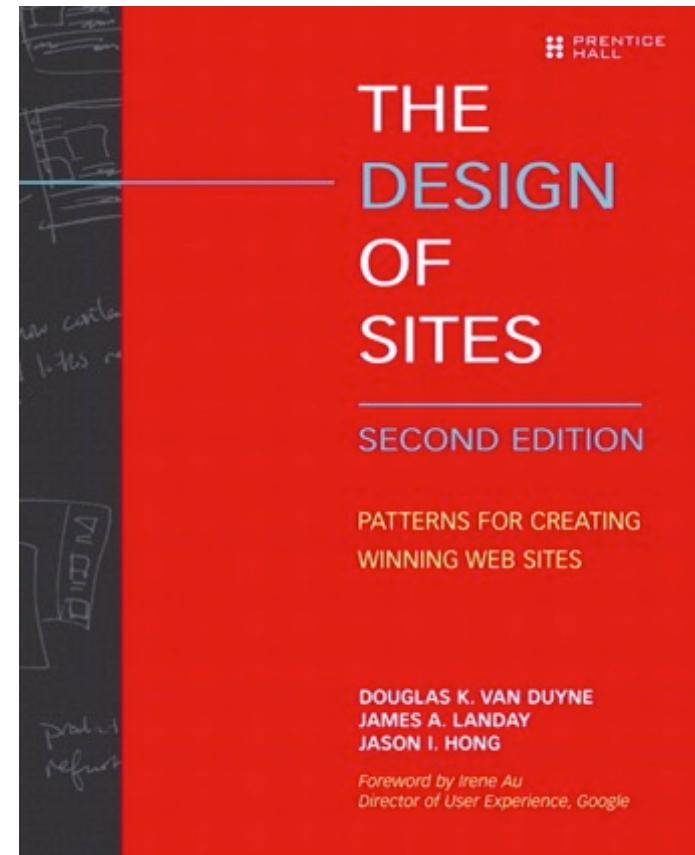


# A language of web patterns

- A language is a collection of interrelated patterns, which are organised as a whole, providing a detailed solution to a design problem [van Duyne et al., 2002]
  - A meta-language for creating winning websites -> What do we mean by winning?
  - Each pattern is related to other patterns, who might have a higher or lower level of abstraction
  - Web designers might go through the patterns while designing the site

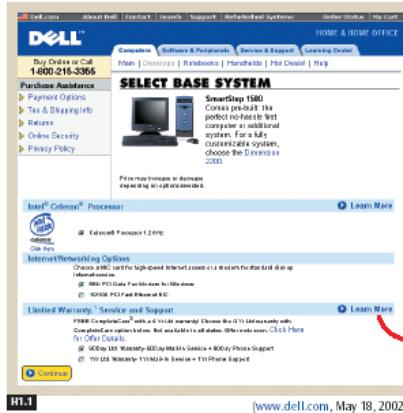


# A language of web patterns

## Format

H1 PROCESS FUNNEL

### Name and number/ID



H1.1

(www.dell.com, May 18, 2002)

#### BACKGROUND

All Web applications that lead visitors through stepped tasks—PERSONAL E-COMMERCE (A1), SELF-SERVICE GOVERNMENT (A4), WEB APPS THAT WORK (A10), and ENABLING INTRANETS (A11)—need ways to help people succeed at completing the tasks.

#### PROBLEM

Customers often need to complete highly specific tasks on Web sites, but pages with tangential links and many questions can prevent them from carrying out these tasks successfully.

People enjoy completing the tasks they start. Yet all kinds of distractions—including links that lead off the critical path, extra steps, and extra

Figure H1.1

Dell uses a process funnel consisting of several logical steps that guide customers to quickly configure and purchase a personal computer. Information in a pop-up window shows additional details but keeps customers in the funnel so that they can continue to completion.



### Example

### Background

### Problem statement

content—can inadvertently lead them away from accomplishing their goals. These diversions can have legitimate purposes, however, such as providing continuity, giving visitors opportunities to explore, providing instructions, or providing extra details. Striking a balance between these various forces and the actual task can be challenging.

#### Minimize the Number of Steps Required to Complete

Find tasks daunting if there are too many steps. A process funnel can have just two to eight discrete steps, implying less complexity. If a process has more than eight steps, it is better to split the process into multiple pages. Try to keep the process as simple as possible. Rate process funnels, or try combining multiple steps into one page. However, this is not always a viable solution because one choice may precede another, and not every page can hold all the information that customers might need at certain points.

**Provide a Progress Bar to Let Customers Know Where They Are in the Process Funnel** • Showing a progress bar at each step lets your customers know how much farther they need to go to complete the task (see Figure H1.2). It is often not worth your time to make the individual steps on the progress bar clickable because doing so adds more complexity but little benefit for customers.

**Remove Unnecessary Links and Content While Reinforcing the Brand** • Removing links and content unrelated to the task at hand will reduce the number of distractions, making it more likely that your customers will successfully complete their tasks. Remove all NAVIGATION BARS (K2), TAB CROWS (K3), LOCATION BREAD CRUMBS (K6), and EMBEDDED LINKS (K7), leaving only the links and ACTION BUTTONS (K4) that help visitors reach their goals. Take out any content that is superfluous to the task.

Reinforce the Web site brand to minimize any disorientation customers might feel from sudden changes in navigation options. Use the same fonts, images, colors, layout, and logo throughout the Web site so that no matter where they are, people know they're still on the same site.

PROCESS FUNNEL H1

### Motivation and solution

(www.half.com, October 24, 2001)

# A language of web patterns

## Format

### H1 PROCESS FUNNEL

**Use Pop-Up Windows to Provide Extra Information, without Leading Visitors Out of the Process Funnel** • Sometimes customers need additional information that you have not provided on a page, such as extra help or product details. Provide a link to a POP-UP WINDOW (H6) containing CLEAN PRODUCT DETAILS (F2) (see Figure H1.1), CONTEXT-SENSITIVE HELP (H8), or information from the FREQUENTLY ASKED QUESTIONS (H7) page, to make the extra information less intrusive. Your challenge is to implement this extra content without detracting from the main purpose.

**Make Sure the Back Button Always Works** • Customers often use the **Back** button on browsers to modify answers they have typed in on previous pages. However, if the Web site is not implemented correctly, the information they have already entered may be lost when they hit the **Back** button, forcing them to type everything again. In the worst case, people get a cryptic error message saying that the posted information was lost. You can address this annoying problem by temporarily storing the information they type in on each page, redisplaying this information if customers hit the **Back** button, and then overriding the temporarily stored information on the page if it is changed.

**Always Make It Clear How to Proceed to the Next Step** • Some Web pages are longer than can be displayed on a customer's Web browser. The problem is that people sometimes get lost if the critical ACTION BUTTON (K4), the one that takes them to the next step, is hidden below the fold. Place HIGH-VISIBILITY ACTION BUTTONS (K5) both high *and* low on the page, ensuring that at least one of the critical action buttons will always be visible without scrolling.

**Prevent Errors Where Possible, and Provide Error Messages Whenever Errors Do Occur** • People will always make mistakes, even with the best of designs. You can provide good customer service if you use structured fields and sample input to help PREVENT ERRORS (K12). At the same time, provide MEANINGFUL ERROR MESSAGES (K13) whenever errors do occur.

### ★ SOLUTION

Minimize the number of steps required to complete a task, keeping them between two and eight. Remove unnecessary and potentially confusing links and content from each page, while reinforcing the brand to maintain a sense of place. Use pop-up windows to provide extra information, without leading people out of the process funnel. Make sure the Back button always works so that customers can correct errors. Make it clear how to proceed to the next step

### Break

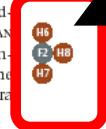
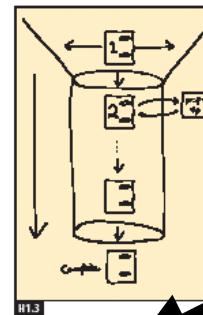


Figure H1.3

A process funnel lets people complete their goals by breaking down complicated tasks into a small number of steps, using pop-up windows for detailed information, and reducing the number of links to only the critical ones, so that people are never distracted.



### Diagram

### Related patterns

#### ★ CONSIDER THESE OTHER PATTERNS

K1

A1

A4

A10

A11

F1

H2

G4

K2

K3

K4

K5

K6

K7

E1

K2

K3

H5

H8

H6

I2

K5

### Summary of the solution

Many kinds of Web sites use process funnels, including sites for PERSONAL E-COMMERCE (A1), SELF-SERVICE GOVERNMENT (A4), WEB APPS THAT WORK (A10), and ENABLING INTRANETS (A11). Customers use process funnels when they finalize purchases through QUICK-FLOW CHECKOUT (F1), when they create new accounts through SIGN-IN/NEW ACCOUNT (H2), and when they post new messages to a RECOMMENDATION COMMUNITY (G4), to name some examples.

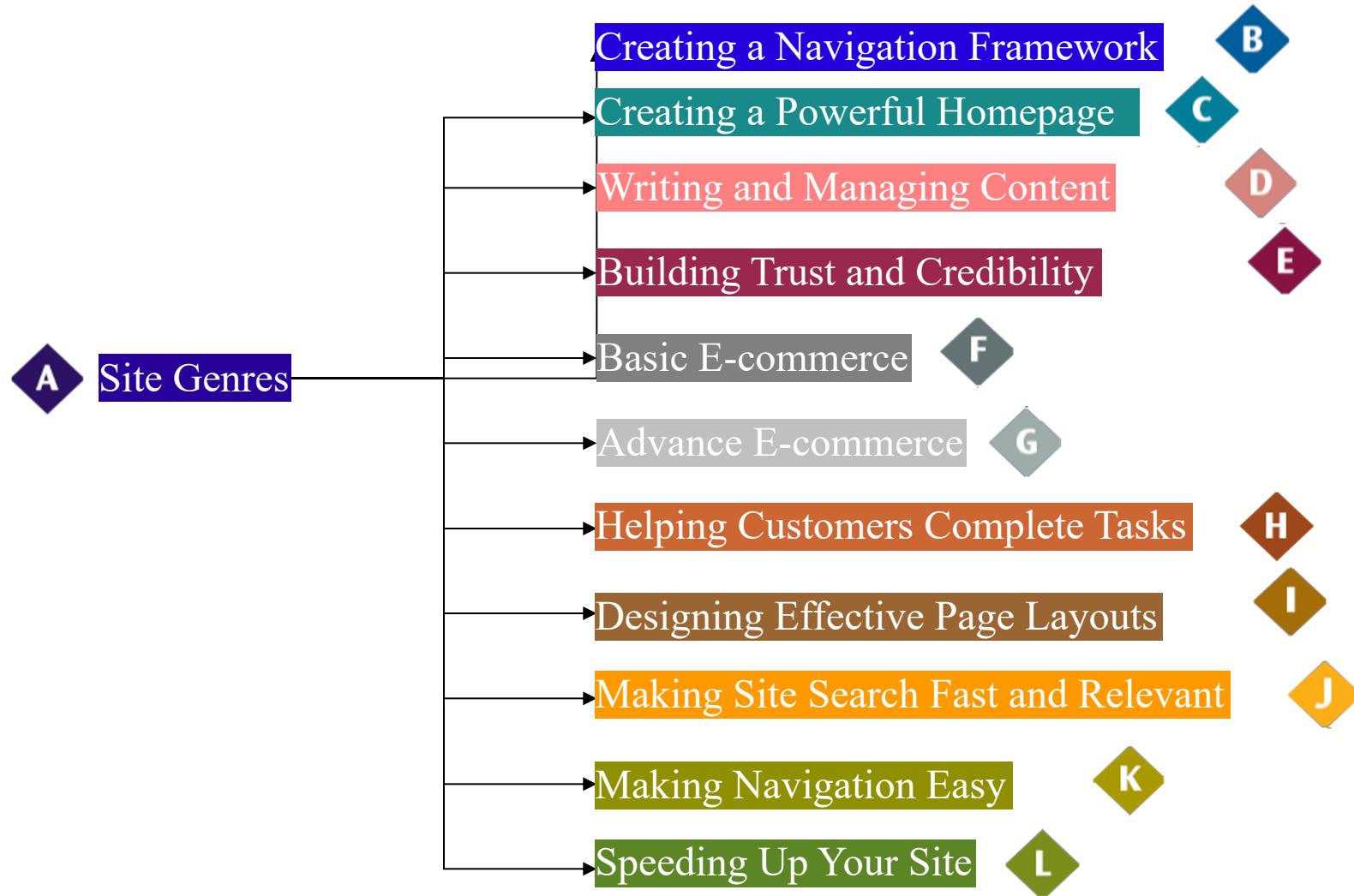
Remove NAVIGATION BARS (K2), TAB ROWS (K3), irrelevant ACTION BUTTONS (K4), LOCATION BREAD CRUMBS (K6), and EMBEDDED LINKS (K7) to ensure that customers stay on their paths. However, keep strong SITE BRANDING (E1) so that customers still know where they are.

Design process funnels to PREVENT ERRORS (K12), and provide MEANINGFUL ERROR MESSAGES (K13) when errors do occur.

Track your customers through PERSISTENT CUSTOMER SESSIONS (H5) to avoid problems with the **Back** button, and to save customer-entered information.

Move extra content, such as CONTEXT-SENSITIVE HELP (H8) and FREQUENTLY ASKED QUESTIONS (H7), to POP-UP WINDOWS (H6) to keep the main task page on the screen. Make the next action visible by keeping it ABOVE THE FOLD (I2) and by using HIGH-VISIBILITY ACTION BUTTONS (K5).

# A language of web patterns



# A language of web patterns

- One of the challenges of designing for the Web is that **customers can come to a site in many different ways**. They may not enter at your homepage, and their goals and tasks often vary widely. One of the keys to a satisfying customer experience is a Web site's ability to support these differences. This pattern group will help you maximize your site's flexibility to accommodate customers' different navigation, browsing, and search habits

B1- Multiple ways to navigate  
B2- Browsable content  
B3- Hierarchical organization  
B4- Task-based organization  
B5- Alphabetical organization

B6- Chronological organization  
B7- Popularity-based organization  
B8- Category pages  
B9- Site accessibility

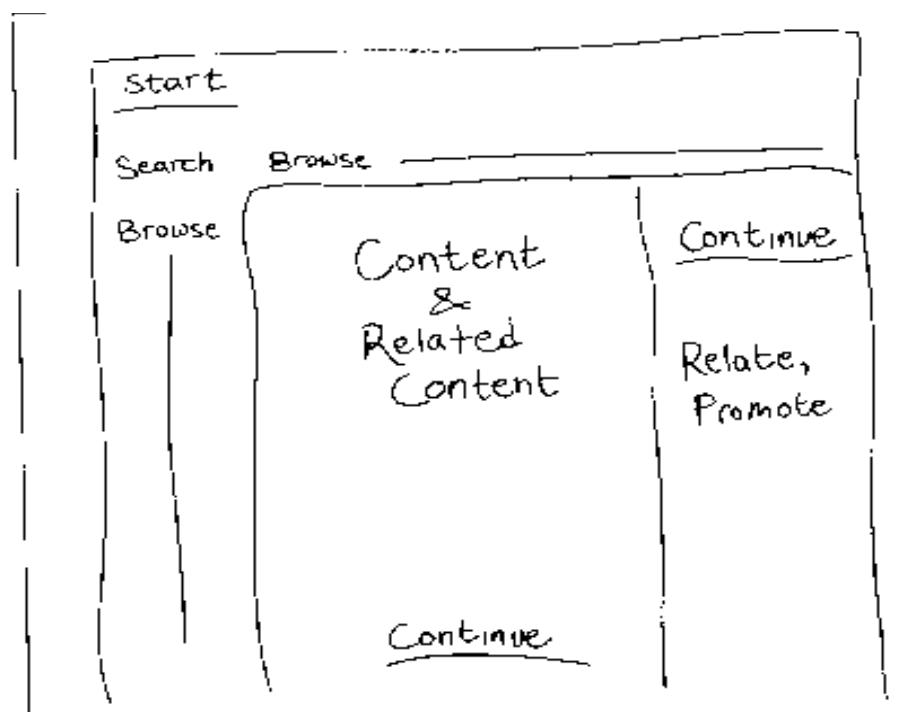
# A language of web patterns

## B1 - Multiple ways to navigate

• PROBLEM: Customers navigate Web sites in many ways. If any of the key navigation tools are hard to find or missing, visitors will find the site tedious to use

