

# Human-Computer Interaction

## Understanding Visual Elements of UI

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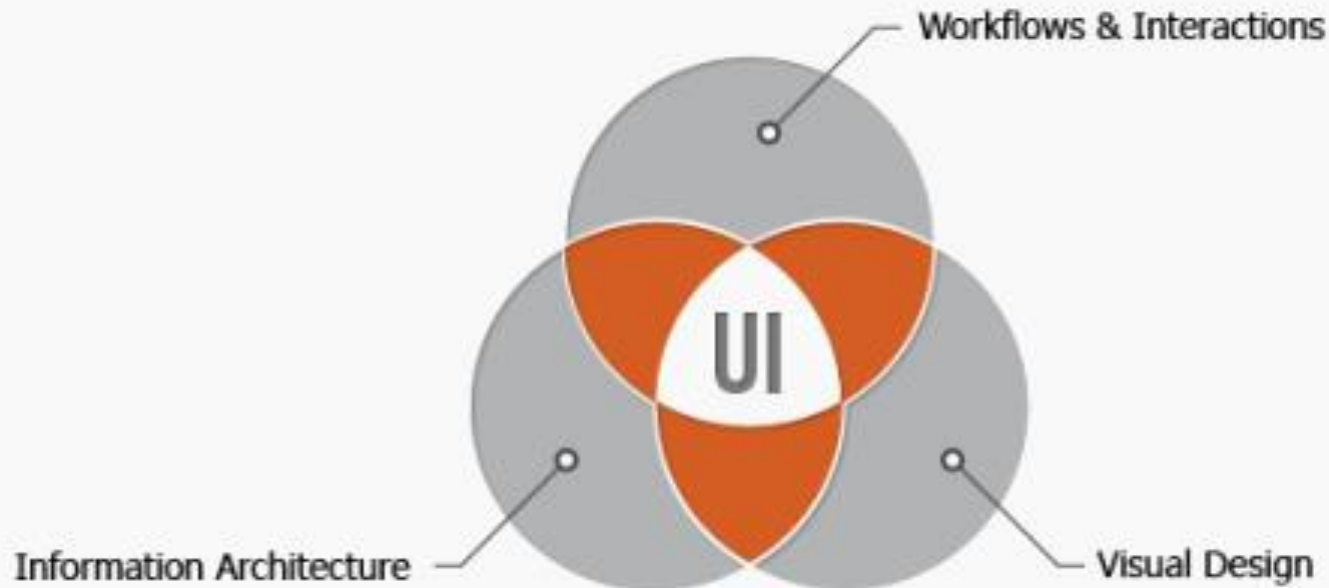
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# Agenda

- Visual Principles
  - 1. Contrast
  - 2. Color Palette
  - 3. Typography
- Style Guides
  - 1. Importance of Style Guides
  - 2. Writing your style guide
  - 3. Learning through seeing: true life examples
- Takeaway

# Introduction

- Creating a stellar UI involves many factors to consider: both **functionally** and **visually**.
- The general principles of web UI design: applying visual design will ensure emotional consistency between **how it works** and **how it looks**.



# Introduction

- Your site's functionality is affected by how you implement UI elements like **navigation menus**, **user input forms**, **notifications**, and **progress bars**.
- How that functionality is experienced is heavily influenced by the visual treatment of the UI.

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# Visual Principles

- **Visual design** is its own separate discipline → focus on what we've found to be the most applicable visual principles for designing interfaces.
- **Contrast, colors, and typography** all affect how the web interface is perceived and understood.

# Color Contrast

- **Light** and **dark**
  - Why do a lot of UI designers make buttons **dark** when pushed?



*source: Usability Post*

- **Dark shades** add depth, giving the impression that the digital button follows 3D properties

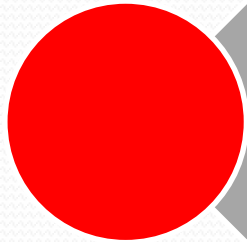
# Color Contrast

- **Light and dark (cont)**
  - This can be applied in two useful ways:
    - Play with **light/dark for objects** like buttons, switches, sliders  
- anywhere you want depth
    - **Light objects** will draw more attention when contrasted with dark, helping you guide the user's attention.

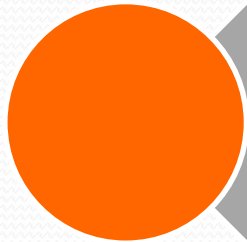


# Color Contrast

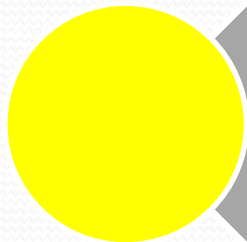
- **Warm Colors**



Red signals caution and danger.



Orange is inviting (making it perfect for calls to action).



Yellow can add energy to the interface, but should be used sparingly

# Color Contrast

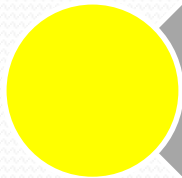
- **Cool Colors**



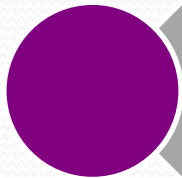
**Green** represents health and wealth and relax the eyes (perfect if you need to depict security or growth).



