

Human-Computer Interaction

Understanding Visual Hierarchy & UI Patterns

Agenda

- **Creating Visual Organization**
 - Scanning patterns
 - Contrast: generating interest
 - Tools of the trade: color, size, space
- Selecting and Applying Web UI Patterns
 - Selecting the right UI Patterns
 - Pattern libraries
- Takeaway

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A website is a form of visual art...

- The science of aesthetics, mixed with the principles of business, and an extraordinary website interface must feel effortless yet enticing

Creating Visual Organization

- A web interface is essential for:
 - **Informing users:** guide users from one action to the next without feeling overbearing.
 - **Communicating content relationships:** present content in a way that matches how users prioritize information.
 - **Creating emotional impact:** people may actually be more prone to forgive your site's shortcomings if you produce a positive emotional response.

(Luke Wroblewski, author and Senior Principal of Product Design at Yahoo)

Creating Visual Organization

The end goal of your UI design is to answer 3 questions:

1. **What** is this? (*Usefulness*)
2. **How** do I use it? (*Usability*)
3. **Why** should I care? (*Desirability*)

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Scanning patterns: the predictability of the human eye

- With a scurrying movement in the corner of your eye or a sexy walk from someone across the street, the human eye is drawn automatically to certain points of interest.
- The majority of people tend to follow definite trends — including how they view a web page
- **Alex Bigman**, *Design Writer for 99Designs*, talks about the two predominant reading patterns for cultures who read left to right:
 - F-Patterns
 - Z-Patterns

F-Pattern

- Typically for text-heavy websites like blogs
- The reader first *scanning a vertical line* down *the left side* of the text looking for **keywords** or **points of interest** in the paragraph's initial sentences.
- When the reader finds something they like, they begin reading normally, forming horizontal lines.
- The end result is something that looks like the letters F or E.

CNN

News about CNN, including commentary and archival articles published in The New York Times.

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By SYDNEY EMBER and MICHAEL M. GRYNBAUM