### SOLUTION:

- To ensure that your visitors complete their goals, **place search and browse navigation tools at the top and start of the page**. Position next-step navigation tools toward the top, but opposite the start, as well as at the bottom.
- Always include navigation tools that relate and promote so that customers find things that they might otherwise miss, but position these tools farther down the page



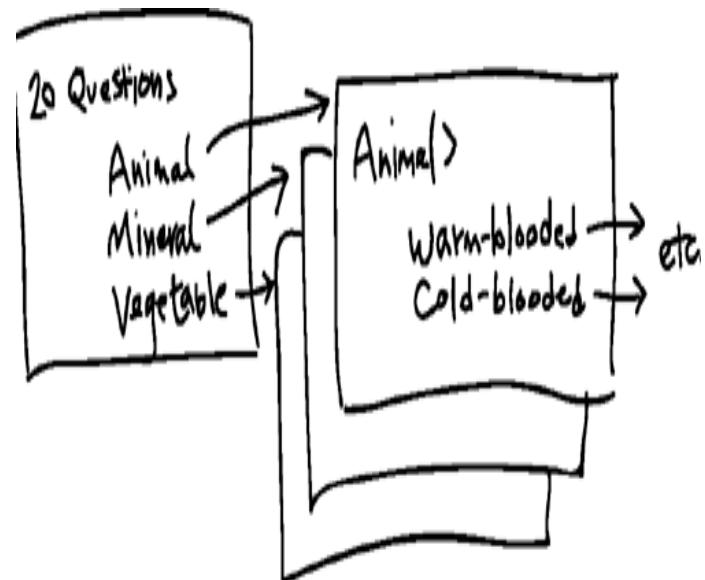
# A language of web patterns

B2 - Browsable Content

PROBLEM: Browsing content on a site can be **difficult** if the information is not organized, or if there are no clear and **consistent** navigation cues for finding content and returning to it later

## SOLUTION:

- Organize your content in several ways, in categories that make sense to your customers and in the intuitive ways that they think about doing their tasks.
- Build navigation tools and cues that let customers know where they are, where they can go, and how to get back.  
Build each page with its own reading hierarchy so that customers can scan it quickly



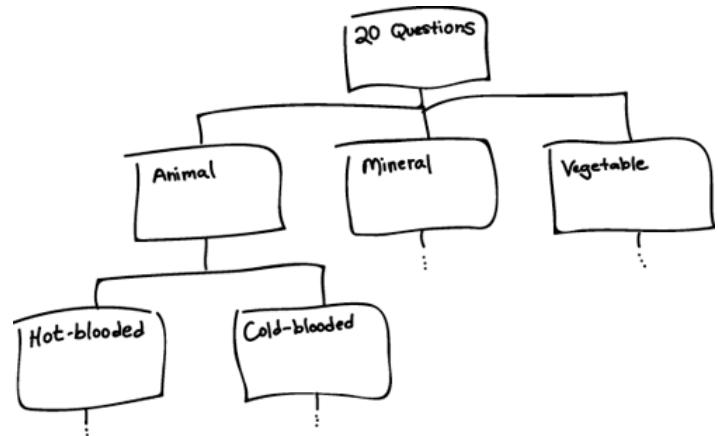
# A language of web patterns

## B3 - Hierarchical organization

PROBLEM: Organizing information in a hierarchy of categories can help customers find things, but building an effective hierarchy is not easy.

SOLUTION:

- Build a hierarchy of categories with input from customers or from experts known **for good communication skills** in the subject area.
- Use descriptive category names that are distinctive from one another. Use techniques such as **card sorting** to develop the categories and labels, and use techniques like category identification and category description to test.
- Repeat items in multiple categories where it makes sense.
- Keep the maximum number of subcategories per category below 50, and **avoid generic terms like miscellaneous.**



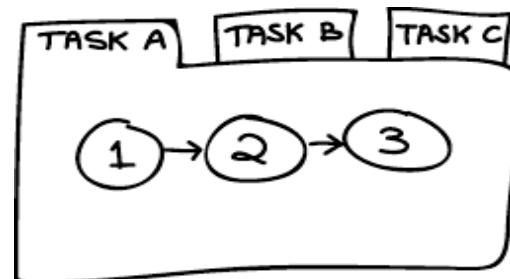
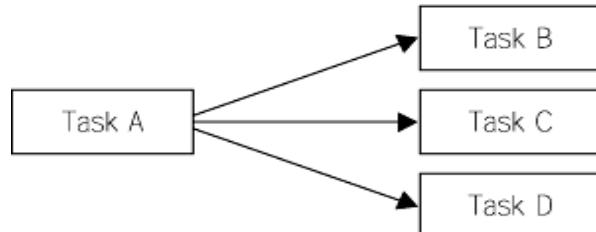
# A language of web patterns

## B4 - Task-based organization

PROBLEM: Completing multiple tasks on a site is not fast and easy unless related tasks are linked together

SOLUTION:

- Study customers, the tasks they do, and the sequence in which they do them.
- Then build relationships between tasks and link them so that the completion of one task can immediately precede the start of the next.



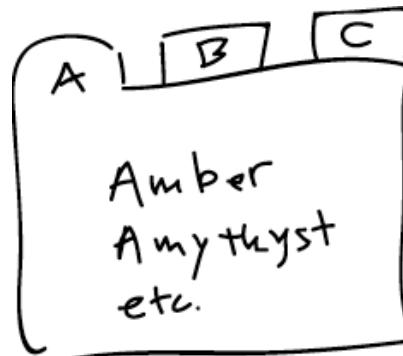
# A language of web patterns

## B5 - Alphabetical organization

PROBLEM: Alphabetizing a list seems like an obvious way to organize content. **Long alphabetical lists on a site, however, are cumbersome to use.**

### SOLUTION:

- Provide links to each letter group at the top of your single alphabetical list page of well-known items.



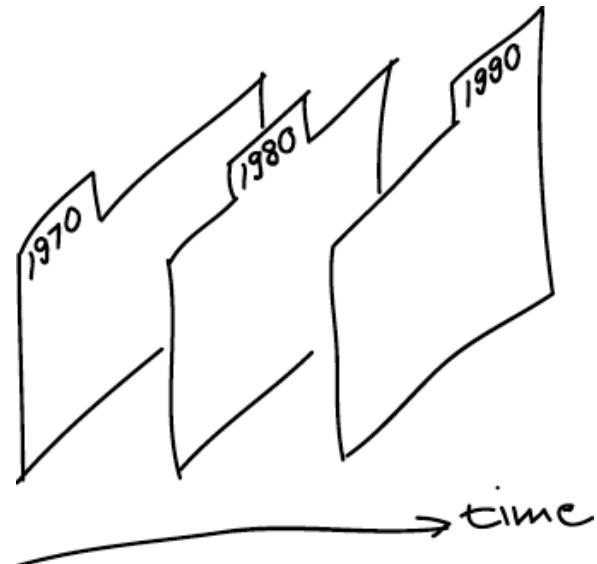
# A language of web patterns

## B6 - Chronological organization

PROBLEM: Chronologically organizing content on a site helps visitors understand the order of content in time, whether past or future, but very long lists of events are difficult to read and use.

### SOLUTION:

- Display chronological lists in a vertical, horizontal, or calendar format, keeping the total number of items in each list under 50 by dividing the list into smaller groups of time.



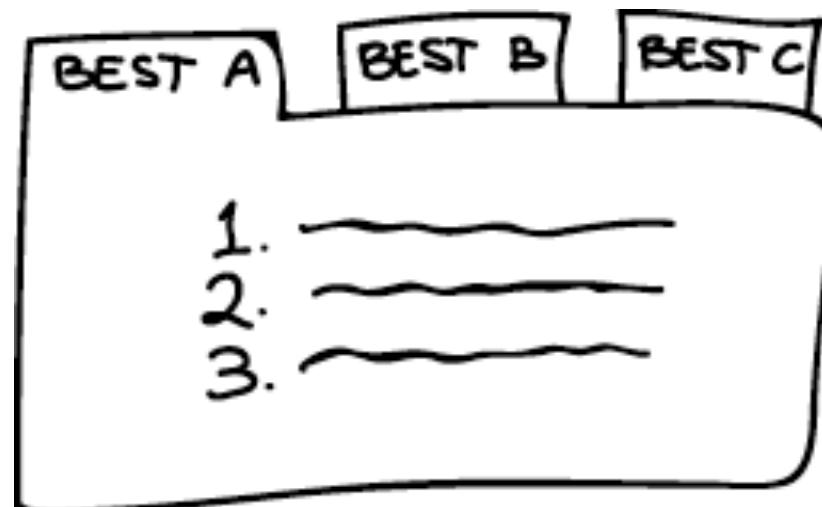
# A language of web patterns

## B7 - Popularity-based organization

PROBLEM: Some customers want to see **which content or products are the most popular**. But without clear labels indicating how the content was rated and over what period, popularity lists are useless.

### SOLUTION:

- Build your lists of popular content from customer usage, customer ratings, or acquired outside lists.
- Label each list with a descriptive title that indicates what was rated and over what period.



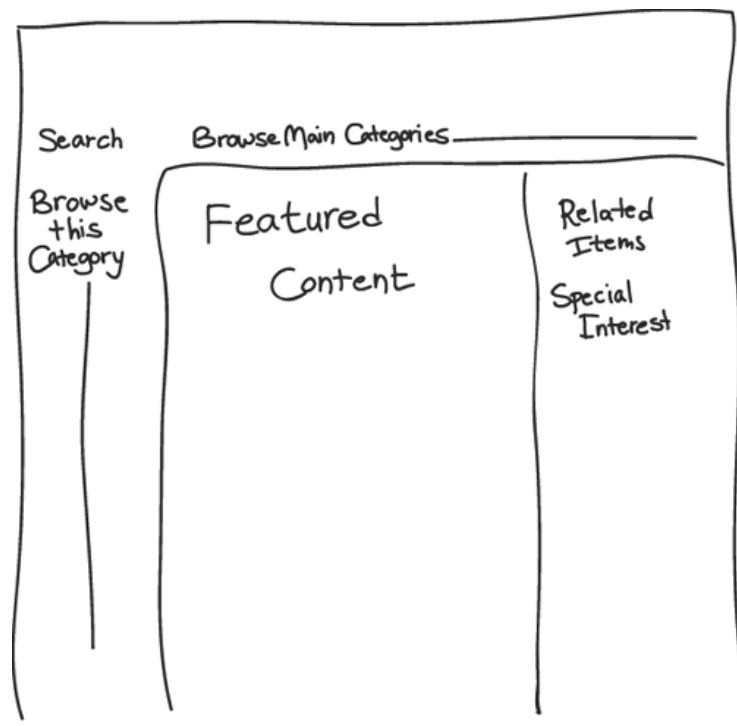
# A language of web patterns

## B8 - Category pages

PROBLEM: As customers navigate through a site, if category sections are not introduced with a consistent layout, each section may seem like a new site

### SOLUTION:

- Use a section category layout consistently throughout your site, with the same navigation elements, giving customers a strong sense that they have “arrived” at a new section and a clear idea of how to get back



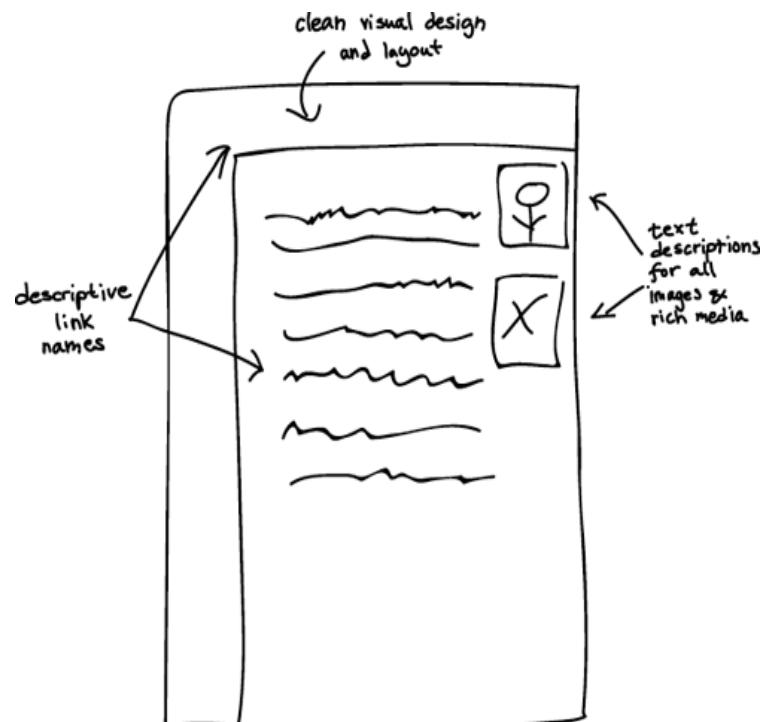
# A language of web patterns

## B9 - Site accessibility

**PROBLEM:** People with audio, visual, motor, or cognitive disabilities find it difficult to use Web sites that are not explicitly designed with their accessibility in mind

**SOLUTION:**

- In designing your Web site, keep in mind accessibility for people with audio, visual, motor, and cognitive disabilities.
- Make the navigation and content both understandable and usable by employing good layout, clean visual design, straightforward text descriptions for all images and links, and alternative text-based formats for rich multimedia.
- Use **features built into HTML that simplify accessibility**





# A language of web patterns

- The **homepage is the most visited page on any Web site**, and its design deserves serious attention so that it can accommodate the rich diversity of customers and their needs.
- This pattern group describes how to design a powerful homepage to fit the needs of your customers.

C1- Homepage portal  
C2- Up-front value proposition

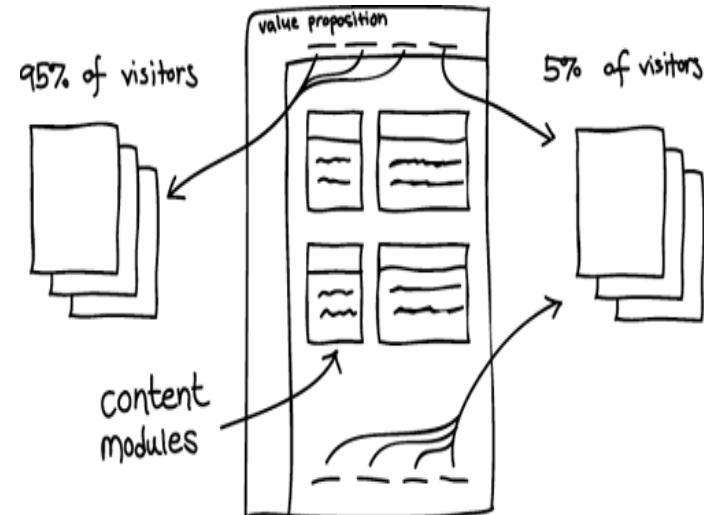
# A language of web patterns

## C1 - Homepage Portal

**PROBLEM:** The homepage of a Web site is the portal through which most visitors pass. A homepage must **seduce visitors while simultaneously balancing many issues, including branding, navigation, content, and the ability to download quickly**

### SOLUTION:

- On your homepage portal, establish and reinforce the value of your site with a strong, clearly stated promise that is fulfilled on every page of the site. Dedicate 95 percent of the area and links above the fold to the visitor groups that comprise 95 percent of the total visitor population.
- Keep the remaining area and links for visitor groups that make up the remaining 5 percent.
- Use additional links in the footer of the homepage to make explicit links for each group, including those in the 5 percent category.
- Build a homepage layout that provides strong cues to define navigation and content, and that downloads quickly. Test your homepage design to ensure that you have created the right look and feel—one that seduces visitors with content, regardless of whether it is personalized



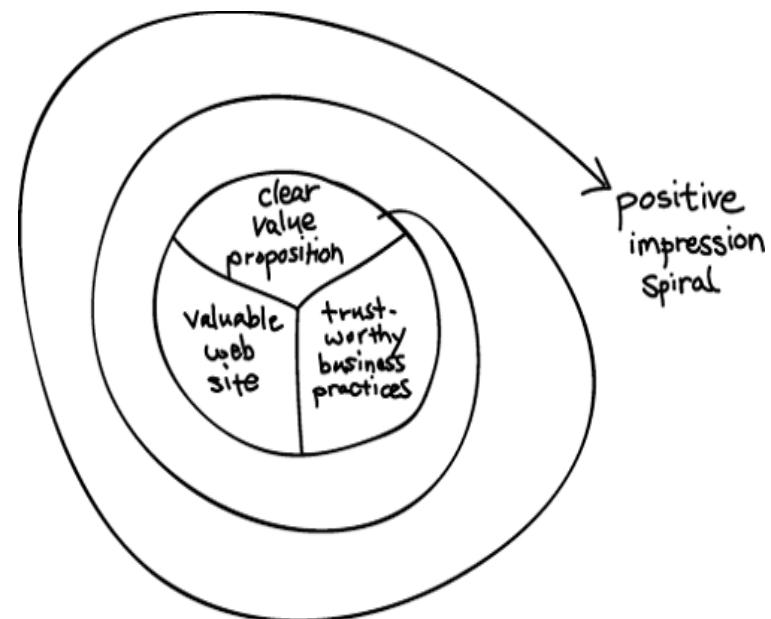
# A language of web patterns

## C2 - Up-front value proposition

**PROBLEM:** On many Web sites, **people often cannot tell upon arrival what the company or site offers.**

**SOLUTION:**

- Your value proposition is a site advertisement that must persuasively articulate your company's uniqueness.
- Use team brainstorming to develop ideas, and refine the best ideas into a list of the top ten candidates.
- To determine the best value proposition, ask your customers to rate each promise on importance and uniqueness.
- Place the value proposition next to your logo on the homepage for quick scanning and maximum exposure.