**Dark blue** represents professionalism and trust (good for corporate sites), but can create coldness if used too much.

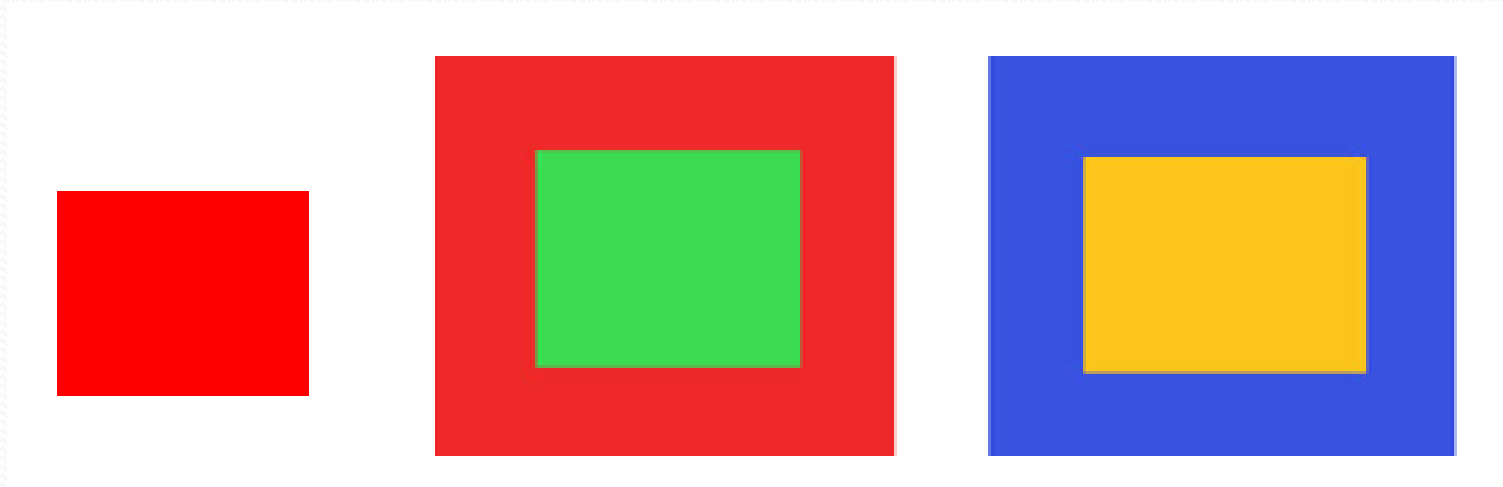


**Light blue** is more relaxing and friendly (as seen on Facebook and Twitter).



**Purple** soothes the eyes while creating a sense of luxury (making it ideal for beauty sites).

# Color Contrast



- yellow takes prominence over the blue.
- red takes the attention from the green, almost shrinking it

# Color Contrast



- **warm colors** are ideal for important elements like *call to action* buttons, especially when offset by surrounding cool colors

# Agenda

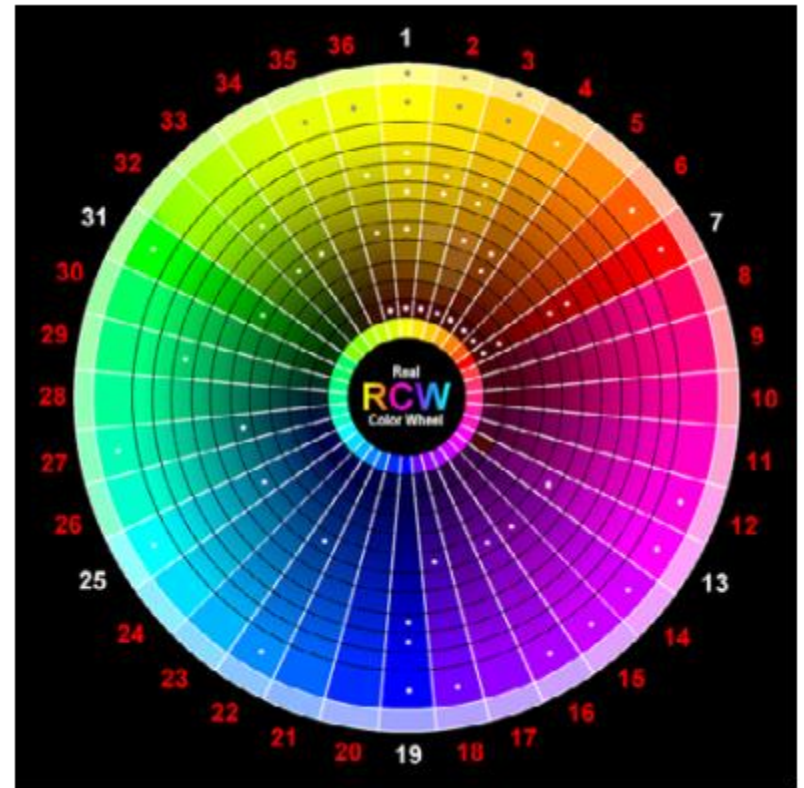
- Visual Principles
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  - **2. Color Palette**
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# Color Palette

- When applying color to your interface, you need to understand basic **color theory**, commonly used **color schemes**, and the proper application of **color tools**.

