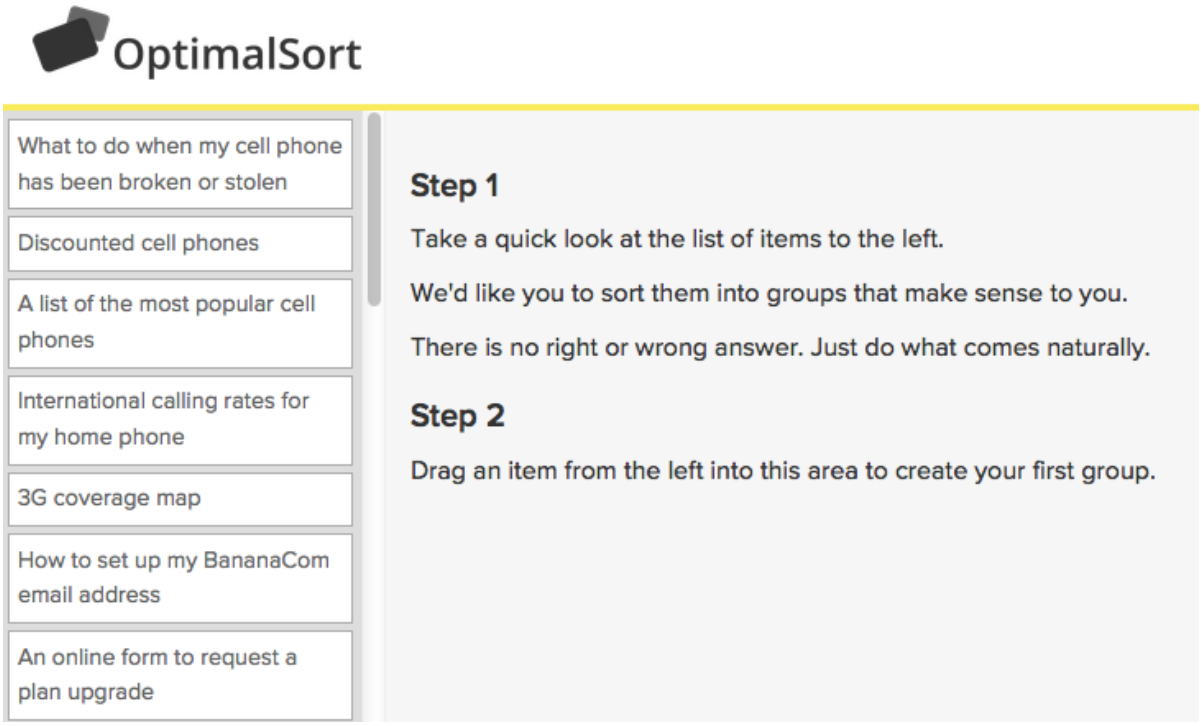


Photo credit: Optimal Workshop

2. **Tree Testing** – Users are given lists of menu items and asked to follow the path they think is best for specific targets. Like card sorting, Optimal Workshop offers an online tool, Treejack, to help, including recruitment. Jeff Sauro gives a chart for the correlation between sample size and margin of error.

3. **Click Testing** – Like tree testing, click testing is another way to test an already existing IA, though this requires a screenshot of a completed interface as well. Show users a static screen, give them a task, then record where they click. The beauty is that it tests the IA in its final element, accounting for factors like placement on the screen, visual cues, and outside distractions.

For more information on testing for IA (and other elements), check out the *Guide to Usability Testing*.

Conclusion

Outlining your site's navigational elements, or findability, can be a meticulous, even daunting chore, which is somewhat ironic considering the end result should seem effortless.

The process of organizing your site should be, itself, organized, so take the time to create meta data and follow the best practices for information foraging.

Consider first the level of complexity and sheer volume of data you must present, and then select the most applicable patterns and layouts outlined above. And, as always, test your results on actual users.

Designing for Accessibility

For a concept so kind-hearted, accessibility almost has a bad reputation in digital design.

It's seen as expensive, difficult, ugly, or unnecessary, but none of these are true. Accessibility isn't something "extra" because it fulfills the same tenets of good UI and UX design.

Photo credit: NPS Graphics. NPS Copyright Policy.

In this chapter, we'll explain how accessibility is not a dreaded word that implies visual sacrifice, but a fundamental component needed to complete any product.

Universal Design

Universal design refers to designing a product that's usable by *everyone*, without special modifications. In this context, accessibility is the *how* of universal design: a product must be accessible to be considered universal.

The point is to design in such a way that the same features benefit regular users and the disabled alike. Universal design treats those with disabilities no different than any other subset of users. A product should not have a separate set of values for impaired users, but to start with a design that's built in a way that values everyone.

Designing for accessibility is about reducing friction. There's a stigma around accessibility because some designers think reducing friction for the disabled means increasing friction for everyone else. The truth is that accessible design should reduce friction for everyone – minimal friction is, after all, a main goal of good UX.