# A language of web patterns

- In your Web site design, two of the big issues to sort out are how to manage large amounts of content, and how to make it presentable to all kinds of visitors.
- This pattern group presents an overview to help you create and manage your content effectively.

D1- Page templates	D6- Writing for search engines
D2- Content modules	D7- Inverted-pyramid writing style
D3- Headlines and blurbs	D8- Printable pages
D4- Personalized content	D9- Distinctive HTML titles
D5- Message boards	D10- Internationalized and localized content
	D11- Style Sheets

# A language of web patterns

## D1 - Page Templates

PROBLEM: A site that is not consistent from page to page is difficult for customers to navigate and hard for site managers to maintain. However, it is challenging to design Web pages to be consistent because not all pages are the same, and many will need some way to be updated

## SOLUTION:

- Use a grid layout to help define a global template that includes the basic navigation elements, major content areas, and any areas for related content.
- For each kind of page, define an individual template that specifies content size limits for images and text.
- Each individual template should use the global template as part of its structure



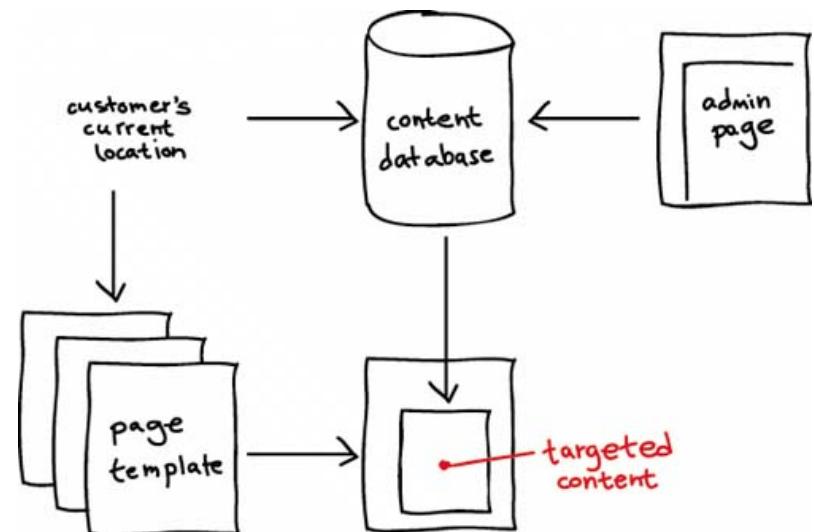
# A language of web patterns

## D2 - Content modules

PROBLEM: Without a good system, publishing and managing large volumes of content are time-consuming and error-prone processes.

### SOLUTION:

- Define content locations in page templates.
- Organize all content into the file system or into a content database.
- Manage content from an administration page.



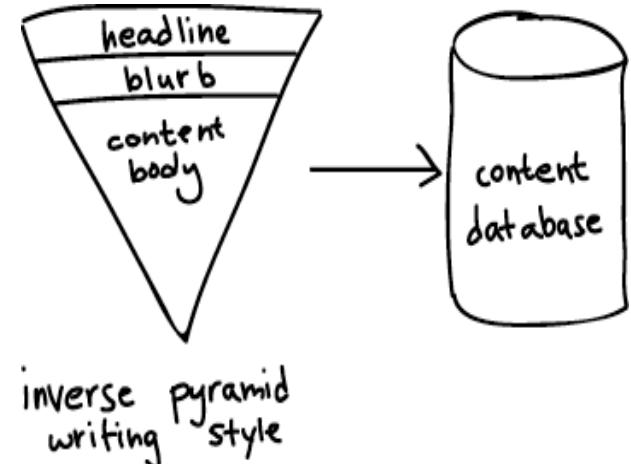
# A language of web patterns

## D3 - Headlines and blurbs

PROBLEM: Content pages need short, descriptive headlines and blurbs to hook customers into clicking for more content deeper on a site. These hooks also need to be published elsewhere on a site so that visitors will be able to see them.

### SOLUTION:

- Write a hook, in the form of a headline and blurb, that articulates why the content is important and unique to the visitor.
- Store these headlines and blurbs in the content database, along with the longer article, so that they can be targeted to content modules on different pages.



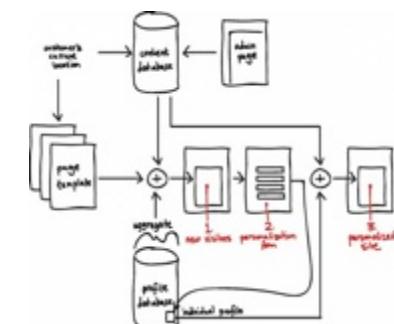
# A language of web patterns

## D4 - Personalized Content

**PROBLEM:** Personalized information can be more useful to people than generic information. However, engineering a dynamic site can produce less-than-satisfactory results if the basic structures and designs are not in place first

**SOLUTION:**

- It is best not to force people to personalize your site before they can use it.
- Draw customers in by providing basic but valuable content to new customers that, later, can be personalized. Next, invite customers to personalize the site from a menu of options, using information that can be gathered quickly, such as their backgrounds and areas of interest.
- Gather this information by conducting interviews or by giving people the ability to edit their interests.
- Deduce what other things might interest your customers by tracking the areas of your site that they visit and scoring the information.
- Categorize the content and map it to the people who might find such content useful. Structure the site into page templates and content modules that receive content from the targeting engine.



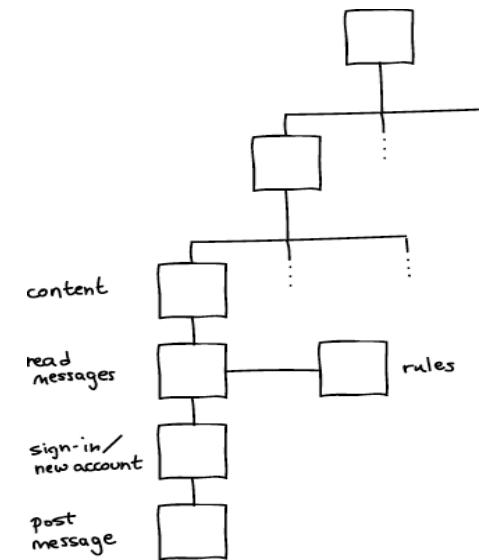
# A language of web patterns

## D5 - Message Boards

PROBLEM: Message boards can engage customers if they're easy to find and use. But managing boards to keep them from becoming unruly requires administrative tools and manual labor

### SOLUTION:

- To make message boards easy to find and use, build them into your navigation hierarchy and link to the boards from related content.
- Provide the means for people to save their favorite boards in their customer profile, and save board links in the browser favorites.
- Let visitors search for keywords in posts, filter posts by date, view threaded and unthreaded conversations, and sort posts by the name of the person posting.
- Give people the ability to read posts before signing in or registering. Make sure they know the board rules so that they're not surprised if their messages are removed.
- Provide a simple form to post a new message or a reply. Enable administrators to approve or reject posts before posting, if the site is moderated, and give them the ability to remove messages on both moderated and unmoderated boards



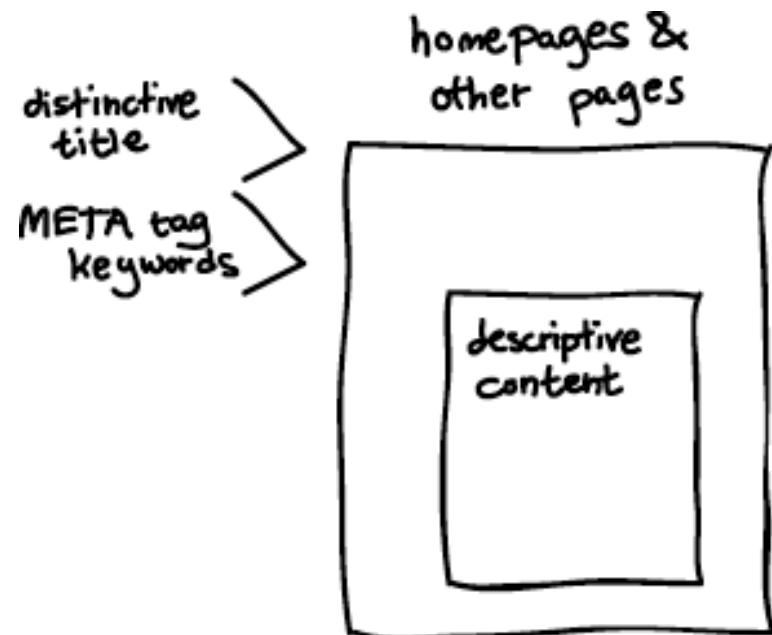
# A language of web patterns

## D6 - Writing for search engines

PROBLEM: It is difficult to find a site on a list of search engine results if it is too far down the list. Making a site appear toward the top of any search requires writing site content in customized ways.

### SOLUTION:

- Begin by writing distinctive HTML titles for every page because they are used as the page title in search results and sometimes search engines rank pages higher if search terms are contained in titles.
- Use keywords, those you would use most frequently to describe the site's purpose and offering to customers, at the top of each page and in the body of the text. **Include descriptive <meta> tags representative of the content contained in each page.**
- Make your site accessible to people with impaired vision because doing so also helps search engines. Avoid rigging the system with bogus keywords and text—an approach that is often counterproductive



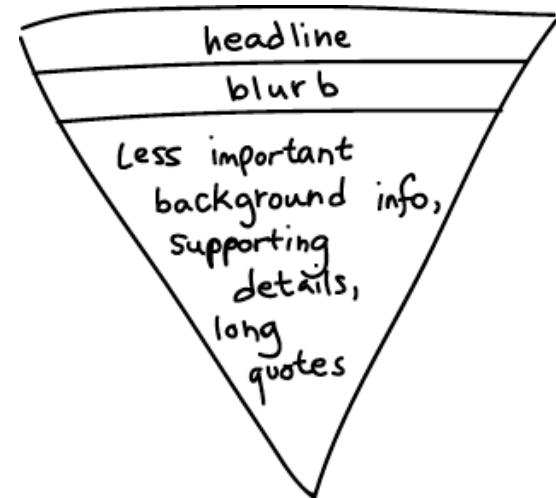
# A language of web patterns

## D7 - Inverted-pyramid writing style

PROBLEM: People move about quickly on the Web, skimming for information or keywords. If a site's writing is not quick and easy to grasp, it is usually not read.

### SOLUTION:

- Start with a concise but descriptive headline, and continue with the most important points.
- Use less text than you would for print, in a simple writing style that uses bullets and numbered lists to call out information.
- Place embedded links in your text to help visitors find more information about a related topic.
- Experiment with different writing styles for entertainment purposes



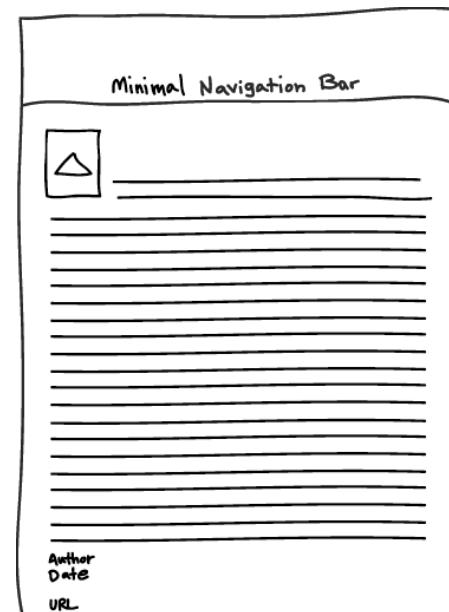
# A language of web patterns

## D8 - Printable Pages

PROBLEM: Sometimes customers want to print what's on their screen. They become frustrated if a printed Web page chops off content, goes on and on with pages of irrelevant data, or does not offer a "printer-friendly" version

### SOLUTION:

- Create a printer-friendly page template by using a style sheet that removes frames, additional columns, navigation bars, and sidebars.
- Join content split across multiple pages, and label the printable page with the page title, author, and URL.
- Finally, be sure that the main content is not placed within an HTML table, because tables can cause serious printing problems



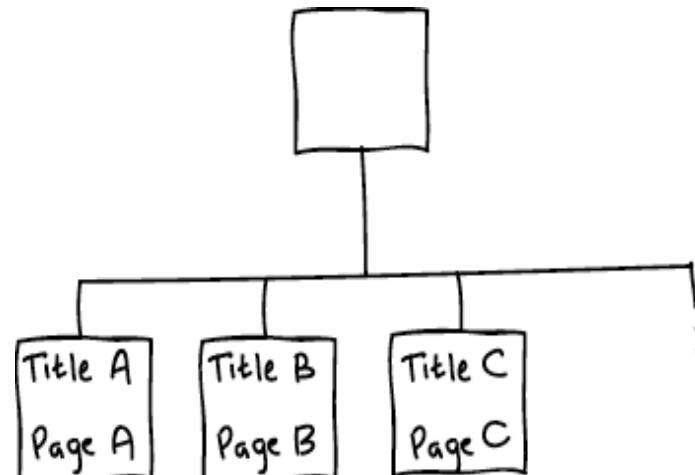
# A language of web patterns

## D9 - Distinctive HTML Titles

PROBLEM: HTML page titles are used as browser bookmarks or favorites and as desktop shortcuts. They are also used by search engines when displaying search results. Often, however, page titles do not provide useful clues to page contents

### SOLUTION:

- Create distinct names for each page, even if the pages are generated from page templates.
- Consider using the site's organizational hierarchy as the basis for titles that describe the categories and subcategories of each page



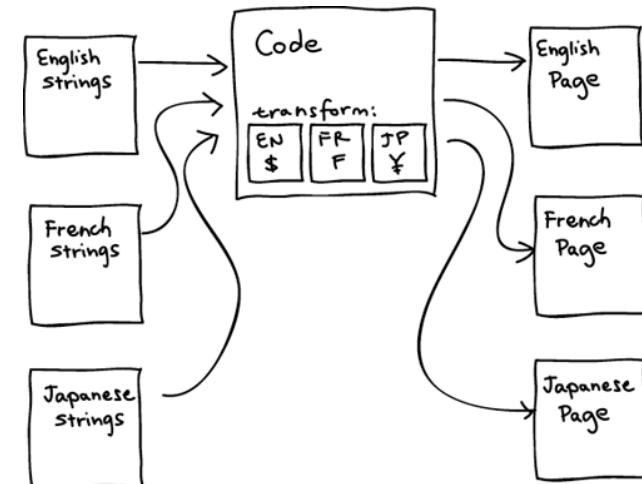
# A language of web patterns

## D10 - Internationalized and localized content

**PROBLEM:** The Web is a global medium, but many sites do nothing for international and nonnative audiences. People from all over the world can visit a site, but they will find the experience frustrating if language, cultural, and economic transactional issues are not handled well

### SOLUCIÓN:

- Store strings separately from code so that text can be sent to your translation team easily. Do not rely on machine translation.
- Hire competent translators. Manage internationalization and localization processes through either a centralized or a decentralized system. Understand that certain local terms and concepts may not be widely known, and that holidays, customs, and nonverbal communication in other cultures can affect a site's design and staffing. Transform how you represent certain information, such as dates and currencies.
- Be aware of the devices that people use to surf Web sites because mobile customers may be a large audience for your services. Understand which legal issues might affect your business. Consider providing tailored services to locales that do not have the same practices as those you're addressing domestically



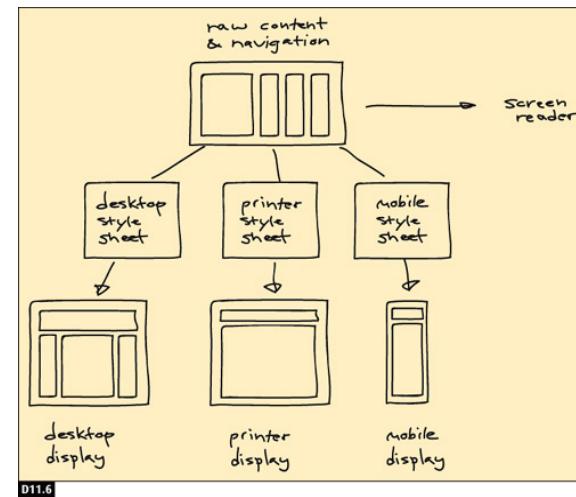
# A language of web patterns

## D11 – Style Sheets

PROBLEM: Page-by-page update of a site design—including layout, colors, and fonts—is a time-consuming and error-prone process.

