



Citrus Circuits
Fall Workshop Series

Graphic Design Essentials for
FRC Teams

by Kristen Corsetto

The background features a complex, abstract composition of overlapping, semi-transparent shapes and lines. The colors are primarily muted greens, blues, and purples, with some warmer tones like yellow and orange. The shapes are layered, creating a sense of depth and movement. The overall effect is a dense, organic-looking structure that resembles a cluster of leaves or a tangled web of fibers.

What is graphic design?



by **Ad-Post**
Villager
Magazine
Pleasant Grove | Lindon | Orem

Villager Magazine
Villager Magazine

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GRAND OPENING SEPT 19-20
680 SOUTH 500 EAST
AMERICAN FORK

TAG'S

THRIFT
TAGSTHRIFT.COM

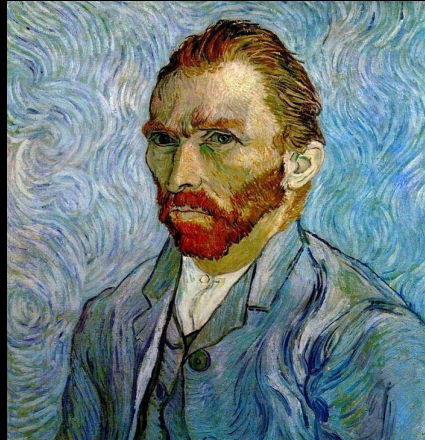
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TAG'S THRIFT GRAND OPENING
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Design vs. Fine Art

Fine Art

- Purely for esthetic purposes
- Completely subjective
- No “right” answer



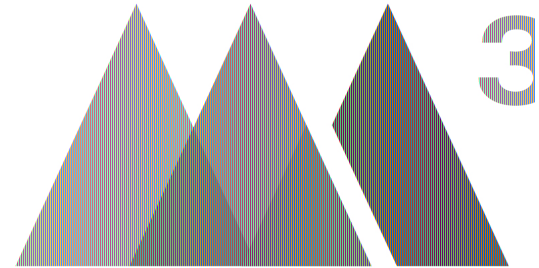
Design

- Serves a specific purpose
- Objective
- “Better” answers and “worse” answers



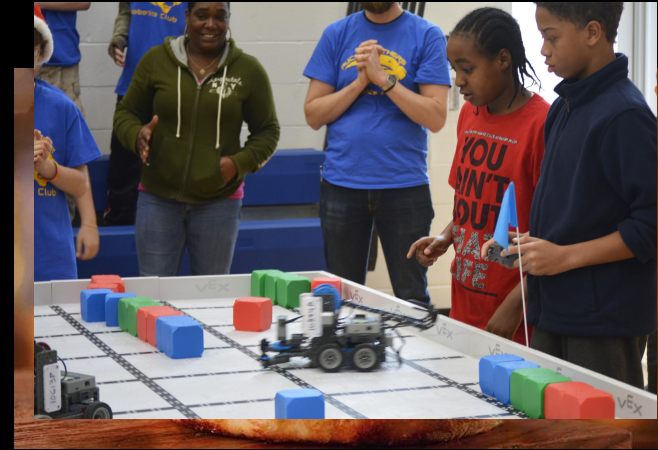
Types of Design

- Logo Design
- Print Design
- Package Design
- Web Design
- UI/UX Design



Defining Successful Outcomes

- Because design has “better” and “worse” answers, we need to figure out how to define a successful outcome for a given project.
- Jack in the Box vs. Steakhouse?
- FLL vs. sponsor letters?
- **PERSONAS**





