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[Smashing Magazine](#) is an online magazine dedicated to Web designers and developers worldwide. Its rigorous quality control and thorough editorial work has gathered a devoted community exceeding half a million subscribers, followers and fans. Each and every published article is carefully prepared, edited, reviewed and curated according to the high quality standards set in Smashing Magazine's own publishing policy. Smashing Magazine publishes articles on a daily basis with topics ranging from business, visual design, typography, front-end as well as back-end development, all the way to usability and user experience design. The magazine is — and always has been — a professional and independent online publication neither controlled nor influenced by any third parties, delivering content in the best interest of its readers. These guidelines are continually revised and updated to assure that the quality of the published content is never compromised.

ABOUT SMASHING MEDIA GMBH

[Smashing Media GmbH](#) is one of the world's leading online publishing companies in the field of Web design. Founded in 2009 by Sven Lennartz and Vitaly Friedman, the company's headquarters is situated in southern Germany, in the sunny city of Freiburg im Breisgau. Smashing Media's lead publication, Smashing Magazine, has gained worldwide attention since its emergence back in 2006, and is supported by the vast, global Smashing community and readership. Smashing Magazine had proven to be a trustworthy online source containing high quality articles on progressive design and

coding techniques as well as recent developments in the Web design industry.

About this eBook

Since the appearance of the smartphone and tablet computers, we are experiencing a boom in Mobile Design. And, as it happens with the development of new gadgets and technologies, some trends and patterns are already established. With this eBook "Mobile Design Patterns", you will learn the most important guidelines and strategies for Mobile Design, including solutions for forms, tap-ahead patterns and UX approaches.

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The Elements Of The Mobile User Experience

Lyndon Cerejo

Mobile users and mobile usage are growing. With [more users doing more on mobile](#), the spotlight is on how to improve the individual elements that together create the mobile user experience.

The mobile user experience encompasses the user's perceptions and feelings before, during and after their interaction with your mobile presence — be it through a browser or an app — using a mobile device that could lie anywhere on the continuum from low-end feature phone to high-definition tablet.

Creating mobile user experiences that delight users forces us to rethink a lot of what we have taken for granted so far with desktop design. It is complicated in part by mobile-specific considerations that go hand in hand with small screens, wide variations in device features, constraints in usage and connectivity, and the hard-to-identify-but-ever-changing mobile context.

Dissecting the mobile user experience into its key components gives us a conceptual framework for building and evaluating good mobile experiences, within the context of a [user-centered approach to designing for mobile](#). These components shape the mobile user experience — including functionality, context, user input, content and marketing, among others.

The relevance of these elements will change depending on the type of device (feature phone versus smartphone versus tablet) and the presentation interface (app versus Web). This article briefly describes each of these elements and elaborates on each with selected guidelines.

FUNCTIONALITY

This has to do with tools and features that enable users to complete tasks and achieve their goals.

Guidelines

- Prioritize and present core features from other channels that have especial relevance in a mobile environment. For an airline, this includes flight statuses and flight check-ins. For cosmetic chain Sephora, it includes supporting in-store shopping via easy access to product reviews on mobile devices.
- Offer relevant mobile-only functionality (like barcode scanning and image recognition), and enhance functionality using the capabilities of mobile devices where possible to engage and delight users. Old Navy's app serves up surprise games or savings when users snap the logo in a store.
- Ensure that fundamental features and content are optimized for mobile. For example, make sure the store locator shows the nearest stores based on the device's location, and make the phone numbers click-to-call.

- Include features that are relevant to the business category. For retail websites and apps, this would include product search, order status and shopping cart.
- Offer key capabilities across all channels. Users who sign in should see their personalized settings, irrespective of the device or channel being used. If certain functionality is not offered on mobile, then direct users to the appropriate channel, as TripIt does to set up a personal network.

INFORMATION ARCHITECTURE

This has to do with arranging the functionality and content into a logical structure to help users find information and complete tasks. This includes navigation, search and labeling.

Guidelines

- Present links to the main features and content on the landing page, prioritized according to the user's needs. [Mobile Design Pattern Gallery](#) has examples of primary and secondary navigation patterns for mobile, many of which are vertical instead of horizontal as on desktop websites.
- Enable mobile users to navigate to the most important content and functionality in as few taps or key presses as possible. Navigation optimized for small screens is usually broad and shallow instead of deep. While [three clicks \(or taps\) is not the magic number](#), users need to be able to recognize that each tap is helping them complete their task. Every additional level also means more taps, more waiting for a page to load and more bandwidth consumed.
- Address the navigation needs of both touchscreen and non-touchscreen users. When designing for touch, make sure the tap size of the navigation item is at least 30 pixels wide or tall. Provide keypad shortcuts for feature phones, so that users can enter, say, a number (0 to 9) to quickly access a link:
Cater to feature phone users, as CNN does with access keys (left), not as Delta does by making the first action to be nine key presses down (middle and right).
- Provide navigational cues to let users know where they are, how to get back and how to jump back to the start. Mobile breadcrumbs are often implemented by replacing the “Back” button with a label showing users the section or category that they came from. For mobile websites, use standard conventions, such as a home icon that links back to the start screen, especially when navigation is not repeated on every screen.
- Use concise, clear, consistent and descriptive labels for navigation items and links. While always a good practice, it becomes even more important on tiny mobile devices.

