



Searching for
an Advantage

Best Practices for Search User Interfaces

A Konverge White Paper

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Table of Contents

Building a better Search	3
The Cost of Interaction	4
How Computers Make Users Feel Stupid	5
The Search Conversation	6
Searching	6
Prominent Search Box	6
Scoped Searches	8
Correct Misspellings	9
Recent and Saved Searches	10
Search Progress	10
Search Results	11
Prevent Pogo Sticking	13
Page Layouts	14
Filtered Searches	17
Sorting	20
Zero Results	23
Mobile Search	25
Searching	25
Back Arrows	26
Voice Prompt	26
Prominent Search Bar	26
Search Forms	27
Search Progress	28
Search Results	28
Lazy Loading	32



Searching for an Advantage

Best Practices for Search User Interfaces

> Building a better Search

Searching for content on your website or within your app should not be as difficult as searching for the Holy Grail.

If your website or app has a lot of content, whether it is an online store, e-book reader, or news site, a poor search experience can cause user frustration and abandonment. Search is a dialog between user and system and as human beings, at our core, we all want to be understood. When someone or something does not understand you, it's frustrating.

Every website or app needs to meet users' needs for quick access to information. The more successfully a website or app can do this, the more satisfaction a user feels, the higher amount of confidence a user will have, and the higher the chance of conversions. Users judge websites in the blink of an eye, 50 milliseconds to be exact. While this refers to the immediate visual reaction a user has to a site, if your website or app is successful with this first impression, it would be a shame to lose the user at the next step-when they've established enough trust in your site to begin looking for the information they need.

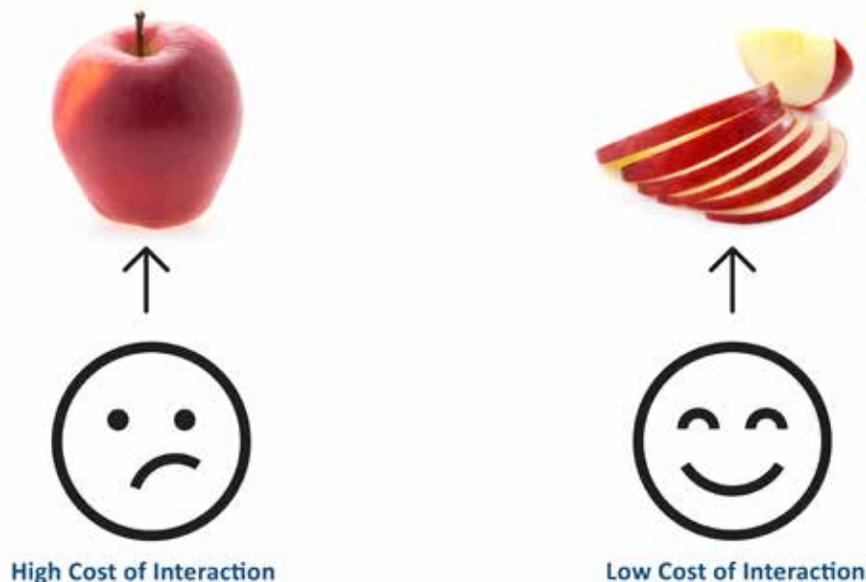
The Cost of Interaction

The goal with any User Experience (UX) design is to minimize the interaction cost. The interaction cost is the sum of efforts — mental and physical — that a user must deploy when interacting with a site or application in order to reach their goals. This concept was introduced back in the early days of Human-Computer Interaction to evaluate the usability of a software system. All usability heuristics minimize the interaction cost for the user.

Usable sites minimize the interaction cost required to attain a variety of user goals. That is, they minimize:

- Reading
- Scrolling
- Looking around in order to find relevant information
- Comprehending information presented to you
- Clicking or touching (without making mistakes)
- Typing
- Page loads and waiting times
- Attention switches
- Memory load- the information that users must remember in order to complete their task.

Any search UX must take interaction cost into consideration to be successful.



How Computers Make Users Feel Stupid

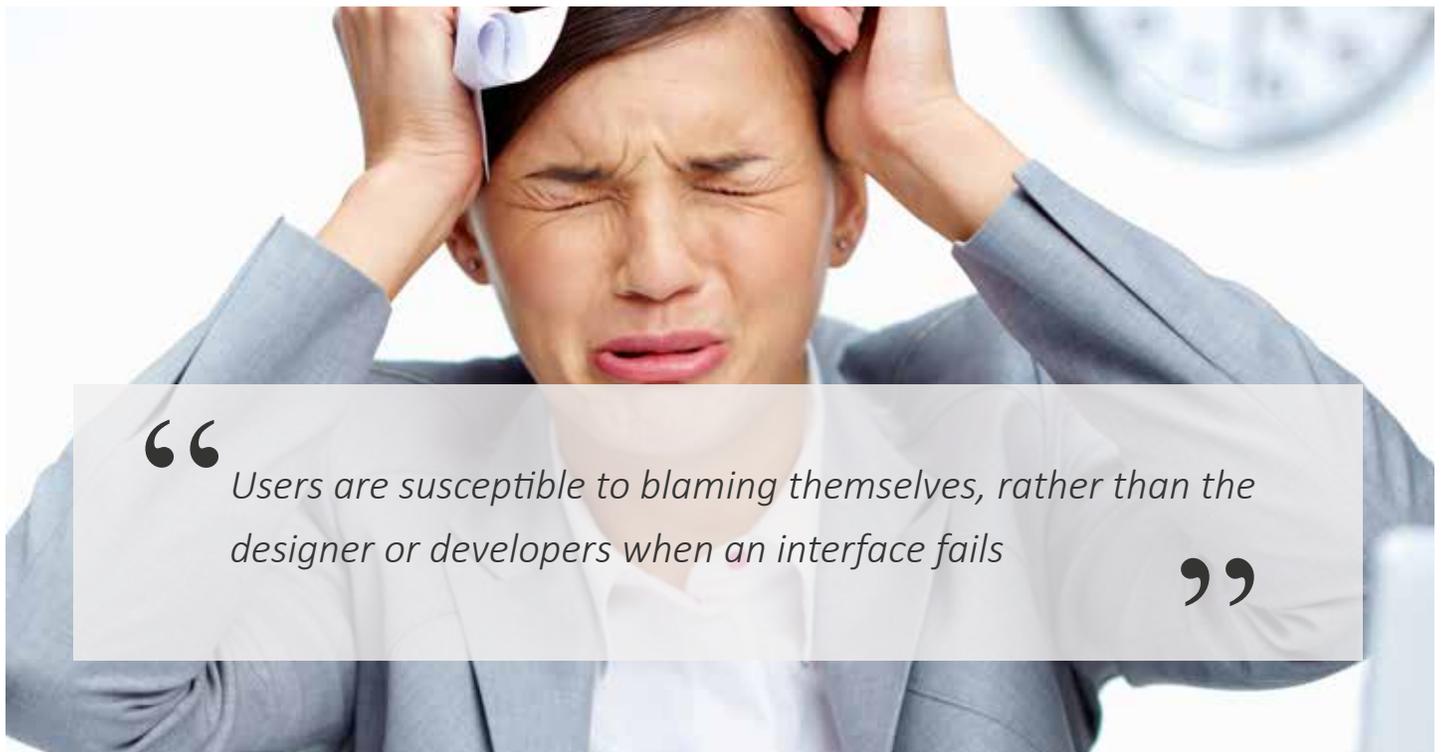
Psychologically, in human-computer interactions, users are susceptible to blaming themselves, rather than the designer or developers when an interface fails. In some situations, users show a tendency to attribute success to the computer and blame themselves for a failure. A user may even tell themselves that ‘They’re not good at technology’ and abandon what they were trying to do.

This perception is particularly disheartening if a website or app is attractive. In the user’s mind, if it looks pretty, they must be able to use it and if they can’t, it’s their fault. This is known as the aesthetic-usability effect.

Contrary to human – computer interactions, how users view themselves within all other aspects of their life (employment, family, school, etc.) is much more self-serving. The flip-side occurs: anything good that happens is a result of their own personality and anything bad is not their fault. For example, if they fail a test, then the test was too hard, but if they do well, then it was because they studied hard and are probably really smart.

Humans also have a negativity bias, and will pay more attention, or give more weight to negative experiences over neutral or positive ones. Even if the negative experience was inconsequential, humans will still focus on it. If a user has a negative experience with your website or app, they will remember it regardless of anything that they may have enjoyed about it.

Search is a critical factor in establishing a positive human-computer interaction.



“Users are susceptible to blaming themselves, rather than the designer or developers when an interface fails”

> The Search Conversation

The search UX dialogue is a bidirectional conversation that can be broken down into two parts – communicating the search criteria to the system, and the system reply- the search results. In a recent interview Kayak founder Paul English said that over the 7 years he was building Kayak into one of the top travel websites in the world, he only focused on four pages – Flight search, Hotel Search, Flight Search results and Hotel Search results. This laser focus on building the perfect search pages was essential to the success of Kayak.

Searching

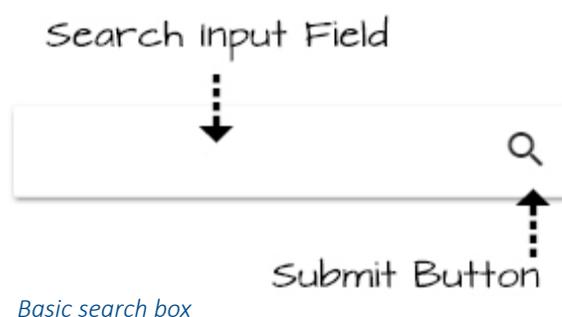
Search is such a prominent part of web and app user experience that users have developed a firm mental model for how it's supposed to work. Users use search for two reasons:

1. Search gives users control of their own experience on your site or app by giving them the ability to forgo the navigation and immediately find exactly what they're looking for.
2. Search is also your users' lifeline if they get stuck while navigating your website or app.

Users accomplish searching by using a website or application's navigation, search box, or search filters.

The following are some guidelines to keep in mind when creating search user interfaces.