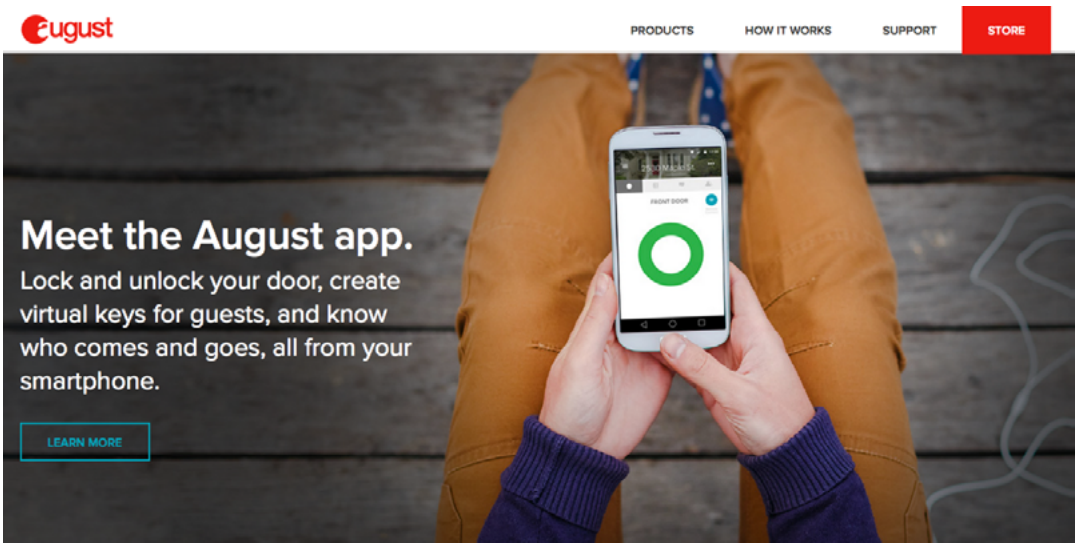


Photo credit: August

Take the August Smart Lock, as Emily Stewart points out.

The Auto-unlock feature automatically unlocks a door when the phone is within close proximity. An able-bodied person finds the feature convenient while a person who is paralyzed may find the feature essential.

While your product may not be in the same vein, the principle still applies: features should help everybody, not just some people. What's good for the goose is good for the gander.

Accessibility, then, is inherent in any well-designed product. Great products are useful – and *usable* – to everyone.

What Accessibility Means for UX Design

Aside from simply good design, accessibility furthers W3C Web Accessibility Initiative, which aims to make the internet usable for everyone. In the words of W3C Director Tim Berners-Lee:

> *The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect.*

In the context of web design, accessibility means complying with certain documented guidelines:

- **Web Content Accessibility Guidelines 2.0** (WCAG) – A broad range of recommendations for making web content accessible, that are not technology specific.
- **User Agent Accessibility Guidelines 2.0** (UAAG) – Guidelines targeting developers for more accessible user agents, such as browsers, plug-ins, media players, and readers.
- **Authoring Tool Accessibility Guidelines 2.0** (ATAG) – Guidelines for authoring tools to benefit both disabled users and creators of content.

These documents and others also list specific accessibility guidelines for mobile usage. Mobile devices come with their own set of difficulties. Elements like screen size, zooming, and visibility issues pose greater problems to the visually impaired.

In fact, both the Android Developer Guidelines and the iOS Developer Guidelines include specific advice about designing for accessibility.

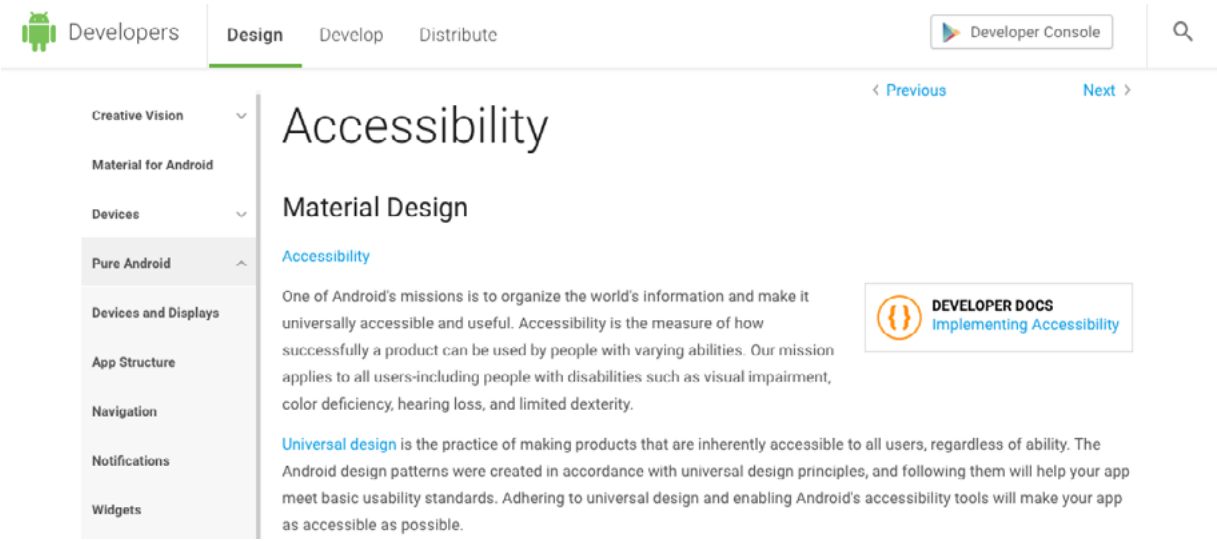


Photo credit: Android Developers

To better understand what accessibility means for UX design, the W3C uses the acronym POUR – Perceivable, Operable, Understandable, Robust – to explain the characteristics of an accessible interface:

- **Perceivable** – There are ample alternatives for experiencing content, such as text-alternatives to audio content for hearing impaired.
- **Operable** – Users can actually use the product without time or functionality restraints. Operable designs entail complete keyboard functionality and content that remains sensitive to people with epilepsy. Returning to our previous example, the August Lock is quite operable since the device works regardless of physical capabilities.
- **Understandable** – Content is readable and the product functions consistently. Again, notice how the principles aren't anything "extra". Any design must fulfill this criteria.

- **Robust** – A product is compatible with user tools and aid, both current and for the future.

Satisfying these four traits means designing with disabled users in mind. While the goal is to design universally, it helps to understand the common disabilities associated with accessibility, and their unique requirements:

- **Motor (Physical) Disabilities** – Disabilities that limit a person's movements.

    1. Mouse-only controls
    2. Keyboard-only controls
    3. Voice-activated controls.

- **Hearing Impairment** – Disabilities affecting audio options.