CONTENT

Otherwise known as “the stuff on your website” (as Lou Rosenfeld and Peter Morville refer to it in *Information Architecture for the World Wide Web*), content is the various types of material in different formats, such as text, images and video, that provide information to the user.

Guidelines

- Present an appropriate and balanced mix of content to users (product information, social content, instructional and support content, marketing content).
- Use multimedia when it supports the user's tasks in a mobile context, adds value to the content or supports the goals of the website. Most of the time, multimedia content is best provided when the user is looking for distraction or entertainment (such as news or funny clips) or when it has instructional value (for example, how to use an app or new feature).
- Always give the user control over multimedia content by not auto-starting video or sound, by allowing the user to skip or stop multimedia content and by being mindful of the bandwidth it takes up.
- Ensure that content is mobile appropriate. Just as we had chunking guidelines when going from print to Web, copy should be written for shorter attention spans on mobile devices. Optimize images and media for the device; this means scaling down for smaller devices and making sure images are [sharp enough for the new iPad](#).
- Ensure that primary content is presented in a format supported on the target device. Even now, websites such as Volkswagen's ask iOS users to download Flash.

DESIGN

This has to do with the visual presentation and interactive experience of mobile, including graphic design, branding and layout.

Guidelines

- Remember the sayings "Mobilize, don't miniaturize" (popularized by Barbara Ballard) and "Don't shrink, rethink" (of Nokia). Both make the point that mobile design should not just rehash the desktop design.
- Design for glanceability and quick scanning. Glanceability refers to how quickly and easily the visual design conveys information.
- Maintain visual consistency with other touchpoints and experiences (mobile, app, Web, print and real world) through the use of color, typography and personality. Identifying Amazon in the stack below is easy even though the brand name is not visible.
- Guide users from the initial and most prominent element of the design to other elements to help them complete their tasks. This is known as visual flow. A good design brings together visual elements as well as information architecture, content and functionality to convey the brand's identity and guide the user.
- Consider both portrait and landscape orientations in the design process. Devices increasingly support multiple orientations and automatically adjust to match their physical orientation. Maintain the user's location on the page when they change orientation. Indicate additional or

USER INPUT

This has to do with the effort required to enter data, which should be minimized on mobile devices and not require the use of both hands.

Guidelines

- Limit input to essential fields. Or, as Luke Wroblewski says in his book *Mobile First*, “When it comes to mobile forms, be brutally efficient and trim, trim, trim.” Limit registration forms to the minimum fields required, and use shorter alternatives where possible, such as a ZIP code instead of city and state. My favorite offender of this guideline is Volkswagen’s form to schedule a test drive; the mobile form has more required fields than the desktop version (the extra fields are highlighted below):
- Display default values wherever possible. This could be the last item selected by the user (such as an airport or train station) or the most frequently selected item (such as today’s date when checking a flight’s status):
- Offer alternate input mechanisms based on the device’s capabilities where possible. Apps take advantage of quite a few input mechanisms built into devices, including motion, camera, gyroscope and voice, but mobile websites are just starting to use some of these features, particularly geolocation.
- Use the appropriate input mechanism and display the appropriate touch keyboard to save users from having to navigate their keyboard screens to enter data. Keep in mind that inputting data is more tedious on feature phones that have only a numeric keypad. For non-sensitive applications, allow users to stay signed in on their mobile device; and save information such as email address and user name because mobile phones tend to be personal devices, unlike tablets, which tend to be shared between multiple people.
- Consider offering auto-completion, spellcheck suggestions and prediction technology to reduce the effort required to input data and to reduce errors — with the ability to revert as needed. Disable features such as CAPTCHA where not appropriate.

MOBILE CONTEXT

A mobile device can be used at anytime, anywhere. The mobile context is about the environment and circumstances of usage — anything that affects the interaction between the user and the interface, which is especially important for mobile because the context can change constantly and rapidly. While we often focus on distractions, multitasking, motion, low lighting conditions and poor connectivity, it also includes the other extreme — think using a tablet in a relaxed setting over a fast Wi-Fi connection.