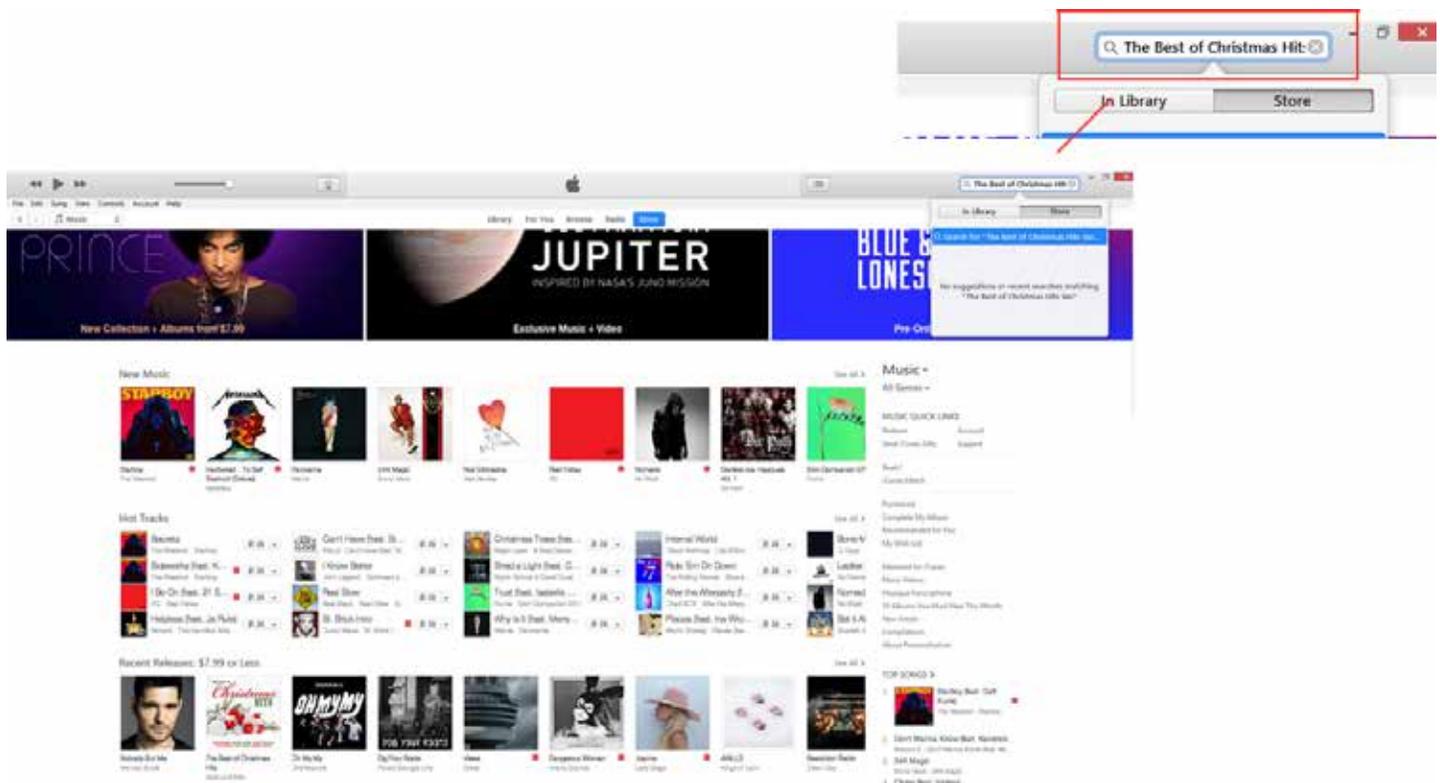
Prominent Search Box



A search box, at minimum, is an input field and a submit button. Some search boxes forgo the submit button, and the 'Return' or 'Enter' key has to be used for the sake of minimalist design. It is our opinion that this is not the most usable solution; however allowing users to hit the return button while performing a search query is a recommended option.

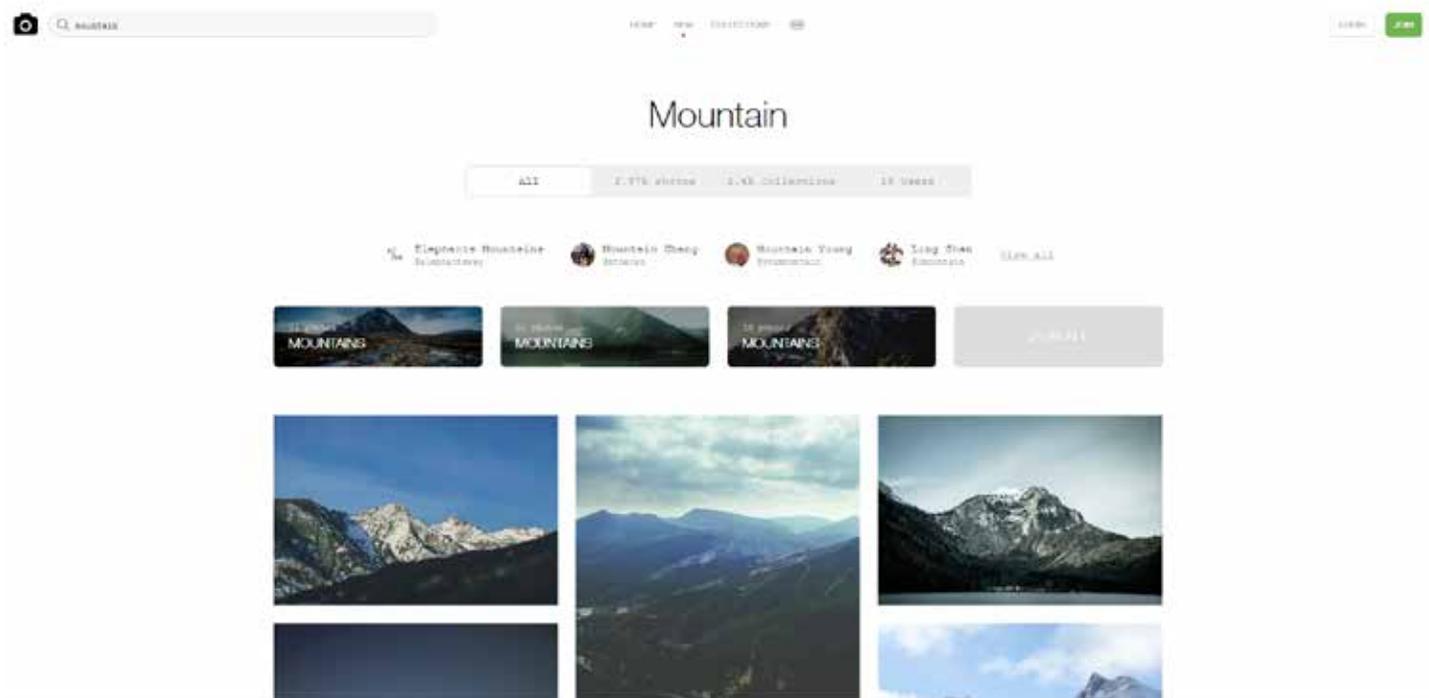
The box must be clearly visible, quickly recognizable and easy to use. It should avoid having advanced search options displayed. According to usability studies, it is more user-friendly to have no advanced search options displayed by default. Most users do not know how to use advanced search or Boolean search query syntax. Contemporary search UI patterns no longer feature an advanced search, but rather offer filtered searches instead. Superior searches can handle one word queries. Put the search box at the top of the page in the left or right hand corner.

Make sure that the search box is not too small. The Nielson Norman Group, an evidence-based US research, training, and consulting group, recommends making the search box at least 27 characters wide. Here you can see the iTunes search box handles less than 27 characters and as a result, the search query is cut off making it difficult to read or edit.



The Nielson Norman Group recommends a minimum of 27 characters visible in the search box, iTunes fails to meet this criteria

“ The search UX dialogue is a bidirectional conversation that can be broken down into two parts – communicating the search criteria to the system, and the system reply- the search results. ”



While displaying the search box on the top rights of the screen is the most common UI patter, the top left is acceptable as well

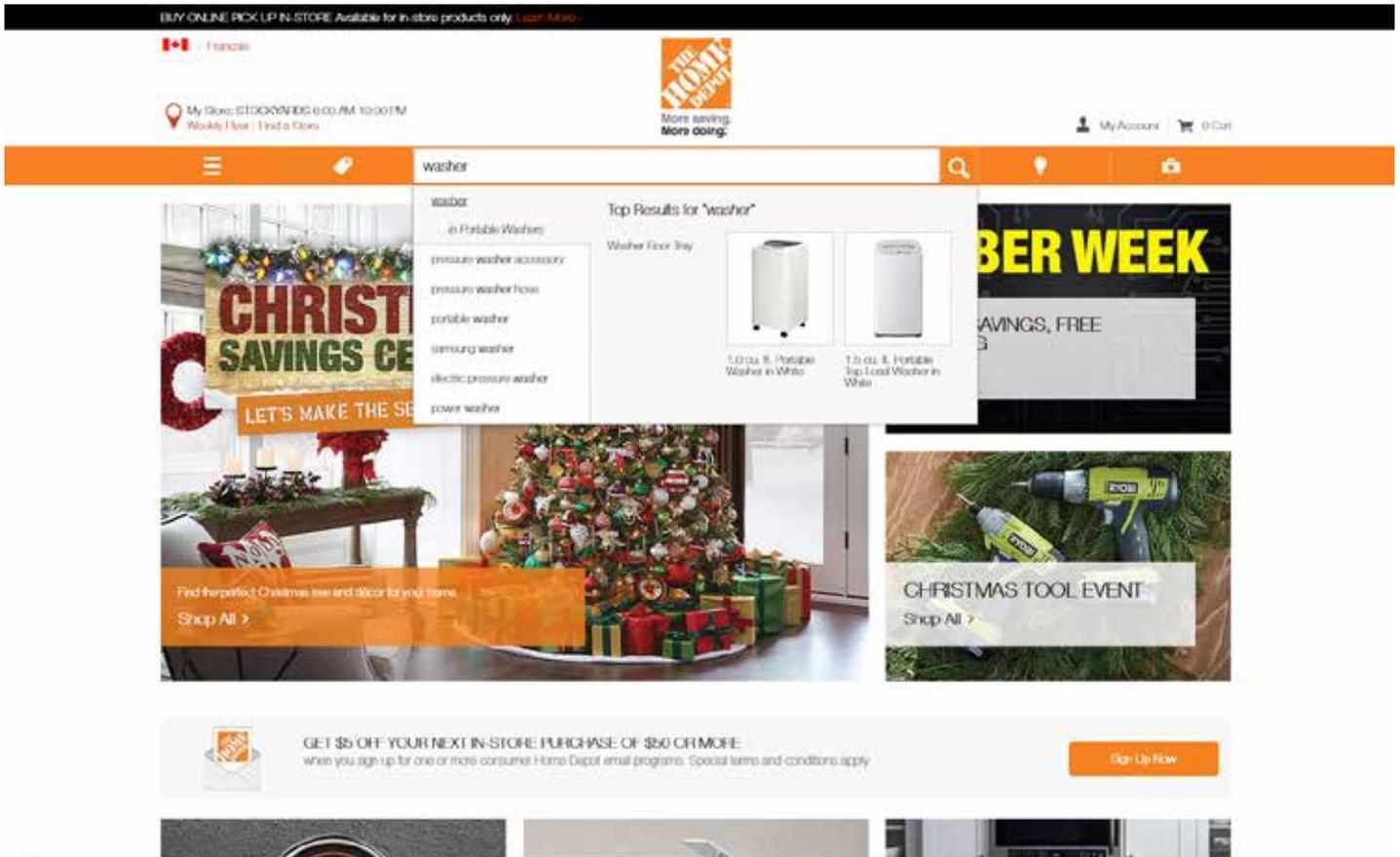
Scoped Searches



Scoped searches offer search guidance as you type

Scoped search is a smart feature to help users find what they are looking for faster. They allow users to limit their search to a section or type of content on a website or application instead of searching everything in one go. They are a guide in the form of as-you-type suggestions. When the user starts typing in the search box, an intelligent list will appear with items in the database that match the query. Users then only have to select an item in the list to get to what they're looking for.

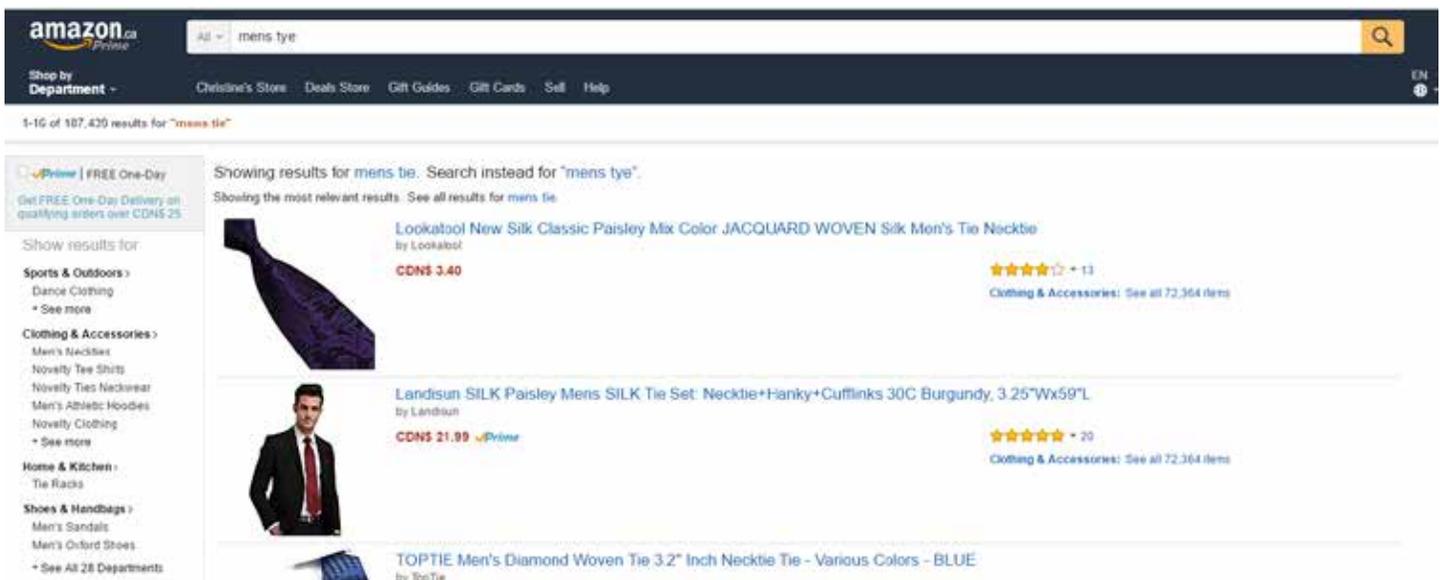
In some cases a search term can mean more than one thing, and having an intelligent auto suggestion will help users get to what they're looking for faster. On the Home Depot website, a search for the term 'Washer' can describe many different items from hardware to washing machines.