### SOLUTION:

- Start your site design using a style sheet so that changes will be easier to make later.
- Separate content and navigation from design and layout so that you can build different designs from your content and navigation.
- If your site pages are likely to be printed, create a print style sheet. If customers will want to use your site from a mobile device, create a mobile style sheet. If you build pages in this way, your site will be more accessible to everyone



# A language of web patterns

- Trust and credibility are essential to establishing a relationship with customers. Without them, people have no reason to believe (or purchase) anything on your Web site. This pattern group gives an overview of issues related to trust and credibility

E1. SITE BRANDING  
E2. E-MAIL SUBSCRIPTIONS  
E3. FAIR INFORMATION PRACTICES  
E4. PRIVACY POLICY  
E5. ABOUT US  
E6. SECURE CONNECTIONS  
E7. E-MAIL NOTIFICATIONS  
E8. PRIVACY PREFERENCES  
E9. PREVENTING PHISHING SCAMS

# A language of web patterns

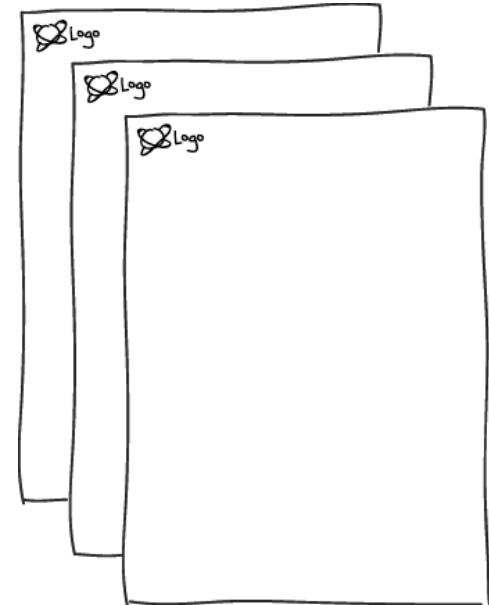
## E1 - Site Branding

**PROBLEM:** Brand is more than just a logo and a tagline. Customers need to know where they are and whether they can trust that place to provide something important and unique.

### SOLUTION:

Build a strong site brand by differentiating your company from other companies through the promise you make and through the actions your company takes to satisfy customers. Reinforce the brand image across your Web pages by

- (1) being consistent in style,
- (2) having a moderately sized logo,
- (3) positioning the logo in the upper left corner, and
- (4) including reusable images optimized for speed



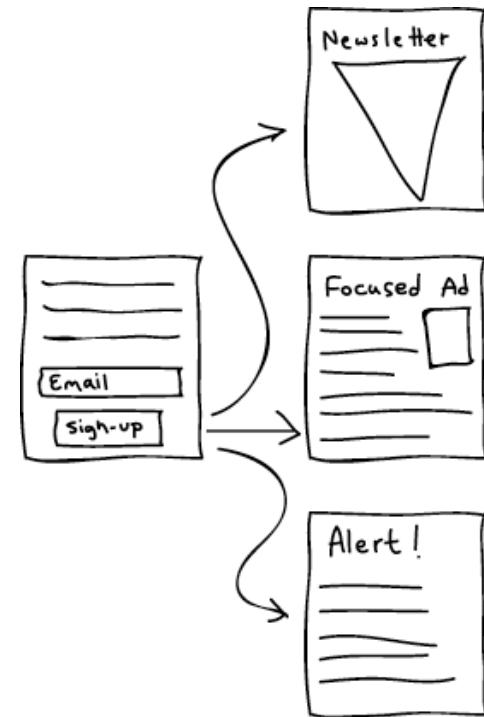
# A language of web patterns

## E2 - E-mail suscriptions

PROBLEMA: Companies need a way of maintaining contact with customers who are interested in what their Web site has to offer.

SOLUTION:

- Make it easy for people to set up an e-mail subscription.
- Write newsletters, focused advertisements, and periodic reminders in an inverted-pyramid style.
- Use text e-mail messages unless you know that the recipients can read HTML e-mail.
- Include information about how to subscribe and unsubscribe in each e-mail message.
- Be sure to use your customers' e-mail addresses only for what you say you will..



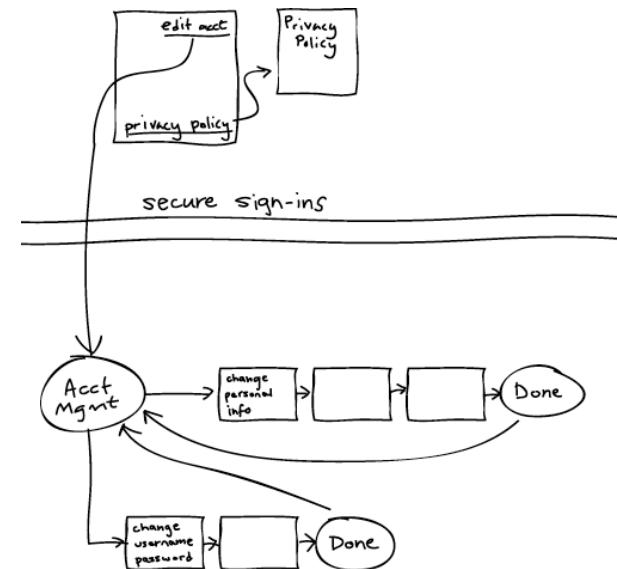
# A language of web patterns

## E3 - Fair Information Practices

PROBLEM: Privacy is a serious concern for many people using the Web. However, it is not always clear what policies and procedures a Web site should have to collect and handle personal information in a fair and secure manner..

### SOLUTION:

- Have a clear privacy policy, and make it conspicuous on key Web pages.
- Let your customers choose how their information is used.
- Provide account management tools to let them review and correct their information.
- Protect your customers' personal information.
- Be certified as a safe harbor Web site if you're doing business with customers or companies in European Union nations..



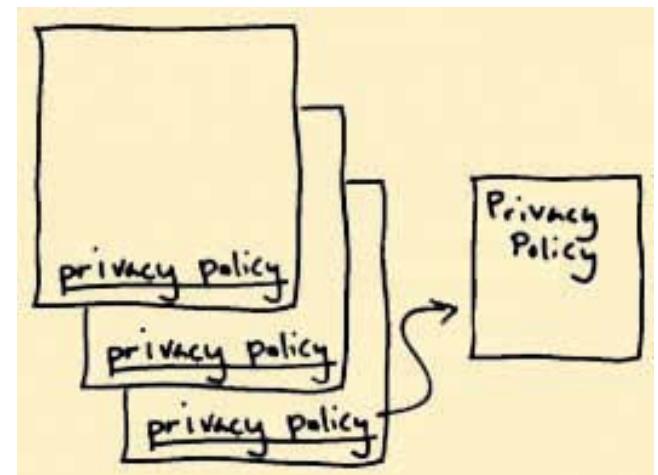
# A language of web patterns

## E4 - Privacy Policy

PROBLEM: Many customers are concerned about their privacy online. Web sites need a way to tell their customers what kinds of information they're collecting and how that information is used to provide value, as well as the conditions under which that information is disclosed to others.

### SOLUTION:

- Make the privacy policy available on each Web page.
- Address the fair information practices in the privacy policy.
- Be aware of special privacy policies for children.
- Keep in mind that U.S. government Web sites must have a clear and conspicuous privacy policy.
- Communicate special exceptions for valid legal procedures in your privacy policies. Provide tangible value for personal information..



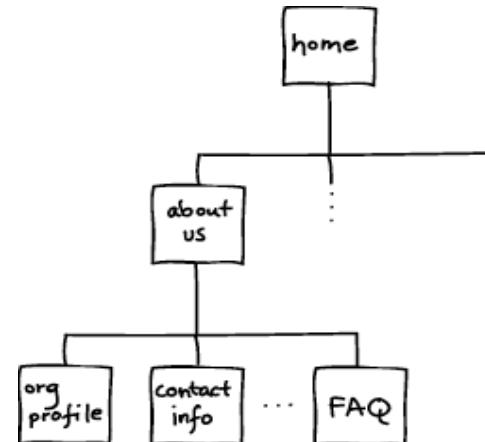
# A language of web patterns

## E5 - About Us

PROBLEM: Many Web sites have a great deal of useful background information that is distinct from the main focus of the Web site, such as contact information and public relations. You need a way of organizing all of this information.

SOLUTION:

- Collect background information in About Us pages. These pages should help people learn more about who you are, what you do, and why they can trust you.
- Include things like an organizational profile, contact information, disclaimers and legal information, customers and partners, employment opportunities, public relations, investor relations, community relations, site credits, and frequently asked questions.



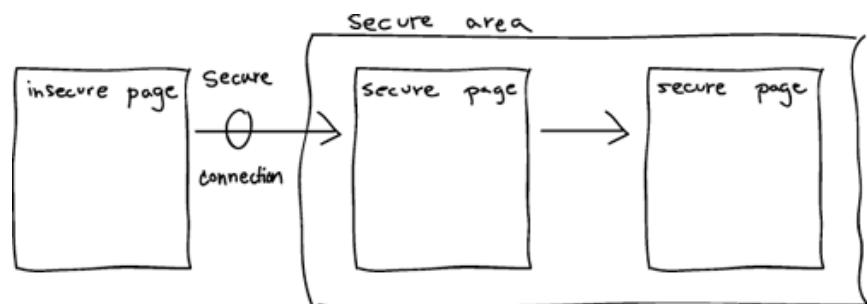
# A language of web patterns

## E6 - Secure Connections

PROBLEM: People are often uncomfortable transmitting sensitive personal information over the Web.

SOLUTION:

- Use a labeled icon or a labeled action button to let customers know that they're transmitting information securely.
- If needed, provide a Web page describing the security practices you use to reassure customers that their personal information will be kept safe.



# A language of web patterns

## E7 – e-mail notifications

PROBLEM: Web sites need a way of notifying visitors of important events and transactions, but unwanted, dubious, and hard-to-read e-mail notifications are often ignored.

### SOLUTION:

- Make it clear why recipients have received your e-mail notification by having a simple, straightforward subject line, as well as a clear opening sentence.
- Also make it clear who the sender is so that your customers don't think they're receiving spam, and identify a contact for recipients' questions



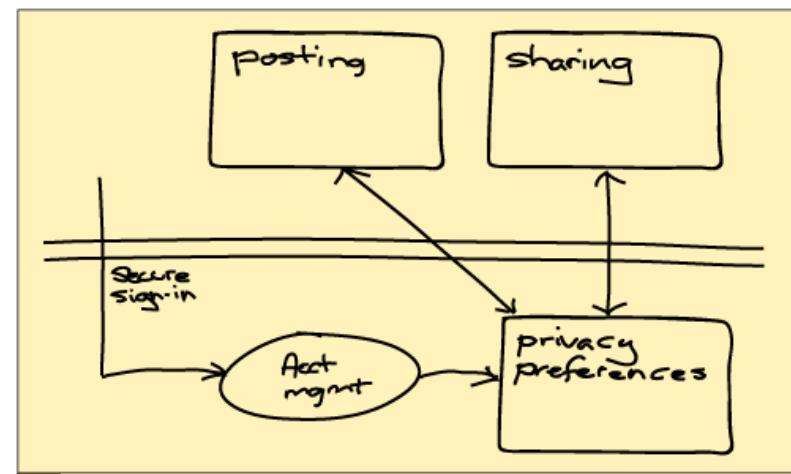
# A language of web patterns

## E8 – Privacy Preferences

PROBLEM: Customers need an easy way to see and change their privacy preferences.

SOLUTION:

- Provide a way for people to manage their privacy preferences on an account management page, when posting messages to a message board, and when sharing personal information, documents, and images with others



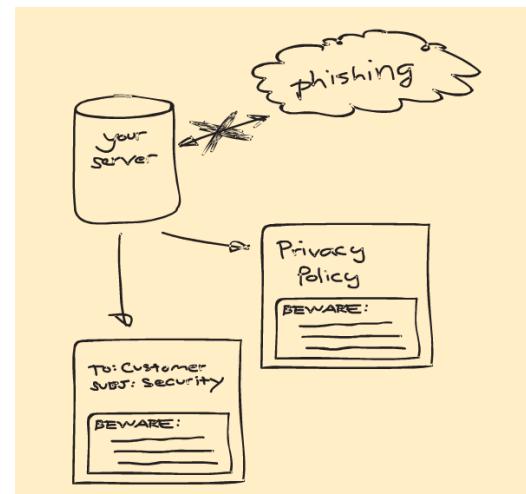
# A language of web patterns

## E9 – Preventing Phishing scams

PROBLEM: Your customers may inadvertently give personal and financial information to online scammers who use your business as part of their scams.

### SOLUTION:

- Train your customers about the risks of online phishing scams and how to identify such scams.
- Protective tactics include telling your customers what types of information you will request and when, making it more difficult for phished accounts to cause harm to individuals, requiring multiple forms of identification, and actively searching for Web sites that use your brand name.





# A language of web patterns

- Sometimes customers will need help carrying out and completing a task on your Web site. This pattern group describes ways to structure your site to minimize problems and improve your task completion rate.

H1- Process funnel H2- Sign-in/new account H3- Guest account H4- Account management H5- Persistent customer sessions H6- Floating windows	H7- Frequently asked questions H8- Context-sensitive help H9- Direct manipulation H10- Clear forms H11- Predictive input H12- Drill-down options H13- Progress bar
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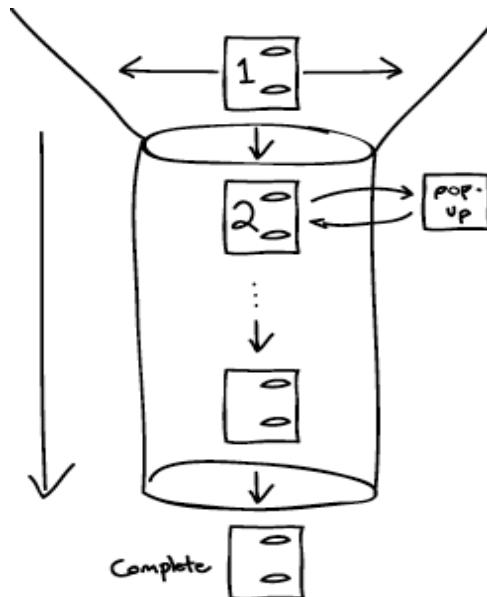
# A language of web patterns

## H1 - Process Funnel

**PROBLEM:** Customers often need to complete highly specific tasks on Web sites, but pages with tangential links and many questions can prevent them from carrying out these tasks successfully

**SOLUTION:**

- Minimize the number of steps required to complete a task, keeping them between two and six.
- Remove unnecessary and potentially confusing links and content from each page, while reinforcing the brand to maintain a sense of place.
- Use floating windows to provide extra information without leading people out of the process funnel. Make sure the Back button always works so that customers can correct errors. Use high-visibility action buttons to make it clear how to proceed to the next step.
- Let customers skip steps that may be unnecessary.
- Prevent errors where possible, and provide error messages whenever errors do occur.