# 1. Color Theory

- **Contrast** - Extending beyond “warm” and “cool,” every shade of color has a definite opposite whose contrast is far greater than any other.
  - The most effective use of contrast is with text and background.
  - In the **color wheel**: each shade’s opposite is the corresponding color on the opposing side of the wheel.

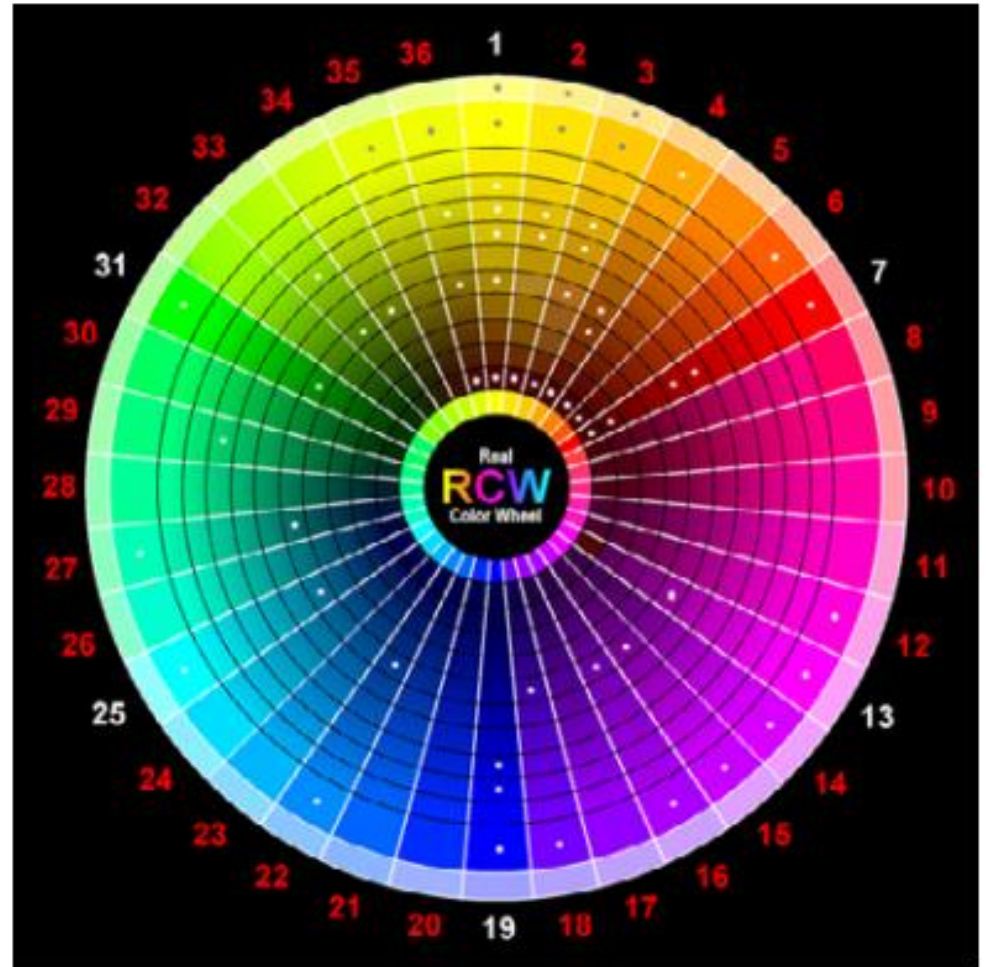




# 1. Color Theory

- **Complementation**

- The use of colors that accent or “complement” each other.
- These are the colors immediately next to a color on the color wheel (orange’s complements are red and yellow).





# 1. Color Theory

- **Vibrancy:**

- A color's vibrancy imparts a particular emotion or atmosphere.
- For example:
  - **brighter colors** tend to energize a user and make them more alert
  - **darker shades** tend to be more relaxing and tranquil



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EDITOR'S CHOICE

Ottawa shooting - ISIS - UNC academic fraud - Ebola - Mysterious hero - Moana - Florida secession - Football coach fired

BREAKING NEWS

# Canada IDs suspected shooter

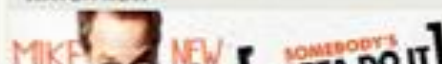


Michael Zehaf-Bibeau was killed in rampage

- 2 shooting locations in Ottawa
- Soldier killed is Cpl. Nathan Cirillo
- Official landed for shooting gunman
- U.S. monitors, tracks developments



WATCH NOW



## 2. Color Schemes

- **Color scheme:** the primary colors
  - use for its main areas
  - have a great effect on atmosphere and UX.
- There are three commonly accepted structures for a color scheme:
  - Triadic
  - Compound
  - Analogous

## 2. Color Schemes

- **Triadic:**
  - The triadic scheme offers an excellent balance of vibrancy and complementation.
  - On the 12-step color wheel, select any 3 colors located 120 degrees from each other.
  - You can use one color for the **background** and the other two for **content** and **navigation** areas.