Home Depot is an excellent use case in auto suggestions when the search term describes more than one item

Correct Misspellings

It is common for users to make spelling mistakes when searching. Turning up a no results page will force the user to enter the term again causing added frustration. Amazon is a good use case for corrected misspellings. When the user types in 'mens tye', Amazon intuitively shows results for 'men's ties'. Systems that correct misspellings use a phonetic algorithm, Soundex, for indexing names by sound.

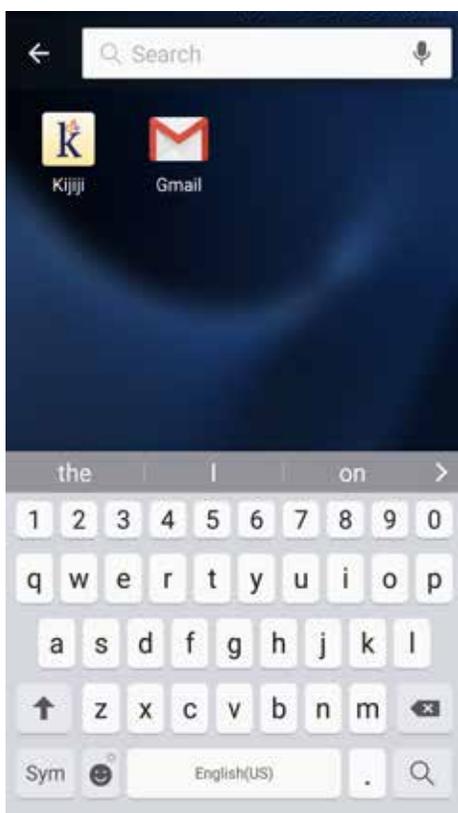


Amazon is a good example of intuitively displaying results for misspelled search queries.

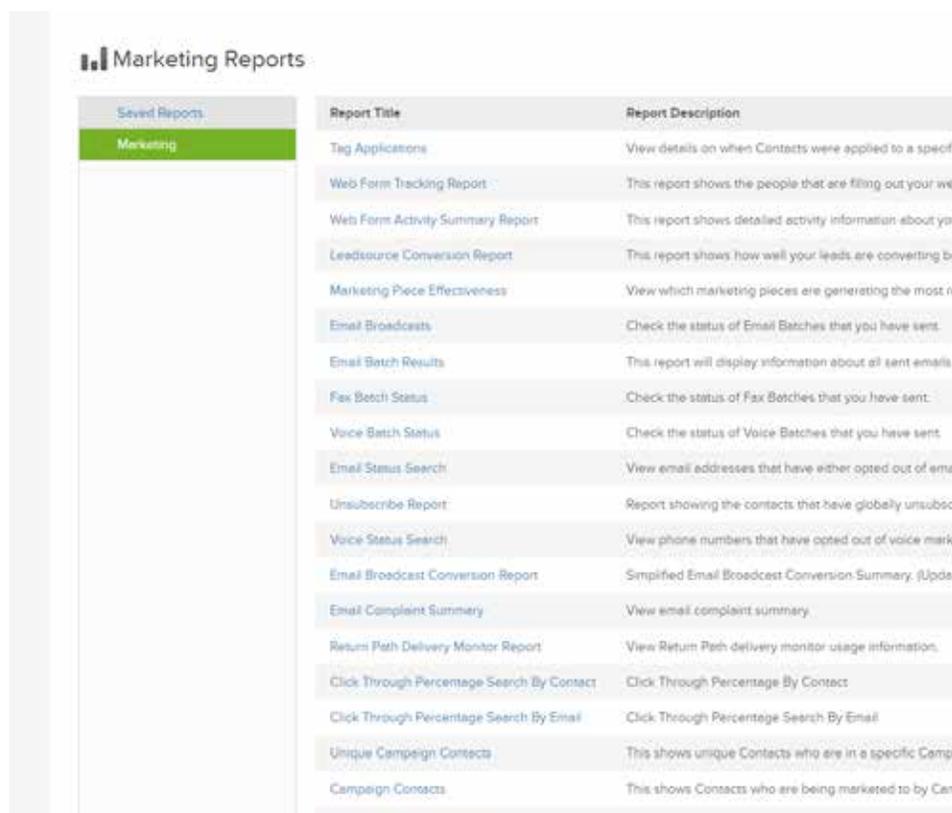
“ It is common for users to make spelling mistakes when searching. Turning up a no results page will force the user to enter the term again causing added frustration. ”

Recent and Saved Searches

Offering users the opportunity to view their recent or saved searches is a good UX practice. Successful interfaces follow a basic usability maxim: respect the users' effort. Even if users are familiar with the search of a particular application, it can be difficult for them to recall information from memory. By showing recent and saved searches in the search UI, it benefits the users' time and effort in searching for the same item again.



The Android search UX saves previous search queries for the user when searching for an app in the system



InfusionSoft allows users to save searches in their reporting module

Search Progress

If it is not possible to display search results immediately, it is important to communicate this to the user with a progress indicator. Providing users no system feedback on a query, leaves them wondering if the system is working.



It is important to provide system feedback if a search does not display immediately

Search Results

Search results play a vital role in the search experience. The most basic role of the search results page is to present items matching the search query. Ideally, the search results would communicate the richness and diversity of the overall result set, while at the same time conveying the detail of each individual item. The challenge of this dual purpose creates a tension in the design: how much is too much or too little detail to display?

If you consider Google as an example, you'll see that their search results page includes:

1. A search box with an input button and voice prompt
2. The search box remembers the search term
3. Categorized search results: All, Videos, Images, News, More (Maps, Shopping, Books, Flights), and Search tools.
4. Number of results found, a list of results with hyperlinked titles with page snippets and URL's
5. Instant relevant page snippet from a high ranking page in the search results displayed as a widget as the top of the search results
6. Pagination
7. Hyperlinks to relevant pages
8. Metadata snippets which gives a description of what's on the page.

Google  

[All](#) [Videos](#) [Images](#) [News](#) [More ▾](#) [Search tools](#)

About 26,200,000 results (0.99 seconds)

The Windsor Knot Tying Instructions

1. Up into the neck loop from underneath.
2. Down to the left.
3. Around the back of the small end to the right.
4. Up to the center, towards neck loop.
5. Through the neck loop and down to the right.
6. Across the front to the left.
7. Down through the loop you've just created in the front.

[More items...](#)

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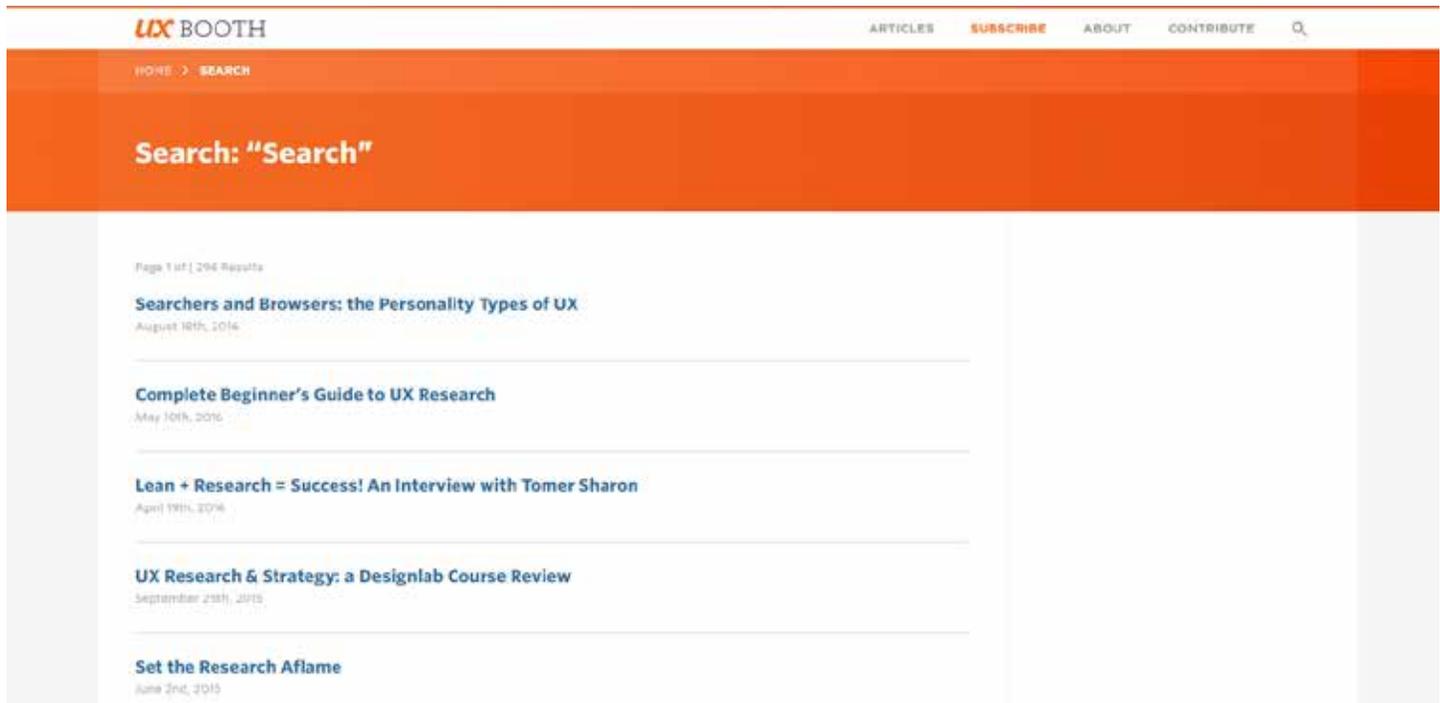
How To Tie A Windsor Knot | Ties.com

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Google's search results page is an example of the level of detail search results should include

“ Search results play a vital role in the search experience. The most basic role of the search results page is to present items matching the search query. ”

By comparison, UXBooth's search results page is much simpler displaying the search terms, number of results, hyperlinks, and the date the page was published.



This search results page shows very little detail, causing the users to have to guess if the link will give them the information they are looking for, which is more likely to result in 'pogo sticking'.

While the Google example is more complex, it demonstrates some basic principles that all search results pages should include. The search results page is one of your website or application's hardest working pages. This is the final page that separates the users who find the content they are seeking from the users who don't. The UX Booth search page results are lacking in detail and search options such as filters. Users are less likely to know if the listed result is what they're looking for before they have to click.

Prevent Pogo Sticking



If the necessary information is not available to the user on the search results page, such as in the UX Booth example above, users have to resort to 'pogo sticking', meaning they have to guess click on an item and possibly have to pogo right back to the search results list because it wasn't what they were looking for. They can be forced to repeat this process many times over. You want to keep your users off the pogo stick.

User testing has shown that pogo sticking rarely results in the users finding what they are looking for. For e-commerce sites, the more a user pogo sticks, the less likely they will be converted into a buying customer. On non-e-commerce sites users who pogo stick end up only succeeding 11% of the time.

Preventing pogo sticking becomes an important challenge for the search results page UI to overcome. The strategy is to give the right information in the search results to stop the user from going to the page if it doesn't have what they're looking for.