    1. Captions
    2. Transcripts

- **Vision Impairment** – Blindness, low vision, or color blindness.

    1. Screen enlargement
    2. Keyboard-only controls
    3. Screen-reader compliancy
    4. Sizable fonts
    5. Adequate color contrast
    6. Properly labeled elements for screen readers

- **Cognitive Disabilities** – Mental and learning disabilities, including trauma.

1. Consistent navigation
2. simple interfaces
3. no distracting or confusing visuals

In addition, designers should also consider users who are temporarily disabled. You can't simply divide your users into disabled and not disabled. Sometimes, the same users fluctuate between the two. A user with a broken arm might have to temporarily rely more heavily on the mouse, for example.

Furthermore, people are going to be using your product under varied and unpredictable conditions. The same accessible features that help cognitive disorders will also help in situations where regular users are distracted or otherwise not thinking clearly.

Benefits of Accessibility

As we mentioned above, accessibility should benefit more than just the disabled. The reasons to design for accessibility go beyond altruism:

- **Reach a larger audience** – To put this in perspective, inaccessible products automatically cut off a large sector of potential users. How large? We explain below.
- **Better usability** – The same tactics that make a UI more accessible also make it easier to use in general.

- **Improve SEO** – For the web, accessibility techniques such as text-linking, image descriptions, and semantic markups also naturally improve SEO. Mike Waterston explains more for the Siteimprove blog.

Don't make the mistake of thinking an inaccessible product will only alienate a negligible amount of potential business. Based on a 2012 release from the U.S. Census Bureau, as many as 18.7% of the American population (56.7 million) is living with a disability, with 12.6% (38.3 million) classified as severe. The break down looks like this:

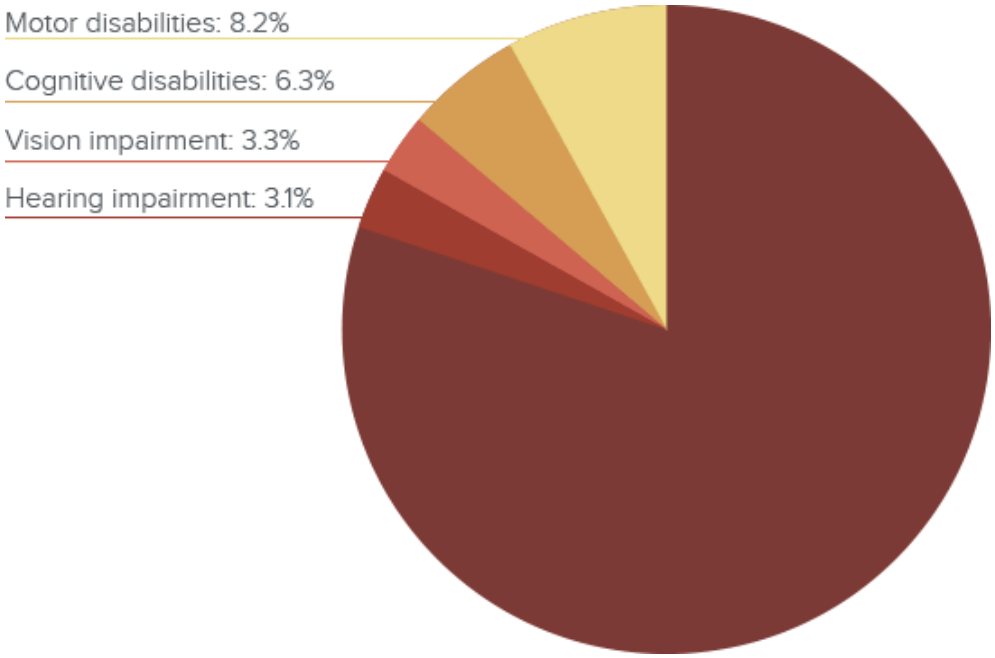


Photo credit: UXPin

- 8.2% (19.9 million) – Motor disabilities (specifically lifting or grasping, pertaining to mouse/keyboard preferences)
- 6.3% (15.2 million) – Cognitive disabilities
- 3.3% (8.1 million) – Vision impairment
- 3.1% (7.6 million) – Hearing impairment

These statistics don't even account for color blindness, which affects 8% of the global male population (but only 0.5% of females). While not severe, color blindness can be detrimental in web design, where colors sometimes indicate usage or functionality.

The point is that inaccessible products limit their business from the start, potentially up to 20%.

If that's not enough to scare you into designing for accessibility, the W3C explains a cautionary tale of the $3M lawsuit Target lost for failing to accommodate vision-impaired users on its website.

Accessibility Best Practices

Often, accessibility best practices are just best practices overall – simple interfaces, alternative user pathways to suit user preferences, etc. Below, we've listed the best practices that specifically aid disabled users and don't spell out hours of extra work.

1. **Execute the fundamentals flawlessly**

   A good start to accessibility is making sure the UI is rock-solid.

   Clear and logical designs benefit everyone, as does consistent navigation. The big difference, though, is that inconveniences like cluttered screens or navigation inconsistency become even bigger obstacles for people who are visually impaired.

2. Enable keyboard navigation for web design

Power users in general prefer keyboard navigation, and the availability of hotkey shortcuts is always a welcome addition.

But for disabled users, these features are mandatory. This means going beyond "tabbing" or scrolling with the space bar. Check out Wikipedia's complete table of keyboard shortcuts to see the recognized standards for keyboard control.