F-Pattern Example

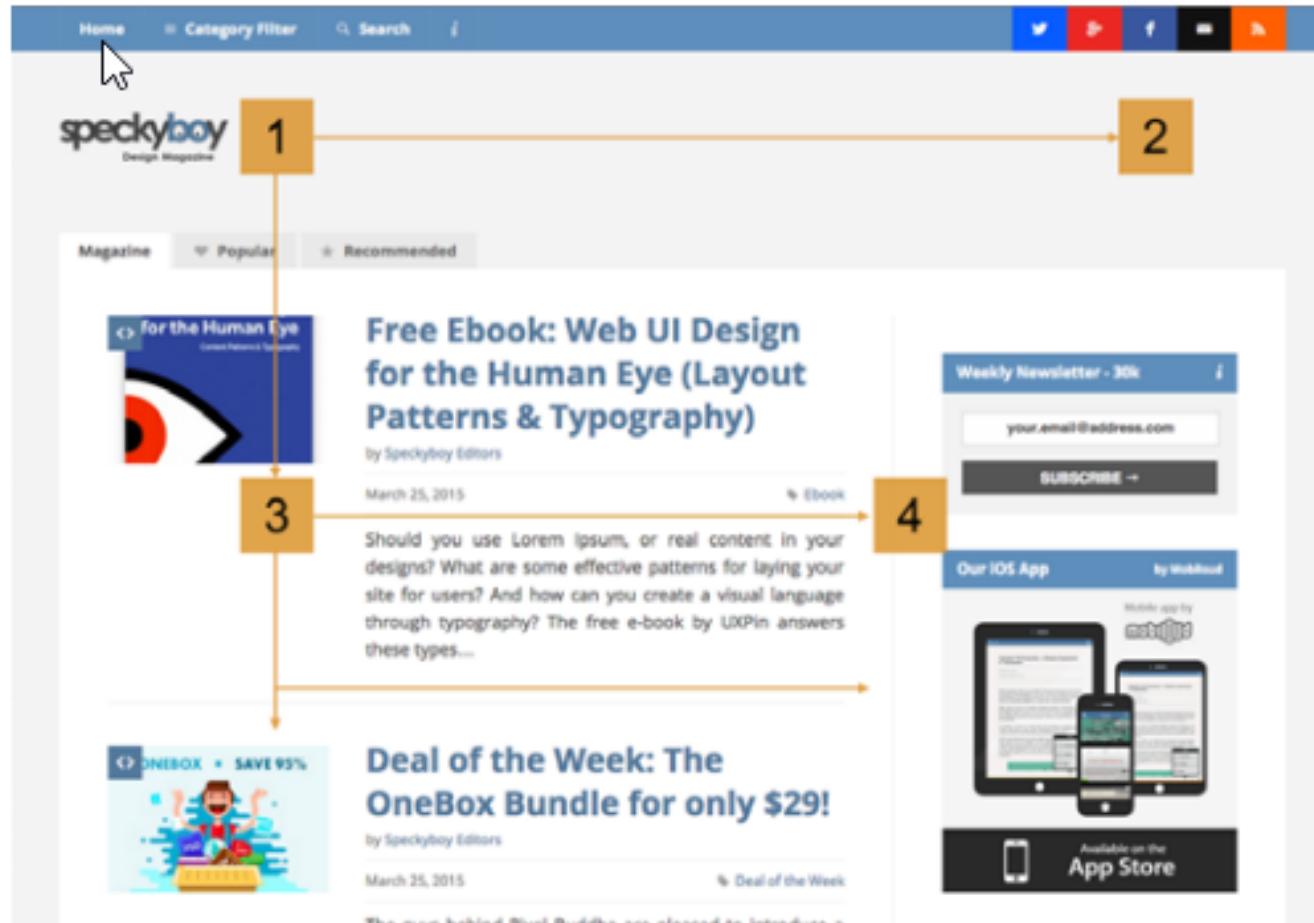


F-Pattern

- **Jakob Nielson** of the Nielson Norman Group conducted a readability study based on 232 users scanning thousands of websites:
 - Users will rarely read every word of your text.
 - The first two paragraphs are the most important and should contain your hook.
 - Start paragraphs, subheads, and bullet points with enticing keywords

F-Pattern

- How could this impact the interface design of your website?



F-Pattern

- The most important content can be seen in a few seconds, with more detailed content (and a call to action) presented immediately below for quick scanning.
- The **F-pattern** can be very helpful for sites that want to embed advertising or calls to action in a way that doesn't overwhelm the content.
- **Remember:**
 - content is always king,
 - the sidebar exists to get users involved in a deeper level.