Consider the following situation, a search on an ecommerce site lists a good selection of items based on the search query. The user clicks on an item only to find that the item is not in stock, so they pogo stick right back to the search results and their confidence level in the site is diminished. In this situation, adding an 'Out of Stock' message would have prevented the bouncing between pages.

“ For e-commerce sites, the more a user pogo sticks, the less likely they will be converted into a buying customer. On non-e-commerce sites users who pogo stick end up only succeeding 11% of the time. ”

Page Layouts

Search results may appear in a List UI or a Gallery style UI. List style search results tend to be hierarchical (but not necessarily) based on what the system deems is most relevant to the search term. In the application, MenuSano, a nutrition calculator app for recipes, lists the top search result as 'Cheese, Cream' when searching for 'Cream Cheese'.

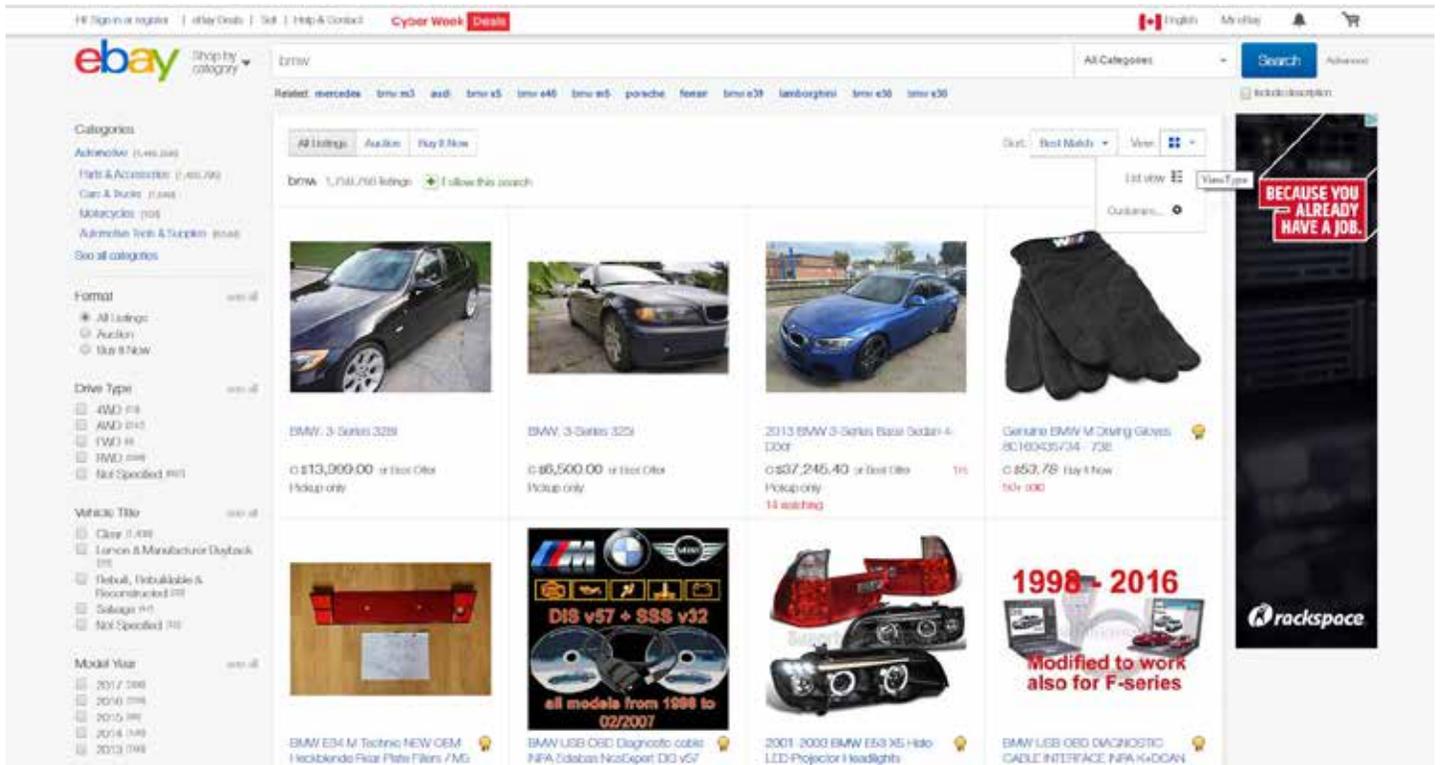
The screenshot shows the 'Search Ingredients' interface. At the top, there is a search bar with 'Cream Cheese' entered. Below the search bar, there are several expandable sections: 'My Basics (0 items)', 'My Recipes (0 items)', 'My Ingredients (0 items)', and 'All Other ingredients (11 items)'. The 'All Other ingredients' section is expanded, showing a list of ingredients with their respective measures and nutritional values. The table below shows the data for these ingredients.

Ingredient	Measure	Calories	Fat (g)	Protein (g)	Carbs (g)	Sodium (mg)
CHEESE, CREAM	100ml	3.42	0.34	0.05	0.04	3.21
CHEESE, CREAM, LIGHT	100ml	2.02	0.15	0.06	0.08	4.70
QIP, CREAM CHEESE BASE	100ml	3.46	0.35	0.05	0.04	5.98
CHEESE, CREAM, FAT FREE	100ml	1.05	0.01	0.16	0.08	7.02
CHEESE SPREAD, CREAM CHEESE BASE	100ml	2.95	0.29	0.07	0.04	6.73

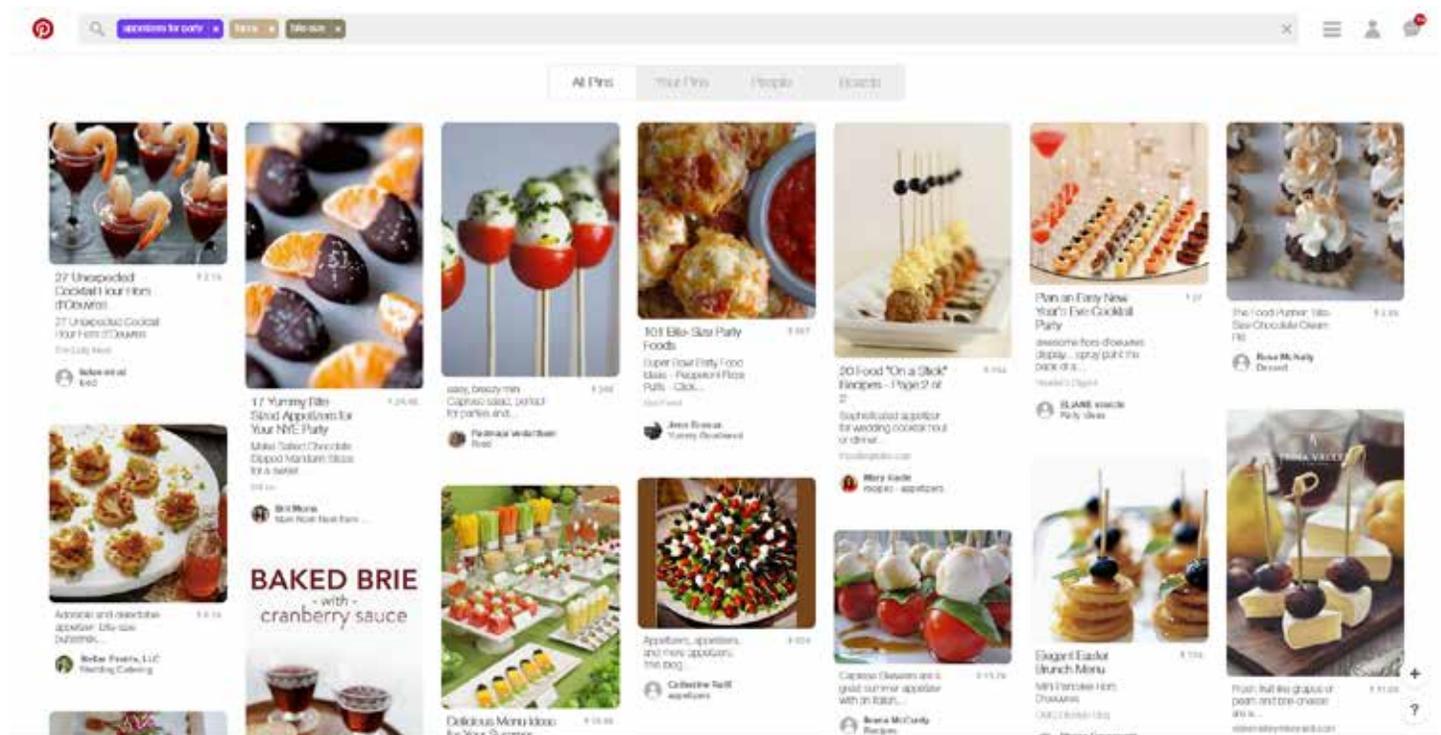
MenuSano ingredient search results is an example of a list UI

How well a search returns relevant information is a critical part of the search UX. Ideally, the top few items will be the most relevant to a user's query.

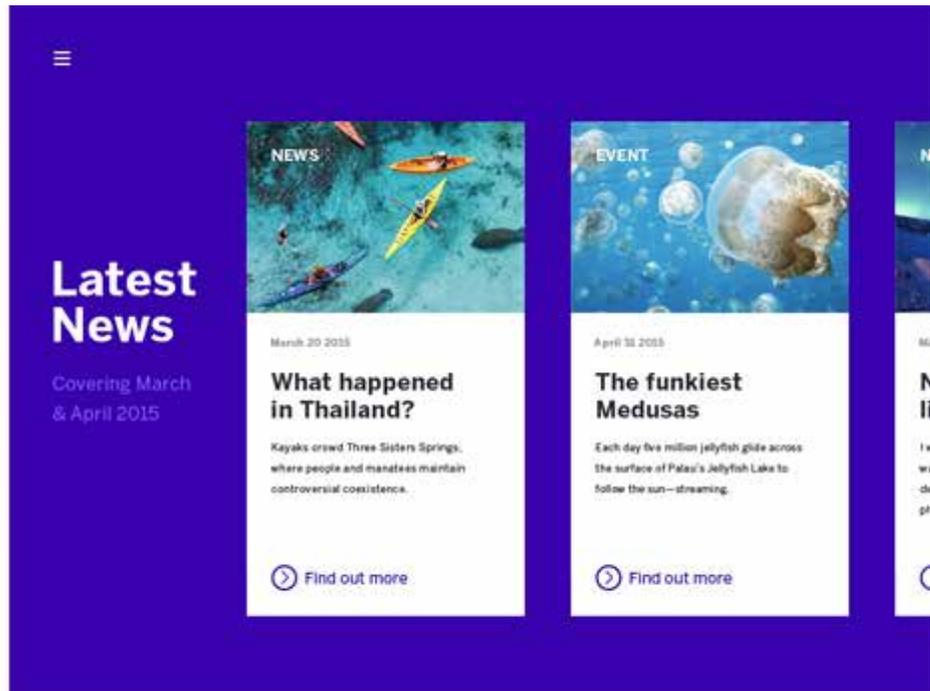
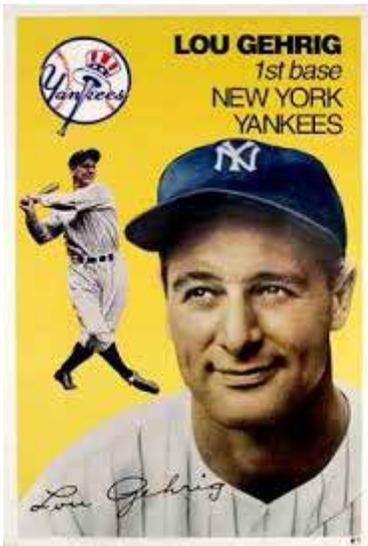
Another search results page layout is a Gallery UI. This type of layout is more pictorial and is commonly used in online retail sites and applications where creating an enriched visual experience for its users is important.