Design Principles

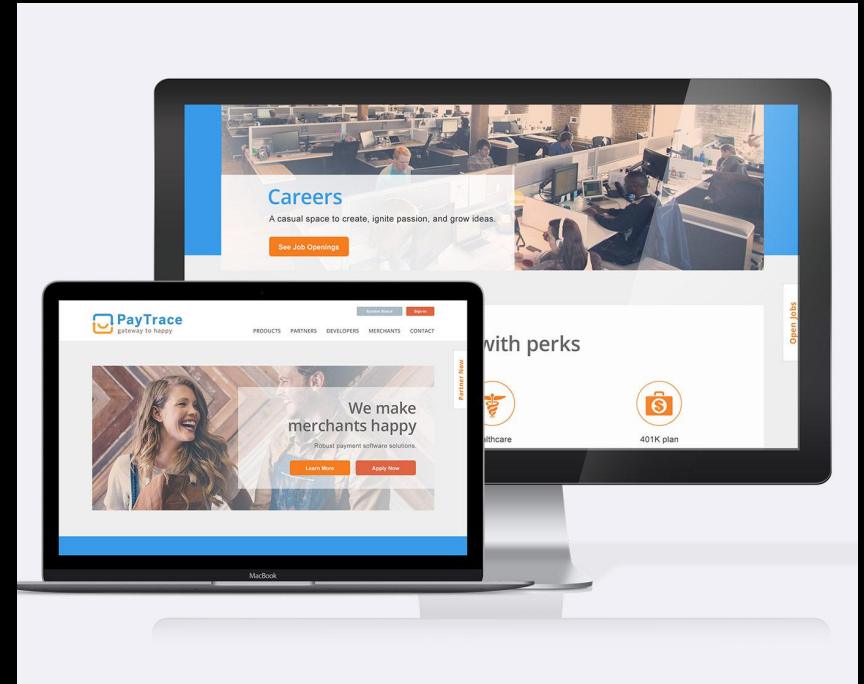
Hierarchy and Balance

Hierarchy

Now that we know **who** we are designing for, we need to figure out:

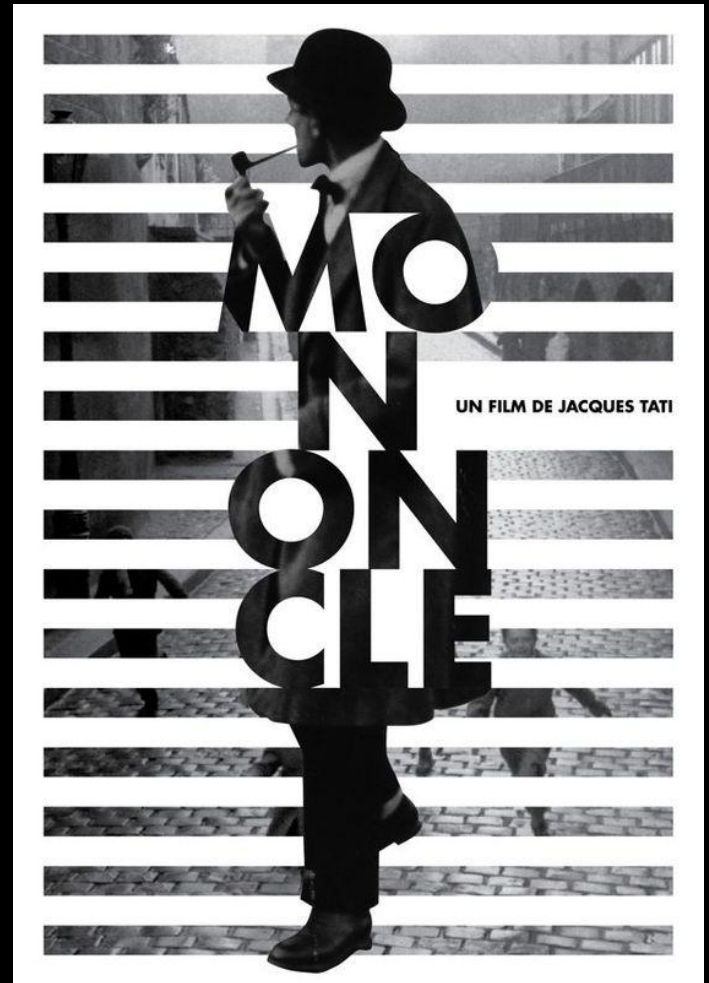
- What information needs to be conveyed?
- How to convey that information?