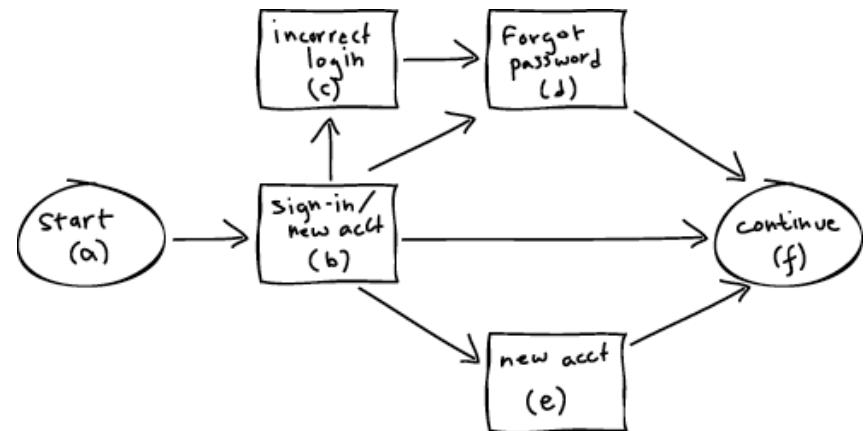
# A language of web patterns

## H2 - Sign-in/New Account

PROBLEM: A single process has to handle both returning customers, who sign in and identify themselves to get personalized content, and new customers, who need to create an account before going further on the site.

### SOLUTION:

- Collect the minimum amount of information you need to create new accounts.
- Make it clear which fields are required and which are optional.
- Prevent errors where possible. Provide your Web site's privacy information. Have a process for handling forgotten passwords.
- Don't force first-time customers to sign in too early



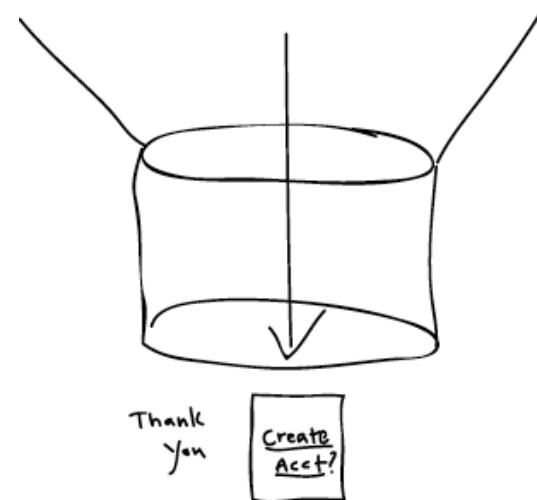
# A language of web patterns

## H3 - Guest Account

PROBLEM: Many customers will be put off and possibly leave a Web site if they have to create an account to use it. However, you need information from customers to support them in their tasks.

SOLUTION:

- Give new visitors the option of creating an account at the end of a process, rather than forcing them to create one at the beginning.



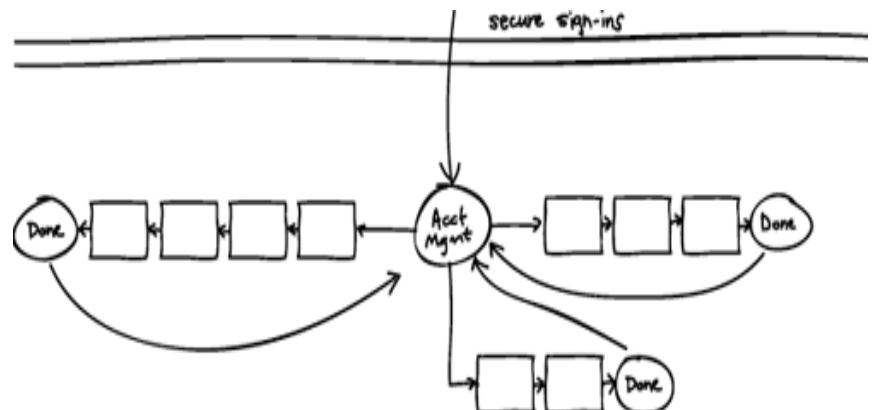
# A language of web patterns

## H4 - Account Management

PROBLEM: Customers need to see and manage the information that a Web site keeps about them.

SOLUTION:

- Provide a single page that holds all the customer's account information in one place.
- Use a task-based organization scheme to let people see and modify their information in the context of specific tasks.



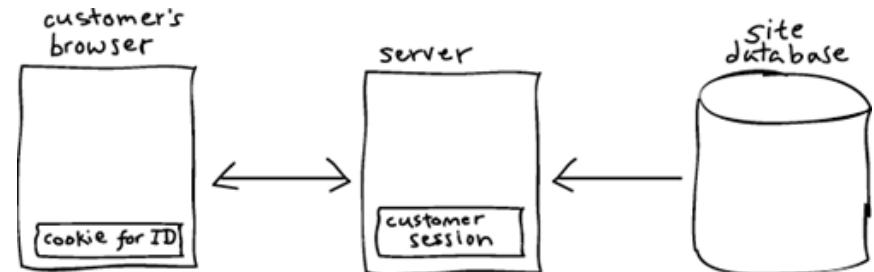
# A language of web patterns

## H5 - Persistent Customer Sessions

PROBLEM: To provide personalized services, Web sites need to identify and track their customers while the customers are on the site.

SOLUTION:

- Use customer sessions to provide personalized services.
- Use temporary sessions for short-lived temporary data or when privacy concerns dictate, such as on self-service government Web sites.
- Use persistent sessions for long-lived data, or when the customer's identity needs to be known. Avoid placing any sensitive data in session IDs.
- Use cookies for identification, but not for authentication



# A language of web patterns

## H6 – Floating windows

PROBLEM: You need to be able to show the customer extra information, while maintaining context and keeping the customer's Web browser on the same page.

### SOLUTION:

- Use link-based floating windows to show related information while maintaining context.
- Use automatic floating windows to show surveys and possibly ads when customers enter your Web site.
- Minimize the use of concurrent floating windows



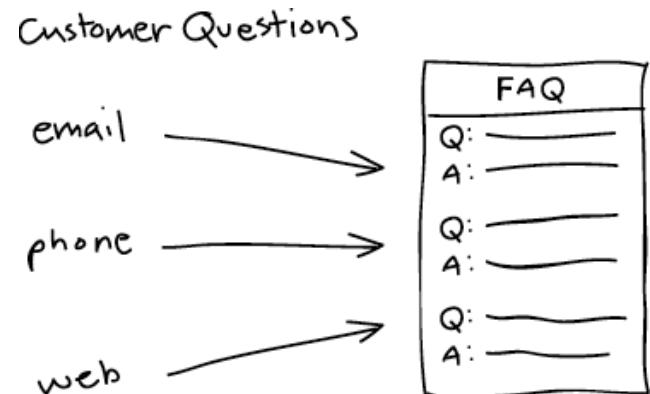
# A language of web patterns

## H7 - Frequently Asked Questions

PROBLEM: Customers often ask the same questions on a Web site, and it can be expensive and time-consuming to answer these questions over and over.

### SOLUTION:

- Start by identifying some frequently asked questions with the entire design team. Review the questions and answers in your competitors' FAQ pages to identify any questions your team might have missed.
- Supplement your questions with those collected from people in close contact with target customers. Use an organizational scheme to group related questions. Add a search feature if there are many questions.
- Use redundant navigation to make it easy to find the FAQ page on your site. Use the FAQ page only as a temporary fix if there are usability problems.



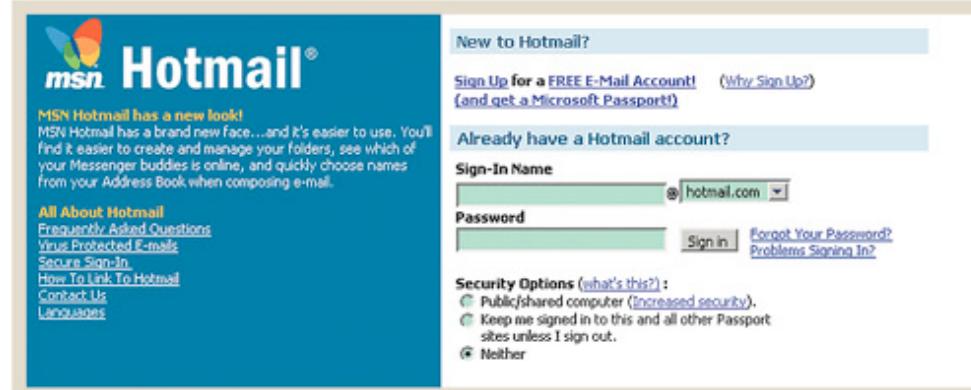
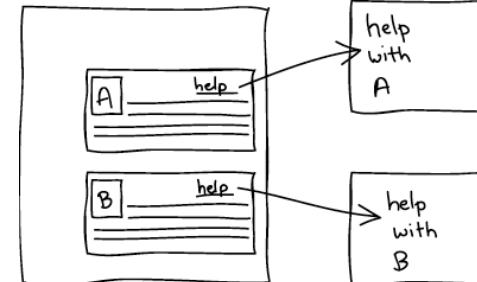
# A language of web patterns

## H8 - Context-Sensitive Help

PROBLEM: Customers sometimes need highly specific help to complete a task

SOLUTION:

- Help customers by placing context-sensitive text and links near where they're needed on a page.
- Consider using floating windows to display the help, letting people continue with their tasks.
- If customers need to see the help while navigating multiple pages, use pop-up windows instead



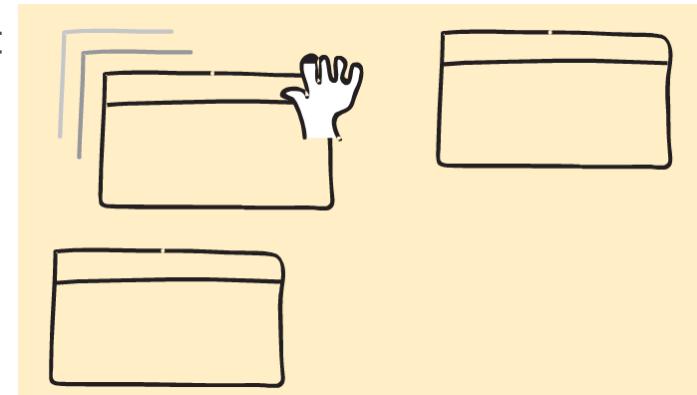
# A language of web patterns

## H9 – Direct manipulation

PROBLEM: Site customization, managing sets, changing views and layouts, and other multistep actions and tasks can be difficult for customers to accomplish by only clicking on links and buttons.

### SOLUTION:

- Create direct-manipulation interfaces when visitors must manage sets, groups, or folders containing a large number of items, or if they're editing designs, layouts, and views.
- When creating movable objects, think carefully about which part of the object a customer must "grab" to move it.
- Provide visual cues to an object's functions by using familiar interface elements, such as title bars, file folders, or handles, and by changing mouse cursors.
- Provide instructions for first-time customers so that they know how to perform these direct-manipulation functions.



# A language of web patterns

## H10 – Clear forms

**PROBLEM:** Forms can be tedious and frustrating to complete, especially when they're long or difficult to understand

**SOLUTION:**

- Provide a payoff for the form by specifying what customers will receive if they supply their information.
- Choose label names carefully, using familiar language and abbreviations, and then test the labels. Place labels beside, above, or below input boxes, but make sure the labels are visually associated with their fields. Help people input data that needs to be specially formatted by automatically skipping from field to field or formatting the data for them.
- Keep forms short, or split longer forms into multiple pages with a progress bar, or into clear sections on one page.
- Provide simple instructions, as well as examples that clear when the customer types. Reduce the amount of typing required of customers by using predictive input. Provide intelligent error handling by reloading the page with all information intact, by calling out problems at the top of the page, and by providing instructions next to each problem

What you get for filling out this form

Reason for this section

Label

Label  you@emailcompany.com

Reason for this section

Label

Label

Label

Submit

# A language of web patterns

## H11 – Predictive input

PROBLEM: Filling out forms can be tedious when lots of typing is required

SOLUTION:

- Change type-in fields to predictive pick lists when option lists are short. Use predictive text input for medium and large option lists. Configure forms either to preload predictive input with the page or to load it dynamically.
- Build a list of text strings that can function as viable options for a particular form field, and sort them using an appropriate method for the information: alphabetical, chronological, or by popularity.
- Create a predictive text input window that appears when the customer begins typing in the field. Size the window appropriately for the amount and type of information to be displayed and its place on the screen. Let customers choose options with both the keyboard and mouse.

The screenshot shows the Kayak website's flight search form. In the 'From' field, 'San Jose, CA USA - International (SJC)' is selected. In the 'To' field, the user has typed 'sea' and a dropdown menu shows suggestions: 'Seattle, WA USA - Seattle/Tacoma Int'l (SEA)', 'Seattle, WA USA - King County Boeing (BFI)', 'Seattle, WA USA - Lake Union SPB (LKE)', and 'Seal Bay, AK USA (SYB)'. Below the 'From' and 'To' fields are 'Leave' and 'Time' dropdowns set to '20 Sep 2006' and 'Anytime' respectively. To the right, there are sections for 'Travelers' (set to 1), 'Cabin' (set to Economy), and 'Prefer Nonstop'. At the bottom of the form is a large orange 'Search' button with the text 'Search for flights from 120+ websites'.

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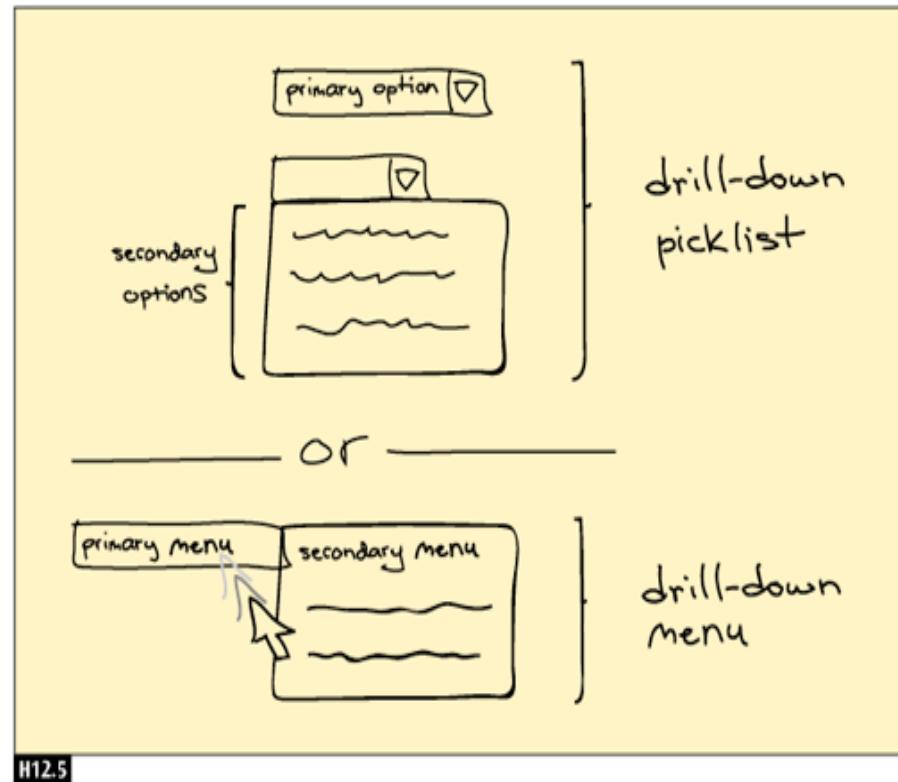
# A language of web patterns

## H12 – Drill-down Options

PROBLEM: Specifying a particular option in a long list can be daunting

SOLUTION:

- When you have too many hierarchically organized items to fit in a single pick list, you can create drill-down options using multiple, hierarchical pick lists or menus.
- If you use multiple pick lists, deactivate the secondary and tertiary pick lists until the customer selects a parent pick list option.
- If you use hierarchical menus, configure the secondary and tertiary menus to stay visible for a second or two even if customers move the mouse away from the parent option



# A language of web patterns

## H13- Progress bar

PROBLEM: Web site visitors become frustrated when a process takes longer than they expect

SOLUTION:

- Outline the major steps in a process and visually indicate which steps have been completed, what the current step is, and what steps are yet to come.
- Label your progress bar steps with a summary of what will be expected, if space allows.
- You might also indicate what will be coming in the next step. When building a progress bar that can skip from any step to any other step, make the steps appear clickable

amazon.com. [SIGN IN](#) [SHIPPING & PAYMENT](#) [GIFT-WRAP](#) [PLACE ORDER](#)

Enter a new shipping address.  
When finished, click the "Continue" button.

Full Name: Douglas van Duyne

Address Line 1: Street address, P.O. box, company name, c/o

Address Line 2: Apartment, suite, unit, building, floor, etc.