EBay search results page displays as a Gallery UI



Pinterest creates a highly visual experience displaying search results in a Gallery UI using cards



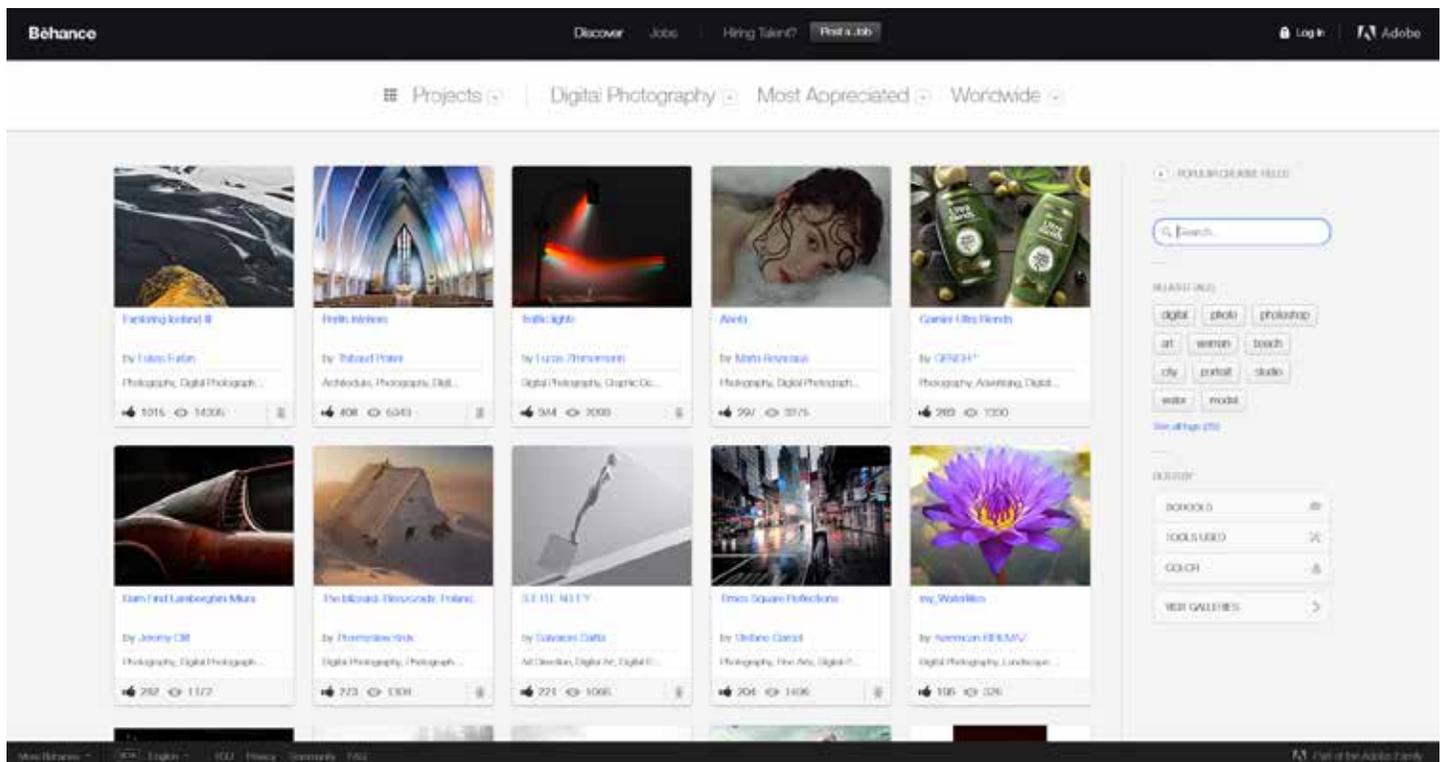
Comparing a vintage baseball card to a contemporary card UI design, it is apparent how similar they are

Digital cards have been a popular UI trend for over a year and isn't going away anytime soon. They offer several advantages including chunking content to aid 'scannability', communicating stories quickly that are easy to digest, work well for varying screen sizes, and are visually pleasing.



Card UI design works well for varying screen sizes

Using cards in a search results UI creates a visually immersive, easy, and pleasurable experience.



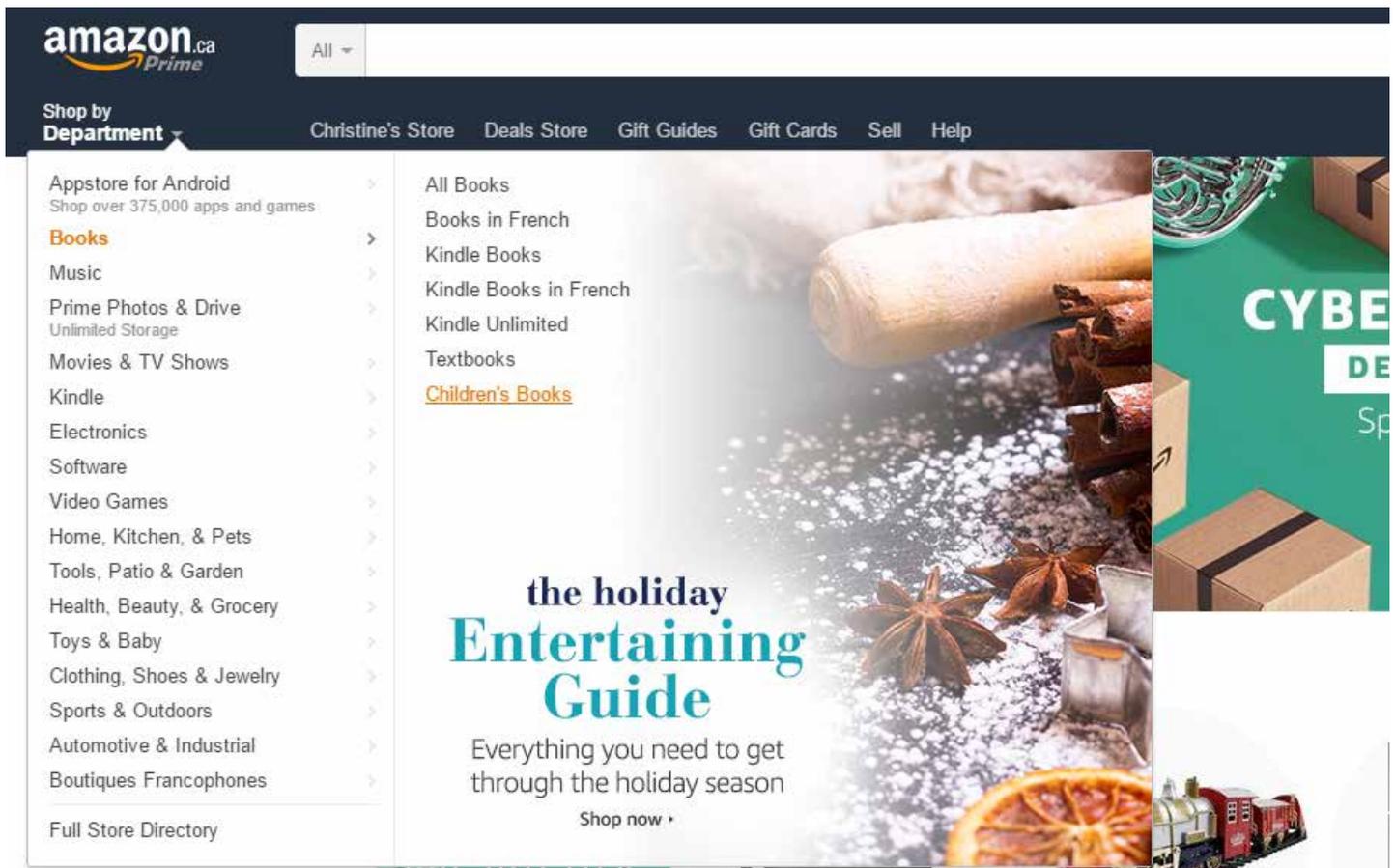
Adobe's Behance application uses a card UI in their search results to create an immersive visual experience.

Filtered Searches are the New 'Advanced Search'

Filtered searches allow the user to narrow down their searches to specific areas of a site. This [UX matters article](#) breaks down filtering into two approaches: “drill down” and “parallel” selection. In either approach, the two basic ways for specifying a value is either a ‘link’ or ‘check box.’

The Drill Down approach highlights the hierarchical organization of the site. This type of search isolates pages by category as the search is narrowed down. On Amazon, a user can shop by clicking links that drill down from the department level downwards. In the example below, the ‘Books’ department was selected, followed by ‘Children’s Books’.

“ Filtered searches allow the user to narrow down their searches to specific areas of a site by using “drill down” or “parallel” selection. ”



Amazon uses a drill down approach to their filtered search

From the Children's Books search results page, additional filtering is available such as books by age, featured books, popular books, etc. Note that this type of filtering is using only links. Links are ideal where users need to display multiple levels in a hierarchy.



From the Children's Books search results page, additional filtering is available such as books by age, featured books, popular books, etc.

In contrast to links, which let customers indicate a single filter value, check boxes let customers indicate the parallel selection of multiple filter values. Kayak.com uses checkboxes to set a limited parameter on the search results. For example, there is a checkbox for review score which will filter the search results to only show hotels with the review score selected.

The screenshot displays the Kayak.com search interface for Paris, France. On the left, there are several filter sections: 'Stars' with star icons, 'Review Score' with checkboxes for Excellent (292), Good (390), Okay (53), and Mediocre (1); 'Price' with a range from C\$ 22 to C\$ 1761; 'Freebies' with checkboxes for Free Breakfast (141) and Free Internet (435); 'Hotel Name' with a search box; 'Location' with a distance filter and a radio button for 'Paris (city center)'; and 'Neighbourhood' with checkboxes for Opéra - Haussmann (80) and Champs-Élysées - ... (44). The main search results area shows three hotel listings: 'Timhotel Blanche Fontaine' (4 stars, Excellent 8.6, 2,164 reviews, C\$ 160 on Expedia, C\$ 176 on Kayak); 'Molitor Paris by MGallery' (5 stars, Excellent 8.8, 1,026 reviews, C\$ 320 on Expedia.ca, C\$ 310 on Tablet, C\$ 411 on Prologia, C\$ 319 on Kayak, C\$ 319 on Hotels.com, C\$ 320 on Travelocity); and 'Hotel Paris Bastille Boutet' (5 stars, Excellent 8.9, 177 reviews, C\$ 368 on MGallery). A 'Best Prices on Paris Hotels' advertisement from TripAdvisor is also visible. On the right, a 'Compare Sites vs. KAYAK' sidebar lists Hotels.com, Expedia, Travelocity, Booking.com, TripAdvisor, and HotelPlanner, each with a 'Compare' button. Below this is an American Airlines advertisement for '100,000 AADVANTAGE MILES'.

Parallel selection works well when there may be a few intersections in search descriptors.

Best practices for filtered search is to:

- Explicitly state the filter at the top of the page
- Offer a one click option to clear filters one at a time, or all at the same time
- Allow users to apply more than one filter at a time

The screenshot shows the BuildItWith.Me search interface. At the top, there is a navigation bar with the logo 'BUILDITWITH.ME' and the tagline 'Connecting Designers & Developers'. There are buttons for 'PEOPLE', 'IDEAS', 'SIGN UP NOW' (with subtext 'IT'S QUICK AND FREE'), 'LOGIN', and 'ABOUT'. Below the navigation bar, there are search filters: 'I'm looking for: A Developer', 'To build: A Web App', 'Starting: Within 3 Months', and a toggle for 'Has Ideas'. The number of results is '65 PEOPLE'. The main content is a list of developers, each with a profile picture, name, role (Developer), number of app ideas, and availability status (Currently Available). The developers listed are Robson Coutinho, Akif KILIC, Paddy Foran, Matthew Smith, fanrater, Stephen Way, Alex Objelean, Tomer Rosenthal, Eric A, and Ricardo Vega. At the bottom, there is a filter input field 'Filter: Skills, Location, Name, etc.', a 'PEOPLE 0-60' indicator, and a 'Sort by: Newest First' dropdown menu.