Action	Windows	Mac OS	KDE/GNOME
New browser window with same page as current	Ctrl + N (for both explorer.exe and iexplore.exe)		Ctrl + N
New folder	Ctrl + ⇧ Shift + N	⇧ Shift + ⌘ Cmd + N	Ctrl + ⇧ Shift + N
Applications menu	⊞ Win or Ctrl + Esc	Ctrl + F2, then "n" (requires full keyboard access active, using System Preferences > Keyboard > Keyboard Shortcuts > Full Keyboard Access > All Controls. Alternatively use Ctrl + F7 to toggle this setting.)	Alt + "n" e.g. for _File_ Alt + F
Lock desktop	⊞ Win + L [2]	Ctrl + ⇧ Shift + Eject or MBR Ctrl + ⇧ Shift + Pwr (If "Require password after sleep or screen saver" is enabled in "System Preferences — Security & Privacy")	Ctrl + Alt + L
Show desktop	⊞ Win + D or ⊞ Win + M (then use ⊞ Win + ⇧ Shift + M to bring back all windows)	F11	Ctrl + Alt + D
Log out user		⇧ Shift + ⌘ Cmd + Q	Ctrl + Alt + Delete
Switch active user	⊞ Win + L [3]		
Task manager	Ctrl + ⇧ Shift + Esc, Ctrl + Alt + Delete [4]	Alt + ⌘ Cmd + Esc	Ctrl + Esc
Rename object	F2	↵ Enter or F2	F2
Open file or program	↵ Enter or ⇧ Shift + ↵ Enter	⌘ Cmd + O	↵ Enter
Switch window (next/previous)	Alt + Tab ↹ / ⇧ Shift + Alt + Tab ↹	⌘ Cmd + Tab ↹ / ⇧ Shift + ⌘ Cmd + Tab ↹	Alt + Tab ↹ / Alt + ⇧ Shift + Tab ↹
Switch window without dialog (next/previous)	Alt + Esc / ⇧ Shift + Alt + Esc	Only works within single Applications ⌘ Cmd + ` / ⌘ Cmd + ~	Alt + Esc / ⇧ Shift + Alt + Esc
Run application	⊞ Win, enter executable name or ⊞ Win + R, enter executable name	⌘ Cmd + Space, enter executable name	Alt + F2, enter executable name

Photo credit: Wikipedia: Table of keyboard shortcuts

3. Prioritize Text Clarity

The biggest obstacle for visually impaired users is text clarity, so designers should take every measure to increase legibility (clarity of letters) and readability (clarity of text blocks). Here are four

easy-to-apply techniques that users who are visually impaired will surely appreciate.

Photo credit: "Two way this way." With Associates. Creative Commons.

1. The W3C cites the a minimum contrast ratio between text and background as 4.5:1 (for large or bold fonts, it's acceptable to drop to 3:1).

2. Body text should be a minimum of 16 pixels.

3. Spacing between lines should be at least 25% of the font size. With the 16-pixel minimum size above, spacing should be 4 pixels or more.

4. Allow font resizing in style sheets by using a measure other than pixels, such as *em*, *pt*, or relative sizes.

Like the principles of universal design, improved readability helps *every* user, though some more than others.

4. **Don’t rely exclusively on color**

   As we said above, color-blindness affects close to 10% of the population.

   While a color code can be a shortcut to faster and more efficient communication about functionality, don’t forget labels for explaining crucial functions.

   For example, let’s say there’s an error with an input field. Outlining the box in red is a good way to communicate a problem, but also include an exclamation point icon for fuller accessibility.

   If you’re ever in doubt about designing for the visually-impaired, look at your interface through a black-and-white filter.

5. **Order content in HTML for screen readers**

   Ever since the separation of HTML and CSS, developers are able to alter what users see without changing the structure of the code. In addition to simplifying the design process, this also allows for better usability with screen readers.

   While sighted users can simply scan the page and click on their preferred selection, users with screen readers must sit through the screen readers explaining every element on the page. Imagine the frustration with clicking a link to an article and having to sift through the entire navigation menu.

With the separation of HTML and CSS, though, you can reorganize the code to suit screen readers without changing the screen layout at all. The navigation menu can stay at the top, best for sighted users, while the code for it stays at the bottom, best for screen readers.

6. **Explanatory link text**

   Some screen readers have the option to list out every link on the page, but this feature is meaningless if the link text is merely "click here" – taken out of context like this, it's impossible to tell where it leads.

Photo credit: BBC

Include link descriptions that can be understood independently, out of context. Don't go overboard, though. Text is a design element, so never include more than necessary.

7. **Use a 40x40 pt. clickable area for touch controls**

   Accessibility means designing for everyone, whether technically disabled or not.

For touch controls, any area less than 40x40 pts. will cause trouble for some users. This is the preferred norm for accepting all finger sizes, as well as any assistance tools.

8. **Follow the accessibility checklist**

   How accessible is your web app or website?

   Nomensa, in conjunction with Sky, released this handy accessibility checklist.

   You'll notice that most of the items on the list are more than just accessibility guidelines, but tips for a better UX overall. It's a great way to keep on track throughout the process, so check it out.

Quick Case Study: Apple.com

If you ever need any guidance or want to see accessibility at work, check out Apple.com.

Photo credit: Apple.com

- Apple's minimalist style makes everything organized and easy to understand, and reflect this structure in their layout. This helps both the visually and mentally impaired.
- The colors and contrast are suitable for visibility and legibility, but with enough diversity to stay visually interesting.
- The site uses keyboard controls and avoids pulldown menus altogether.
- Most text content is in short snippets, perfect for screen readers or those with trouble reading.

Conclusion

Accessibility is just good UX design.

Accessibility guidelines are not something optional– they are synonymous with good design period, and should be implemented regardless of who your users are.

Designing for Credibility

Spammers, scammers, and identity thieves – the world is a scary place.

Photo credit: Down the Rabbit Hole. Creative Commons.

It falls on the individual site or app to prove its credibility through the product design and design of marketing assets (like landing pages). Designers just can't expect the users to trust them with blind faith.

In this chapter, we'll discuss the best practices for ensuring that your product says what it does and does what it says.

First Impressions Matter

You only get one chance – and about ten seconds – to make a good first impression. The Nielsen Norman Group recounts a study citing that users will leave your site within 10-20 seconds unless you can prove your worth. That means you don't have much time to establish credibility and clearly communicate your value.