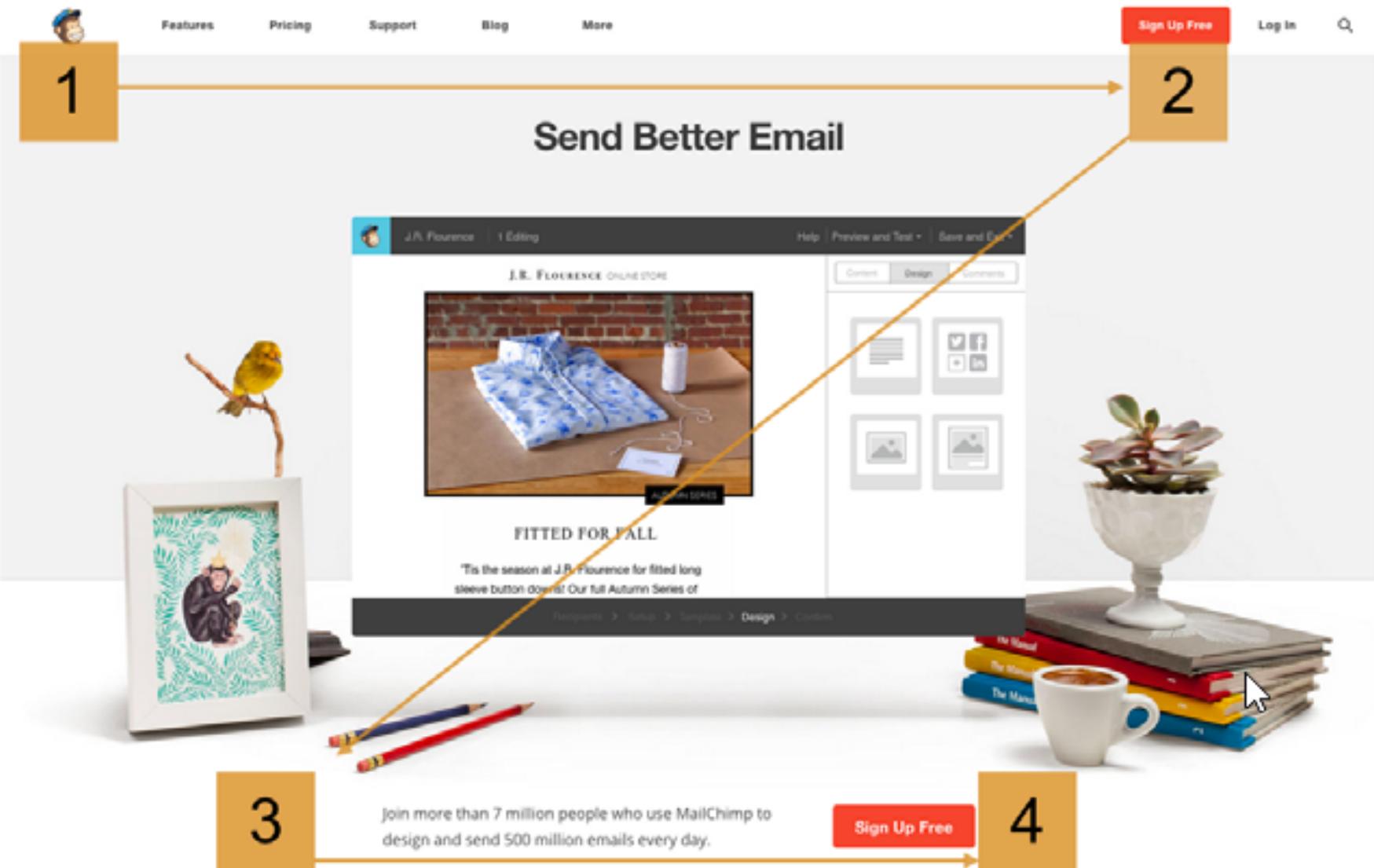
F-Pattern

- The F-Pattern is a guideline - rather than a template - because the F-pattern can **feel boring after the top rows of the “F”.**
- **Kickstarter** adds in some widgets (laid out horizontally) to keep the design visually interesting beyond the first 1000 pixels

The image illustrates the F-pattern by showing a user interface layout. At the top, there's a large image of a person playing a keyboard with the text "Bring creative projects to life" and a "Learn more" button. Below this, the page is divided into horizontal sections. The first section is titled "Staff Picks: Fashion" and features a project for "Jacques-Elliott Ties + Accessories" by Elliot Aronow. The second section is titled "Popular" and shows three projects: "Fruitimals Plush Toys-Orange Fox" by Lucy Louise Studios, "Mouse The Jewels" by Mouse The Jewels, and "Alexander Jansson 2015 Art Calendar" by Alexander Jansson. To the right of these sections is a sidebar with a list of categories: Art, Comics, Crafts, Dance, Design, **Fashion**, Film & Video, Food, Games, Journalism, Music, Photography, Publishing, Technology, and Theater. The "Fashion" category is highlighted in green.

Z-Pattern

- **Z-Pattern** scanning occurs on pages that are not centered on the text.
 - The reader first scans a horizontal line across the top of the page, whether because of the menu bar, or simply out of a habit of reading left-to-right from the top.
 - When the eye reaches the end, it shoots down and left (again based on the reading habit), and repeats a horizontal search on the lower part of the page