Profile Picture	Name	Role	App Ideas	Availability
	Robson Coutinho	Developer	1 App Ideas	Currently Available
	Akif KILIC	Developer	1 App Ideas	Currently Available
	Paddy Foran	Developer	1 App Ideas	Currently Available
	Matthew Smith	Developer	2 App Ideas	Currently Available
	fanrater	Developer	6 App Ideas	Currently Available
	Stephen Way	Developer	1 App Ideas	Currently Available
	Alex Objelean	Developer	1 App Ideas	Currently Available
	Tomer Rosenthal	Developer	1 App Ideas	Currently Available
	Eric A	Developer	1 App Ideas	Currently Available
	Ricardo Vega	Developer	1 App Ideas	Currently Available

The BuildItWith.Me search interface places the filters along the top

Sorting

Sorting and filtering complement each other very well. Both solve the pain of how wrong site-wide search results can go. What categories to select for filtering will depend on the content of the website or app. For example, e-commerce site sorting options usually include:

- Sort by relevancy
- Sort by newest
- Sort by top rated
- Sort by lowest price
- Sort by highest price

E-commerce site search results pages generally include sorting by best match, newest, top-rated, lowest price and highest price

For a public library, the sorting categories would be different. The Toronto Public Library includes:

- Best Match
- Title
- Author
- Date
- Newest Additions

The sorting categories should be relevant to the content of the site

When Sort Goes Wrong

In many cases, sorting criteria that isn't based on search term relevance will only be meaningful when applied within a well-defined scope or filter because they otherwise place low-quality search matches at the top of the product list. When users perform site-wide searches without a search scope, sorting options such as price therefore rarely make sense because they tend to produce search results that don't match user expectations.

Consider the following example from Ikea.ca. After performing a site wide search for a 'sofa', and sorting the price low to high, the top search results display sofa accessories such as cushions and sofa legs. While this may be the technically "correct" response from the system, it certainly does not align with the users expectations.

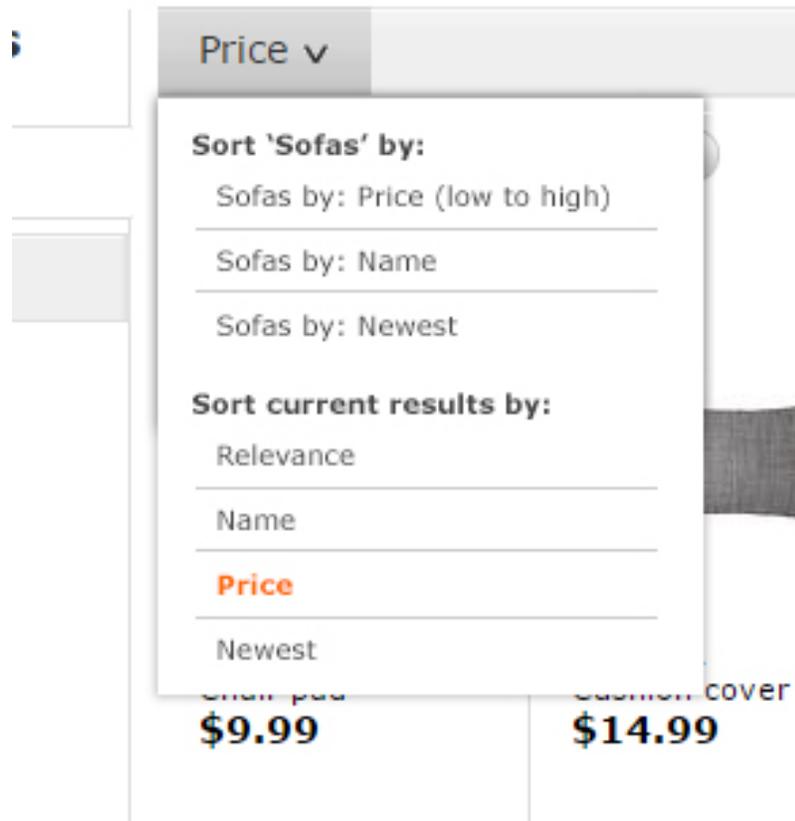
The screenshot shows the Ikea.ca search results for 'sofa'. The search bar contains 'sofa'. The results are sorted by price low to high. The top results are:

- NORNA Chair pad \$9.99
- ISUNDA Cushion cover \$14.99
- REMVÄLLEN Cushion cover \$14.99
- VALLENTUNA Cover for back cushion \$15.00
- NORNÄS Wine rack \$15.99
- KVARNVIK Box with lid \$19.99
- LANDSKRONA Leg \$20.00 /4 pack
- STOCKSUND Legs for footstool and bench \$20.00 /4 pack
- STOCKSUND Legs for armchair/chaise/sofa \$20.00 /4 pack
- LANDSKRONA Leg \$20.00 /4 pack

After selecting a sort option on Ikea.ca, the response from the system does not align with the users expectations

“ When users perform site-wide searches without a search scope, sorting options such as price therefore rarely make sense because they tend to produce search results that don't match user expectations. ”

Faceted Sorting offers a solution to this problem. Faceted Sorting suggests a list of category-specific sorting options for any highly relevant subset of the search results. This approach works because it effectively makes the user select both a scope and sorting criteria at once. In the Ikea example, the sorting options would look like this:



This mockup shows how Faceted Sorting could be applied to the Ikea.ca's Search UI

Zero Results

How a website or application handles a failed search is an important aspect of search UX. Ideally, a search should be designed to prevent a zero search result situation by offering scoped searches and corrected spellings during the search. Inevitably some queries just don't return any meaningful results.

If a "No Results" page is the outcome, the UI should:

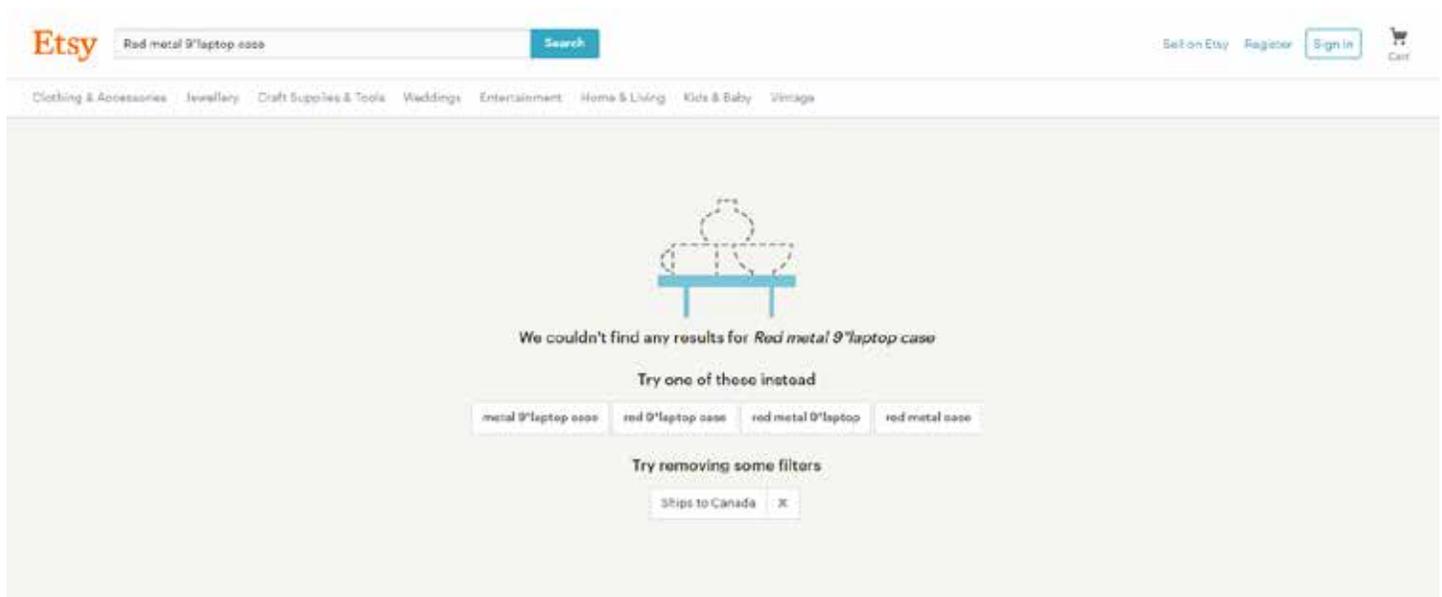
1. Provide a clear message that zero results have been returned
2. Provide a way to rectify the failed search by offering suggestions for query reformulation
3. Display other navigation options such as top searches, featured products, popular items, etc.

When landing on a zero results page on Unsplash.com, a stock photo website, the user is given little feedback in terms of help to rectify the situation. The search was for an image of 'Toronto in Winter', which produced no results despite Unsplash having 80 Toronto photos in its database. Unsplash could improve their search results UI by adding in a clearer no results message, suggesting a more broad search for the term 'Toronto', and displaying some Toronto images.



Unsplash offers little guidance on their zero results page

The Etsy zero results page is a good example that includes all three points mentioned above: provide a clear message that zero results have been returned; provide a way to rectify the failed search by offering suggestions for query reformulation; display other navigation options such as top searches, featured products, popular items, etc.



Etsy offers users a way to navigate out of the zero results page without having to retype their query.



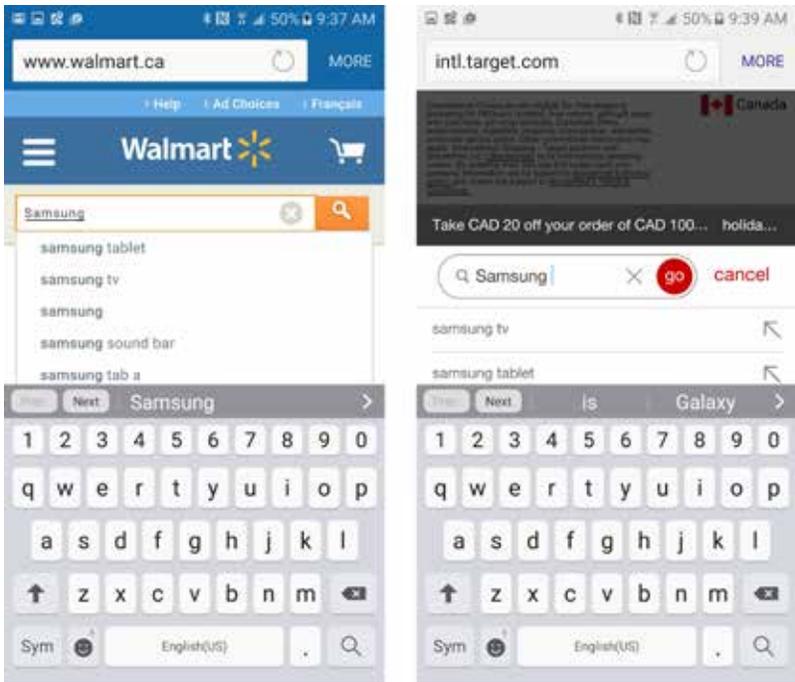
> Mobile Search

Mobile use continues to grow and everybody is trying to improve and create better mobile user experiences. The instant rise in popularity of mobile web design and apps has seen a lot of designers create apps for Android or iOS without much thinking and that lead to a lot fails.

Designing search UX on a mobile device shares the same guidelines as search UX on larger devices, but because of the limited screen space, mobile search UI requires its own additional best practices.

Searching

Search on mobile should follow the same UI elements as on larger screens: a search textbox and an input button. However, mobile devices offer some alternatives to how this can be executed. In the Walmart and Target example below, a search box is used along with a search input, 'Go'. In addition to this, a second search button can be found on the keypad. Note that both Walmart and Target offer Scoped Search on the mobile versions of their website. Offering scoped search on mobile reduces interaction cost because typing on keypads are more cumbersome; therefore, the less typing, the better.



