

# Molecular.

## Designing for Interaction: Tools and Techniques to Perfect the Online Experience

By Paul Irish, Senior Experience Design Specialist, Molecular

THE INTERNET HAS BECOME A FAR MORE INTERACTIVE PLAYGROUND FOR WEB SITES AND WEB APPLICATIONS IN THE PAST FEW YEARS. WITH THE WIDESPREAD ADOPTION OF TECHNOLOGIES LIKE AJAX, NEW INTERACTION TECHNIQUES ARE BECOMING COMMONPLACE. CONSUMERS ARE GETTING ACCUSTOMED TO MORE POWERFUL AND RESPONSIVE WEB SITES WHERE CONTENT FADES, UPDATES DYNAMICALLY, AND RESPONDS TO THEIR INPUT INSTEAD OF THE OLD PATTERN OF CLICK-REFRESH, CLICK-REFRESH. TO REMAIN COMPETITIVE, COMPANIES MUST BE PREPARED TO USE ADVANCED TECHNOLOGY TO DELIVER ENHANCED INTERFACES AND EXPERIENCES TO THEIR CUSTOMERS.

### Aren't these just bells and whistles?

Presenting your customers with more immersive and interactive Web interfaces can elicit excitement, loyalty, and plenty of referring traffic. Many companies beat their competitors by offering a more innovative and refined interaction style: Facebook overtook MySpace, Going.com beat Upcoming.org, Flickr surpassed Snapfish, and Yelp replaced the Yellow Pages. If you ask, your customers might not say responsiveness is important to them, but it's evident by looking at sites that succeed. A web site that is more responsive to customer input creates a stickier platform; one that rewards their input with immediate feedback and creates a mild state of Flow<sup>1</sup>.

Conversely, sites that are frustrating to use and slow to render lead to customer dissatisfaction, site abandonment, and significant loss in overall sales. Studies indicate keeping interactions within 2 seconds will keep customers engaged; whereas half of all people waiting more than 8 seconds (typically shorter than a full page refresh) will lose interest and drop off<sup>2</sup>. But if you can execute well, your customers will reward your innovation with their loyalty, increased conversion, and decreased

abandonment. In the following paper, we'll look at some important new technologies that can help you deliver a dynamic, feature-rich experience to your customers, and offer some tips to help you decide when and how to deploy them.

According to Zona Research, slow web sites cost \$25 billion in lost sales, including more than \$21 billion per year lost when customers abandon a web site because of excessive delays in web page downloads.

### So how do I liven up my site?

Digital marketers can deliver the experience customers are looking for by leveraging some new technologies that are soon to be commonplace. There are a number of emerging interaction standards, or "patterns", that you can get a head-start on.

<sup>1</sup>Flow was proposed and popularized by psychologist Mihaly Csikszentmihalyi. It is the mental state of operation in which the person is fully immersed in what he or she is doing, characterized by a feeling of energized focus, full involvement, and success in the process of the activity.

<sup>2</sup>Performance Matters. "The Miller Response-Time Test" <http://performancematters.blogspot.com/2005/10/miller-response-time-test.html>

# Molecular.

The solutions outlined below are clever space-saving content presentation strategies, enhanced customer interface widgets, and techniques that help you present a more professional look. While many of these technologies can take your online marketing efforts to the next level, keep in mind that just because you implement these doesn't necessarily mean that people will flock to your site in admiration. Many of these techniques can be used in subtle ways to iteratively improve an existing design, and it's important to target specific areas of the site that will benefit the most from increased interaction and experiment with the solutions below. As always, usability testing is the only way to verify the design is successful. Be sure to work closely with your target audience to better understand their needs, goals and expectations, and then implement technologies to meet those goals.

## AUTOCOMPLETE

### BESTWESTERN.COM: AUTOCOMPLETE



Autocomplete is a feature that involves a web site predicting a word or phrase that the customer wants to type in without actually typing it in completely. This feature works best when the web site can predict how the customer may finish a word. Email addresses, city names, airports, tags, and salutations are all good targets. To implement successfully, the autocomplete results should come

up after typing a minimum of three characters, be keyboard-navigable, and mouse-hover enabled. Most of the time, autocomplete is used to aid in completing a single form field, but in the previous example from Best Western, when customers select an option, it completes not only the city field, but also the state and country. This is particularly convenient for customers, given that addresses are often long and difficult to type correctly.

Autocomplete can be easily added to your site if you haven't already. Consider for a moment: how else can you make data entry on your site quicker? The only complex part to figure out is what data to return to the customer as he or she is typing. If you have a search feature on your web site, compile a list of most used searched terms and start from there.

