

# Human-Computer Interaction

## Understanding Visual Hierarchy & UI Patterns

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# 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

- **Luke Wroblewski**, *author and Senior Principal of Product Design at Yahoo*: 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.

# 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 predicability 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.
- While some of this depends on the person, 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.

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By SYDNEY EMBER and MICHAEL M. GRYNBAUM



# F-Pattern Example

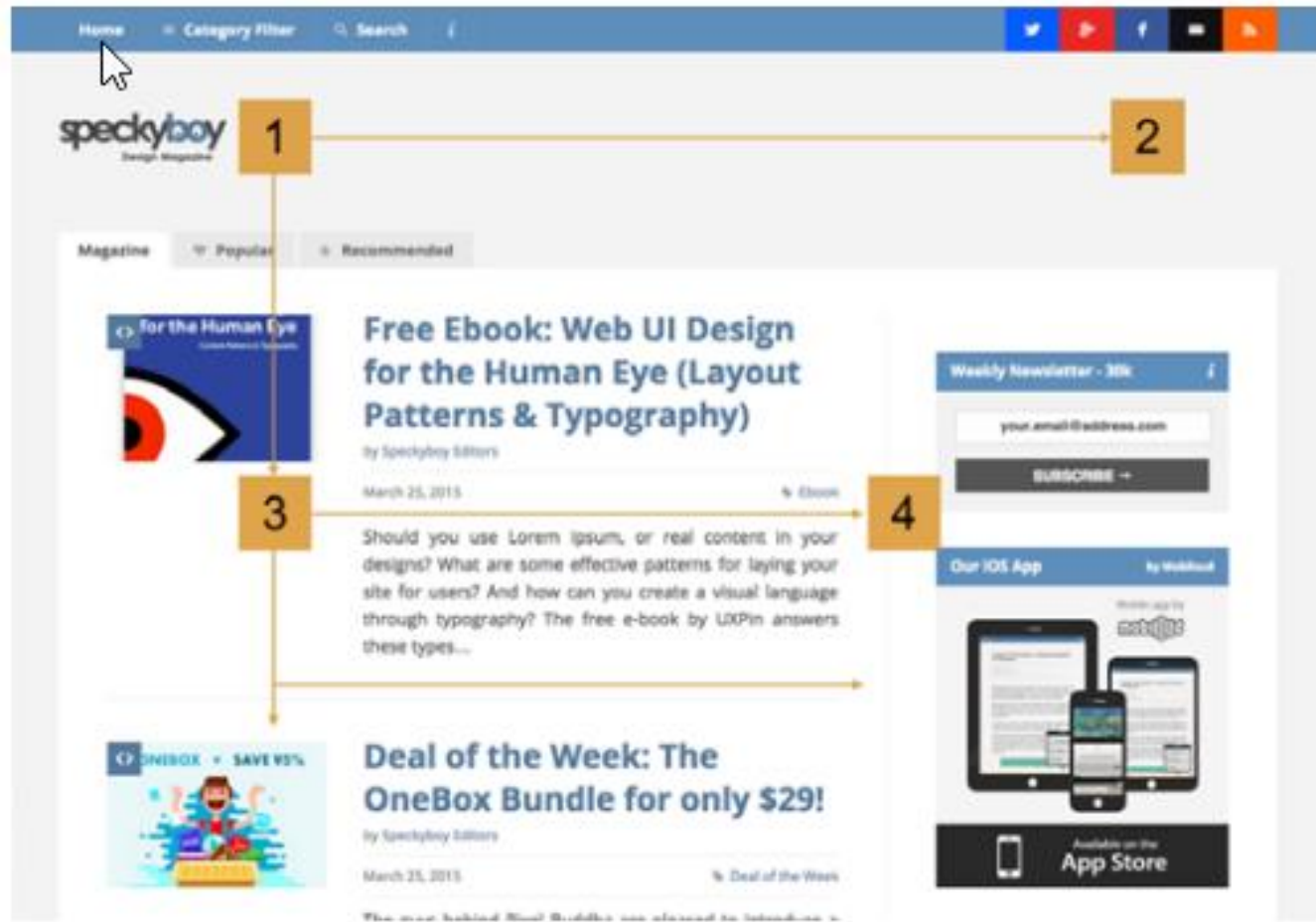


# F-Pattern

- **Jakob Nielsen** of the Nielsen 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?