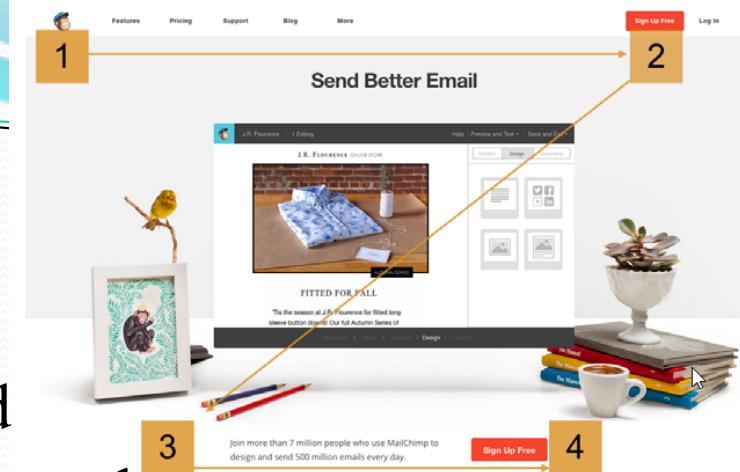


Z-Pattern

- The Z-Pattern is applicable to almost any web interface since it addresses the core website requirements such as **hierarchy**, **branding**, and **calls to action**.
- The Z-pattern is perfect for interfaces where simplicity is a priority and the **call to action** is the main takeaway.
- Forcing a Z-pattern for a website with complex content may not work as well as the F-pattern, but a Z-pattern can help bring a sense of order to simpler layouts (and increase conversion rates)

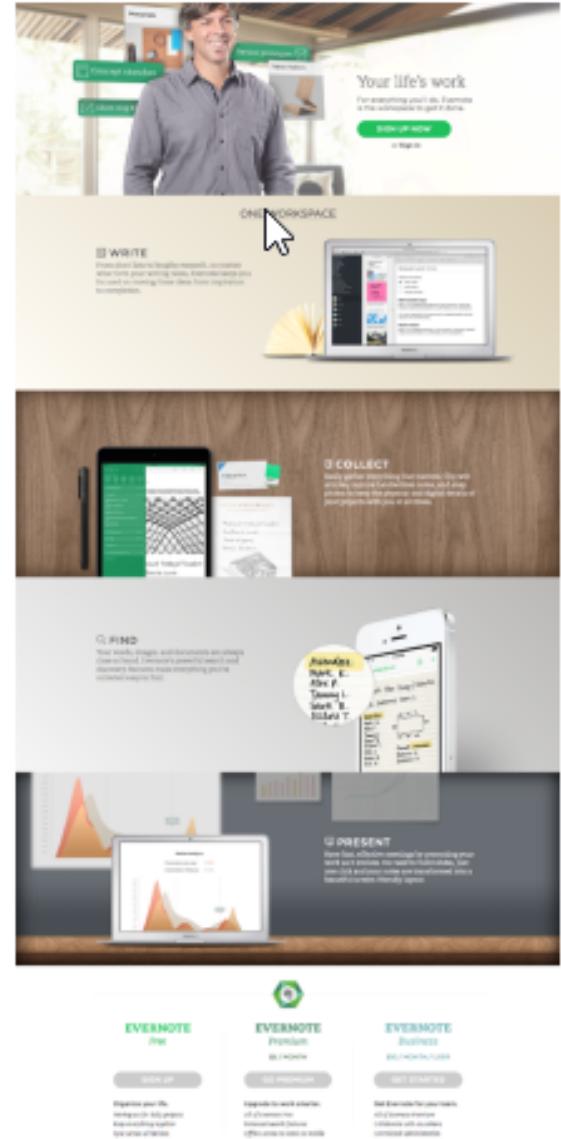
Z-Pattern Keep in Mind

- **Background:** Separate the background to keep the user's sight within your framework.
- **Point #1:** This is a prime location for your logo.
- **Point #2:** Adding a colorful secondary call to action can help guide users along the Z-pattern.
- **Center of Page:** A **Featured Image Slider** in the center of the page will separate the top and bottom sections and guide the eyes along the Z path.
- **Point #3:** Adding **icons** that start here and move along the bottom axis can guide the users to the final call to action at Point #4.
- **Point #4:** This is the finish line, and an ideal place for your primary Call to Action.