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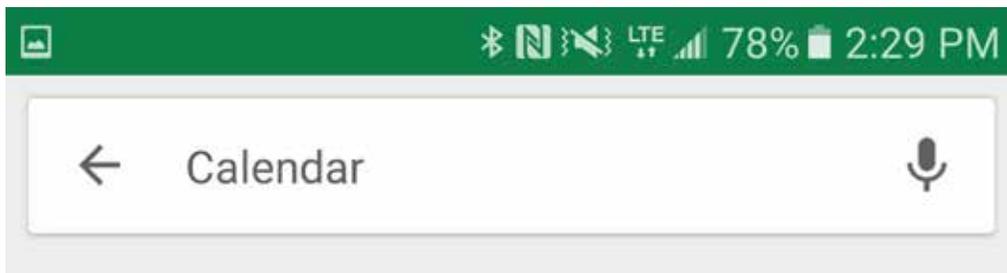
The Baymard Institute, in a mobile e-commerce usability study, found that 94% of e-commerce sites did not support scoped searches and instead would only perform a site-wide search query. This was found to be a direct cause of site abandonments.

Back Arrows

Adding a back arrow on the search bar is a mobile UI search enhancement that makes it easier for users to navigate backwards out of a search.

Voice Prompt

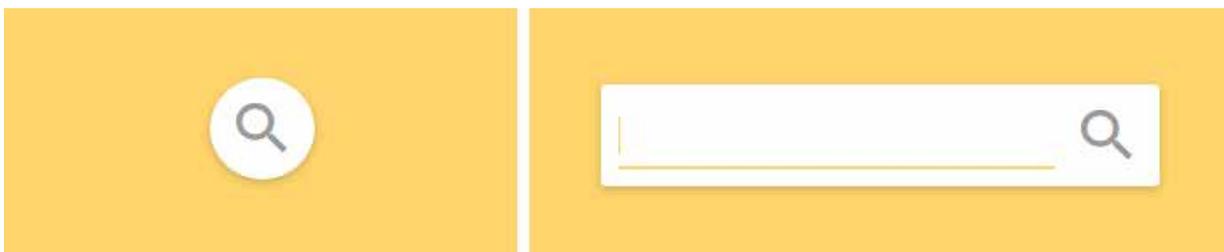
Search bars with voice prompts enhance search UX by lowering the interaction cost with users do not have to type in search queries.



Google Play search bar features a back arrow and voice prompted search

Prominent Search Bar

The search bar should be displayed prominently just as on larger devices, near the top of the screen. Recently, some designers are replacing the search bar with an icon-only search. The downside to having only an icon for search means that the user has to wait for a search box to appear, find where to start typing, and sometimes click one more time to focus on the input field. It is our opinion that this is not the most user friendly UI for mobile search as it increases interaction cost.

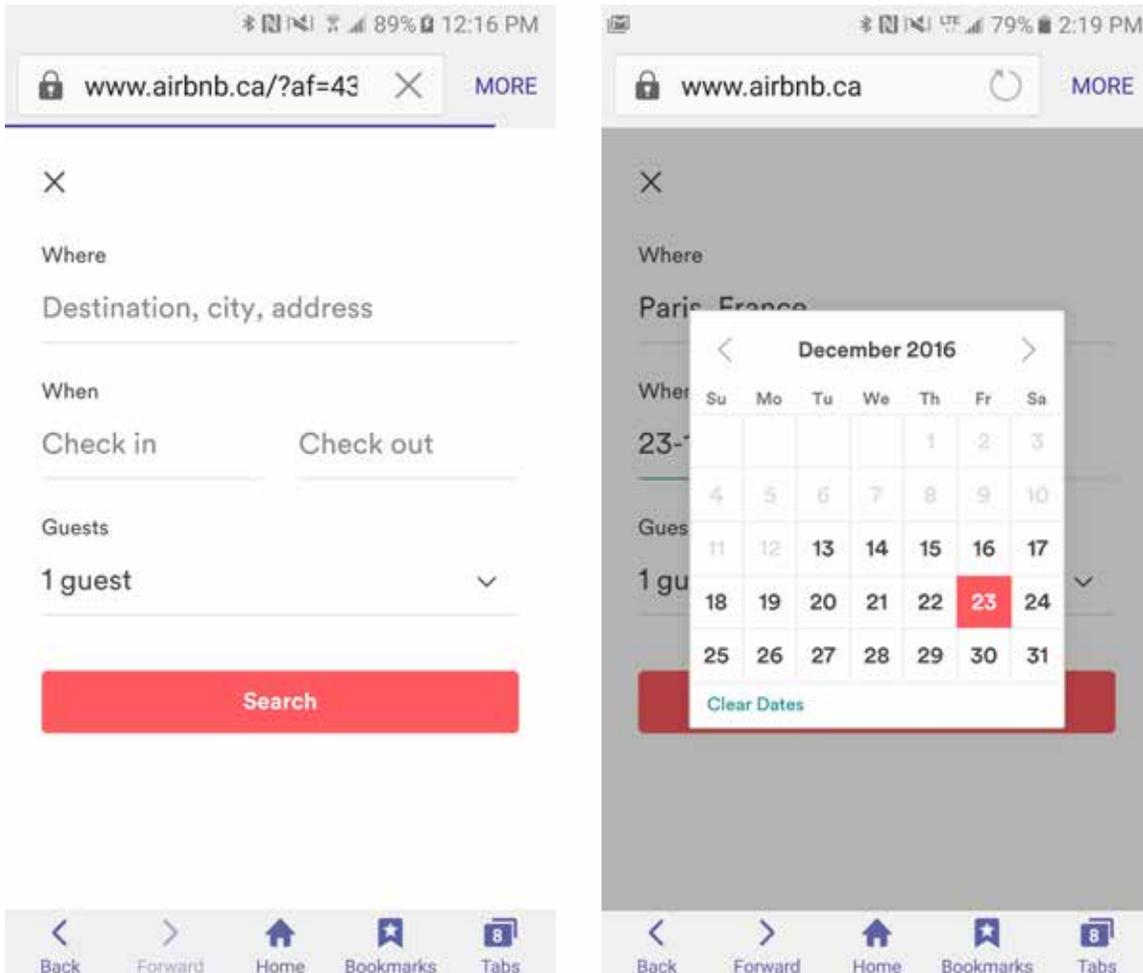


Icon-only searches display the search icon which transforms into a search input when clicked can increase interaction cost

Search Forms

In some cases, a simple search box is not enough, and some more parameters are needed to produce a search results list. Search forms ask for multiple data points to be entered before performing a search. Ideally, as few fields as necessary are captured – long forms on mobile screens are very cumbersome. Search forms should require minimal typing and use auto complete suggestions for textboxes.

The Air BNB search form requires minimal effort by the user. Using auto complete on the 'Where' textbox, and a calendar control and drop down, requires minimal typing for the user.



The Air BNB search form requires minimal effort by the user

Search Progress

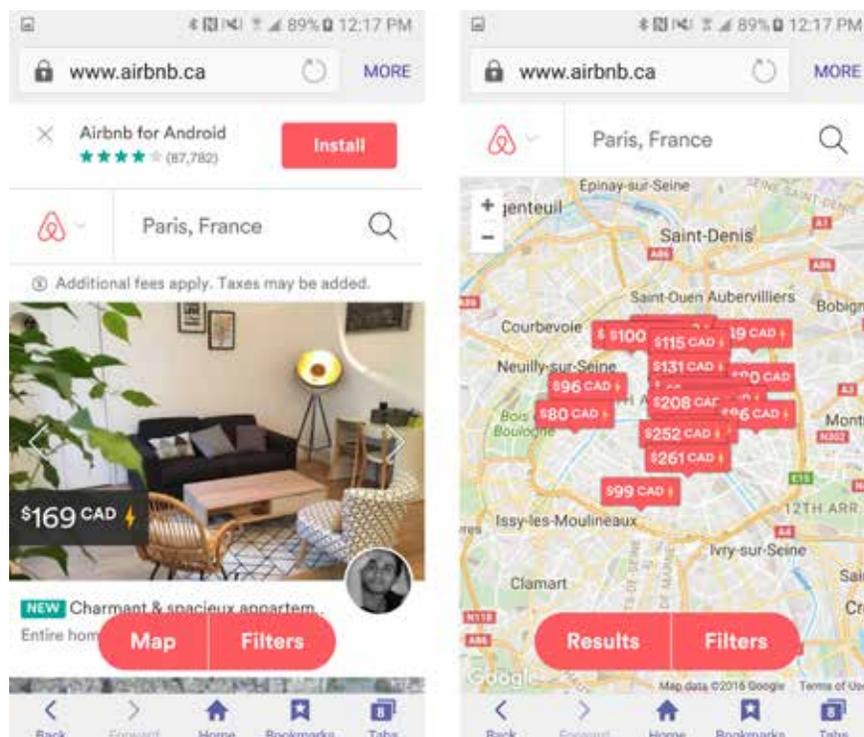
Just as on larger devices, if a search cannot be immediately loaded, the user should have some system feedback that the system is working.



The Expedia App lets users know that the system is working to retrieve search results for the query

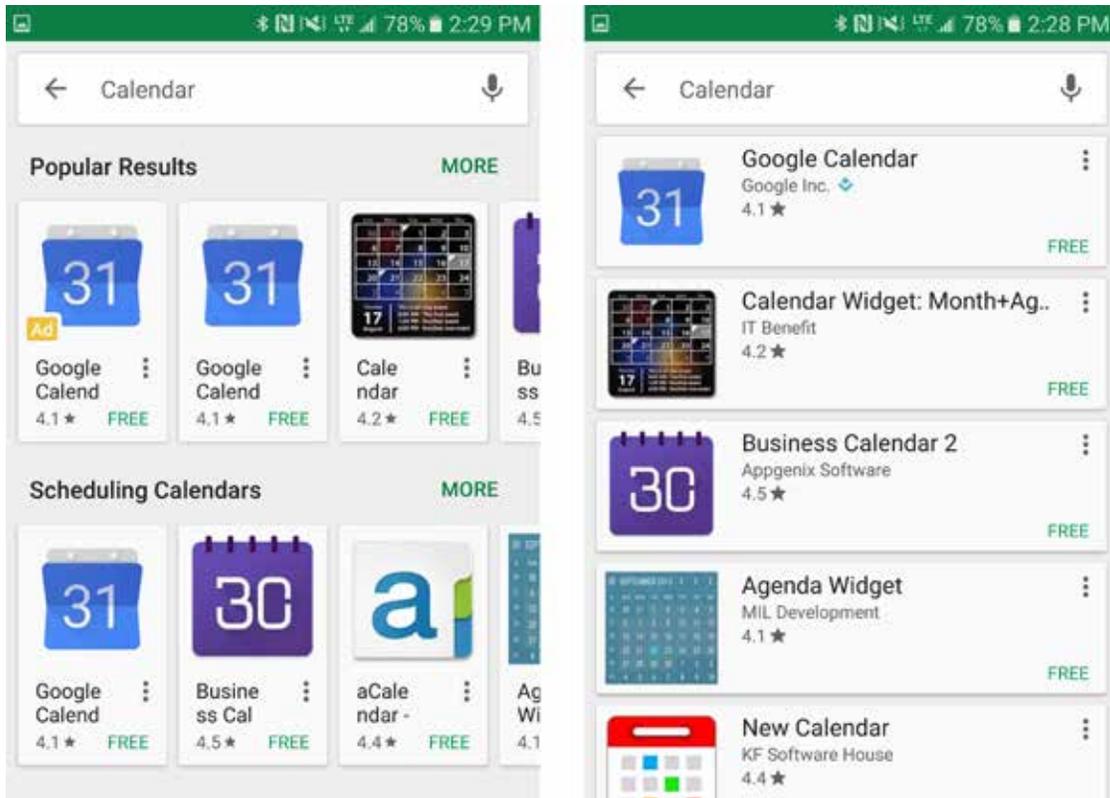
Search Results

On mobile, search results can be displayed as a list, gallery, or on a map. Air BNB provides a pleasant search results UI by allowing users to view the results in a list or on a map.