# 2. Color Schemes

- **Triadic:**



## 2. Color Schemes

- **Compound (Split Complementary):**

- The compound scheme uses both **contrasting** and **complementary** colors.
- It can be tricky to pull off, but rewarding if done well





## 2. Color Schemes



- **Compound (Split Complementary):**
  - **Florida Flourish** makes use of the contrasts between **red** and **green** with the text tags and plants, plus the **blue** and **orange** with the sky atop the desert



## 2. Color Schemes

- **Analogous:**
  - Focusing solely on complementation instead of contrast, the **analogous theme** is used to **highlight a particular set** of colors' vibrancy so choose that set wisely.





# 2. Color Schemes



- **Analogous:**

- **Blinksale** uses mostly **blues**, **turquoise**, and **greens** for their analogous site, but smartly has the call to action in the blue's contrasting yellow to draw attention to it.



# 3. Color assistance tools

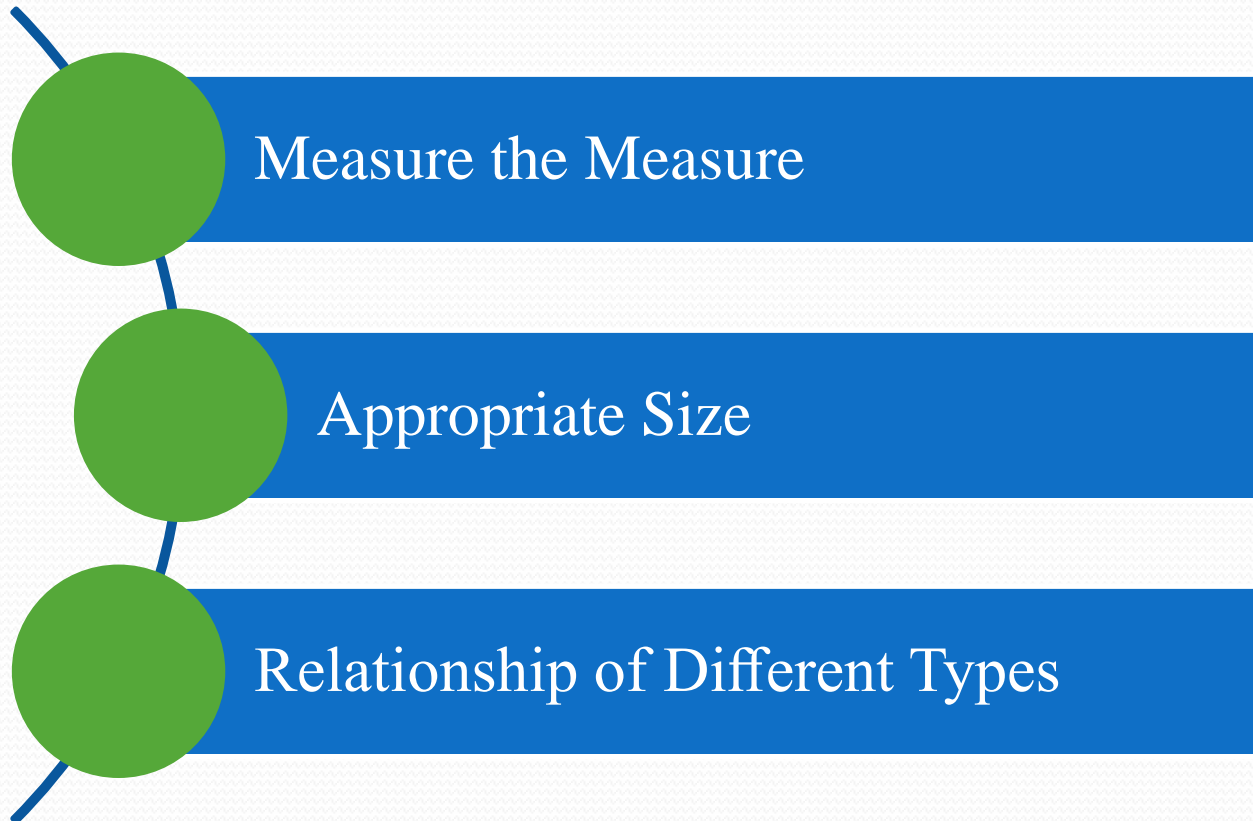
- **Adobe Color CC** - One of the most trusted color assistance tools available.
- **Paletton** - A simplified but minimal tool for speed and/or beginners.
- **Flat UI Color Picker** - An easy reference guide for flat UI designs only.

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# Typography

- **Typography**, commonly known as **text font**, will also affect your UX.



# Measure the Measure

- “Measure” is the width of a body of type.
- The ideal amount of characters per line is **52-78**, so choose a font with a measure to achieve this.