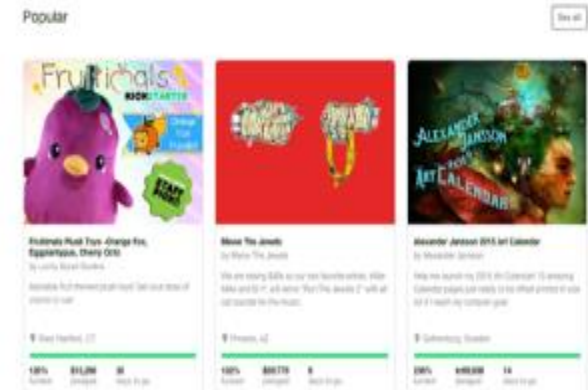
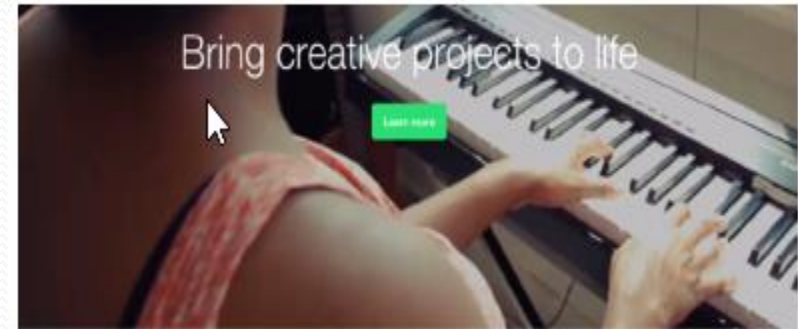


# F-Pattern

- 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

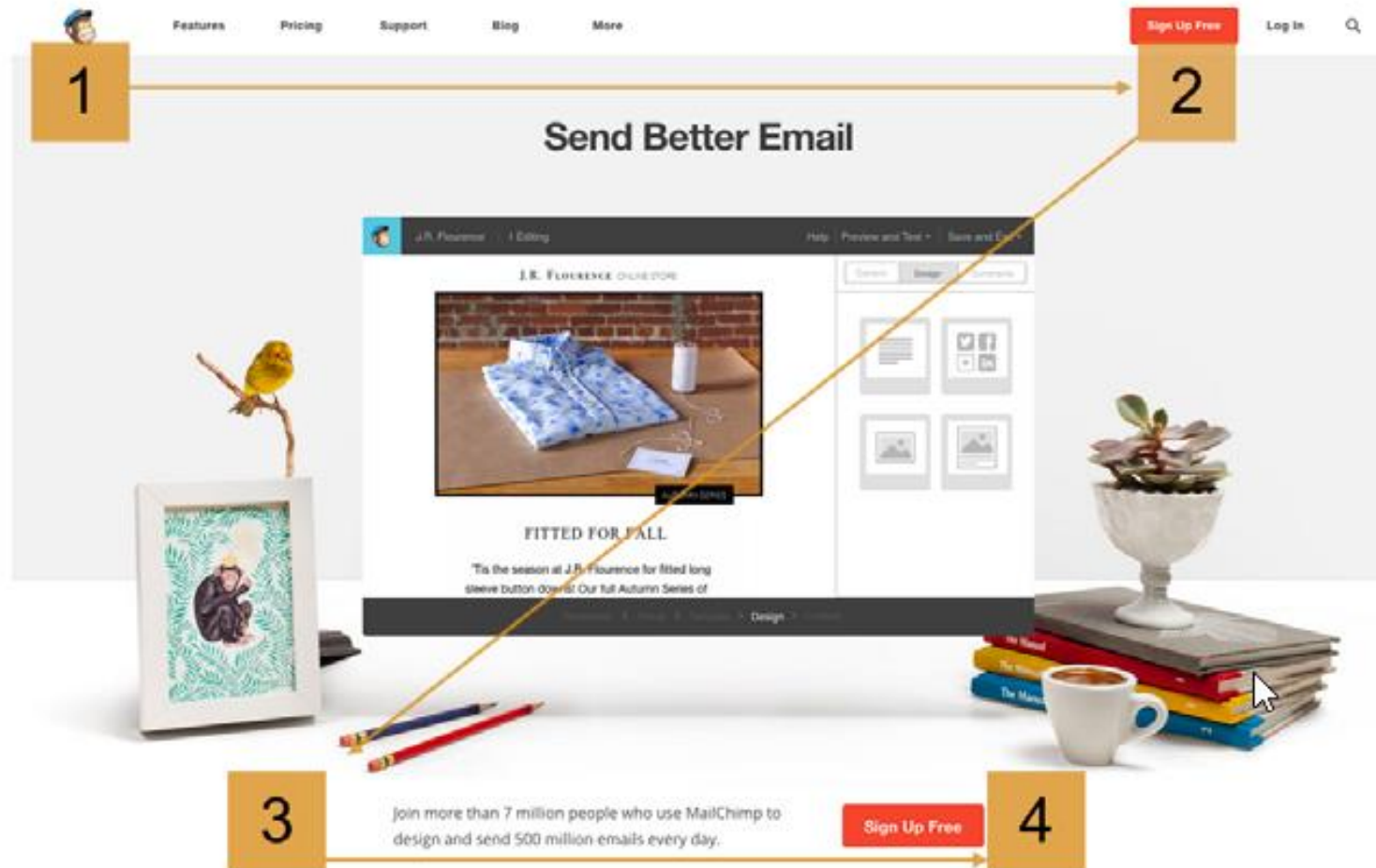
- The F-Pattern is a guideline - rather than a template - because the F-pattern can **feel boring after the top rows of the “F”**.
- **Kickstarter** adds in some widgets (laid out horizontally) to keep the design visually interesting beyond the first 1000 pixels