Air BNB offers both a list and map search results UI

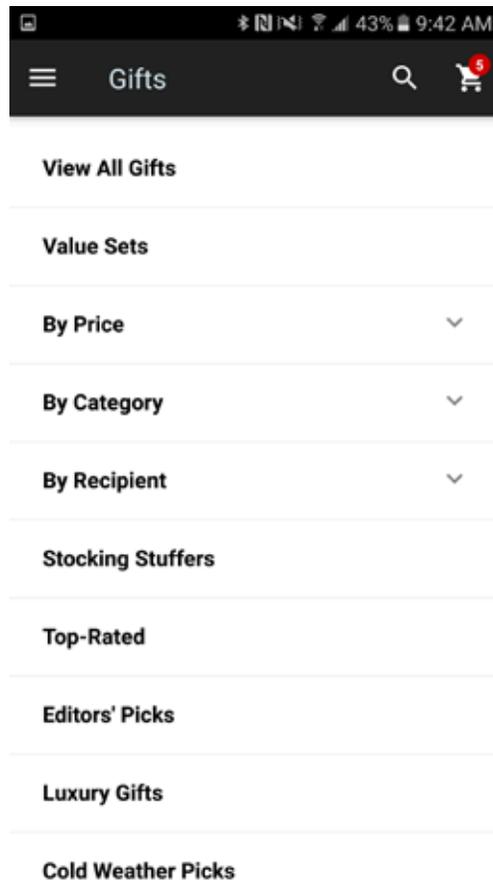
Another highly usable search result pattern is to display searches that have many results into categories, such as 'Popular'. Google Play app gives an example of this UI pattern. Performing a search for the term 'Calendar' organizes search results into categories such as 'Popular Results' and 'Scheduling Calendars'. Clicking on 'More' produces a list results view.



Google Play organizes search results into categories

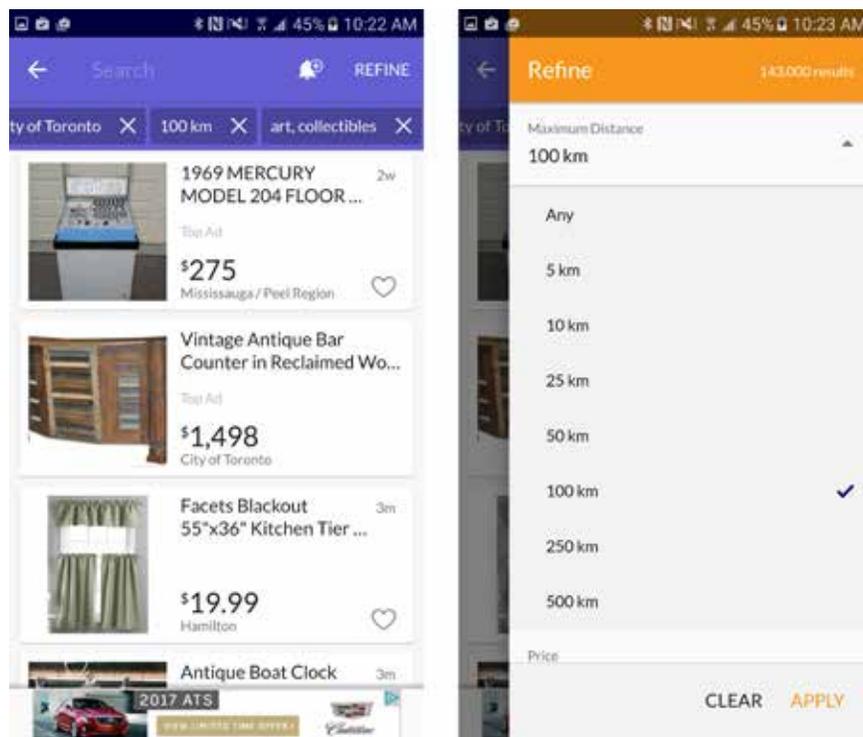
“ Designing search UX on a mobile device shares the same guidelines as search UX on larger devices, but because of the limited screen space, mobile search UI requires its own additional best practices. ”

At Sephora.ca filtering the gifts category is done by a fly out that covers the whole screen.



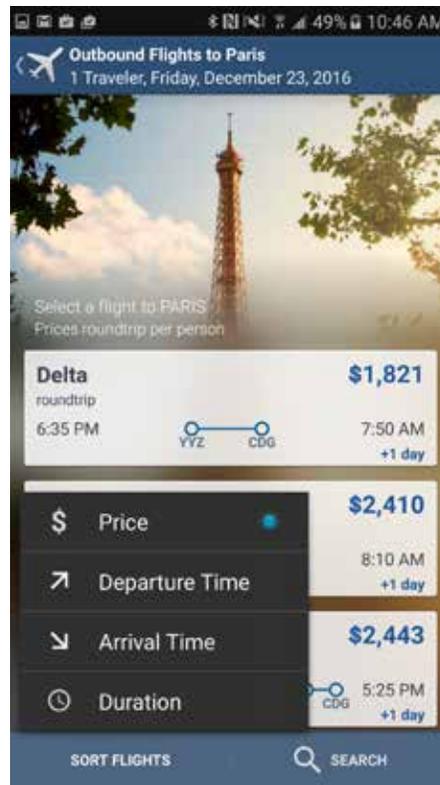
At Sephora.ca filtering the gifts category is done by a fly out.

The Kijiji app uses filtering at the top of the screen, which prompts a fly out menu.



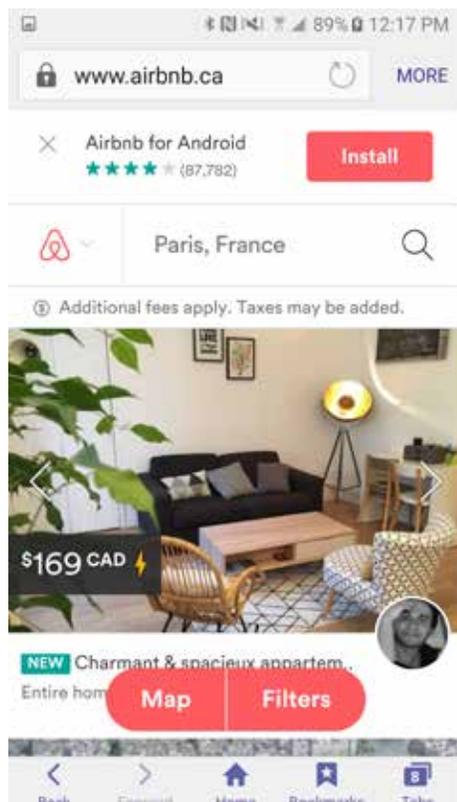
The Kijiji App uses a fly ou filter that slides out from the right hand side of the screen

The Expedia app filter flies out from the bottom of the screen:

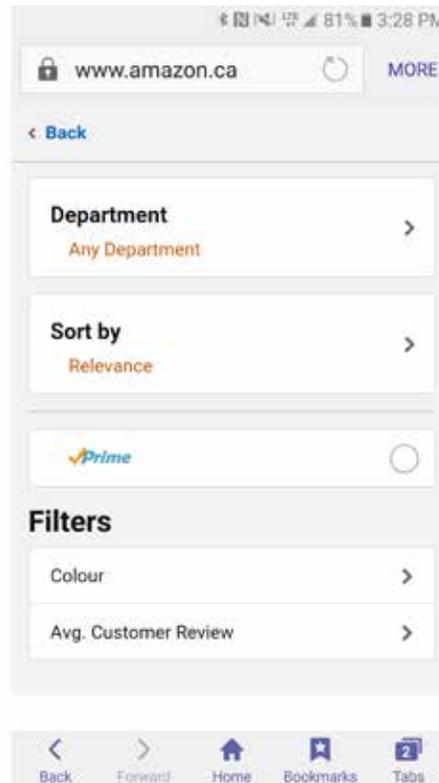
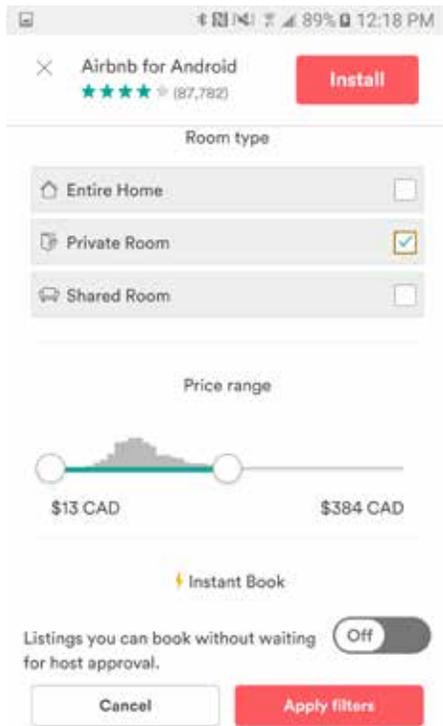


The Expedia App uses a fly out filter that slides out from the bottom of the screen

Off-screen filters have their own view separate from the search results view. Once the filters are applied, users can submit the filters with a button and be redirected to the search results page with the filters applied.



Air BNB places their filter link at the bottom of the page while Amazon.ca places it at the top



Off-screen filters have their own separate view from the search results page on mobile devices

Lazy Loading instead of Paging for Mobile

Lazy loading is a common technique to use so that some search results will be displayed while the rest are being loaded. This allows the page to load faster as not all the content is required to load at the same time. Lazy loading is ideal on mobile rather than paging because it supports the natural interaction model of scrolling on a mobile device. Make sure to label the number of results returned so that it is clear to the user that there is more to come.

Furthermore, lazy loading saves bandwidth for the user. If a user is not going to scroll past the first 10 images, then it is useless to load them all. If there were 30 images on a webpage, and each one was 30KB in size, the bandwidth savings would be 600KB per visit on the webpage. For a high traffic website or application with 2M page views per month, lazy-loading images will save about 1M MB of bandwidth.

“ Lazy loading is ideal on mobile rather than paging because it supports the natural interaction model of scrolling on a mobile device. ”



> Conclusion

Websites and applications exist to offer a service to its users. Just as a negative customer service experience with a company will form create a poor opinion of them, a negative experience with a website or application will not be forgotten. The cost is a loss of confidence that spending time on the website or application will be fruitful. Providing a user- friendly way to search your website or application can save the day for some users.

User friendly searches employ the use of:

- A search box that highly visible located at the top of the page and uses in input field and submit button
- A search box that is at least 27 characters wide
- Scoped filters
- Phonetic algorithms that will correct misspellings
- Recent and Saved Searches
- Search progress indicator is the results cannot be displayed immediately
- Search results pages with adequate information on each search result to prevent 'pogo sticking'
- Filters & sorting for search results
- A helpful zero results page

On mobile, the elements of a successful search UI are shared with those on larger devices, but keeping a smaller screen size in mind and how difficult it can be type on a small screen, some additional considerations should be made:

- Back arrows on search inputs and voice prompted searches
- Autocomplete controls on search forms
- Filtering on screen with the use of fly out menus, or filtering off-screen
- Lazy Loading

Following the guidelines in this paper will help make your search UX a success and prevent your users from feeling like they are on an impossible quest.

“ *When something exceeds your ability to understand how it works, it sort of becomes magical.* ”
- Jonathan Ive

Resources

“Galleries: The Hardest Working Pages on Your Site”, Jared M. Spool, <https://articles.uie.com/galleries/>

“Aesthetic-Usability Effect”, Mark Boulton, <http://www.markboulton.co.uk/journal/aesthetic-usability-effect>

“Attention web designers: You have 50 milliseconds to make a good first impression!”, Behaviour & Information Technology, Volume 25, 2006- Issue 2, <http://www.tandfonline.com/doi/abs/10.1080/01449290500330448>

“No More Pogo Sticking: Protect Users from Wasted Clicks”, <https://www.nngroup.com/articles/pogo-sticking/>

“Interaction Cost”, <https://www.nngroup.com/articles/interaction-cost-definition/>

“Mobile Usability: Allow Users to ‘Search Within’ Their Current Category (94% Don’t)”, <http://baymard.com/blog/search-within-current-category>

“Faceted Sorting- A New Method for Sorting Search Results”, <http://baymard.com/blog/faceted-sorting>