Z-Pattern - Keep in mind

- Predicting where the user's eye will go can be a huge advantage.
 - Before arranging the elements on your page, prioritize the most and least important ones.
 - Once you know what you want your users to see, it's just a simple matter of placing them in the pattern's "hot spots" for the right interactions
 - You can even extend the Z Pattern throughout the entirety of the page, repeating Points 1-4 if you feel that more value propositions are needed before the call-to-action.



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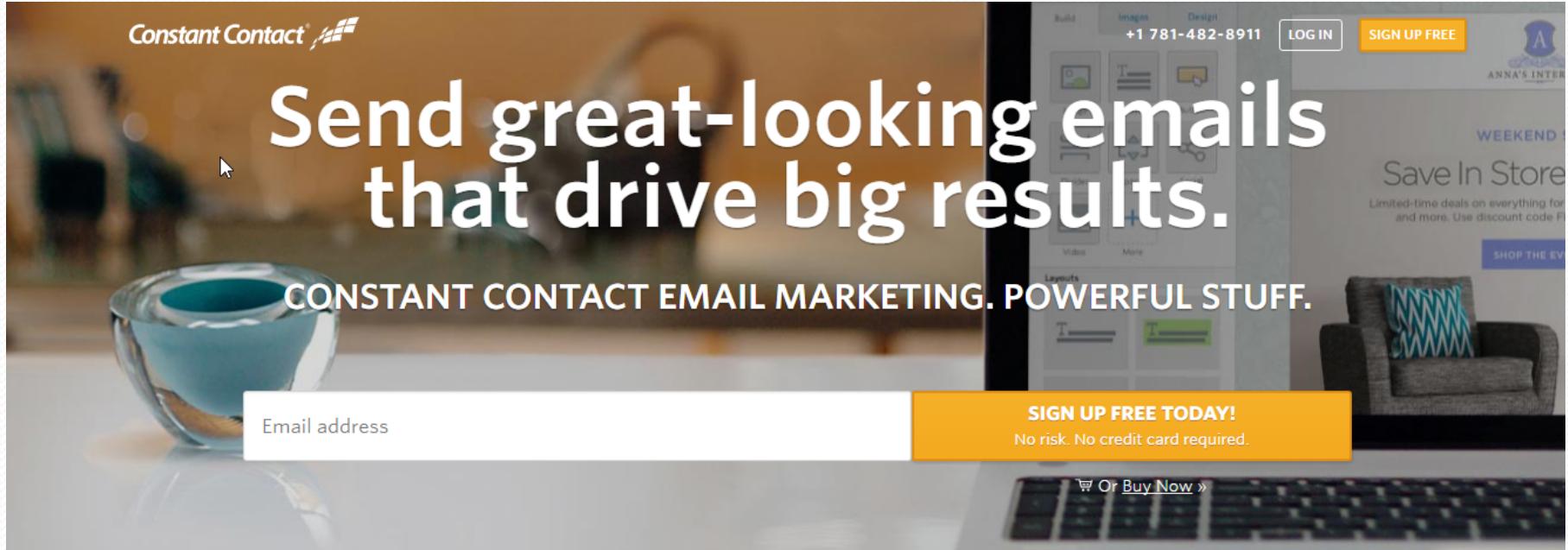
Contrast: generating interest

- **Contrast** is the occurrence of two different elements positioned close together.
- In web UI design, these elements can be colors, textures, shapes, direction, or size, to name the important ones.