# Appropriate Size

- **11px /16.5px** - Body copy and leading.
- **24px** - Main heading used as section headings on the Homepage, Portfolio homepage and entries.
- **18px** - Headings for journal entries and portfolio subheadings.
- **16px** - All navigational and content tertiary headings.
- **13px** - All other headed elements

# Appropriate Size

Section headings - H1

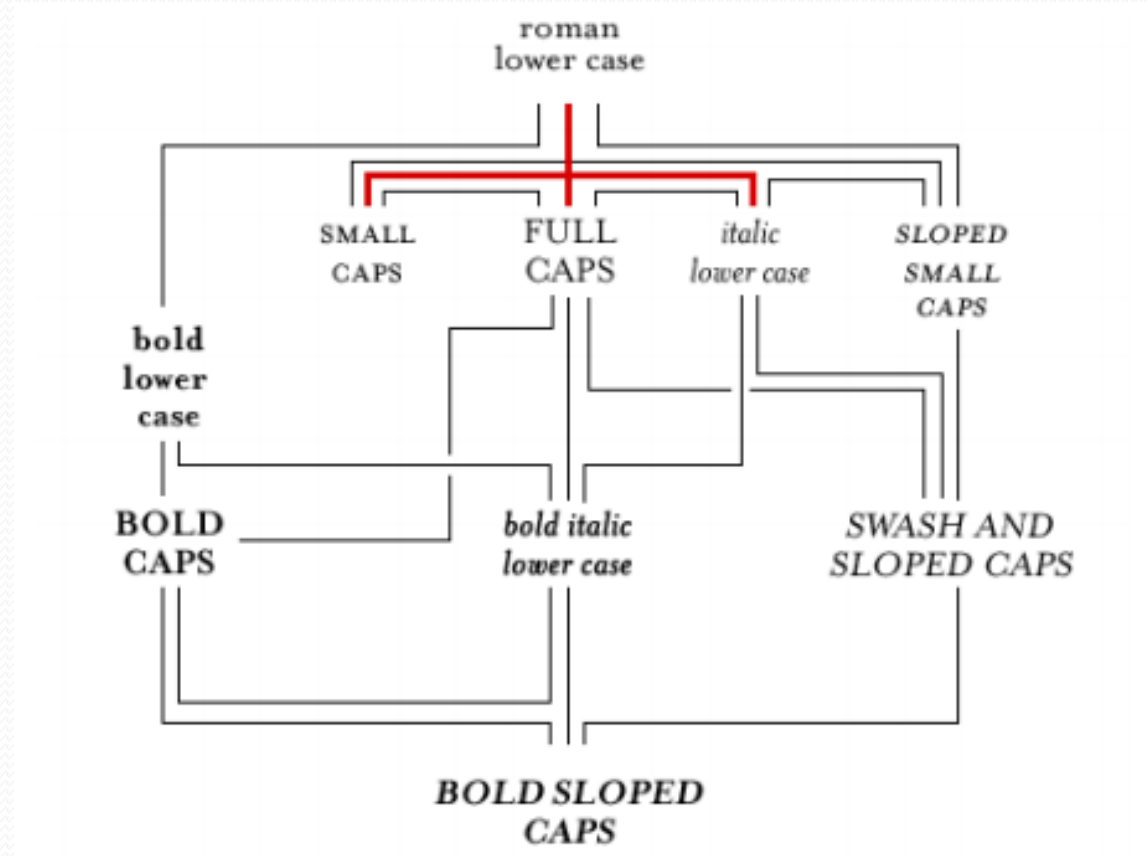
Entries headings - H2

Navigation and tertiary headings - H3

All other headed elements - H4

Body copy and leading

# Understand the Relationship of Different Types

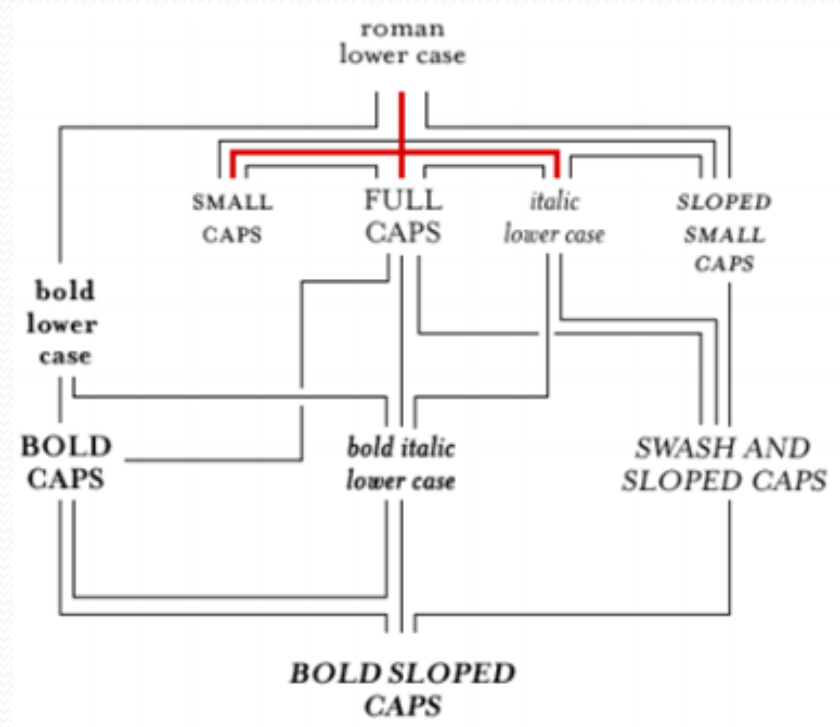


- The red lines represent the core typeface family. [...]
- The other lines show how designers can move along the lines when setting type



# Understand the Relationship of Different Types

- For example: If a designer uses a Roman font and they need to add **emphasis** to a certain point in the copy:
  - Follow the lines to anywhere on the second line:
    - **bold lower case**, small caps, full caps, *italic lower case* or sloped small caps.
  - If they were to jump to ***bold italic lower case***, or a more extreme example, ***BOLD SLOPED CAPS***, the effect would be horrible



# Understand the Relationship of Different Types

```
<span style="font-variant: small-caps;">Jane Doe</span>
```

```
<span style="font-variant: small-caps;">AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz</span>
```

renders as

JANE DOE.

AABbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz.

# Example



# Example

- **Notice:**
  - how they shift between **fonts**, **sizes**, and **colors**, depending on the need.
  - **different fonts** and **text sizes** are used in the primary and secondary navigation and content area.
  - by being shown sparingly only as you hover over the navigation, **the color red** draws attention and encourage actions

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# Style Guides

- **Style guides** are a form of **design documentation**, they are also highly functional as a **set of standardized instructions** for your site's interface.
- We'll look at:
  - why they matter?
  - how to create them?

# 1. Important of style guides

- **Collaboration:**
  - help new members joining a project to catch up quickly
- **Standardization**
  - help standardize the CSS
  - designers and developers can see if a new design deviates from established standards, quickly discovering if something already written can be easily expanded
- **Accessibility**
  - Designers only need to look one place to reference all components
- **Communication**
  - streamlines communication through use of a singular vocabulary
  - i.e., same names for modules
- **Facilitation**
  - A style guide is a baseline that QA can check against.

# 2. Writing your style guide

- **Overview**

- A good opener where you can state outright the site's overall tone, voice, philosophy, and content strategy.

- **Layout:**

- The grid: where you show the position of global elements, horizontal spacing, columns...
- Including wireframes would be helpful

- **Typography**

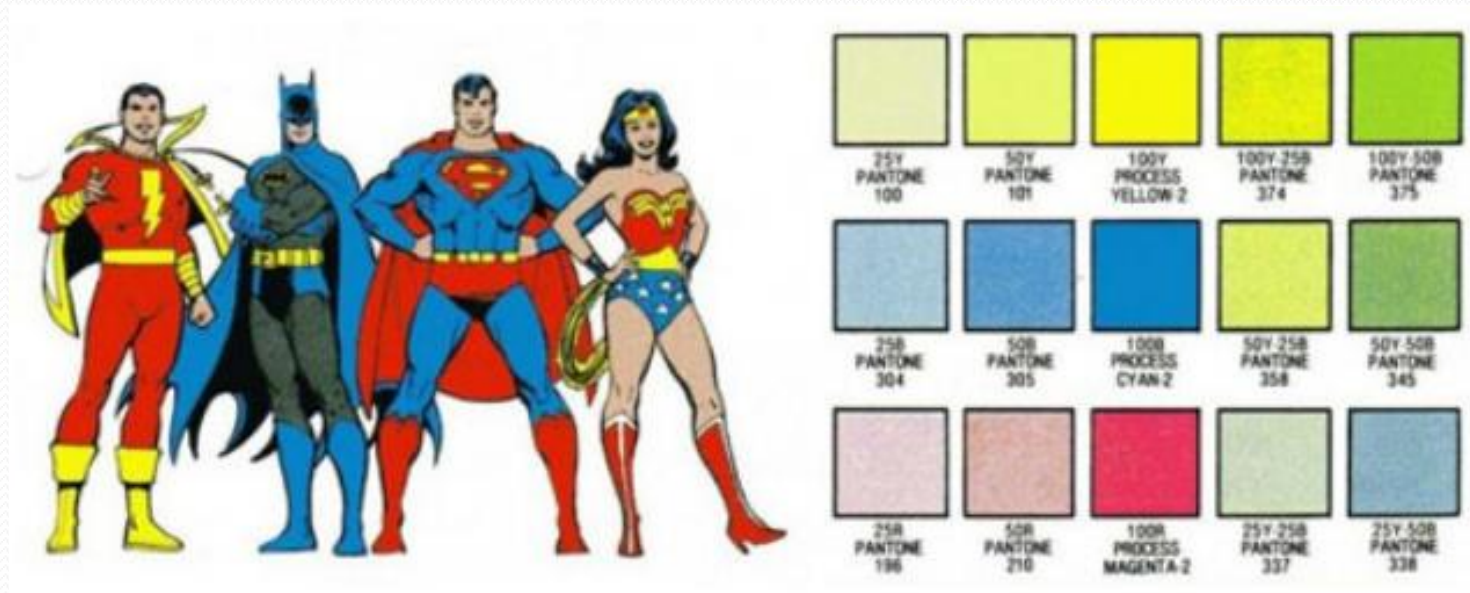
- The standards for text.
- Be sure to include all values for the main text, headlines, and lists, the hierarchies for each, any variations for promotional banners, and alternate typefaces for hypertext.