“[The Context of Mobile Interaction](#),” Nadav Savio

Guidelines

- Use device features and capabilities to anticipate and support the user's context of use. The iCookbook app allows users to walk through a recipe using voice commands — a nice feature when your hands are covered in batter!
- Accommodate for changes in context based on the time of day and when the user is using the app. The Navfree GPS app automatically switches from day to night mode, showing low-glare maps for safer nighttime driving.
- Use location to identify where the user is and to display relevant nearby content and offers. A Google search for “movies” on a mobile device brings up movies playing nearby and that day's showtimes, with links to buy tickets online if available.
- Leverage information that the user has provided, and respect their preferences and settings. After the first leg of a multi-leg flight, TripIt showed me the flight and gate information for my next flight, as well as how much time I had to kill. United's app did no such thing, even though it knew much more about me. It could have shown me how to get from my current plane to the connecting flight and highlighted the location of the United Club along the way, where I could comfortably spend my two-hour wait, since it knew I was a member.
- Default to the user experience most appropriate for the device (i.e. a mobile experience for smartphones, and perhaps a desktop-like experience for tablets), but give users the option to have enhanced features. A big discussion on how to present this to the user recently took place, with [Jakob Nielsen recommending a separate mobile website](#) and [Josh Clark arguing instead for a responsive design](#); yet others [believe that Nielsen and Clark are both wrong](#).

USABILITY

This is the overall measure of how well the information architecture, design, content and other elements work together to enable users to accomplish their goals.

Guidelines

- Make it clear to the user what can be selected, tapped or swiped (this is known as affordance), especially on touchscreen devices. One of the big findings of [Nielsen Norman Group's usability studies of the iPad](#) was that users didn't know what was touchable or tappable. Another issue was swipe ambiguity: when the same swipe gesture means different things in different areas of screen. Ensure that touchability is clear and that items such as links, icons and buttons are visibly tappable.
- For touchscreen devices, ensure that touch targets are appropriately sized and well spaced to avoid selection errors. Also, place touch targets in the appropriate screen zones; for example, place destructive actions such as those for deletion in the “Reach” zone, as shown by Luke Wroblewski in his book *Mobile First*:
- Follow conventions and patterns to reduce the learning curve for users and to make the mobile

experience more intuitive. Dedicated apps should follow platform-specific standards and guidelines. A comprehensive collection of links to official UI and UX guidelines is available in the article “[UI Guidelines for Mobile and Tablet Web App Design](#)” on Breaking the Mobile Web.

- Ensure usability in variable conditions, including for daylight glare and changed angle of viewing and orientation, by paying attention to design elements like contrast, color, typography and font size.
- Do not rely on technology that is not universally supported by your audience’s devices, including Java, JavaScript, cookies, Flash, frames, pop-ups and auto-refreshing. When opening new windows or transitioning from an app to the browser, warn users to avoid overwriting already open tabs.

TRUSTWORTHINESS

This relates to the level of confidence, trust and comfort that users feel when using a mobile website or app. According to a [2011 study by Truste and Harris Interactive](#), privacy and security are the top two concerns among smartphone users:

Guidelines

- Do not collect or use personal information (such as location and contact list) from mobile devices without the explicit permission of the user. The first few months of this year have seen numerous reports of apps secretly copying smartphone address books, with [watchdogs up in arms](#) and [users retaliating](#).
- Make it easy for users to control how their personal information is shared in a mobile app by asking before collecting their location data and by allowing them to opt out of targeted advertising.
- Clearly state your business practices (including for privacy, security and returns), and present them contextually (such as by displaying links to your privacy and security policies on the registration screen). The policies themselves should be accessible in a secondary section of the mobile user experience (such as the footer or a “More” tab). Reinforce credibility by displaying trusted badges, especially when users need to trust you with their personal or financial information.
- Present policies appropriately on mobile devices by offering a concise summary and an option to email the entire policy. Privacy and security policies tend to be notoriously long and full of boring legalese that users often blindly click through to continue what they really want to do, so make it easy for users who are interested in the fine print.
- Don’t break the user’s workflow when displaying legalese. [Take them back to where they were](#) before being interrupted, instead of making them start all over.

FEEDBACK

This has to do with the methods for attracting the user's attention and displaying important information.

Guidelines

- Minimize the number of alerts the app displays, and ensure that each alert offers critical information and useful choices. For a smile, look at Chris Crutchfield's [video on notification and alert overload](#).
- Keep alerts brief and clear, explaining what caused the alert and what the user can do, along with clearly labeled buttons.
- Notifications should be brief and informative, not interfere with anything the user is doing, and be easy to act on or dismiss.
- Provide feedback and confirmation on screen without disrupting the user's workflow.
- If your app displays badges and status bar notifications, keep the badges updated and clear them only when the user has attended to the new information. Chase clears the notifications badge for its mobile app the moment the user visits the notification section, even before the user has seen which of their multiple accounts triggered the badge, forcing them to hunt through each account to see what triggered it.

HELP

This relates to the options, products and services that are available to assist the user in using the website or app.

Guidelines

- Make it easy for users to access help and support options. Users commonly look for help in the footer of a mobile website and in the toolbar or tab bar of an app.
- Offer multiple ways to get support, including options relevant in a mobile context, such as self-serve FAQs, live support via click-to-call, and near-real-time Direct Message tweets. Two financial service companies that actively offer support via Twitter are American Express and Citibank.
- Present a quick introduction and short tutorial on using the app when it first launches, with options for the user to skip and view later.
- When introducing new or unique functionality (such as when check depositing via mobile apps was first introduced), offer contextual help and tips to guide users the first time, and as a refresher for infrequently used functionality.
- Offer help videos when appropriate, but allow the user to start, pause, stop and control the volume as they wish, and keep in mind the multimedia guidelines mentioned in the "Content"

section above.