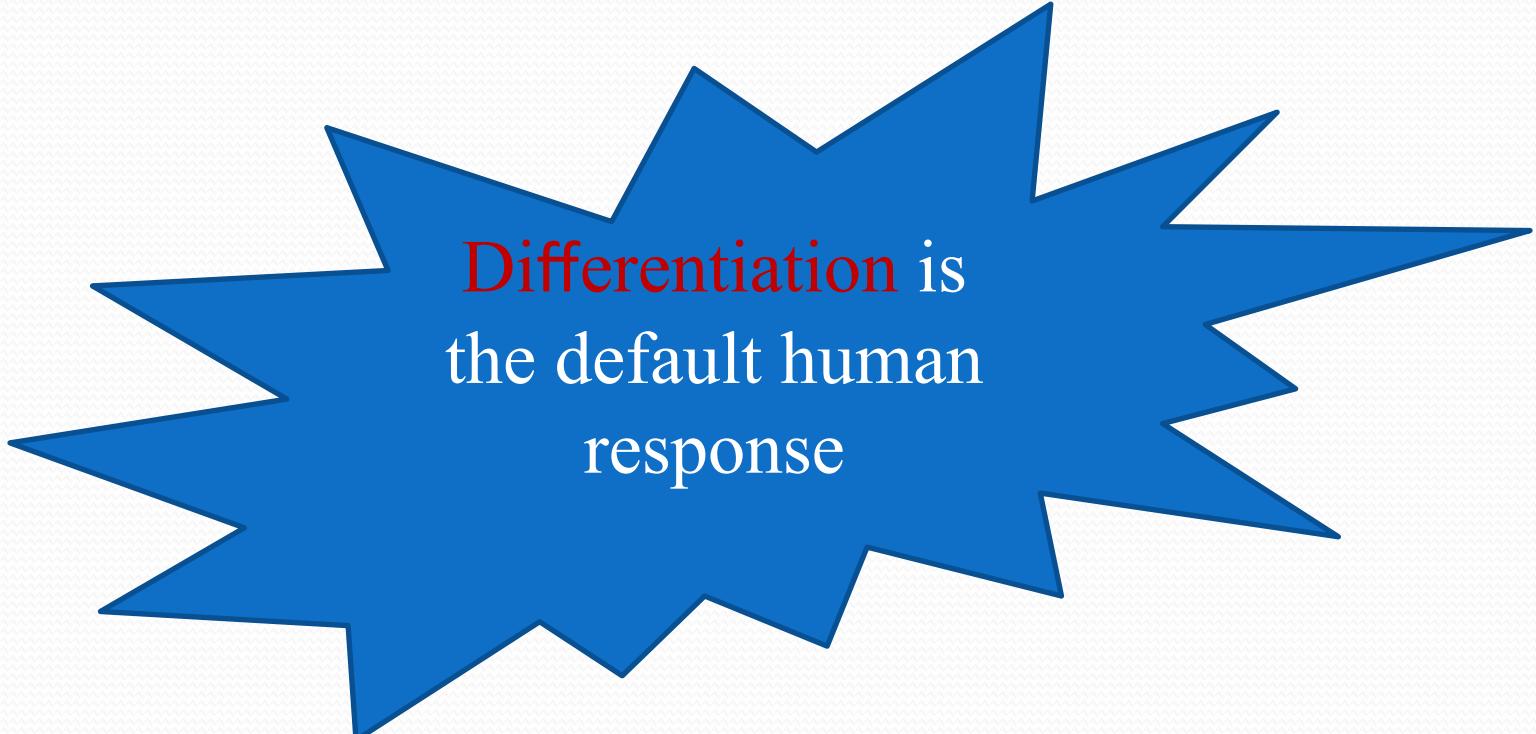


Contrast: generating interest

- Alternating between different sized fonts and colors creates an instant hierarchy to your interface.



Remember



Differentiation is
the default human
response

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Tools of the trade: color, size, space

- **Alex Bigman** believes that:
 - colors and size manage attention
 - spacing helps manage visual relationships

Color

- *Bright colors* stand out from muted colors.
- The important takeaway is its application: you can exploit this to draw your user's attention where you want.
- Certain colors can help set the mood of the entire site
 - blues are tranquil
 - reds are aggressive
 - ...

Color

Dedicated to helping you reach your fitness goals.

GET ACTIVE EAT BETTER MANAGE WEIGHT SLEEP BETTER

LEARN MORE

THE FITBIT STORY

Fitbit makes it easy to track activity, sync stats, see trends and reach goals.

LEARN HOW

WHAT PRODUCT IS RIGHT FOR YOU?

Learn which Fitbit tracker or scale is best for you.