All elements in a design are competing for the viewer's attention. *Good* design helps guide the viewer through the information.



Hierarchy

- Larger items demand more attention.
- Bright colors demand more attention than subdued one.
- Faces and images demand more attention.



FATO. APRESENTA

Nosotros



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DENTRO.

EM NOVEMBRO NO +GLOBOSAT

LLOYD KEENE
PARANA

AIGA

2011 AIGA + 15TH ANNUAL
**STUDENT
PORTFOLIO
EXHIBITION**

SATURDAY
MAY 28
**UNIVERSITY
OF SAN DIEGO**
Joan B. Kroc Center
for Peace and Justice
5998 Alcalá Park
San Diego, CA 92110

Balance

Two types of balance:

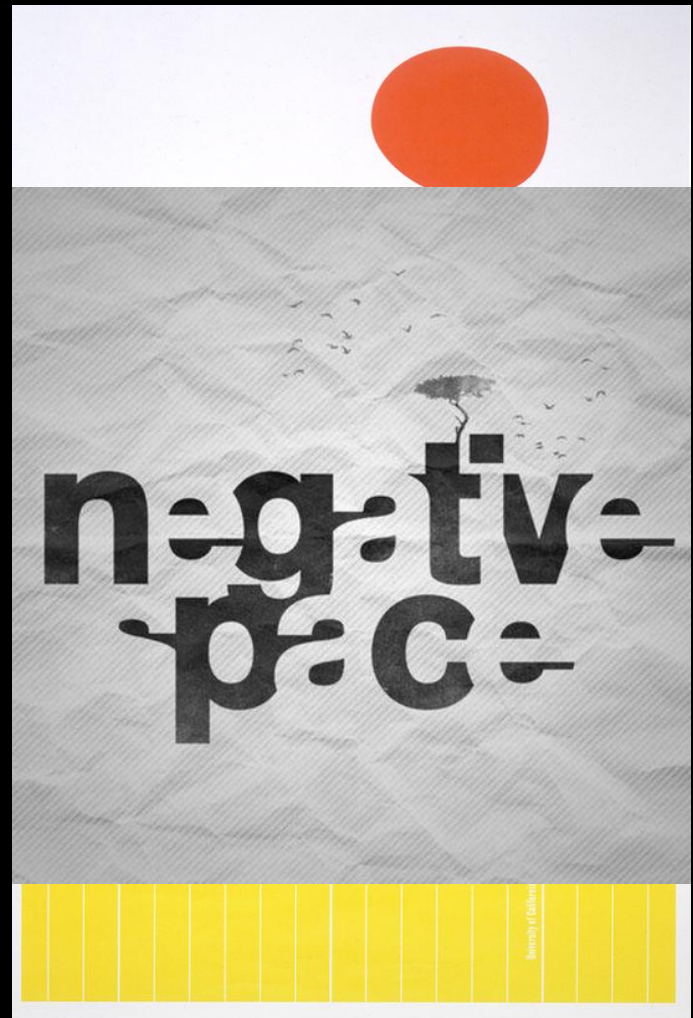
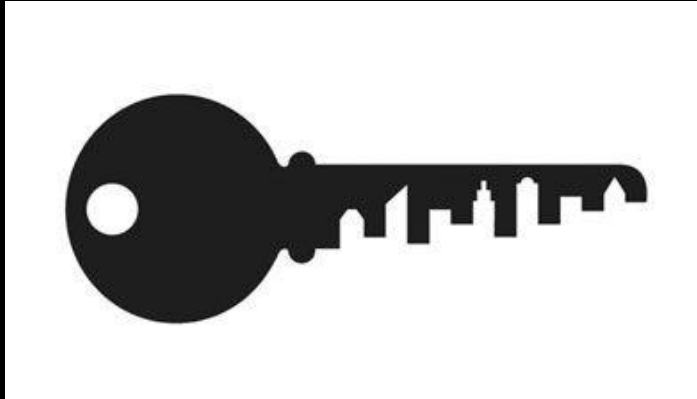
- Formal Balance
 - Symmetry
 - Creates a sense of stability
- Dynamic Balance
 - Asymmetry
 - All objects still in balance



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Negative Space

- The empty space in a design
- Negative space can be just as powerful of a tool as any of the design elements you choose to include.