A different study from Stanford proves that, for web users at least, visuals are the number one factor in determining credibility. Combining the two studies shows just how important your landing page's visual are to establishing trust, as quickly as possible.

Polished aesthetics and intuitive usability are the two base ingredients for building trust. Good usability instills confidence, while the eye candy increases desire to use the site or app.

Even if your product strives for an edgy or progressive style (perhaps applying asymmetry), you still must create a sense of order. Clean interfaces composed of universal UI patterns are stupidly simple to use.

Quick Case Study: Chase

For banks and financial institutions, trust is paramount.

The layout for Chase's site is not only visually appealing, it's also self-explanatory. They don't rely on their name alone for credibility. The design isn't groundbreaking, but you don't need a completely original design to appear trustworthy.

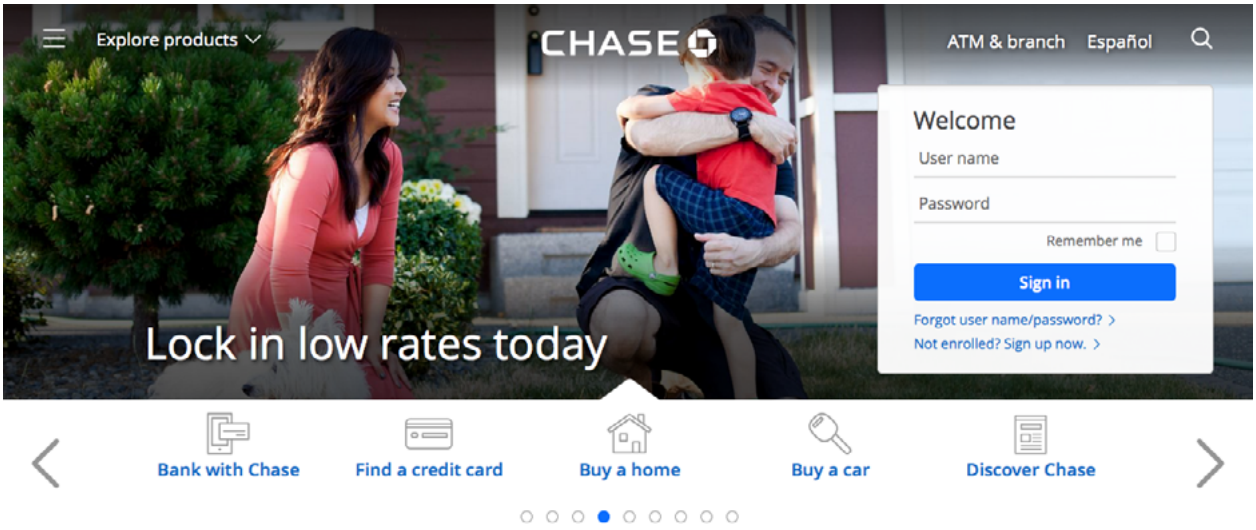


Photo credit: Chase

Notice the basic visual logic at work:

- A readable sans-serif typeface with soft edges creates a feeling of comfort and hospitality.
- The tasteful icons appear friendly and designed by professionals.
- The login/signup window – a likely first step – is given visual priority by clearly standing out from the photo behind it. The form's rounded edges also draws attention to the content while feeling safer since the brain has evolved to see sharp edges as a threat.

- The top navigation menu offers more options without cluttering, thanks to smart spacing, a hamburger icon, and an expandable search feature.
- The brand's use of blue colors strikes the right emotional notes. As this article suggests, blue creates a sense of safety and reliability.
- The stock photograph feels candid, not a posed cardboard cutout.

When you see the landing page, you just seem to know that this company knows what they're doing. You feel a sense of structure, which leads to a sense of safety. Compare their layout to this UK used-car seller, which is… let's say, far less structured.

Discussions around visual details like grid alignment, colors, and typography depend on far more than one's personal taste. When they match the mindset of your user, you've already carved a clear path towards conversions.

For a bottom-line example of how smart visual choices lead to more revenue, check out this story of how Airbnb improved host profitability by investing in HD photos to appear more credible.

Building a Credible Product Interface

A large component of credibility is avoiding the common red flags users recognize from previous bad experiences. Aside from fulfilling the requirements of usability and performance we described before, we'll describe a few more useful tactics below.

1. **Consistency**

   A good practice all around, consistency is strongly linked to reliability. That is to say, *in*consistency suggests disorganization and incompetence.

   Consistency manifests itself in two different forms. First, your design must be *externally consistent* with users expectations and prior experience. Secondly, your design be *internally consistent* with itself through strict adherence to style guidelines (e.g. using the same icon styles, button shapes, etc.).

   You can achieve external consistency through careful user research, proper UI patterns, and usability testing. You can achieve internal consistency by checking:

   - The same styles and color schemes across different pages or screens.

- Layout and navigation consistency mean features are always in the same place, such as a search option always in the upper-right corner.
- Functional consistency means visuals reflect the same function across the whole design, such as a green button always meaning Save.

To help maintain consistency throughout the entire site or app, and more importantly so that every team member is on the same page, try compiling a style guide.

2. **Quality Assurance**

   It's difficult to nail down all performance issues while you're still in the designing and building phases. Once the final product is ready (or a late-stage prototype) conduct a thorough quality assurance check. This involves going through every page or section of content to make sure there are no errors and everything behaves as it's supposed to.

   The two common areas to examine in a quality assurance check are:

   1. **Functionality** – All interactive buttons work. This includes clickable functions and features, but also more subtle aspects, such as hover-triggered animations and gesture controls.
   2. **Proofreading** – Typos and grammar mistakes scream untrustworthy – think of a typical spam email. Comb through all text

to eliminate all errors, and hire a professional if your English is not up to the task.