COMPARE PRODUCTS

Size

- Size, particularly for text, is a powerful tool in that it circumvents the traditional rules of left-to-right and up-to-down reading → a *large word* or phrase in the bottom right-hand corner might be the first thing a person reads.
- Size can add emphasis to the actual message or content, making it more significant.
- A **typography** study conducted by Smashing Magazine on 50 popular website interfaces:
 - **headings:** between 18 and 29 pixels
 - **body:** between 12 and 14 pixels
 - this is just a guideline but shows that you still want to maintain a sense of proportion

Size

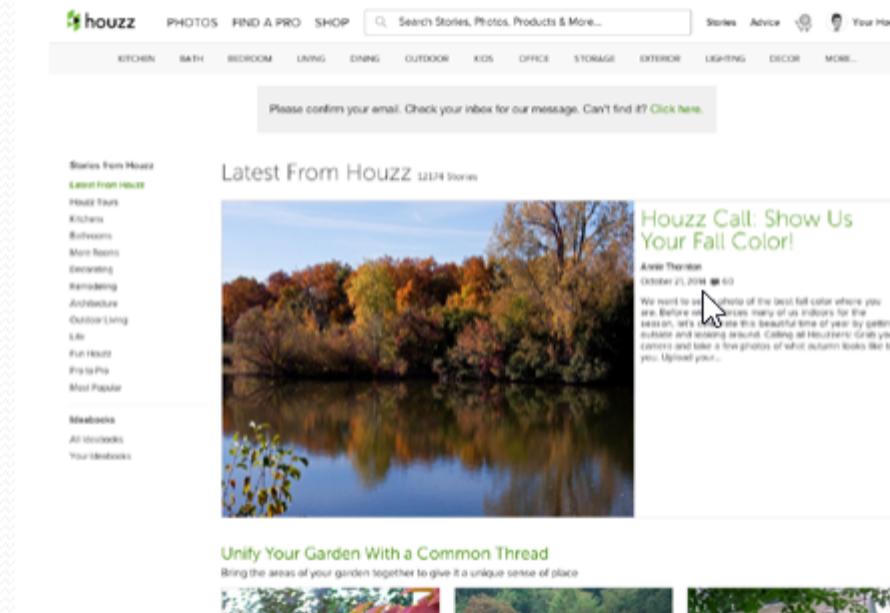


Space

- One of the most important tricks in making something pretty is the absolute absence of something pretty.
 - Cluttering too many attractive images together is a quick way to ruin them all.
 - It's important that your web interface has breathing room and that you space everything out.
 - Reducing the amount of “visual noise” will make the points you want to keep even stronger

Space

- Dmitry Fadeyev, founder of Usaura, advises that white space actually improves **comprehension** (20%)
- While spacing didn't affect how people performed on the website, it did affect user satisfaction and experience



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Selecting and Applying WebUI Patterns

- After determining the overall visual hierarchy of the website, you need to determine the fine details of your web interface:
 - how users can input data
 - how the site provides feedback,
 - many other functional and aesthetic factors.
- The best ways to consistently address these needs are **UI patterns**.
 - Can't create an interface just by stitching different patterns together, but they are a great foundation for customization.

Best practices for core site functions

- **Getting Input** - How will users provide you data, and how will the site give them feedback?
- **Navigation** - What **menus** and **tabs** will guide the user along?
- **Content Structuring** - How is your content presented and accessed?
- **Social Sharing** - How can your site encourage more social sharing and interaction?

Selecting and Applying WebUI Patterns

- Anders Toxboe, designer at Benjamin Interactive in Copenhagen, theorizes that patterns can aid a site in three ways: **context**, **flow**, and **implementation**
- **Implementation:**
 - A **search box** should be in the upper right-hand corner,
 - **Form labels** should be directly under the field box...
 - A UI pattern ensures site-wide consistency
- **Flow:**
 - Would my site benefit more from lazy or account registration?
 - What is the best way to get input from my users, given my target audience and the type of site?
- **Context:** Choosing what type of site you want, and following patterns specific to that type.
 - Building a site for a professional entertainer: include things like an event calendar, biography, and portfolio.
 - Making a ecommerce site, you won't get very far without a checkout system.