City:

State/Province/Region:

ZIP/Postal Code:

Country: United States

Phone Number:

Is this address also your billing address (the address that appears on your credit card or bank statement)?  Yes  No (If not, we'll ask you for it in a moment.)

[Continue](#)

**Address Accuracy**  
Make sure you get your stuff! If the address is not entered correctly, your package may be returned as undeliverable. You would then have to place a new order. Save time and avoid frustration by entering the address information in the appropriate boxes and double-checking for typos and other errors. Need help? Click for address tips:

[General Address Tips](#)



# A language of web patterns

- It can be difficult to design structured, ordered layouts for Web pages. This pattern group describes how to create layouts that your customers will find clear, predictable, and easy to understand.

I1- Grid layout  
I2- Above the fold  
I3- Clear first reads

I4- Expanding screen width  
I5- Fixed screen width  
I6- Consistent sidebars of related content



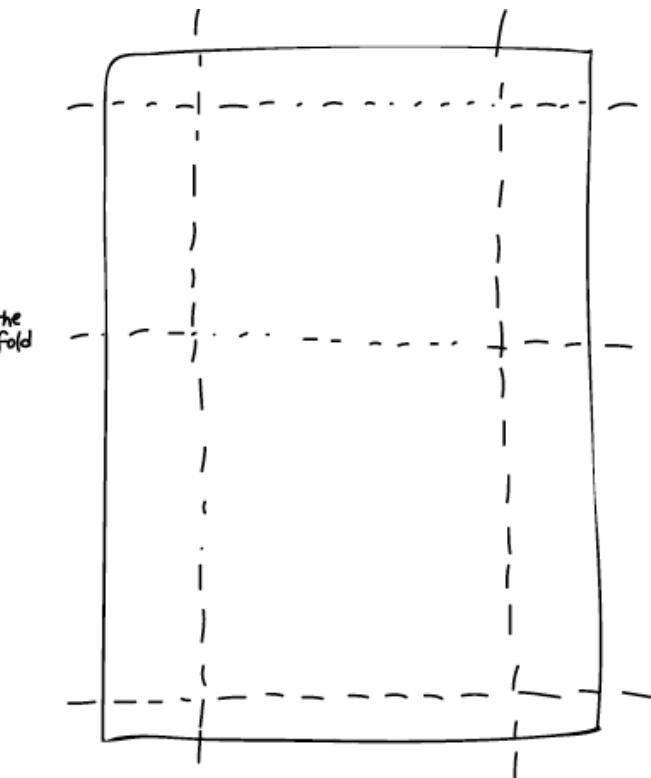
# A language of web patterns

## I1 - Grid Layout

**PROBLEM:** It is difficult to organize the many competing elements of a Web page in a cohesive manner without creating clutter and overwhelming the reader.

**SOLUTION:**

- Create a grid layout that you can use to organize all of the elements on a Web page.
- Sketch out multiple grid layouts to see if they can accommodate the most important navigation and content elements.
- Run usability tests on the grid layouts by greeking the navigation and content, and determine if customers can guess the elements solely on the basis of position and layout.





# A language of web patterns

## I2 - Above the fold

**PROBLEM:** Customers often miss navigation elements and content if they have to scroll down to see them.

### SOLUTION

- Make sure that the most important material is at the top of each page of your Web site, easily visible and easily accessible.
- Test the page to see how it looks on various screen sizes and to make sure that the important navigation elements and content are always visible

The screenshot illustrates the Outpost.com website's layout across four different screen sizes: 640x480, 800x600, 1024x768, and 1280x1024. The website features a header with a search bar, navigation links, and promotional banners. Below the header, there are sections for PC Computers, Electronics, Games, and more. A central column displays featured products like 'The Best Selling' and 'PC Components'. On the right side, there are 'Free WebCam' offers and '3 FreeDVDS' deals. The footer includes links for Home, Careers, Investor Relations, and a search bar.



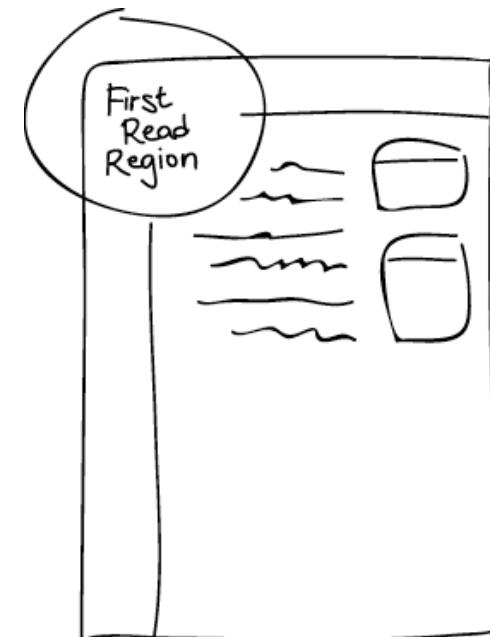
# A language of web patterns

### I3 - Clear First Reads

PROBLEM: How can a Web page be designed with a single unifying focus when so many visual elements are competing for attention?

SOLUTION:

- Use a first read to give each page a unifying focus on the most important message, and to emphasize the most important element of that page.
- Use color, size, font, weight, and position to differentiate and highlight the first read.
- Design for lower-resolution displays, and test your first reads with your customers to see if they're effective





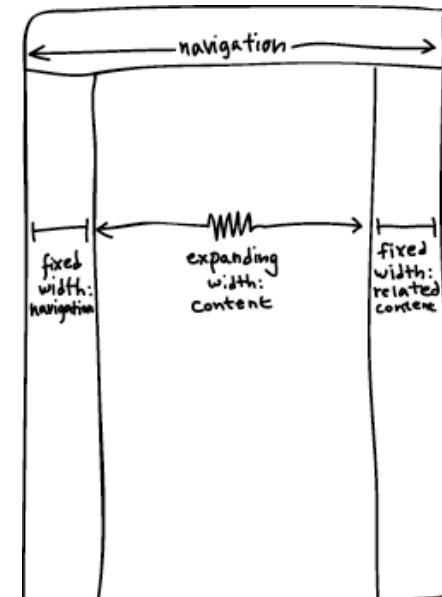
# A language of web patterns

## I4 - Expanding -width screen size

PROBLEM: Many Web pages are packed with navigation elements and content but don't take advantage of extra space when visitors resize the browser to make it larger..

### SOLUTION:

- Design your Web pages to use an expanding screen width that you create using relative-width HTML tables or XHTML-based style sheets.
- Keep the basic navigation elements at fixed width, and let the center area containing the main content expand





# A language of web patterns

## I5 - Fixed-width screen size

**PROBLEM:** Customers' browser sizes affect the amount of text they can see on the screen. When people make their browsers too large, each line of text becomes too long to read comfortably..

### SOLUTION:

- Use a fixed screen width to make long tracts of text more readable by constraining the width of the text column.
- Create fixed screen widths by using absolute widths in your HTML tables or XHTML-based style sheets

(www.ifilm.com, February 2, 2002)



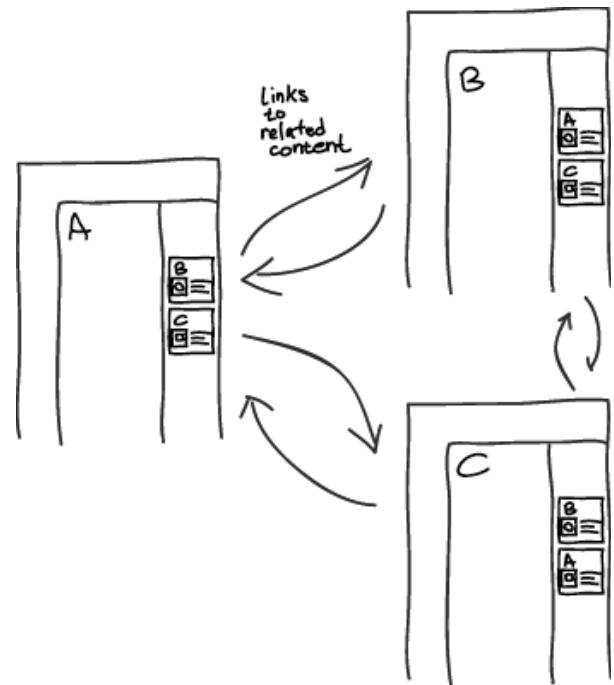
# A language of web patterns

## I6 - Consistent sidebars of related content

PROBLEM: Finding related content on a page can be frustrating

SOLUTION:

- Make the location of sidebars consistent by using a grid layout and page templates.
- Also determine a maximum length for sidebars so that the page layout will be balanced.





# A language of web patterns

- Search is an essential feature of most Web sites.
- Make sure you have search features that are useful and usable.
- Pay special attention to which words customers type in, how you present the results, how customers interact with the results, and what happens if they can't find what they're looking for.
- This pattern group deals with designing the interaction so that your customers' searches are more effective.

J1- Search action module  
J2- Straightforward search forms  
J3- Organized search results



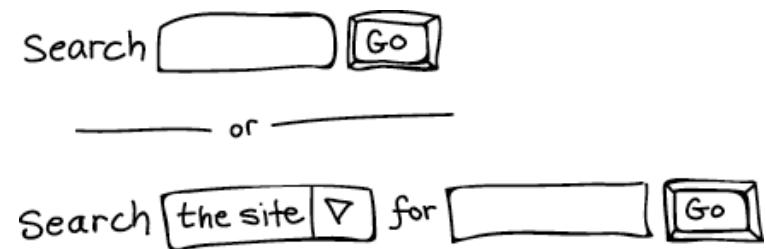
# A language of web patterns

## J1 - Search Action Module

PROBLEM: Customers sometimes want to jump quickly from one location to another, but search pages are often too complex for such functionality.

### SOLUTION:

- Build a search action module into every page, using simple phrasing that indicates the search space for typing in words or phrases and providing an action button for starting the search.
- If you have a large site and want to give customers the ability to search a subsection, add a list of subsections and the word for to indicate the string to look for.



The screenshot shows the Barnes & Noble website homepage. At the top, there's a navigation bar with links like Home, Bookstore, and Account. Below it is a search bar with a dropdown menu showing categories like Books, eBooks, and Music. A promotional banner on the left says "Your Shopping Cart No items in cart. Go To Checkout". Another banner in the center says "Our FREE Shipping Offer Has Been Extended! extended our free shipping offer, so you'll get extra savings if you act now." A third banner at the bottom left says "SAVE MONEY EVERY TIME". On the right side, there's a calendar for October 16, 2002, and a link to browse Calendars 2002.

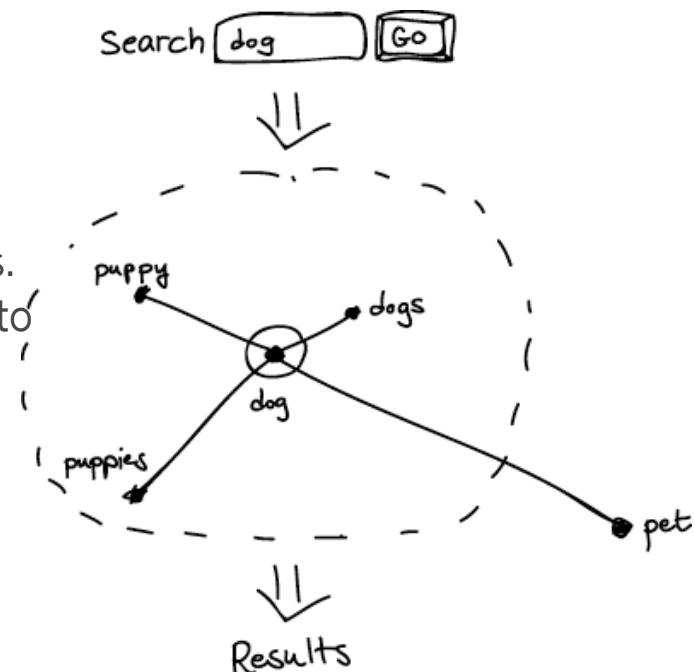
# A language of web patterns

## J2 - Straightforward search forms

PROBLEM: Search forms are often ineffective because they require too much precision.

SOLUTION:

- Use a search engine that does not require extreme precision.
- Avoid Boolean searches and exact matches.
- Compensate for the use of different terms to mean the same thing.
- Set the search engine to look across all categories by default



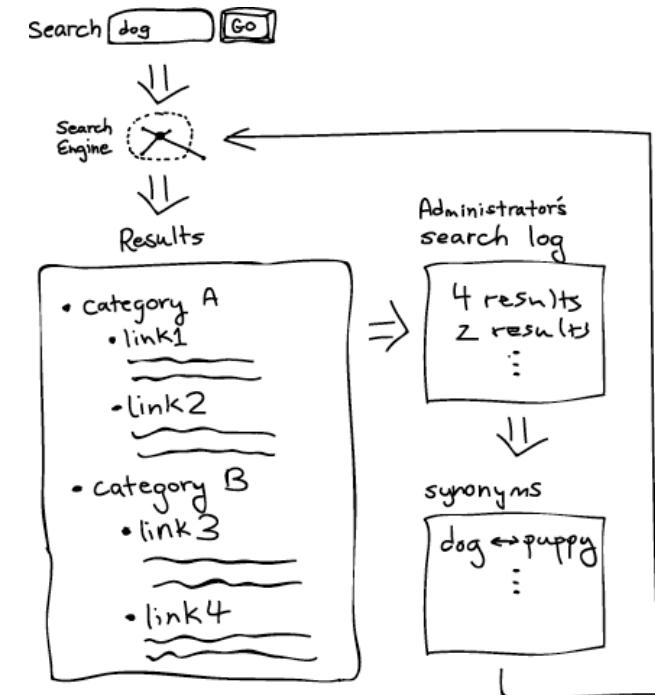
# A language of web patterns

## J3 - Organized search results

PROBLEM: It can be difficult for site visitors to understand search results if there are too few or too many results..

SOLUTION:

- Provide relevant summaries in your customers' search results.
- Clearly organize the results. Provide hyperlinked titles for each hit on the search results page.
- Use log files to tailor the search engine for the most common search terms and to **compensate for common misspellings**.
- Support your customers' common search tasks



# A language of web patterns

- Navigation is an integral part of every Web site, but customers cannot always find links and don't always know where links will take them. This pattern group describes several well-known techniques for organizing and displaying navigation elements to make them easy to find and easy to understand.

K1- Unified browsing hierarchy K2- Navigation bar K3- Tab rows K4- Action buttons K5- High-visibility action buttons K6- Location bread crumbs K7- Embedded links K8- External links K9- Descriptive, longer link names	K10- Obvious links K11- Familiar language K12- Preventing errors K13- Meaningful error messages K14- Page not found K15- Permalinks K16- Jump menus K17- Site maps
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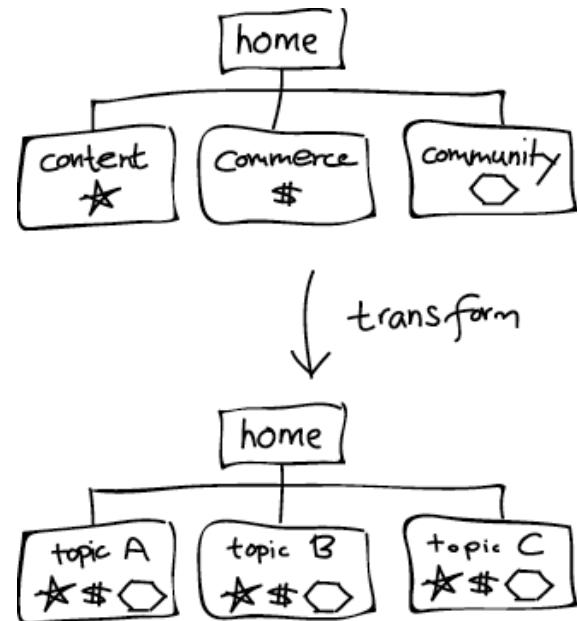
# A language of web patterns

## K1 - Unified Browsing Hierarchy

PROBLEM: When Web sites have distinct community, content, and commerce sections, it's hard for people to find related topics in each of these sections, and the community areas can grow stale.

### SOLUTION:

If your site offers content, community, and commerce on the same topics, integrate the three elements into one unified browsing hierarchy, either by directly linking the three elements or by integrating the elements into one page.



