Human-Computer Interaction

Understanding Visual Elements of UI

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Agenda

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

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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**.

  - Your site's functionality is affected by how you implement UI elements like **navigation menus**, **user input forms, notifcations**, and **progress bars**.

  - How that functionality is experienced is heavily influenced by the visual treatment of the UI.

Visual Principles

- **Visual design** is its own separate discipline, we will 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.

1. Contrast

- **Light and dark**
  - Why do a lot of UI designers make buttons **dark** when pushed?
  - **Dark shades** add depth, giving the impression that the digital button follows 3D properties
  - 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.

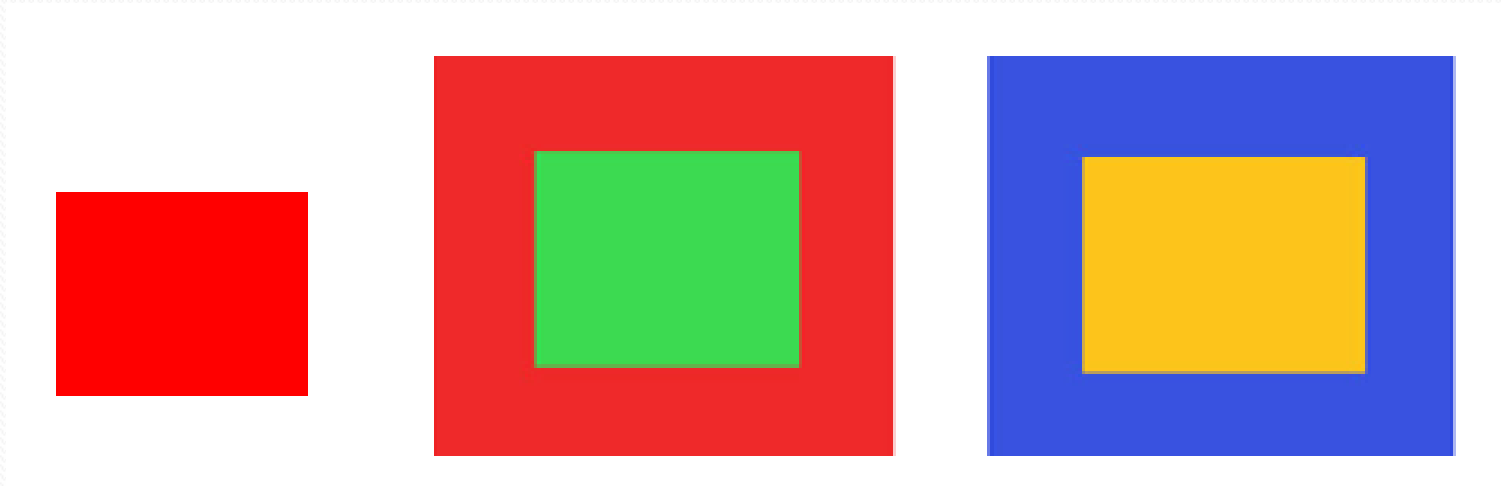# 1. Contrast

- **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
  - **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

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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.
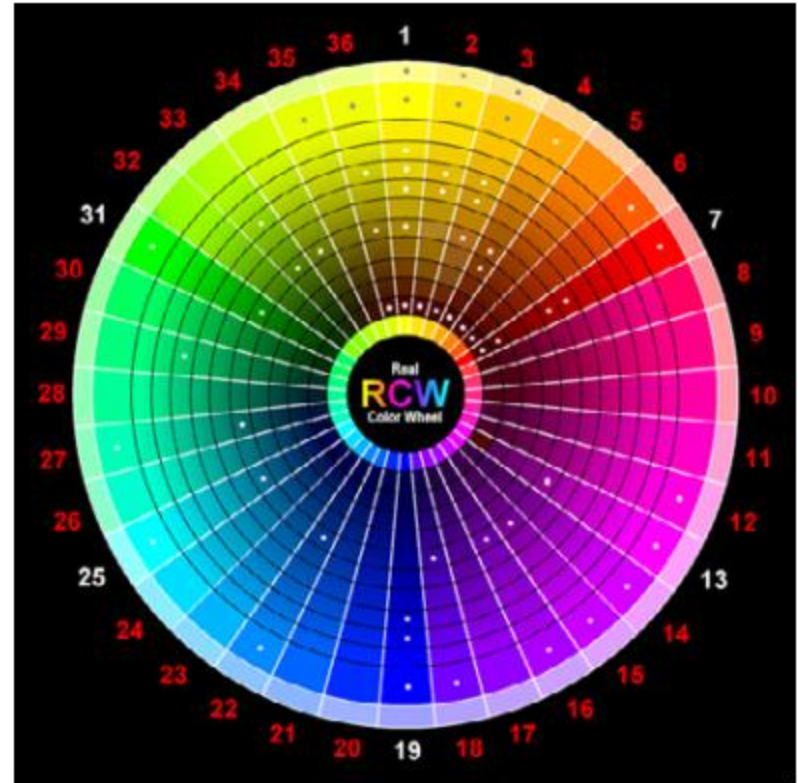
1. Color Theory