# 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





# 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-toaction.



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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.

Constant Contact

## Send great-looking emails that drive big results.

CONSTANT CONTACT EMAIL MARKETING. POWERFUL STUFF.

Email address

**SIGN UP FREE TODAY!**  
No risk. No credit card required.

LOG IN SIGN UP FREE

WEEKEND Save In Store

Or Buy Now »

# Remember



**Differentiation** is  
the default human  
response

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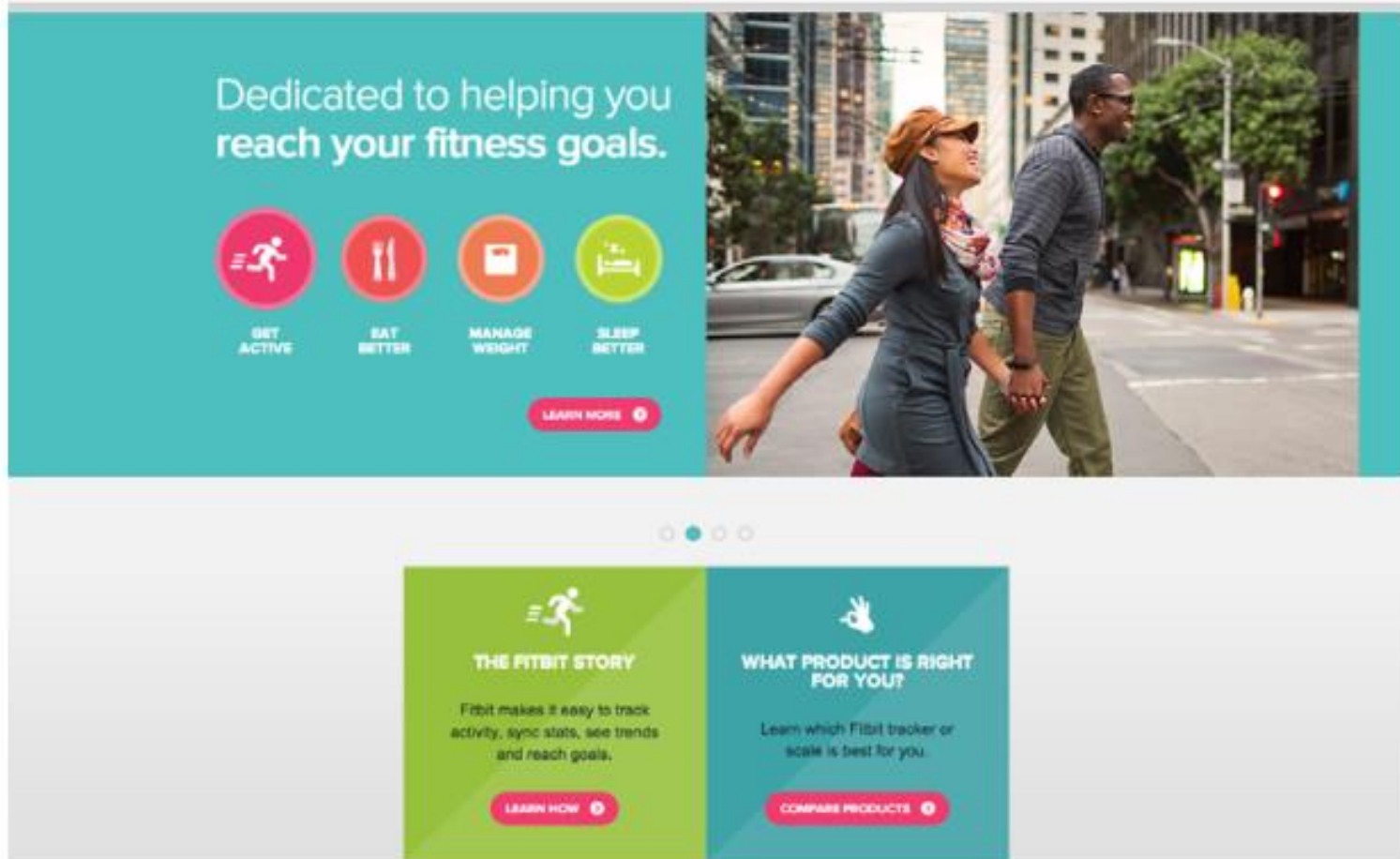
# Tools of the trade: color, size, space