- **Color Palette**

- A standardized sample of the main colors your site uses. These should be as exact as possible, with hex color or RGB values



# Color Palette



# 2. Writing your style guide

- **Images**

- The appropriate image sizes for graphic banners (including promotional banners) and in-content images, plus notes on alignment, style, captions, type (illustration vs. photography), icons, and even mood

- **Branding**

- Any branding restrictions beyond those already listed, such as
  - the amount of space around the logo,
  - how the logo should sit on different backgrounds,
  - how the organization's name should appear in text

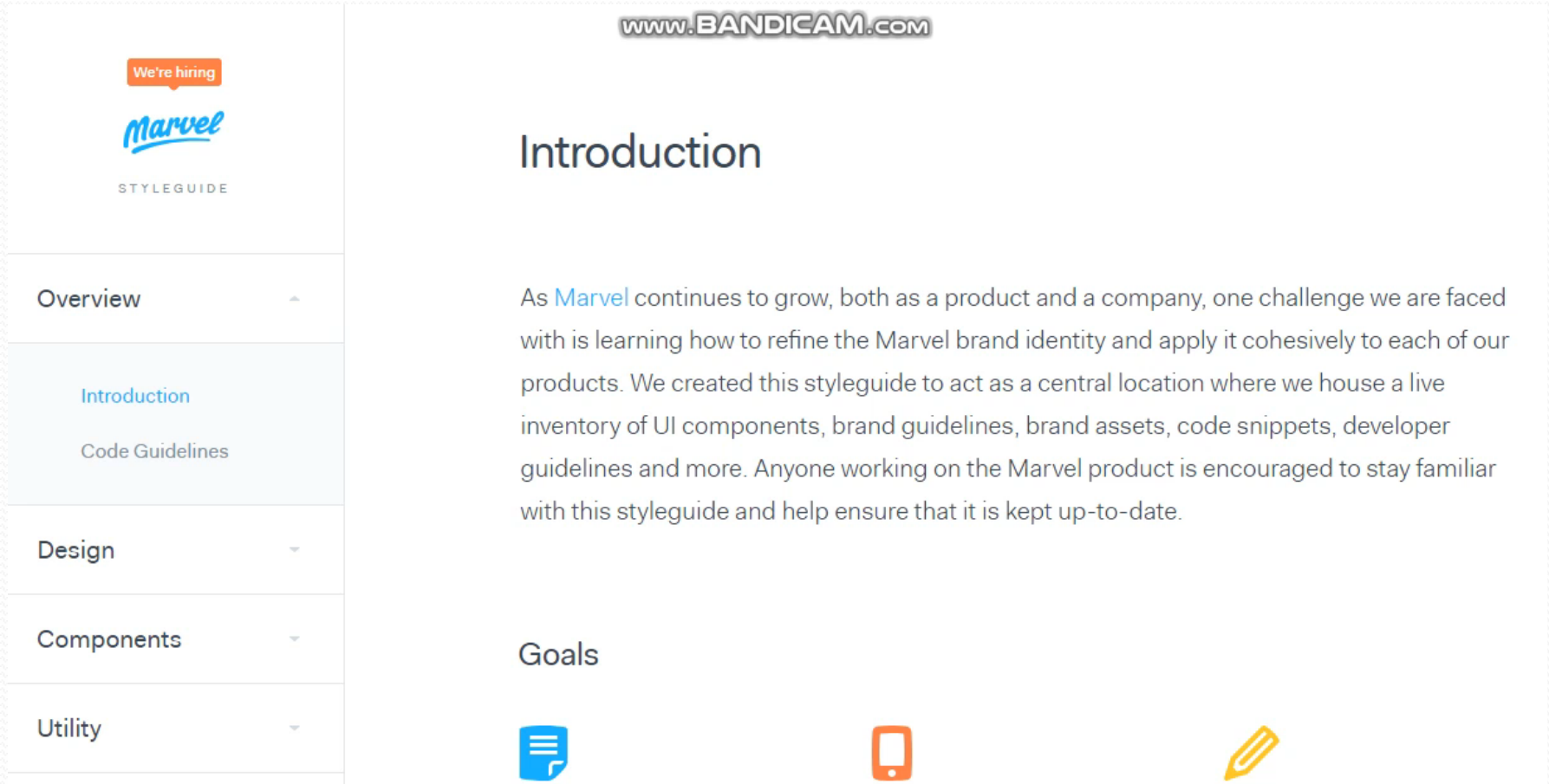
- **Navigation**

- Standards relating to how the user navigates the site.
- Details about the color, treatment, and/or decoration of text links, primary navigation, drop-down menus, navigational buttons, or search boxes go here