## EDIT IN PLACE

### DATA GRID WITH EDIT IN PLACE

Common Name	Light	Price	Available	Indoor?
Wake Robin	Sun or Shade	\$3.2	Feb 21, 2006	Yes
Violet, Dog-Tooth	Shade	\$9.04	Feb 01, 2006	Yes
Trout Lily	Shade	\$6.94	Mar 24, 2006	Yes
Trillium	Sun or Shade	\$3.90	Apr 29, 2006	Yes
Spring-Beauty	Mostly Shady	\$6.59	Feb 01, 2006	Yes
Spatterdock	Shade	\$5.63	Jul 11, 2006	Yes

While it's common to go into an "edit mode" to adjust data, edit in place allows customers to perform quick, simple edits simply by clicking the text to be edited. By keeping the customer in the same context and letting their mouse clicks switch between "view mode" and "edit mode" at will, they'll get things done quickly and get less frustrated about wasted time. The above example is a data grid, where each data piece is instantly-editable when clicked—some are plain text inputs, while others are date pickers, dropdowns and check-

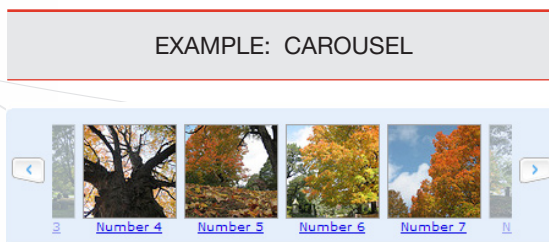
# Molecular.

boxes. Flickr is well-known for their edit in place titles and descriptions for any photo you've uploaded. A good best practice to follow is a hover state affordance: the editable area highlights in pale-yellow and a "click to edit" tooltip appears.



If you run an e-commerce business, think about using this technique in a shopping cart—the prices instantly update when you change a quantity or the shipping zip code.

## CAROUSEL

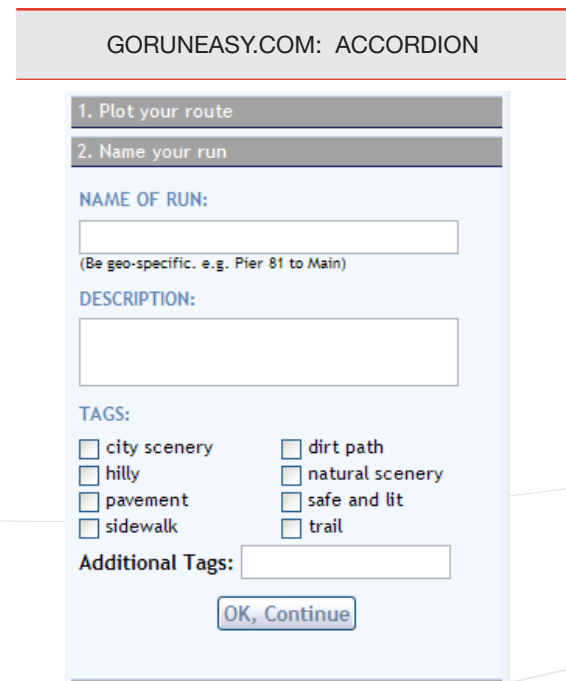


A carousel enables you to feature plenty of content in a small space. Pictures are often used in a carousel, but recipes, new blurbs, or categories of links are all appropriate. The New York Times uses a carousel on their homepage with headlines from all their sections. By using the paddles on the side, your customers can browse from side-to-side to

what they want to focus on. Keep in mind that many visitors may not ever see the items that are out of view, so don't use this space for critical information. A subtle sliding animation can help customers understand the widget, as well as give them a peek of the items to the side of the current view.

Does your site have a large set of content to show, but not enough space to show all items at once? If so, this is a natural place where a carousel can be used to create a unique experience.

## ACCORDION



The accordion is a widget that enables sections of content to be expanded or collapsed so only one displays at a time. When you click on a header, the visible content collapses and the desired content expands into view. Just like the carousel, the accordion gives you a chance to showcase extra content in a confined area. This widget works well

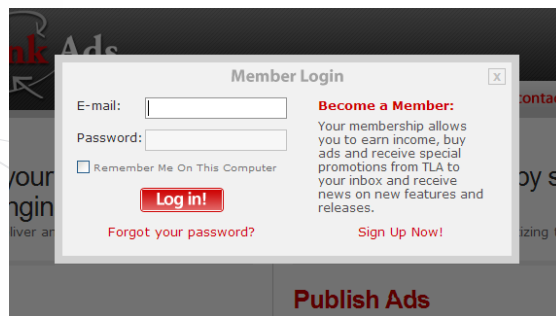
# Molecular.

on a Frequently Asked Question (FAQ) page—click the question to reveal the answer. The previous example (from the Reebok Run Easy site) uses an accordion to guide visitors through a multi-step process. Molecular also developed Single-Screen Checkout™ technology for The TJX Companies, Inc. with the same user interface technique. When implementing, all headers should look clickable and have a hover treatment. If the accordion is part of a process, provide a “continue” button to proceed to the next step.

What are the most common processes that customers are doing on your web site? Registration? Checkout? Understanding which of these tasks can be optimized for your customers will help to improve the overall conversion rates on your site.

## MODAL POPUP

### EXAMPLE: MODAL POPUP



A modal popup is a window created within the page that instantly displays and centers content and establishes focus. Modal popups can be useful for image zooming, watching video, or asking for login credentials. Many sites are utilizing a modal popup in the form of a “lightbox,” illustrated at the top of the next column, to show the full-size image when a thumbnail is clicked.