- **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.
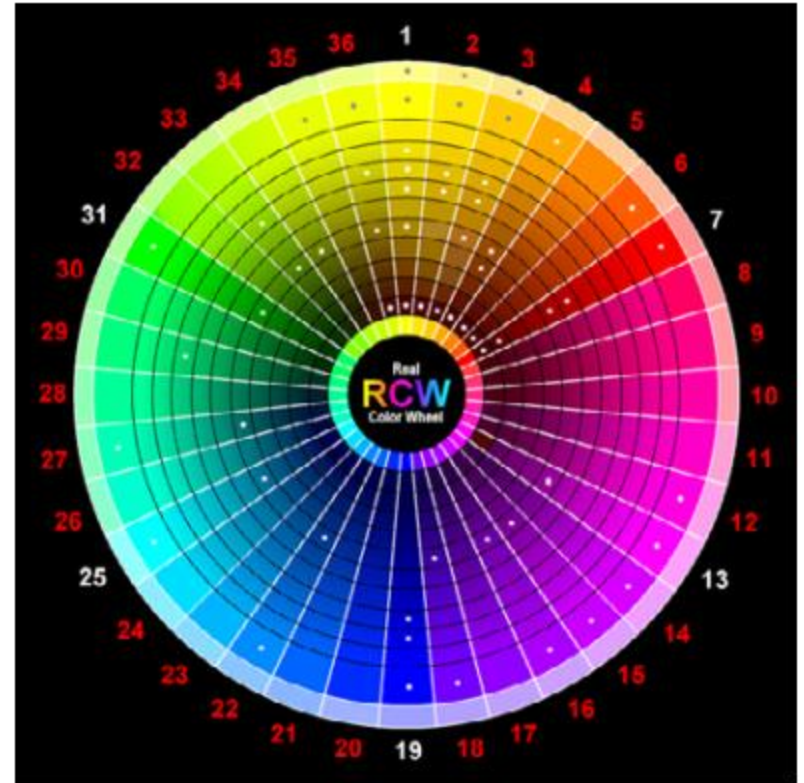
1. Color Theory

- **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.

2. Color Schemes

- **Color scheme** — the primary colors it uses for its main areas — will have a great effect on atmosphere and UX.

- There are three commonly accepted structures for a color scheme:

  - Triadic

  - Compound (Split Complementary)

  - 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** (formerly Kuler) - One of the most trusted color assistance tools available.

- **Paletton** - A simplifed 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.

- **Mark Boulton** (Welsh topographic designer) outlines some simple steps to help shape your words:
  - Measure the Measure
  - Appropriate Size
  - Understand the Relationship of Different Types (Weights)

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
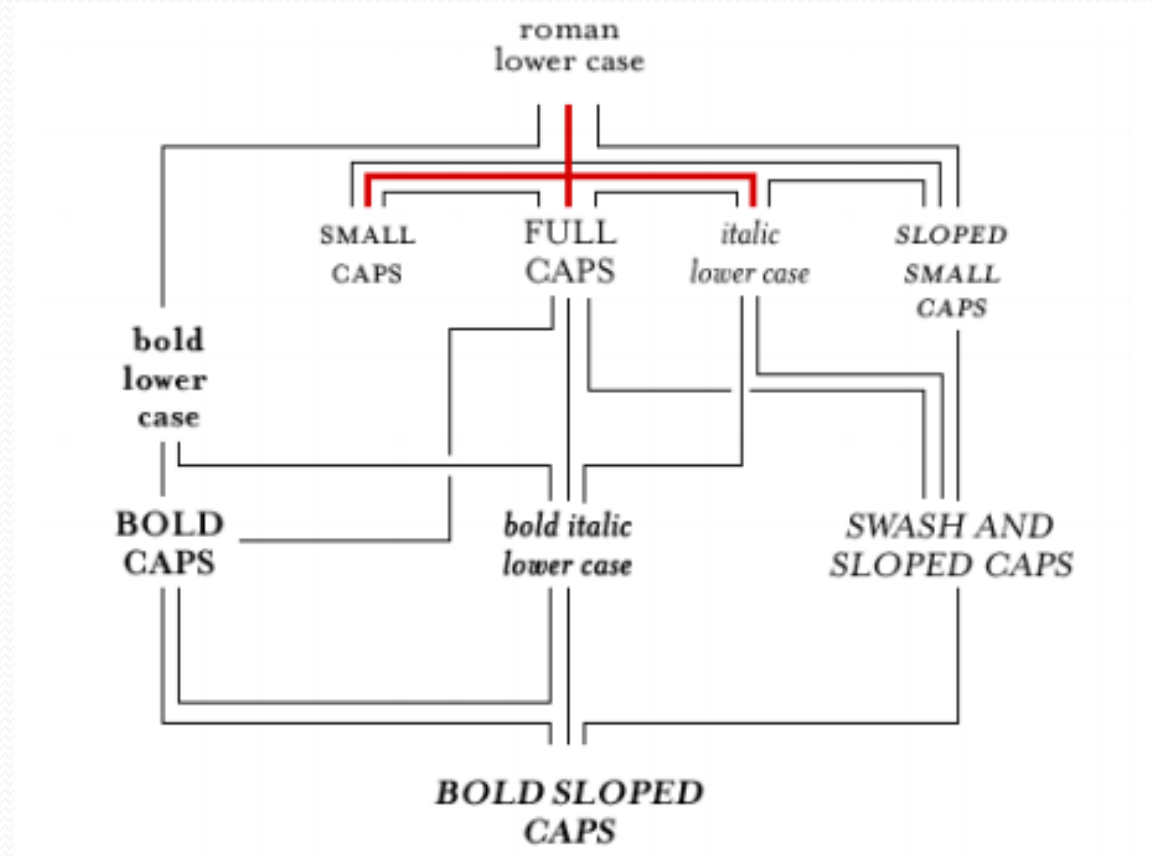
Section headings - H1