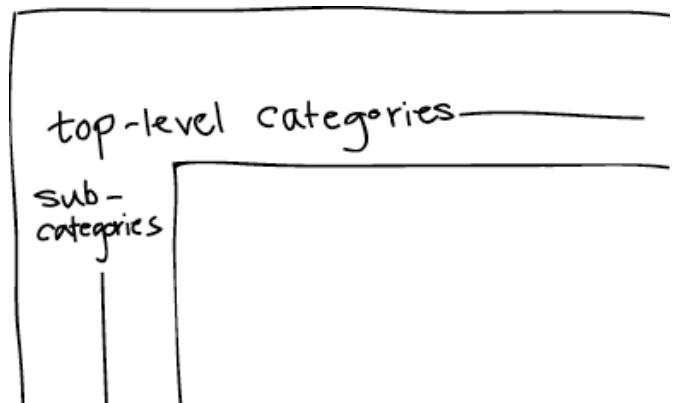
# A language of web patterns

## K2 - Navigation Bar

PROBLEM: Customers need to be able to reach the most important parts of your Web site in a structured, organized way that is easy to understand and use.

SOLUTION:

- Coordinate top-level and second-level navigation in a navigation bar along the top and/or left side of each Web page.
- Use text, or both icons and text, as links inside the navigation bar



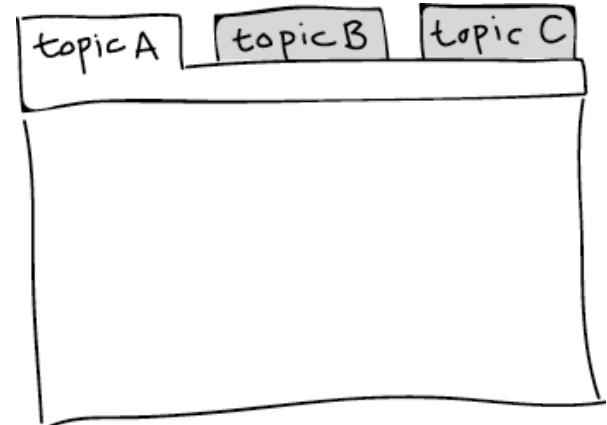
# A language of web patterns

## K3 - Tab Rows

PROBLEM: Sites need to let customers navigate through categories of content and give them feedback on where they are. To make tab rows work well, however, requires including specific details in the visual elements

SOLUTION:

- Create tab rows using an active tab and indicator line, but with no more than ten items, or whatever can fit on one line of tabs.
- Differentiate an active tab by color and contrast, as well as through preselection.
- Include an indicator line that extends across the page to create the impression that the whole page below the line belongs to the active tab.



# A language of web patterns

## K4 - Action Buttons

PROBLEM: Text hyperlinks are good for moving from one page to another, but they're not quite right for representing actions that do something important, such as authorizing a purchase or submitting a message to a message board.

SOLUTION:

- Use buttons to represent actions.
- If you use images, make them look like they can be clicked on by giving them a three-dimensional appearance.
- Also provide clear, concise labels to explain what the buttons do.



# A language of web patterns

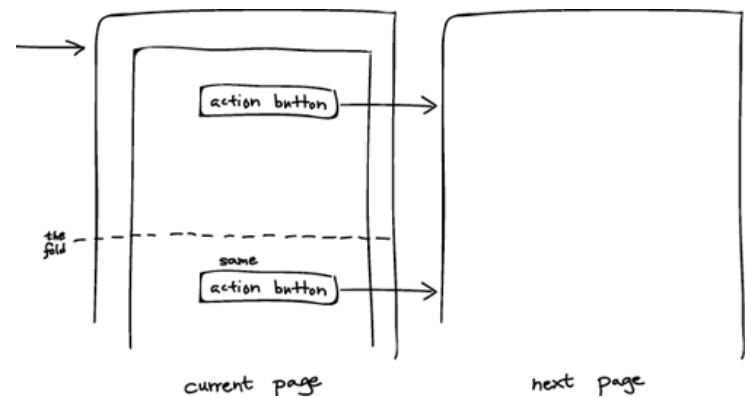
## K5 - High-visibility Action Buttons

PROBLEM: People can easily be derailed from completing a task if the next step is not obvious.

SOLUTION:

On every page that is part of a process

1. Provide your action button(s) right below the top navigation bar, tab row, or progress bar.
2. If critical content cannot be placed above the fold, repeat action buttons at the bottom of the content.
3. **Make action buttons larger than all other buttons on the screen, and give them a color that contrasts well with the background color.**
4. Choose button labels that are descriptive and different from the names of other buttons on the page. Make the buttons that move a task forward the largest ones on the page



# A language of web patterns

## K6 - Location Bread Crumbs

PROBLEM: Customers can get lost easily on Web sites, losing track of where they are in relation to other pages on the site.

SOLUTION:

- Provide bread crumb links that show how to get from the homepage to the current page and back.
- Use a string of back links and separate them by a “pointing” (>) character.

Home > Topic A > Subtopic A-1 >

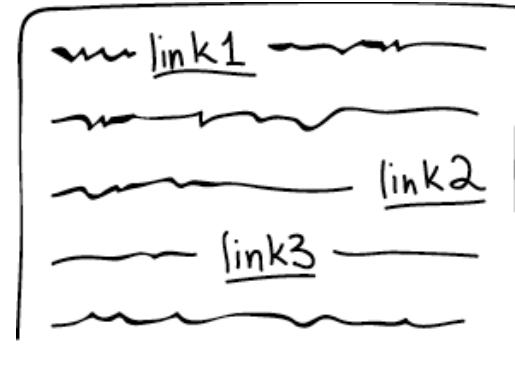
# A language of web patterns

## K7 - Embedded links

**PROBLEM:** Sometimes visitors want to delve deeper into a certain subject that appears in the text, or they need an explanation but don't want to go searching for it. Links off to the side or at the end of the text may lack the context necessary for readers to understand how they relate to specific portions of the content.

### SOLUTION:

- Embed links within a text passage to allow more free-form exploration.
- Use descriptive, longer link names to let customers know where the links will take them.
- Keep the number of embedded links per page of text low, so as not to overwhelm readers.
- Use floating windows for some embedded links, to provide additional information while maintaining the context and to keep visitors from jumping to other pages



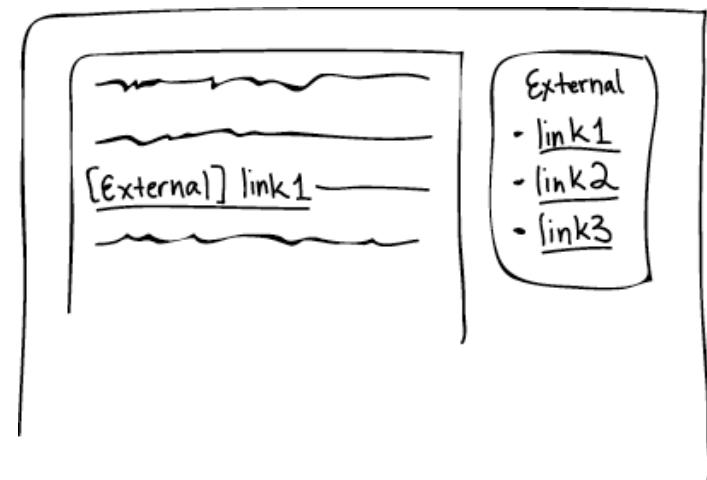
# A language of web patterns

## K8 - External Links

PROBLEM: Most sites have links to other Web sites. These external links need to be treated in a special manner so that customers understand that they lead to other Web sites that are not managed by the current Web site

SOLUTION:

- External links can help build trust and credibility among your customers, while reducing the amount of work required to create new content.
- Take special care to ask permission from external site operators, and learn their policies on page addresses and dynamic content creation so that you can avoid most link rot.
- Let your customers know that they're about to be sent to an external site by explicitly marking each link, or by putting external links in a well-marked area on your page.
- Use pop-up windows for external links only when the context of your site must be maintained so that customers don't lose their place in a process



# A language of web patterns

## K9 - Descriptive, longer link names

PROBLEM: Text hyperlinks must be made predictable and understandable in terms of the Web pages to which they link. Otherwise, when browsing, customers will repeatedly follow links, arrive at something that doesn't interest them, and continually "pogo" back and forth in frustration

### SOLUTION:

- Use descriptive, longer **link names that act as a preview of the linked page.**
- Create the link name by summarizing the linked page in a few words.
- Use familiar language, and differentiate links that have similar names.
- Finally, make sure that any links with long names that word-wrap are clearly differentiated from other links.

- [The Rise of the Network Society](#)
- [How to Win Friends and Influence People](#)
- [The Trouble with Computers](#)
- [The Media Equation](#)
- [Radical Equations](#)
- [Galileo's Daughter](#)

[The Rise of the Network Society](#)

[How to Win Friends and Influence People](#)

[The Trouble with Computers](#)

[The Media Equation](#)

[Radical Equations](#)

[Galileo's Daughter](#)

# A language of web patterns

## K10 - Obvious links

PROBLEM: It's not always clear which bits of text are clickable links..

SOLUTION:

- Use blue underlined text for hyperlinks.
- Avoid using blue or underlining for anything other than Web links. Make links more attractive by using different font sizes and styles.
- Use the <title> attribute with text links. To improve site accessibility, avoid using colors associated with color deficiency (especially red and green).
- Try different colors or links if you're designing a Web site as a puzzle, as an art piece, or for fun.



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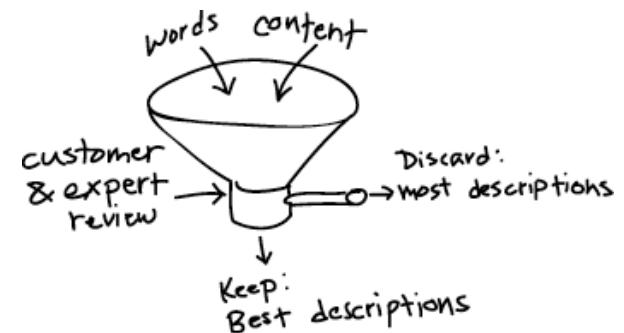
# A language of web patterns

## K11 - Familiar language

PROBLEM: Unfamiliar terms and link names make understanding and navigating a Web site difficult.

SOLUTION:

- Use **language that your target customers understand.**
- Observe and interview representative customers so that you can empathize with the way they see and understand the world.
- Use techniques such as card sorting, category identification, and category description to get a better feel for how they organize, structure, and describe things.
- Use all of this information to create content and links that your customers will find understandable and predictable.



# A language of web patterns

## K12 - Preventing errors

PROBLEM: Customers will make errors and generate erroneous data when faced with online forms that have little structure, include no formatting directions, and are not designed to account for errors from the start.

SOLUTION:

- Provide **hints about what kind of text** input you expect from your customers. You can do this by providing fields showing formatting, by providing sample **values in the fields, or by providing explanatory text.**
- Whenever it is simple to do so, allow flexible formatting and have the computer determine the correct format.
- Also make clear which fields are required and which are optional so that customers will not have to guess.

First name: \*

Last name: \*

Phone:  (  )  -   
Ex: 555 555 5555

\*Required fields

Phone:

Phone: (  )  -

K12.2

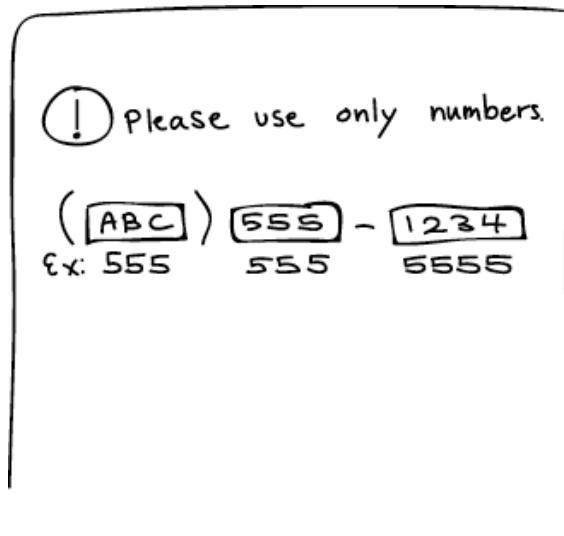
# A language of web patterns

## K13 - Meaningful error messages

PROBLEM: When customers make mistakes, they need to be gently informed of the problem and how to recover gracefully, or the error condition may persist.

### SOLUTION:

- Provide meaningful error messages in familiar language without assigning blame and without trivializing the problem with humor.
- State the severity of the problem and provide steps that customers can take to recover.
- Display the error message near the problem area, and highlight it to make it stand out visually



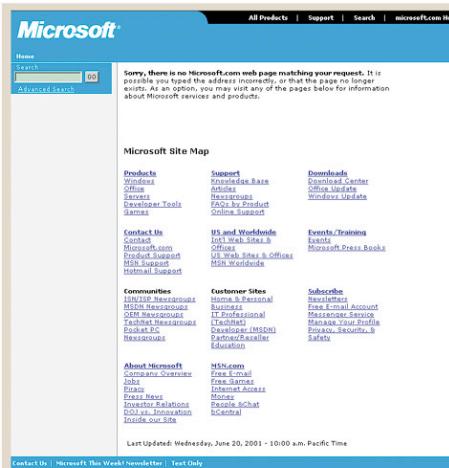
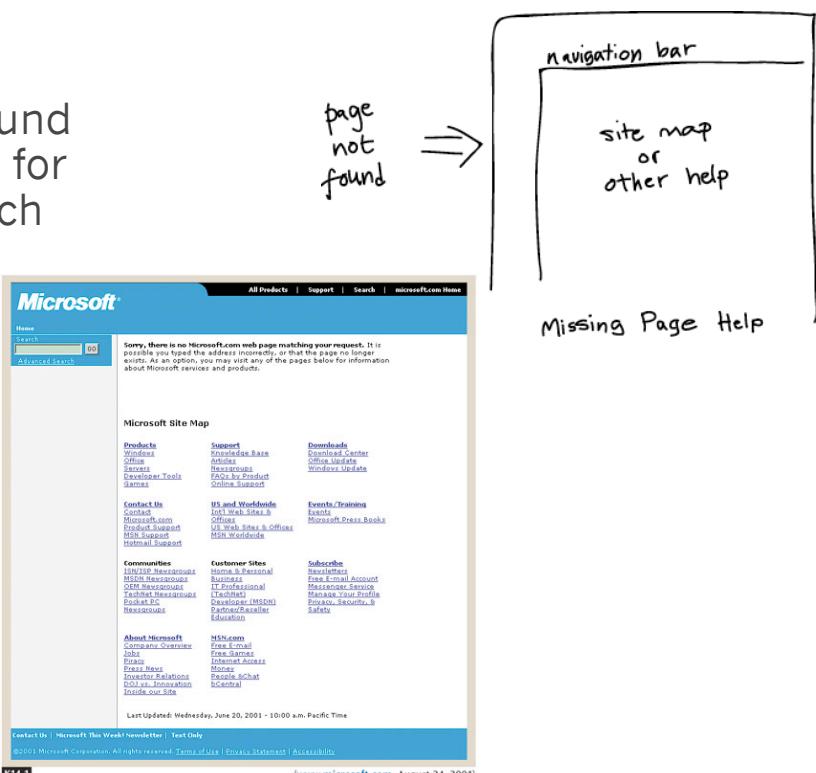
# A language of web patterns

## K14 - Page Not Found

**PROBLEM:** Sometimes customers click on links, type in URLs, or have bookmarks for pages that no longer exist, resulting in the dreaded “Page not found” error message or, even worse, “Error 404.”

### SOLUTION:

- Create a custom Page not found Web page that makes it easy for customers to browse or search for the content they were expecting to find.