SOCIAL

This relates to content and features that create a sense of social participation, that enable user interaction and that facilitate sharing on established social networks.

Guidelines

- Create and maintain a presence on social networks (for example, a Facebook page) and local services (for example, a profile page on services such as Google Places, Bing Business Portal and Yahoo Local). These will be highlighted in search results and on location-based social networking services. In addition to your business' name, include your physical address, phone number, URL and hours of operation.
- Incorporate your social presence and activity into your website's mobile experience by showing your recent activity and offering an easy way to follow or like you on these networks.
- Integrate social networking features into your website's mobile experience to make it easy for users to connect with their own social networks. This could be as simple as [using APIs](#) to enable social sharing, bookmarking, tagging, liking and commenting.
- Invite users to generate content featuring your brand, product or service from their mobile device, offering some incentive in return. For example, the burger chain Red Robin could invite the user to share a picture of their child reading a school book at one of its locations to get a free milkshake.
- Provide mobile offers that can be shared and go viral. American Express currently offers savings and discounts to users who [sync their profiles](#) on networks such as Facebook, Twitter and Foursquare to their credit card.
- Apps that rely on social contributions from users should look at ways to seed content in a way that is useful and, eventually, self-sustaining. For example, the My TSA app has a user-contributed feature that shows the wait times at security checkpoints, but it often shows outdated information, even though airport staff post physical signs of wait times at some airports.

MARKETING

This has to do with the methods by which a user finds a website or app and the factors that encourage repeated usage.

Guidelines

- Ensure findability by optimizing for mobile search and discovery, such as by keeping URLs short. If you have a separate mobile website, follow URL naming conventions (**m.site.com** or **mobile.site.com**). In mobile search results, provide quick access to location-based content (e.g.

directions from one's current location) and device-formatted options (e.g. click to call).

~~Mobile-formatted information is optimized for UPS (left), but partially missing for FedEx (right).~~

- “Quick response” (QR) codes should lead to a mobile-optimized landing page, instead of a traditional page that requires zooming or, worse still, to the website's home page, from where the user has to hunt for information. As a side note, [QR codes painted on buildings](#) should be big and clear enough to be recognized and deciphered by mobile devices.
- Email campaigns should include a link to view the message in a mobile-friendly format, which itself links to the relevant offer page formatted for mobile — unlike CVS/pharmacy, which takes users to its mobile home page.
- Promote your app in other channels where possible (TV, print and in-store advertising), and offer incentives to download and use the app, usually in the form of discounts and savings. If your app has a price tag, attract users to buy it in an overcrowded market by offering a limited-time promotional price. Another option is to promote the app through the Free App A Day marketplace.
- Prompt users to rate and review your app or to share it on social networks after they have used it, but give them the option to postpone or stop these prompts. This will not only generate word of mouth, but give you insight into what users like and don't like about the app. “[Taking Control of Your Reviews](#)” by smalltech discusses the strategy of encouraging happy customers to post reviews and unhappy customers to email you feedback.

Conclusion

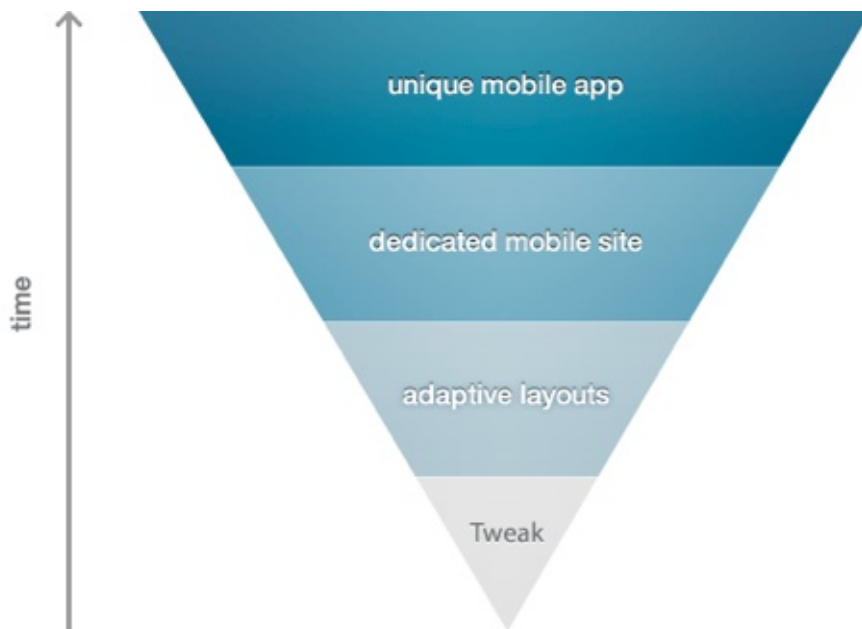
Mobile user experience is still a developing field, and opportunities for improvement continue to emerge. We've presented an overview of the key elements of the mobile user experience, along with some guidelines to get started in each. Focusing on these individual elements will help us create great overall mobile user experiences for our users.