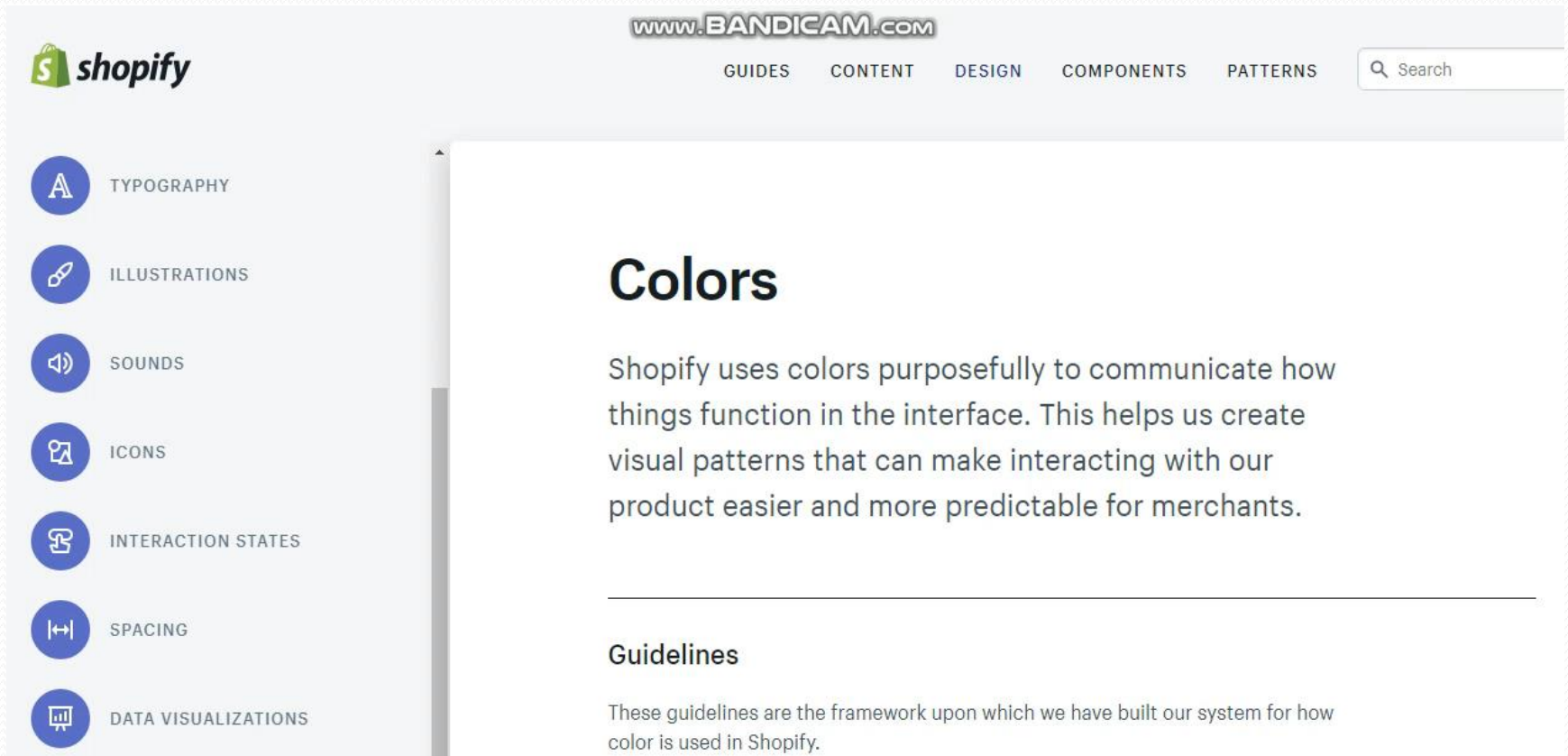
# 2. Writing your style guide

- **HTML, CSS, or Javascript**
  - Outline coding standards (individually for layouts, forms, widgets, etc.), the proper DOCTYPE, class/ID naming conventions, formatting and commenting standards, and how the framework is set up
- **Files and Directories**
  - Define the directory structure.
  - The proper treatment and location of images, style sheets, JavaScript files, etc., and how they're categorized (type vs. purpose)
- **Assets**
  - How will different block elements be handled when in unique situations?
  - What about those side bar adverts or the search results page after a failed search?
  - What will comments look like when threaded or linear?
  - How will photo galleries look and function throughout the site?

# Example



# Example



### 3. Learning through seeing: true life examples

- Yelp
  - A pretty standard style guide with a twist: they also include lines of reusable code.
- Mozilla
  - Another standard style guide, but very thorough and with helpful diagrams/samples.
- Adobe:
  - Drier than most style guides, and very technical.
- Skype:
  - A perfect example of how to make your style guide fun as well as functional.

# Bài tập lab5: deadline 19/11

- **Bài tập cá nhân:**

- Tạo một trang Result trên đó liệt kê những gì mình đã làm/học được trong suốt quá trình làm bài tập nhóm. Dẫn link tới từng trang do SV đã làm.
- Tự đánh giá mình được bao nhiêu % trong tổng số 100% của bài tập nhóm

- **Bài tập nhóm:**

- Tạo một trang: Result trên trang Web nhóm. Hiển thị lại toàn bộ những trang Result của từng thành viên ở bài tập cá nhân. Hiển thị sao cho đẹp và thể hiện được phong cách của toàn nhóm.
- Up lên Azure



# Bài tập lab5: deadline 22/12

- **Viết tài liệu style guide** cho trang Web nhóm và project (tạo một menu **Style Guide** để liệt kê những phần này)
  - Xác định **layout** nào đã sử dụng
  - Xác định các kiểu font chữ (**typography**) sử dụng
  - Xây dựng bảng màu (**color palette**)
  - **Image**: đưa ra kích thước cho các loại hình ảnh trong project. Ví dụ: icon sử dụng kích thước bao nhiêu, hình ảnh ở banner sử dụng kích thước thế nào.
  - **File và Directory**: định nghĩa cấu trúc thư mục của các phần trong trang Web nhóm, trong project.





# Reference

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