Quality assurance may seem like an unnecessary step, especially if you're behind schedule. But chances are there's a least one or two errors you missed during production, and if you don't catch them, your users will.

On a related note, no product is infallible. If you anticipate any downtime, notify users well in advance (at least 1 week) of the maintenance windows.

3. **No False Buttons**

   As a rule, only buttons should look like buttons.

   False buttons frustrate the user, who waste time clicking them. The mistrust will spread to your whole design since users will think twice before interacting with other elements.

   Don't outline words or phrases in a box unless the user can click on it.

4. **No Dark Patterns**

   As the name suggests, dark patterns are designed to trick users into actions that make the company more money.

   While tempting for short-term gains, they always damage the brand in the long run. You might be able to fool the user once or

twice, but once they realize the deception, you'll probably never earn their trust back.

- Never sneak items into a user's shopping cart upon checkout.
- If users pay for a certain set of actions (e.g. 20 usability tests per month), don't allow for more actions than what a user paid for, then demand payment or you'll lock the account. Hostage-taking is never a viable UX strategy.
- On a more subtle yet equally sinister note, don't design difficult opt-outs (like forcing users to take multiple steps to cancel an account).

To learn more, check out UX Designer Harry Brignull's excellent collection of dark patterns. The gallery is a cautionary tale for designers and companies alike.

Selling the Product Through Social Proof

Once you've designed a credible product, you still need to convince others why they should buy it from you.

When it comes to actually establishing credibility as a brand, few strategies are more effective than social proof. As a social species, humans instinctively look to others for guidance. No one wants to eat in an empty restaurant.

Social proof works by perpetuating the bandwagon effect.

In marketing, this can be simplified as, the greater the product popularity, the easier it is to become more popular – e.g. a social snowball. This Stockholm University study even shows how users are more likely to Like a post via Facebook if multiple others have Liked it already, especially known peers. This is part of thinking behind the UI pattern of listing social shares.

Photo credit: UXPin Studio

Think about it: a single 5-star rating might seem suspicious, with too many unknown factors at play. However, hundreds of 4-star ratings gives the product more credibility, despite the lower rating.

Social proof comes in different forms – advice from experts, celebrities, other users, friends, or even sheer numbers of people. Here are 5 effective strategies any digital product can try:

1. **Logos of Famous Clients**

   The pattern of displaying company logos is common for any product that has earned the patronage of trustworthy companies. Big brand companies don't just do business with anyone, so you become credible by association.

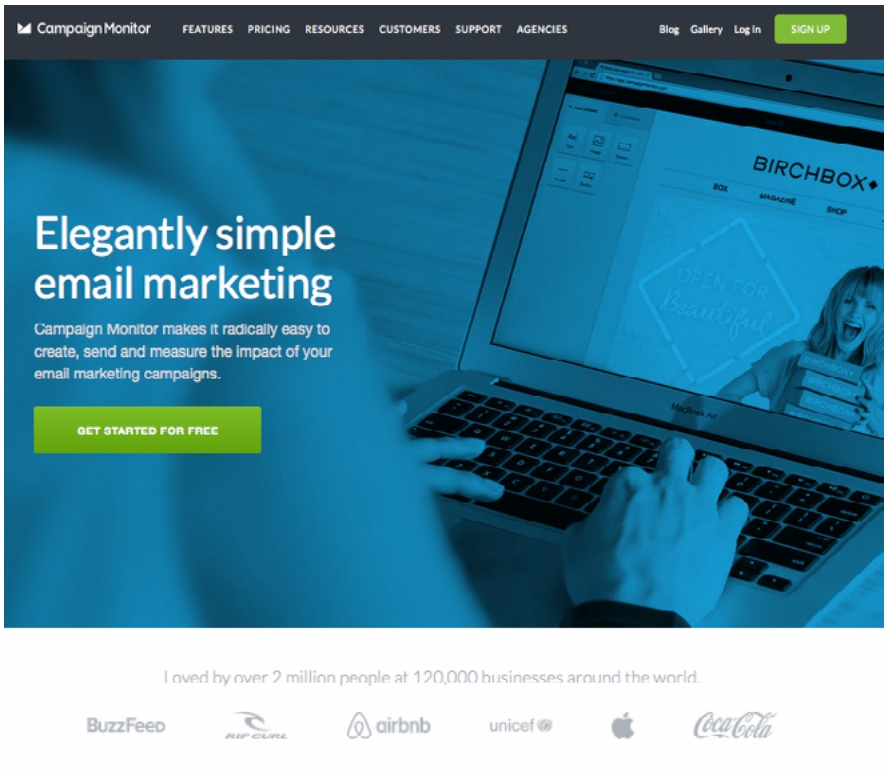


Photo credit: Campaign Monitor

The application of this pattern follows some standard guidelines. The logos are usually displayed in a row at the bottom of the landing screen, or directly below the scroll. They are also usually grayed out, so they don't distract from the main content. No explanation is necessary – featuring the logos is clear enough.

2. Testimonials

If you can't get recommendations from big names, you'll still find value in specific testimonials from smaller names. Endorsements from previous/current customers gives unfamiliar users a taste of what the product is like from normal people just like them.

- Testimonials work best in the format of direct quotes.
- The best practice for testimonials is to attribute the quote to an actual name, job title, and photograph. These extra details make the speaker more human, and thus more relatable to the user.
- If it's relevant to the product, the job title also accredits the speaker as an expert.

You can design testimonials in several ways. Some products sprinkle them throughout, with one-or-two per page. Others dedicate entire pages just to testimonials. It depends on the amount, quality, and size of each quote.

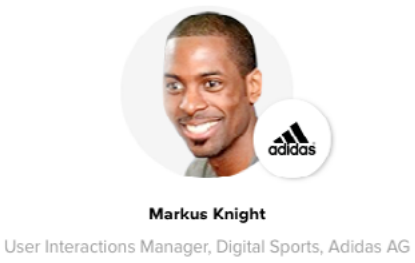


Photo credit: UXPin

For UXPin Enterprise, we added a testimonial halfway down the scroll so that the context makes most sense in the narrative. For our smaller plans, our testimonials are situated on an independent page.