Picking A Mobile Support Strategy For Your Website

Matt Lawson

The number of people browsing the Web from a mobile device has [more than tripled since 2009](#), and it is sure to continue growing, with browser platforms such as iOS and Android offering mobile browser support that is almost identical to what we have come to expect from a desktop experience. As the mobile consumer market continues to grow, so will the aspirations of individuals and companies who look to embrace what the mobile Web has to offer.

With this in mind, many website owners have begun to develop a strategy for providing information and services to their mobile visitors. However, mobile strategies can vary massively from website to website, depending on what the company wants to offer visitors. For example, eBay's strategy will be very different from an individual's strategy for a portfolio website, which might simply be to improve readability for those viewing on a mobile device.



Increasing mobile support could lead to a better experience, but at what cost?

So, as website owners define the level of support they aim to provide, a scale of support for mobile devices emerges. Picking where on the scale your website should sit can be quite tricky; each level of support is not without its pros and cons. Let's take a look at some of the more common approaches:

Approach A: Tweak What You Have

The most basic and, thus, quickest option is to do only what is required to get the website to work on mobile devices. I use the word "work" loosely here because it can be very subjective, but the main goal is to ensure that the website displays and functions properly on mobile devices and perhaps similarly to the desktop experience.

Sure, delivering a desktop experience on a mobile device is not ideal by any stretch of the imagination, but this option simply offers the minimum required to get the website to function and display OK. With modern mobile devices offering good CSS support and zooming functionality, visitors should at least be able to access the information they need.

HOW TO IMPLEMENT THIS APPROACH?

Simple tweaks could include adjusting the viewport and text size, which will affect the way the website displays on a mobile device. The default viewport dimensions should work well for most layouts, but we can make adjustments using the `meta` element:

```
<meta name="viewport" content="width=device-width" />
```

Text size can also be adjusted for some mobile devices using the CSS **text-size-adjust** property which specifies a size adjustment for displaying text content:

```
html {  
-webkit-text-size-adjust: auto; /* Automatically adjusted for Safari on iPhone. */  
-ms-text-size-adjust: auto; }
```

Auto

None

200%



Different text-size-adjust values demonstrated on the iPhone.

More information on the **text-size-adjust** property is available in the [Safari Developer Library](#). With a small number of tweaks, you should be able to optimize your website to appear as usable as the desktop experience.

Be careful when making any adjustments to the CSS for mobile visitors: you do not want desktop users ending up with a 200% font size by default! If you think this might happen or you want to further improve the experience, consider putting the CSS in a separate file:

```
<link rel="stylesheet" href="..." media="handheld, only screen and (max-device width: 480px)" />
```

Pros:

- Quick to implement;
- Minimal work required to replicate the desktop design;

- Strong brand identification with basic consideration for mobile visitors.

Cons:

- Mobile users could suffer from a poor experience;
- Slow due to users downloading styles and large assets;
- Content and navigation path are not optimized for mobile visitors.

Approach B: Adaptive Layout (Media Queries)

Media-dependent styling has been around for a long time; you will almost certainly have used “media types” before:

```
<link rel="stylesheet" href="..." media="print" />
```

Media queries, on the other hand, have really started to gain popularity since browser vendors began to support the [W3C’s CSS3 “Media Queries” specification](#).

Most modern browsers, including mobile ones, should now be able to query such things as width, height, device width and height, orientation and more. This has led to more people using media queries to provide responsive designs to their visitors:



Hicksdesign demonstrates adaptive layouts using media queries.

For older browsers, including Internet Explorer 6 to 8, several solutions are available that add some level of support for media queries, such as [Respond.js](#) by Scott Jehl.

HOW TO IMPLEMENT THIS APPROACH?

We can target specific resolutions and device sizes. For example, we could target mobile devices with a maximum device width of 480 pixels, such as the iPhone:

Or we could put the same media query in our CSS file:

```
@media only screen and (max-device-width: 480px) {  
  // insert styling here...  
}
```

Adaptive layouts need to work with the content already available on your website. This means that the source order and mark-up can play a vital role in providing a logical order to content when linearized for narrow layouts. You will also need to take into account that images will need to scale to fit as the containing elements adapt to different layouts. One way to achieve this is to specify a maximum width:

```
img { max-width: 100%; }
```

You could consider providing the mobile experience as the default and the desktop experience through media queries, an idea discussed by both [Luke Wroblewski](#) and [Peter Gasston](#). Combining this approach with something like [Adapt.js](#) or [320 and up](#) could improve performance for mobile visitors.

However, making the mobile experience the default isn't without its own problems. Always consider your audience, and review visitor data before finalizing your approach.

Pros:

- Quick to develop, especially when considered from the start;
- Cheap to produce because minimal additional design is required;
- Can result in improved readability and experience for mobile visitors.