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Selecting the right UI Patterns

- Figure out the problems that need to be solved.
- Find out how others have solved it.
- Examine a good example of its use on other sites
- Detail the patterns proper usage

Selecting the right UI Patterns

- Melissa Joy Kung, Editor-in-Chief of Technori, she discusses how to decide **whether or not a pattern is right for you.**
- She illustrates her points through the example of a “ratings” style pattern used by Rotten Tomatoes:

Rotten Tomatoes

UNBREAKABLE KIMMY SCHMIDT: SEASON 1 (2015)

FROM EXECUTIVE PRODUCERS OF *30 ROCK*, *TINA FER* & *ROBERT CAROLINE*
NETFLIX
UNBREAKABLE KIMMY SCHMIDT

Seasons: 1

TOMATOMETER  **96%**
Average Rating: 8/10
Reviews Counted: 46
Fresh: 44
Rotten: 2

All Critics | Top Critics

AUDIENCE SCORE  **90%**
liked it
Average Rating: 4.4/5
User Ratings: 572

PHOTOS



ADD YOUR RATING

Add a Review (Optional)

Added to your timeline Share on Facebook

Selecting the right UI Patterns

- **Define the pattern** — Understand what the pattern does.
 - The ratings patterns gives users quick feedback and allows their voice to be heard, plus it is useful in collecting user data.
- **Find a strong example** — Search the web and find a site that uses the pattern well, in this case, Rotten Tomatoes.
- **List the problems the pattern solves**
 - For the ratings example, it creates more reliable and direct feedback, it makes the site more interactive and fun, and it gives the users' opinions more weight, which they appreciate
- **Know when to use the pattern** — Be aware of when the pattern is appropriate.
 - A ratings pattern is used when your product requires additional feedback, or when you want to expand on existing feedback like a written review.
- **Know how to use the pattern** — Know the technical details.
 - A good use of the rating pattern will include an aggregated average of the user ratings, an option to change the rating later, a display that lights up when you hover on it, a cue to let the user know their rating is accepted, etc

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Pattern library

- **UI Patterns** — A convenient web pattern library with patterns organized by category; however, it has not been updated recently.
- **Pattern Tap** — A community of designers for web design education and resources.
- **Web UI Kit** — Collection of 30 patterns compatible for Axure, Omnigrafe, Photoshop and Sketch

Takeaway

- Understanding **visual hierarchy** and **applying design patterns** are two of the most important skills in good web UI design.
- They are fundamental and interconnected: once you know how to visually prioritize information, you'll have a better grasp of how to apply existing design patterns.
- Prioritize your interface based on how people scan for information → apply **color**, **contrast**, **size**, and **spacing** for further accentuation.

Lab3

- **Bài tập cá nhân:**

- Trong menu **Labs**, tạo 1 menu Lab3 (file lab3.html) sau đó tạo 2 tab **Ex1, Ex2**
- **Ex1:** Thiết kế một trang Web đơn giản sử dụng mẫu F-pattern ==> chuyển sang html (ex1.html)
- **Ex2:** Thiết kế một trang Web sử dụng mẫu Z-pattern ==> chuyển sang html (ex2.html)
- Với cả **Ex1, Ex2:** Tạo 2 tab Design và Implementation:
 - **Design:** chụp lại hình ảnh để có cái nhìn tổng quan về file thiết kế, có nút Download để download file thiết kế về nếu muốn
 - **Implementation:** nội dung phần hiện thực trên html
- Upload lên Azure / Github

Lab3

- **Bài tập nhóm:**

- Tiếp tục cập nhật **Group Diary** cho tuần này, phân công công việc cho từng thành viên.
- Tạo 1 đường link Azure riêng cho project, ví dụ:
quanlyshopthoitrang... có tiêu đề Group XXX - **Hệ thống Quản lý Thời trang HER STYLE**
- Thiết kế các trang **Login, Register, Forgot Password** cho project → chuyển sang html, và ghép lại cho hợp lý. Sau phần này có ít nhất 4 file html (index, login, register, forgotPass)
- Upload lên Azure



Reference

- **Web UI design best practices**, Dominik Pacholczyk