To acquire testimonials, politely ask past clients for one. They're already familiar with how it works and will be happy to help.

3. Numbers and Statistics

There's no clearer way to show popularity by listing the cold, hard statistics – numbers don't lie. You can list statistics for any field that might help your goals, including:

- Users/followers ("over 99 billion served")
- Downloads
- Social media followers
- Social media interactions (Likes, Retweets, Reddit scores, etc.)
- Social media shares
- Employees
- Locations
- Profits/actionable results

What it comes down to is that people trust hard numbers.

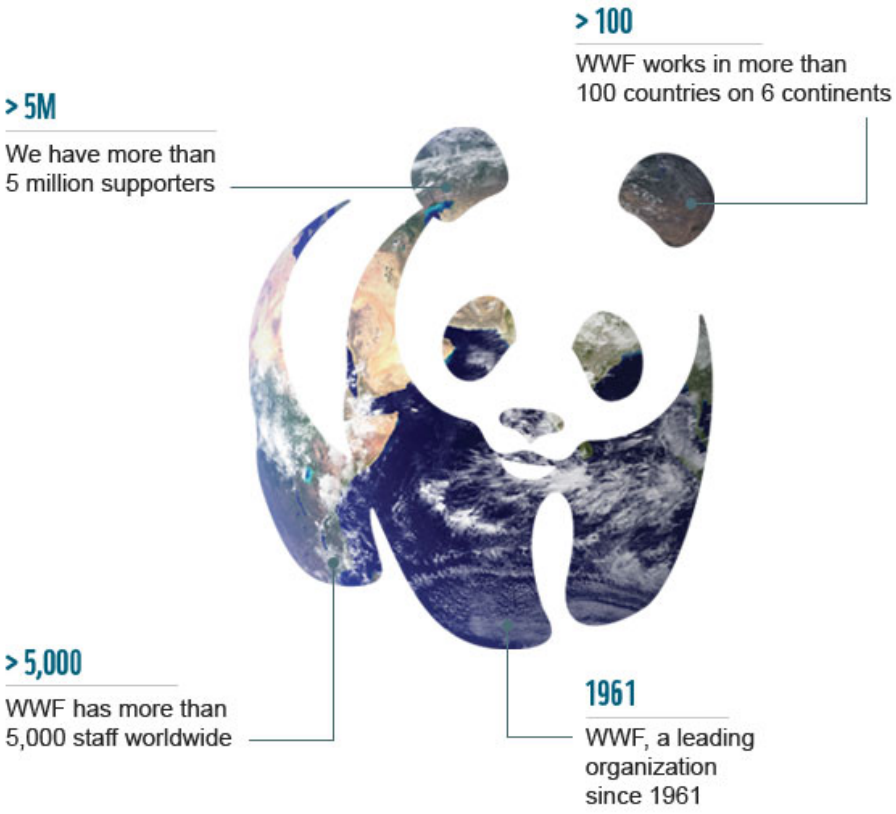


Photo credit: WWF

The World Wide Fund for Nature doesn't shy away from bragging about its numbers. They showcase their impressive statistics with the help of a well-chosen graphic – a smart accessory to help convey the facts.

4. Case Studies

Especially pragmatic for portfolio sites, case studies are one of the more detailed strategies for social proof. They require more investment on the user (more text to read), but the payoff is worth it.

In general, case studies explain how the product works – its value to the user – through real examples. Case studies should always be

narratives, hooking users with a story and drawing on emotions as well as data.

Photo credit: John Elison

As stories, case studies should follow a basic, 3-point plot structure, even so far as labeling each section with a subheading (like John Elison's site, above).

- They should always start with a problem, specifically one that the reader can relate to.
- Next, explain the process the product uses to solve the problem; this is the meat of the case study, with the information the user needs to know.

- Last, explain the successful results, so the reader knows what to expect and give them a reason to use the product.

5. User Reviews/Ratings

User reviews and/or ratings combine several of the above tactics: statistics, testimonials from relatable sources, narratives about product experiences, and popularity by the numbers.

We've all seen movie advertisements exclaiming "5 stars" or "10 out of 10." This method works just as well for sites and apps, especially apps, where stores often have their own rating system.

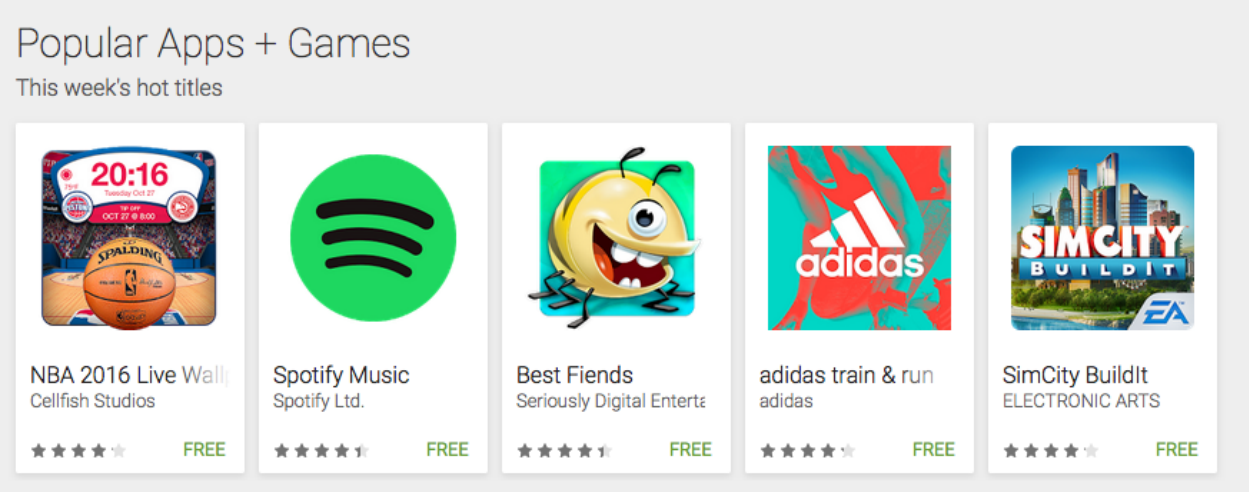


Photo credit: Google Play

Complimentary ratings can be displayed in the same manner as testimonials – in fact, positive reviews can even be turned directly into testimonials, with the addition of the rating as well.