### MODAL POPUP: LIGHTBOX



This technique makes interaction speedy, but may confuse your customers if they don't know how to get out of it. Always create a very clear (and large) close button in the top right of the popup.

Modal popups are particularly useful to ensure visibility of an important message, or to prompt the customer for input before continuing. If your site includes circumstances where decisions need to be made, it will probably benefit from these enhancements.

## SPARKLINES

### EXAMPLE: SPARKLINE



Sparklines are “intense, simple, wordlike graphics” and can indicate numerical trends inline with text. Any change over time works well: interest rates, stock prices, health levels, Web analytics metrics,

# Molecular.

retail price changes, etc. This clear and simple presentation method provides customers with extra transparency and historical context so they can ultimately make better decisions. Given the small graphic, your customers may want to see it in closer detail, so be sure to provide a method to view the data in a larger format.

Where on your site could you enhance references to quantitative data? Do you currently take up a large space with a graphic that shows very little data? If so, this is a natural place where sparklines can be used to deliver a more immersive and natural experience.

## SIFR

### SAMPLE PAGE: SIFR




You've probably heard that your font choices must be Web-safe. SIFR (or Scalable Inman Flash Replacement) is a way to use any typeface you want and have all visitors see it. It uses a combination of technologies so you don't need to create images, it plays well with content management systems, and you can get rich anti-aliased typography wherever you like! Additionally, all the text is as search engine-friendly as regular HTML, so you're getting the best of both worlds: rich graphics and optimal accessibility.

SiFR can be easily deployed to your site, but it is important to do so in moderation. SiFR text can impact the amount of time it takes a page to load. Therefore, SiFR should be limited to display type that accents the rest of the page, such as headlines, call-outs, and other small swaths of text.

## INFINITE SCROLL

### EXAMPLE: INFINITE SCROLL

  
*Loading the next set of posts*

Typically, when you reach the bottom of a search results page in a search engine like Google, you click *Next*, wait 5 seconds and start from the top again. With infinite scroll, the next results are retrieved automatically for you as you approach the bottom of the page. By the time you're there, the search results have already been appended to your current view. This technique utilizes AJAX and isn't trivial to implement, but creates a customer experience that surprises people with its intuitiveness.

Of course, placing results on separate pages isn't limited to search sites. Any content that is currently paged is a great target for infinite scroll: news articles, search results, forum posts and blog posts. Does your site require customers to click from page to page? If so, you may be giving them the opportunity to leave your site. Don't force your customers to ask for more content. Consider areas on your site where you can just give it to them.

# Molecular.

## Why usability testing is key

Many of the techniques outlined above have been in the wild for barely a year or two, so many consumers aren't familiar with them. Since these techniques are so nascent, they've been implemented in various ways and often create inconsistent experiences from site to site.

As pointed out earlier, new technologies can exponentially add to your online marketing efforts. But there are a few things you should consider as you start to plan for these upgrades:

- **Use Visual Indicators:** Rich elements need to visually indicate that they are interactive, otherwise visitors will overlook them. Bevels always indicate interaction, so use them in combination with hover states.
- **Test, Tweak and Test Again:** Your customer's expectations must be met by all interactions. Conduct usability tests with your target customers, asking "What do you expect to happen when you click that?" and afterward "Does that result meet your expectation?" Test, tweak and test again is the best way to ensure you're meeting the needs, goals and expectations of your customers.
- **Communicate Progress:** Progress needs to be communicated to reassure your customer that they did not mess up and the site is catching up. In many instances placing a spinner with the word "Loading..." will satisfy your users.

---

## Conclusion

There is a now wealth of technology that affords your Web presence a more dynamic and rich interface. Providing this interface to your customers will deliver conversion, loyalty, and engagement. While you can implement everything here, you have to judge if it's appropriate for your business and your customer's goals. But with a successful design and execution, you'll see a positive growth in your online presence.

Molecular, an Internet consulting firm, designs and builds digital solutions to help companies increase revenues and decrease operating costs. Since 1994, Molecular has directed successful Web initiatives for the nation's top companies, including The Finish Line, Inc., Fidelity Investments, MFS Investment Management, Hewlett-Packard and Talbots.

## What can I do in one hour?

Emerging technologies can dramatically improve the customer experience by providing improved response times, more fluid interactions and 'smarter' content to guide people through complex applications. While the goal is to create a better experience for your customers, resources and budget often dictate what you can accomplish and when. Instead of demolishing your site and starting fresh, consider how you can implement small changes and work your way up. Some quick and easy changes that will help engender a closer interaction with your customers include:

- Ensure all links have a mouse hover state that changes the underline and/or the color.
- When submit buttons are clicked, change their text to "Please wait" and ensure they go inactive while the next page loads. This indicates that the interaction was successful and prevents against multiple submissions.
- Shorten all your copy. Consumers rarely read paragraphs of text on the Web; get it out of the way and quit slowing them down.