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

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

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

renders as

JANE DOE.

AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz.

Example (1)

Example (2)

- 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?
  - examples from some top companies.

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
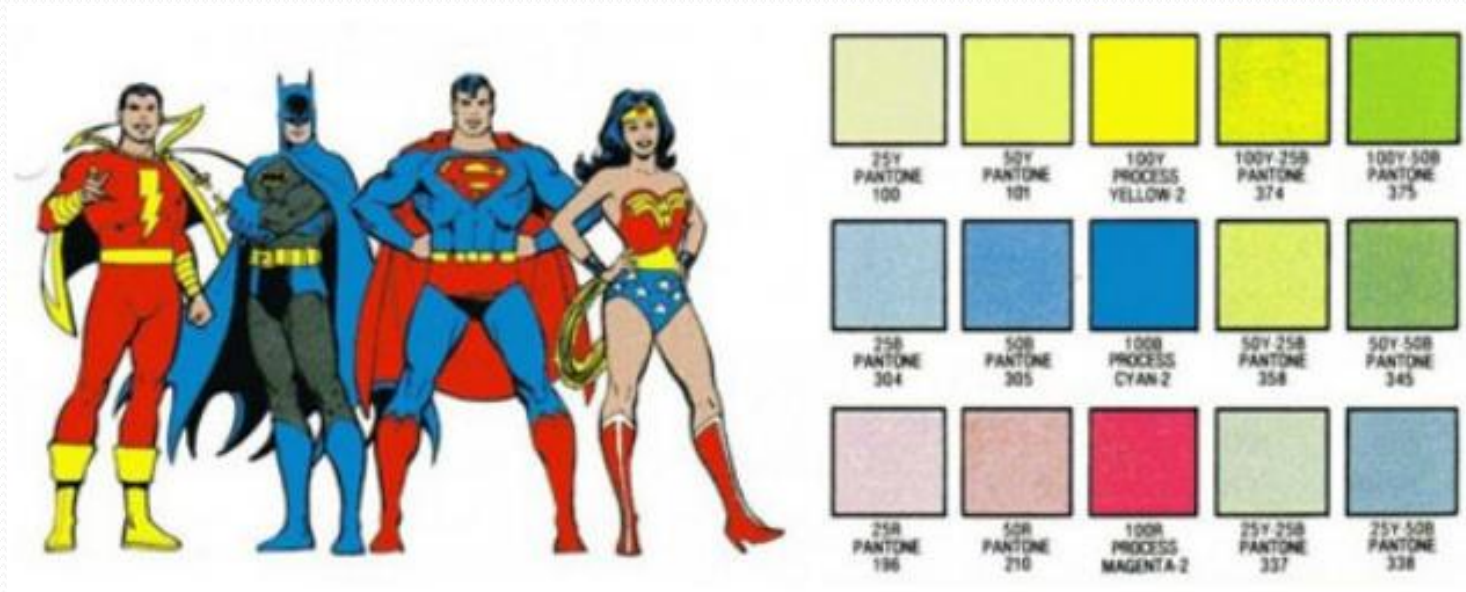- **Typography**
  - The standards for text.
  - Be sure to include all values for the main text, headlines, and lists, the hierarchies for each, any variations for promotional banners, and alternate typefaces for hypertext.
- **Color Palette**
  - A standardized sample of the main colors your site uses. 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?

2. Writing your style guide

- **Interface Harmony Canvas**
  - A giant canvas or HTML page showing every element with every state.
  - A quick reference guide for developers, and a test to see if all elements fit together
- **QA Testing**
  - Your developers can complete this section: a step-by-step guide of the QA procedure, including protocol for validation, link checking, accessibility testing, proofreading, etc., and a chart for grading

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:
  - Dryer 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 22/12

- **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