Persuading Through Transparency

Users take a cue from how you talk about yourself – both in what you say and what you *don't* say – so an honest approach is best, both ethically and professionally.

Here are some typical ways to build the bonds of trust with users through how you present yourself:

- **State prices/cost openly, then justify them** – While some sites hide their prices until the last minute, an NNg study shows users prefer to see prices up front. Price honesty is more than a sales strategy – a product's price reveals information about its category and quality, allows comparison shopping, and lets users plan financially for purchases. Include the total cost: taxes, shipping, and other additions as well. If you are unable to show specific prices, display a sample price and break it down to give users an idea.

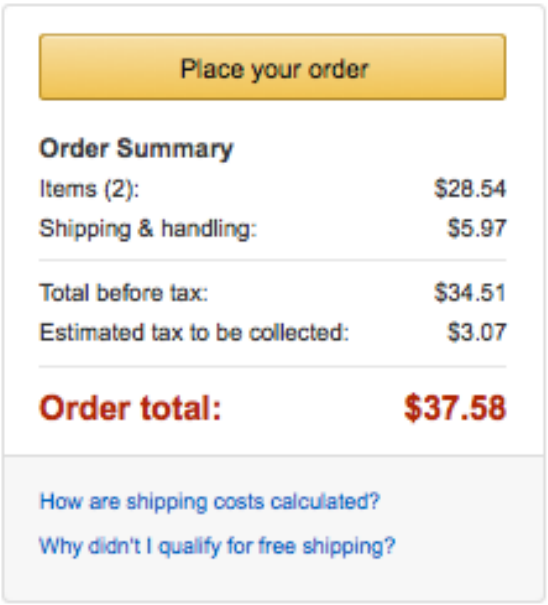


Photo credit: Amazon

- **Display trustmarks and security badges** – Trustmarks like the VeriSign, McAfee, or PayPal Verified logos lets users know they're private data is protected, and don't take up too much screen space. Studies suggest these familiar badges can increase sales between 10–36%.

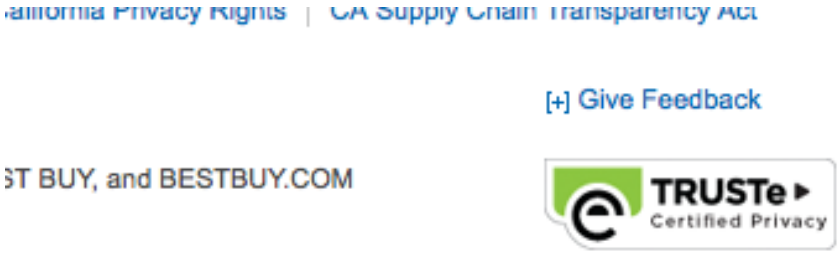


Photo credit: Best Buy

- **Explain privacy policy casually** – Most privacy policies are lost in a fog of legalese that no one reads anyway. Companies that explain in laymen's terms what data they collect and what they do with it show they have nothing to hide, and users appreciate this openness.

- **Communicate ethics** – If policies like animal testing, fair trade, or other humanitarian issues are pertinent to your product, explain your company's ethics to circumvent criticism. Likewise, if your company is affiliated with charities or other non-profit causes, say so.

- **Offer guarantees** – No matter the field of guarantee – satisfaction, money back, lowest price, etc. – they always make the user feel more comfortable.

- **State delivery times** – Amazon knows the value of a user who can visualize a product in their hands. Notice how they clearly

state that their fastest delivery service can put a product on your front door within a definite time window.

- **Invite feedback** – Customer service shouldn't be a last resort. In clear view, display your contact information and a call-to-action to hear your users' feedback. Not only does this show users that assistance is readily available, it also provides data for you to measure customer satisfaction metrics.

Remember that transparency only works if your product genuinely does what it promises. Despite all these tips for presenting your product in the best light, remember that credibility always starts in the design phase.

Conclusion

The tactics we outlined aren't necessarily exclusive to digital design. These are the best practices that have emerged over centuries of businesses trying to distinguish themselves through honesty.

If you design a credible product but don't appear trustworthy to users, few people will take the plunge. On the other hand, if you design a product full of dark patterns and present it in the best light possible, you'll end up with plenty of angry users. For long-term success, you must instill confidence through the product design and the UX created by your marketing assets.

14 Favorite Resources for Successful UX Design Principles

Now that you've learned about each of the 7 successful UX criteria for product teams, we'd like to present our favorite additional resources. Each of these resources will help you see how other companies and designers are turning theory into practice.

We found these useful during our research for this book, and hope they will inspire you to continue designing cohesive web and mobile products.

1. The 269 Principles of Modern Design
2. Wireframing for Web Apps
3. Basic Principles of Natural UI Design
4. IBM Design Language
5. Facebook's Product Design Principles
6. OPower Product Design Principles
7. UK Government Design Principles

8. 10 Things We Know to Be True (Google)
9. Android Design Principles
10. Apple iOS Design Principles
11. The 18 Principles of Product Design (Joshua Porter)
12. Developing Design Principles (Luke Wroblewski)
13. What Every Designer Needs to Know About People
14. Design Principles Inspired by Zen Wisdom