Cons:

- Older mobile and desktop browsers, including Internet Explorer 8, do not natively support media queries;
- Visitors could face a short learning curve if the navigation and layout are altered;
- Rendering could potentially be slower as images and non-critical content in the HTML are being downloaded.

Both approach A and approach B beautifully embrace the [“One Web”](#) philosophy which sees the Web as one universal medium that should adjust itself to the different environment of its users. Using mobile tweaks and media queries can help to keep the website a standalone, universal entity optimized for both mobile and desktop user experiences. As Jeremy Keith writes in his article,

“Recent developments in areas like [performance](#) and [responsive design](#) means that we can realistically pursue that vision of serving up content at a URL to everyone to the best ability of their device. At the same time, the opposite approach—creating multiple, tailored URLs—is

currently a popular technique.”

— Jeremy Keith, [One Web](#)

We will discuss the latter approach in the next sections of this article.

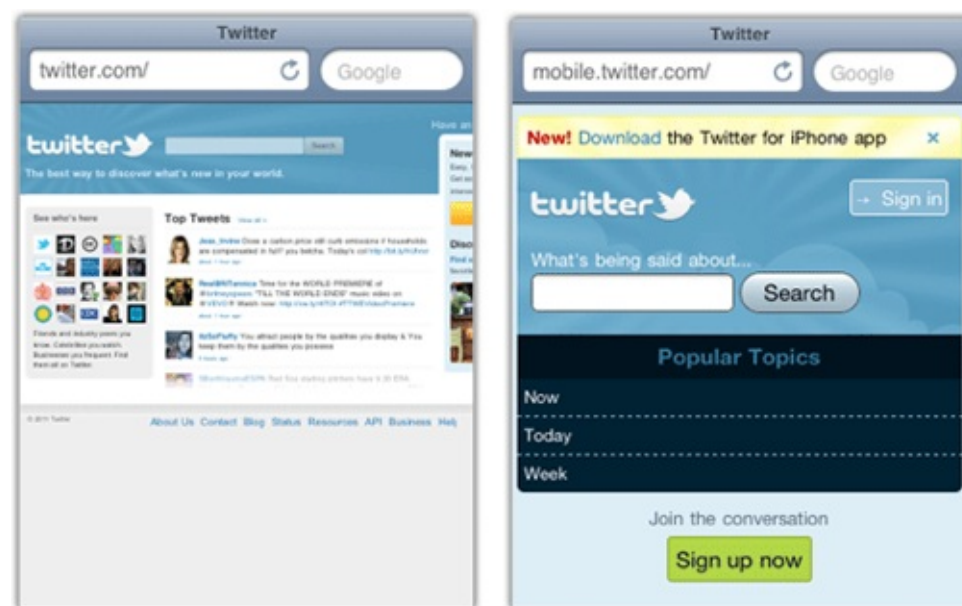
Approach C: A Dedicated Mobile Website

A website dedicated to mobile users aims to deliver an optimized, and often very different, experience to visitors. These micro or mobile websites can take on a life of their own and often require a lot of research and analysis in order to prioritize and deliver the most important content to users.

Mobile websites from the likes of eBay and Amazon show a very different strategy than their desktop equivalents because screen space and file sizes are at a premium.

HOW TO IMPLEMENT THIS APPROACH?

A dedicated mobile website will normally reside on its own domain or sub-domain, such as mobile.twitter.com:



The main Twitter home page and the mobile version on an iPhone.

Redirecting mobile traffic to a dedicated website ensures that visitors arrive in the right place. But if you do this, provide a link to allow visitors to access to the full version! Also make sure that mobile users are redirected to the correct page when deep linking from another source.

Assets such as images should be kept to a minimum. And popular content, common tasks and key

navigational paths should be highlighted to give users exactly what they want. More often than not, there is no room for advertisements in mobile versions.

Despite the extra work, the result can be a faster, more streamlined experience that puts the most important features and content at the user's fingertips.

Pros:

- Greatly improved performance;
- Optimized paths make it easy and fast for users;
- Enhances your support of and appeal to growing mobile consumer market.

Cons:

- Relatively expensive to build and maintain;
- Time-consuming because assets must be optimized and content prioritized;
- Higher learning curve if the layout and content are very different from the desktop versions.

Approach X: Native Apps

Finally, another option to consider is a native app. Apps can be the ultimate in an optimized, streamlined journey for visitors, and they often have native controls. Several properties, such as eBay, Twitter and Amazon, have clear user goals and have therefore invested time and effort into creating native apps that provide the best possible experience on a wide range of devices.

HOW TO IMPLEMENT THIS APPROACH?

A native app should provide the best possible experience for users on the go, while taking full advantage of device-specific features and controls. This approach is very different from the others described, and the project could be considered "ad hoc" development, correlating more closely to the user's goals than the content or features on your website.