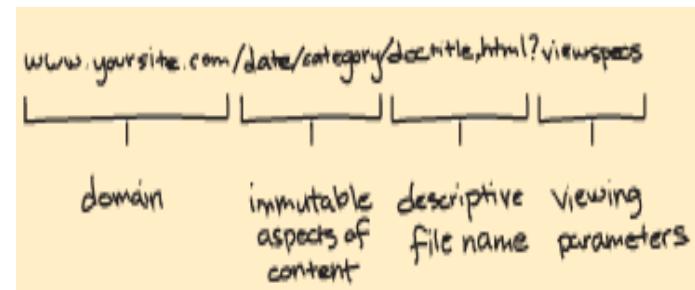
# A language of web patterns

## K15 - Permalinks

PROBLEM: It's frustrating for visitors to try to return to a site that they found interesting, only to discover that the page they bookmarked is no longer there

SOLUTION:

- Create permalinks for site content that you want to be perpetually available.
- Temporary URLs are suitable for confidential content that you don't want visitors' browsers to cache.
- Use immutable aspects of the page (like date, topic, or street address) and view-specifying parameters to devise a naming pattern for permalinks. If a URL is meant to be saved or shared, design a naming convention that permits short (and preferably human-readable) URLs.
- Incorporate a directory structure into your URLs that will enable your servers to store large amounts of content perpetually



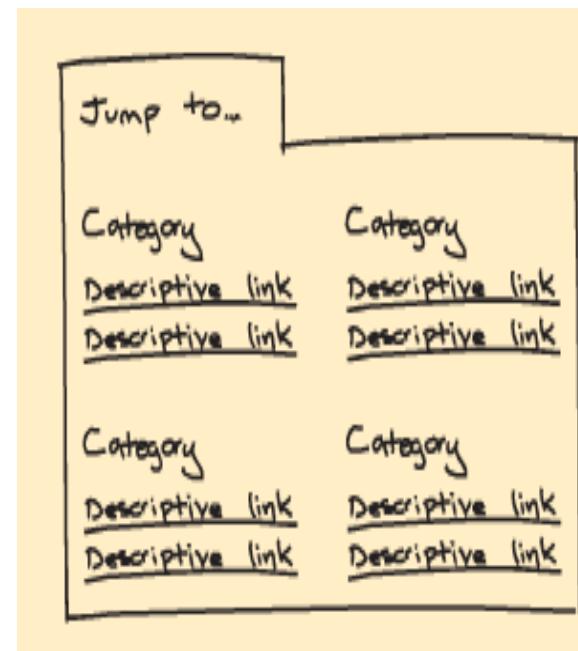
# A language of web patterns

## K16 – Jump menus

PROBLEM: Providing copious navigation links to key site areas can make large sites easier to use, but too many links on a page can be overwhelming.

SOLUTION:

- Create a jump menu to provide a large navigation menu without using an excessive amount of screen real estate.
- Use standard organization options, such as subject categories or task-based organization, when creating your list of menu options. Include a title for the jump menu to inform customers of its purpose.
- Choose between a simple forms-based pick list and a more complex DHTML-based jump menu. For a pick list, reinforce the function of the jump menu by including a Go button, and by using the first item in the list to provide instructions to the customer.
- For a DHTML-based jump menu, create menu options horizontally and vertically using a grid-based layout, and make sure that the menu options are immediately identifiable as links.



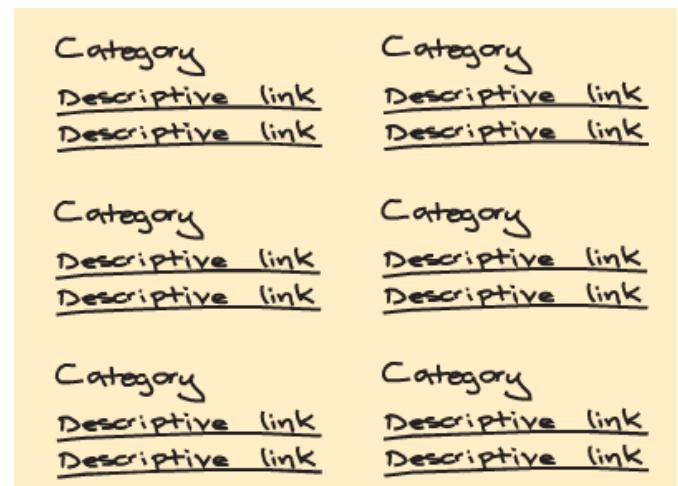
# A language of web patterns

## K17 – Site map

PROBLEM: Finding specific information in a site can sometimes be difficult, especially if it's not obvious where to start looking.

### SOLUTION:

- As a backup to site navigation and search, create a site map page that contains links to all of the features offered on the site, and organize the page to serve the needs of all types of visitors equally. Keep the site map page simple—containing only text and HTML—so that it loads quickly. Use a grid layout to keep as many links visible as possible, and place most of the content above the fold. Organize the page using a suitable hierarchy, with categories to separate links for different functions, visitors, or types of content. Link the categories to category pages for quick access to general content. Include a link to the site map from the header or footer of every page.



# A language of web patterns

- Slow Web sites are frustrating to use. A slow homepage can have a major impact on customers' first experience with a site. They might not wait around to find out what you have to offer. Remember, many customers still connect to the Web using slow, analog modem.

L1- Low number of files  
L2- Fast-downloading images  
L3- Separate tables  
L4- HTML power  
L5- Reusable images  
L6- Fast-loading images

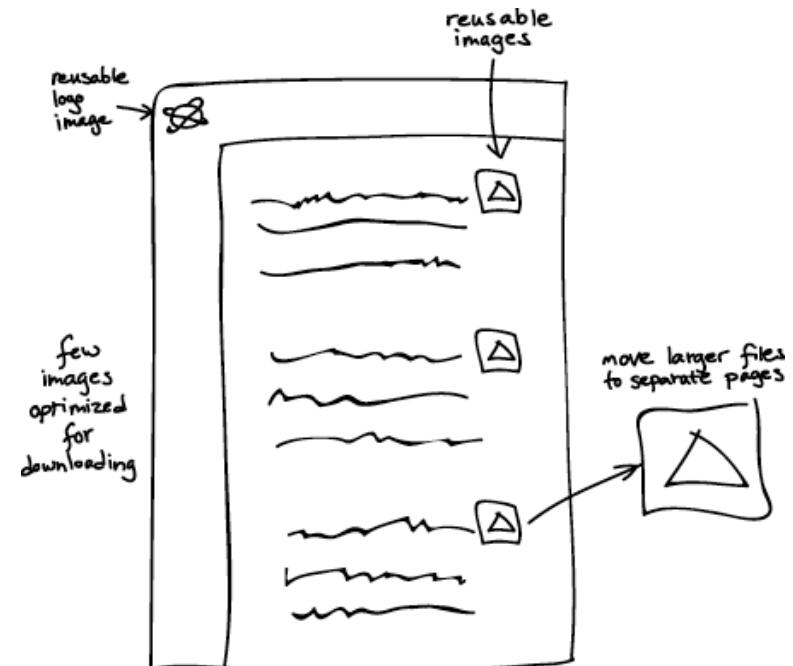
# A language of web patterns

## L1 - Low number of files

PROBLEM: Web pages that have many images, audio/video files, applets, and plug-ins are slow to load.

### SOLUTION:

- Determine your most important pages and focus your efforts on tuning those pages for download performance.
- Minimize the number of files that absolutely must be loaded for each page. Take advantage of features in HTML and in Web browsers that minimize the number of images customers have to download.
- In addition, **move slow-loading objects from the most important pages to other pages**, and provide links to and previews of them instead..



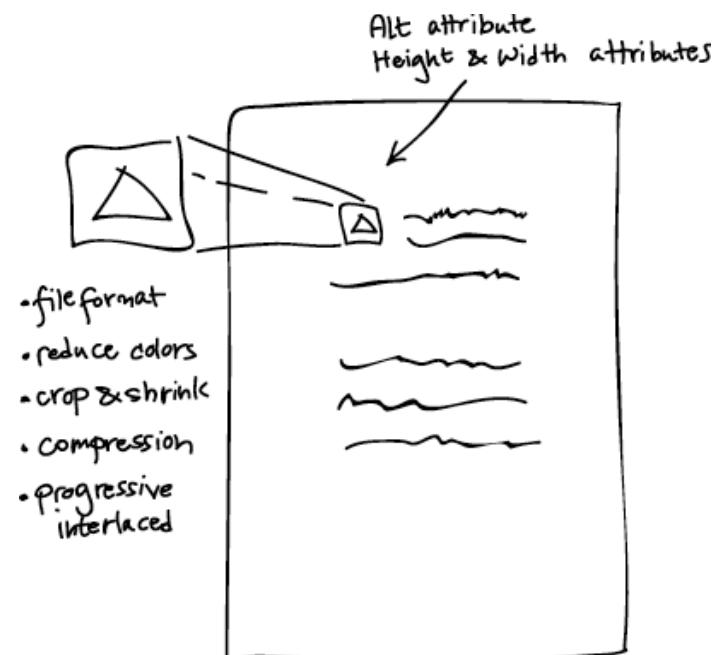
# A language of web patterns

## L2 - Fast-downloading images

PROBLEM: Large images are slow to load.

SOLUTION:

- Use a combination of techniques to speed up the loading of images. To the image itself, consider applying the following techniques: changing the image file format, reducing colors, cropping and shrinking, using higher compression, and using progressive-scan or interlaced images.
- Use other techniques—such as including the `<height>` and `<width>` attributes in the HTML, using the `<alt>` attribute for the `<img>` tag, and combining small images that are near each other into larger images—to determine how the image is best used on a Web page and to help improve the perceived speed of loading the image.



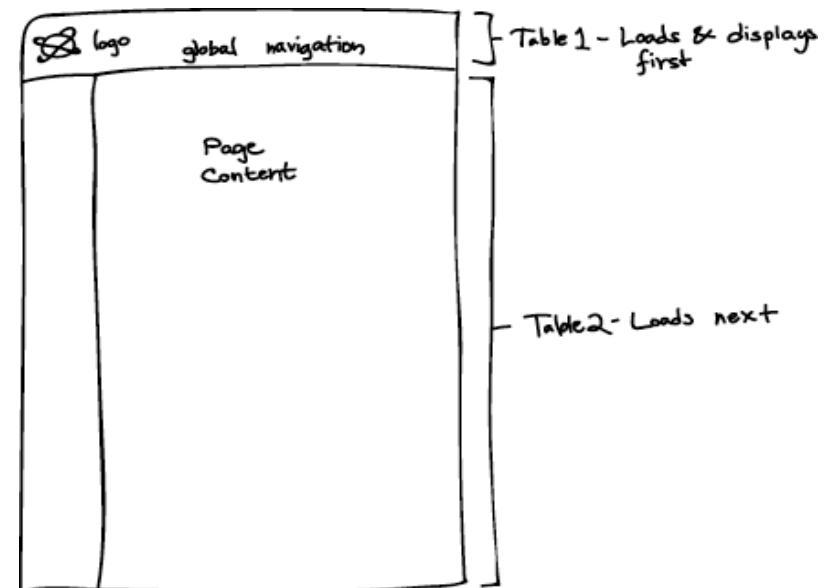
# A language of web patterns

## L3 - Separate Tables

PROBLEM: Web pages with long, complex HTML tables take a long time to be displayed in Web browsers

SOLUTION:

- For older Web sites that use HTML tables for layout, split large tables into completely separate, smaller tables so that each one can be loaded and displayed independently.



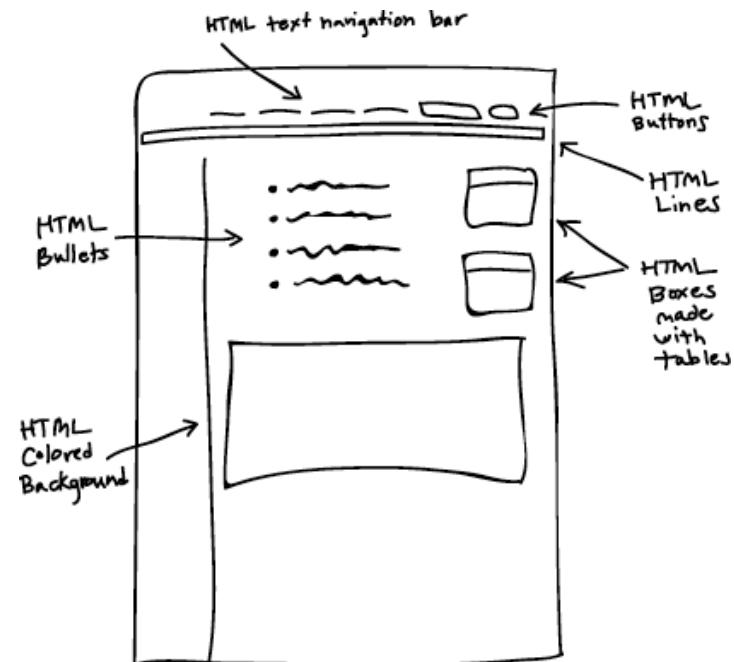
# A language of web patterns

## L4 - HTML power

PROBLEM: Images are critical to good Web site design because they provide visual clues about interaction and how the page is organized. Web pages with too many images, however, are slow to load

### SOLUTION:

- Wherever it's still functional and aesthetically pleasing to do so, use built-in HTML features instead of images



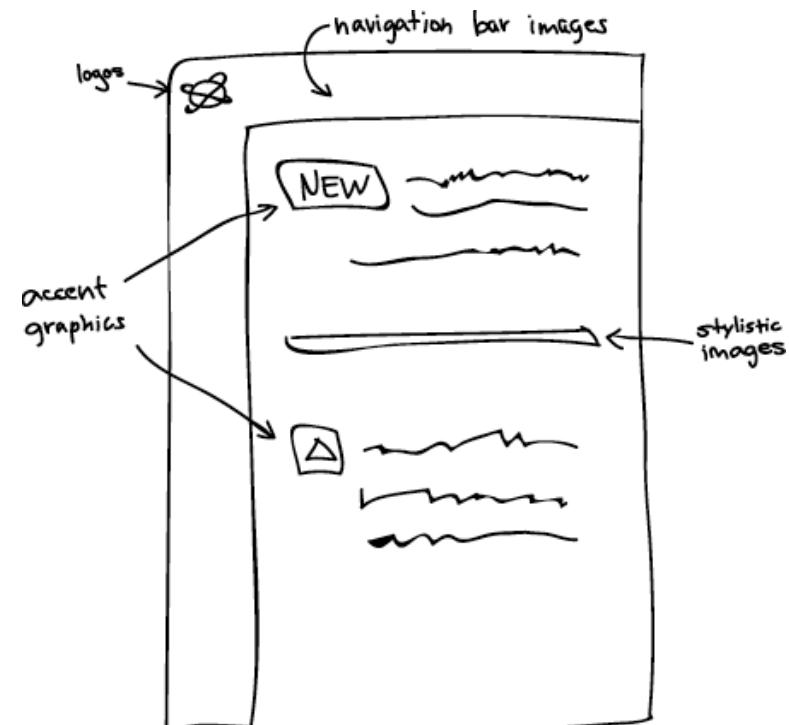
# A language of web patterns

## L5 - Reusable images

PROBLEM: A Web browser must download every image that it has not encountered before

### SOLUTION:

- Design your Web pages to use a core set of reusable images.
- These images will be cached by Web browsers and will be faster to display the next time they're viewed because they will have been downloaded already



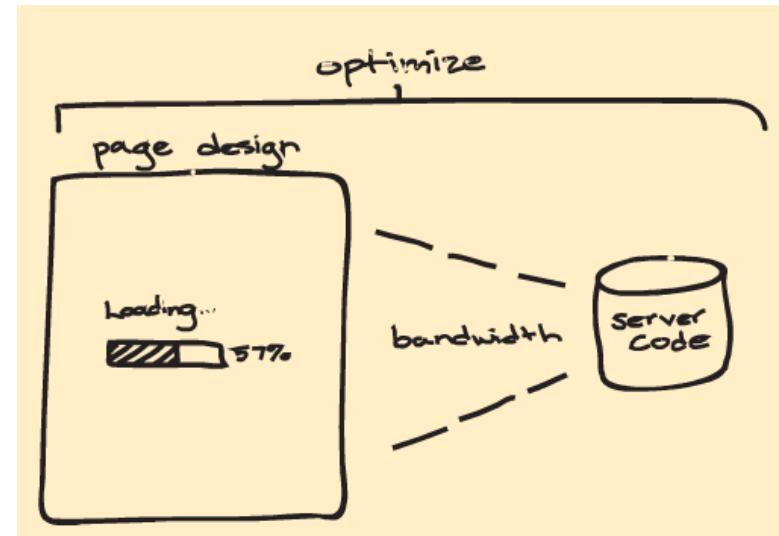
# A language of web patterns

## L6 – Fast-loading content

PROBLEM: Sites sometimes require a long time to process or load information, but making people wait can cause frustration

SOLUTION:

- Make your site as fast as possible by optimizing server code, bandwidth, and page designs.
- For pages that still take time to load, use a **progress indicator** to demonstrate to customers that the system is working.
- You can simply inform people with a text message such as “Loading,” use “marching ants” to draw the customer’s eye, create graphical indicators such as barber poles or thermometers, or ideally display parts of the content as they load instead of waiting for the entire page



# References

- Douglas K. van Duyne, James A. Landay and Jason I. Hong:  
The design of sites: Patterns for creating winning web sites.  
2nd Edition.