- **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



# 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 found that **headings** usually stay between *18 and 29 pixels* with *body copy* ranging between *12 and 14 pixels*

# Size

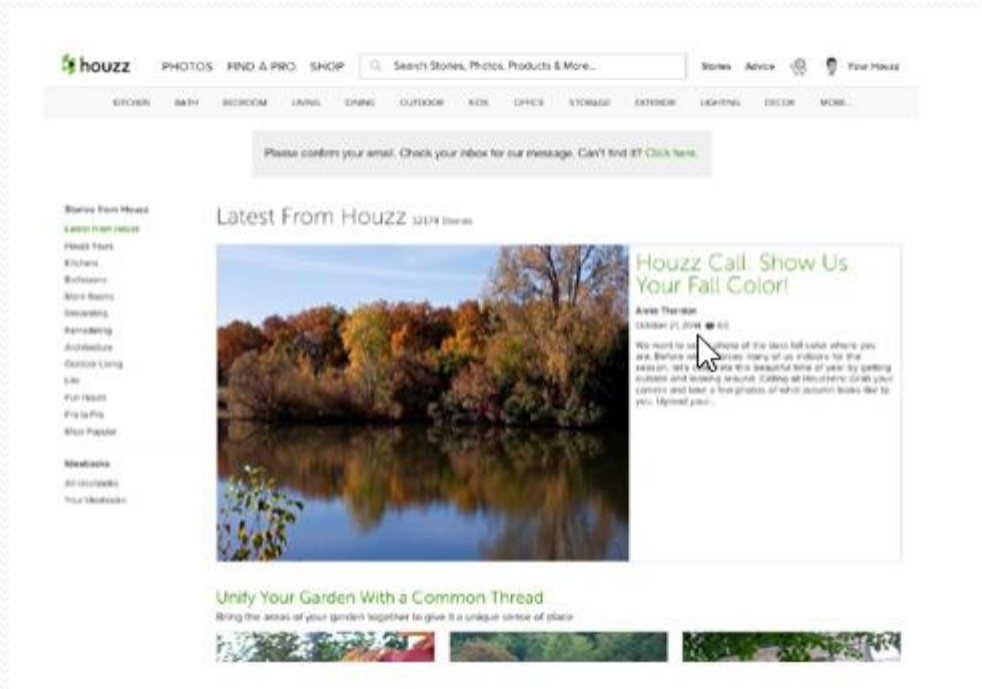


# Space

- 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.
  - For example: Building a site for a professional entertainer: you'll need to include things like an event calendar, biography, and portfolio. Or 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)



Episode List

Seasons:

1

TOMATOMETER



96%

Average Rating: 8/10  
Reviews Counted: 46  
Fresh: 44  
Rotten: 2

All Critics | Top Critics



Critics Consensus: Blessed with originality and a spot-on performance from Ellie Kemper, *The Unbreakable Kimmy Schmidt* is as odd as it is hilarious.

AUDIENCE SCORE



90%

liked it

Average Rating: 4.4/5  
User Ratings: 572

PHOTOS



ADD YOUR RATING



+ WANT TO SEE

NOT INTERESTED



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. Then, apply color, contrast, color, size, and spacing for further accentuation.

# Bài tập lab3 (deadline 6/10/2017)

- **Bài tập cá nhân:**

- **Bài 1:** Thiết kế một trang Web đơn giản sử dụng mẫu F-pattern ==> chuyển sang html
- **Bài 2:** Thiết kế một trang Web sử dụng mẫu Z-pattern ==> chuyển sang html
- Upload lên Azure

- **Bài tập nhóm:**

- Tiếp tục cập nhật Group Diary cho tuần này, phân công công việc cho từng thành viên.
- Tạo trang **Hệ thống Quản lý ABC** (với ABC là tên của hệ thống của nhóm) trình bày đầy đủ những chức năng mà hệ thống dự định sẽ làm. Những chức năng này được trình bày ở dạng tab/menu
- Thiết kế 1 trong các chức năng → chuyển sang html, gắn vào tab/menu tương ứng.
- Upload lên Azure



# Reference

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