If this appeals to you, consider using an SDK, such as the ones available from [PhoneGap](#) and [Appcelerator](#). These SDKs enable developers with a Web background to create applications and tap into native APIs that are not always available in the browser. Native app development can be quite bespoke and is sometimes undertaken parallel to the main website.

Facebook, which offers a native app, is a good example of how a integrated approach can ensure that content is accessible through full, mobile, touch and app versions, each optimized for the best possible experience.



Facebook can be accessed through full, mobile, touch and native app interfaces.

Pros:

- Streamlined journeys;
- Device controls are native and optimized for platform in terms of speed and performance;
- Incredibly lightweight, with minimal bandwidth usage.

Cons:

- Requires bespoke development;
- Creating and maintaining apps for a range of devices is time-consuming;
- Third-party approval is required before the app is available in stores.

Which Approach Is Right For You?

Approach A and Approach B offer varying levels of support and often could be considered as a “quick win” strategy. Consider them if you want to improve the experience and optimize readability for mobile visitors at minimal cost.

A strongly related design strategy would be to start with a mobile layout of the website first, having a strong focus on content and navigation and then extend the mobile experience to larger desktop experiences. You can find some interesting workflow techniques for this strategy in Luke Wroblewski’s conference notes of Ethan Marcotte’s talk [The Responsive Designer’s Workflow](#). For instance, you might need to consider using server-side media queries as well as fluid images in the development process.

Approach C requires considerably more time to develop and maintain but results in a faster, more streamlined website for task-oriented visitors. Approach X requires significantly more time to develop and approval from third-party app stores. But it might be ideal if your brand has many mobile users who expect a flawless experience. The main problem with these two approaches is that they aren’t scalable as new mobile devices might require new versions of the websites which increases costs and makes maintenance more difficult.

Ultimately, your approach should be guided by your content, objectives and visitors. What might work in theory doesn't necessarily work in practice. A bit of digging in your analytics might show that a large proportion of visitors are on mobile devices, and so the extra time spent improving their experience would be worth it. Once you have all of the data, you can make an informed decision about which approach will benefit you — and more importantly — your visitors.

Essential Design Patterns For Mobile Banking

Greg Nudelman

Despite a great deal of mobile innovation, many creators of financial apps still copy their interface patterns from the desktop Web, even though these patterns are not as well suited to the mobile space. Small screens, custom controls, divided attention and fat fingers demand different thinking when designing for mobile.

I previously covered mobile wallet UX considerations in my article “[Ultimate Guide to Designing NFC Mobile Apps You Won’t be Ashamed Of](#).” In this article, we will look specifically at simple mobile transfers of funds from checking to savings accounts, taking what works on the Web and converting it into authentically mobile flows using simple, effective design patterns. Similar analyses and design strategies can be applied to many other areas that involve complex forms, such as mobile e-commerce checkout and social network registration.

We will not name any companies in this article. That is deliberate. If you are looking for company bashing, you won’t find it here. But if you want to know how to make mobile banking work, read on.

Let’s begin with the basic building block: selecting an account. It can be accomplished in two primary ways: via a “picker” (called “spinner” in Android) and via a dedicated selection page (also called “table view”).

Picker/Spinner

For system interactions, many app and mobile website designers start by looking at the desktop Web interface pattern: a form with drop-down menus. Here is a common pattern for me-to-me transfers (i.e. transfers between two of your own accounts, such as checking and savings):

From Account:

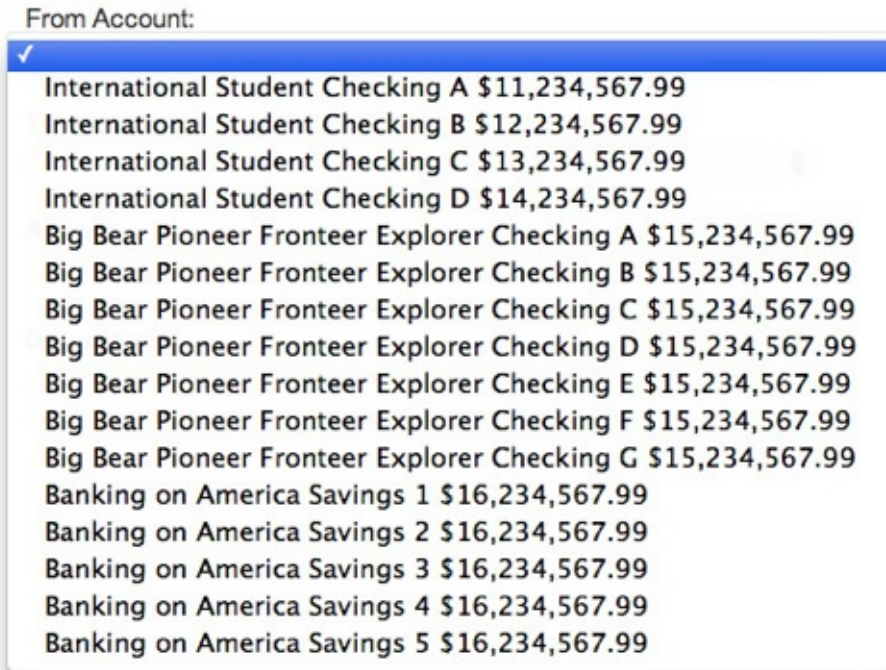
To Account:

Amount:

Description:

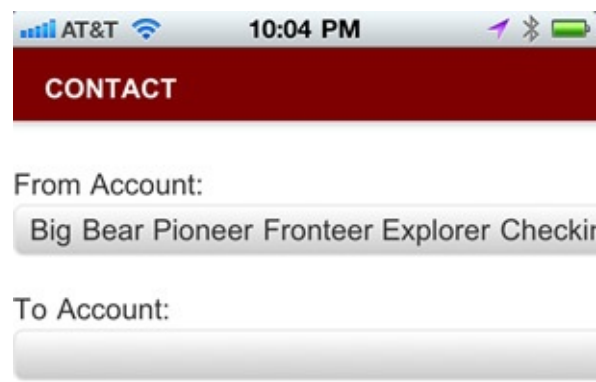
Typical me-to-me transfer via Web form.

The drop-down menu works reasonably well on the desktop Web, assuming the customer has between 1 and about 20 or 30 accounts. Each account can be listed in the drop-down menu by its full name, along with the account balance:



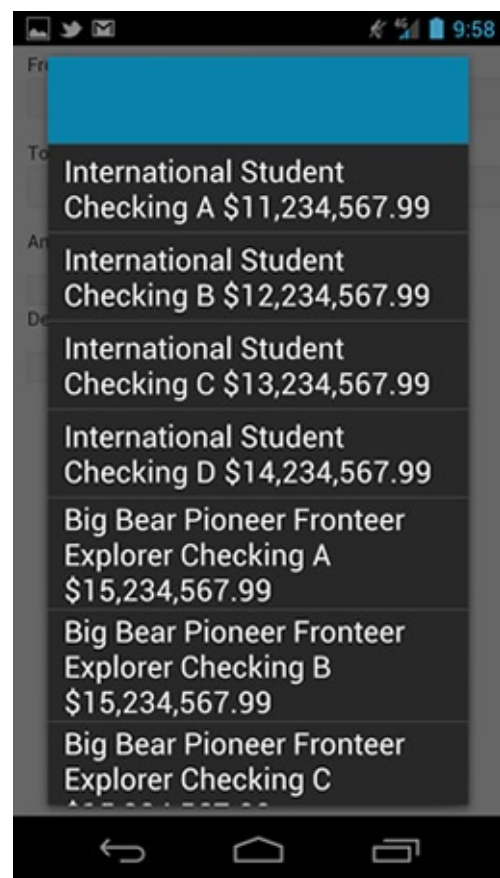
Selecting an account via the Web form's select control.

How does this translate to mobile? Not very well. Blindly copying the desktop Web is a knee-jerk reaction, and it turns out that it's mostly unsuccessful, resulting in a subpar experience. Here is why. Instead of the 20 or 30 selections that can be displayed in the drop-down menu, the iPhone's standard picker control shows only 3 full and 2 partial choices:



Selecting an account via iOS' picker control.

In Android 4.0 (the latest public Android version, named Ice Cream Sandwich), the situation is slightly better. Instead of the picker, the Android OS uses the spinner overlay, which shows 8 options. Unfortunately, the formatting options are quite limited, and the text area in the overlay is about 20% narrower than the main screen because the spinner is not using the full width of the device. This leads to confusing double and triple wrapping of text and numbers:



Selecting an account via Android's spinner control.

Interestingly, some online banks use this pattern to display a list of accounts. However, by necessity (and to avoid the confusion of wrapping and truncation on older and smaller low-end devices), they use short codes for account names, such as CHK, SAV and CC1. These abbreviations work reasonably well for text banking, where the short-and-sweet mental model (“C U L8R”) reigns supreme. However, code abbreviations are far from the slick world-class UI elements that consumers have come to expect from their smartphones. Rather, they smack of “dim phones,” BlackBerrys, DOS and enterprise software. Having to remember codes to do mobile banking is a far cry from the experience of playing Angry Birds or shopping on Amazon or Gilt. To create a better experience on mobile, we need another design pattern: a dedicated selection page.

Dedicated Selection Page

A slicker and more usable mobile design pattern for listing accounts than pickers and spinners would be a dedicated selection page (also called “table view”) in which 10 or more account options could be listed comfortably. As Apple’s [iOS developer guidelines](#) state, “Consider using a table view, instead of a picker, if you need to display a very large number of values. This is because the greater height of a table view makes scrolling faster.”

This is how it looks wireframed using the agile, lightweight, sticky-note methodology (see the “References” at the end of this article):

- [The Iron Trial \(Magisterium, Book 1\) book](#)
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- <http://flog.co.id/library/Reassessing-the-Roles-of-Women-As-Makers-of-Medieval-Art-and-Architecture--Visualizing-the-Middle-Ages-.pdf>
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