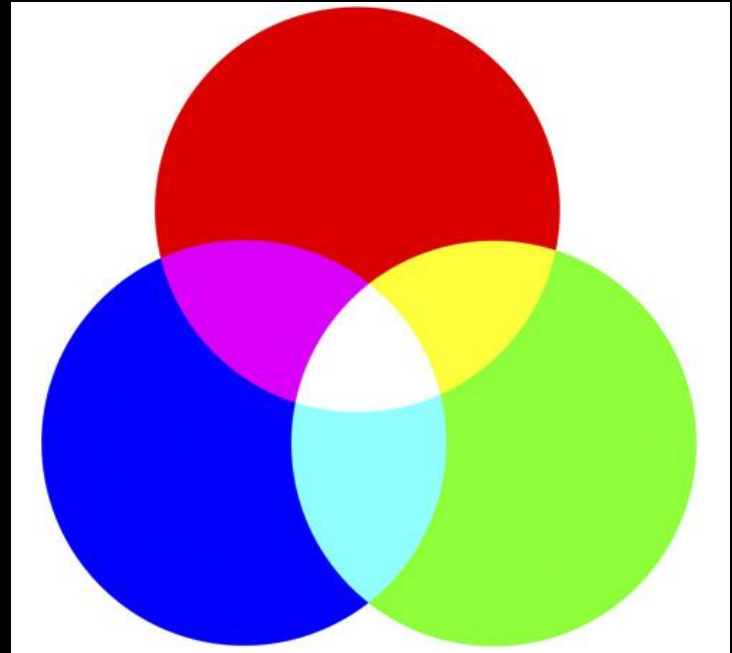
Color Spaces

Choosing the Right Color for the Job

Color Spaces – Not all colors are created equal!

RGB

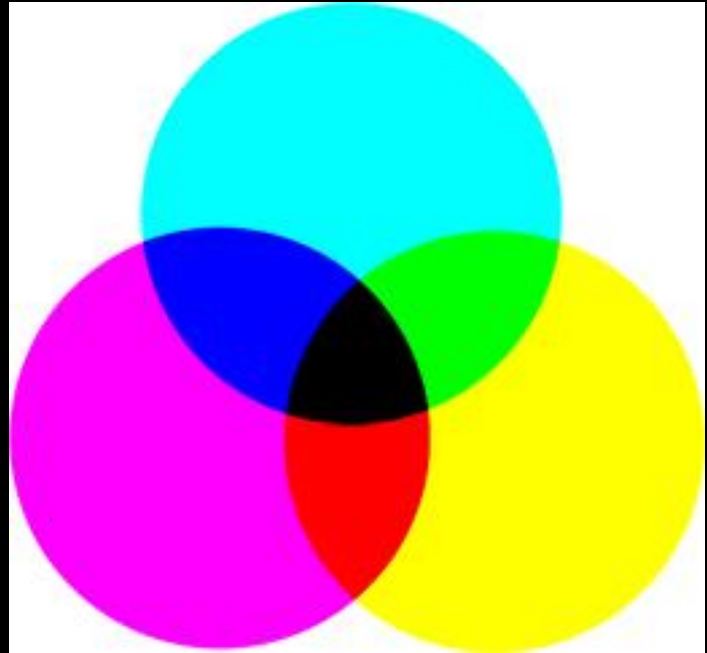
- Red, green, blue
- Used for screens
- Add up to **white**
 - i.e. higher number = lighter color
- Values are 0 – 255
- Example:
 - 91, 227, 0



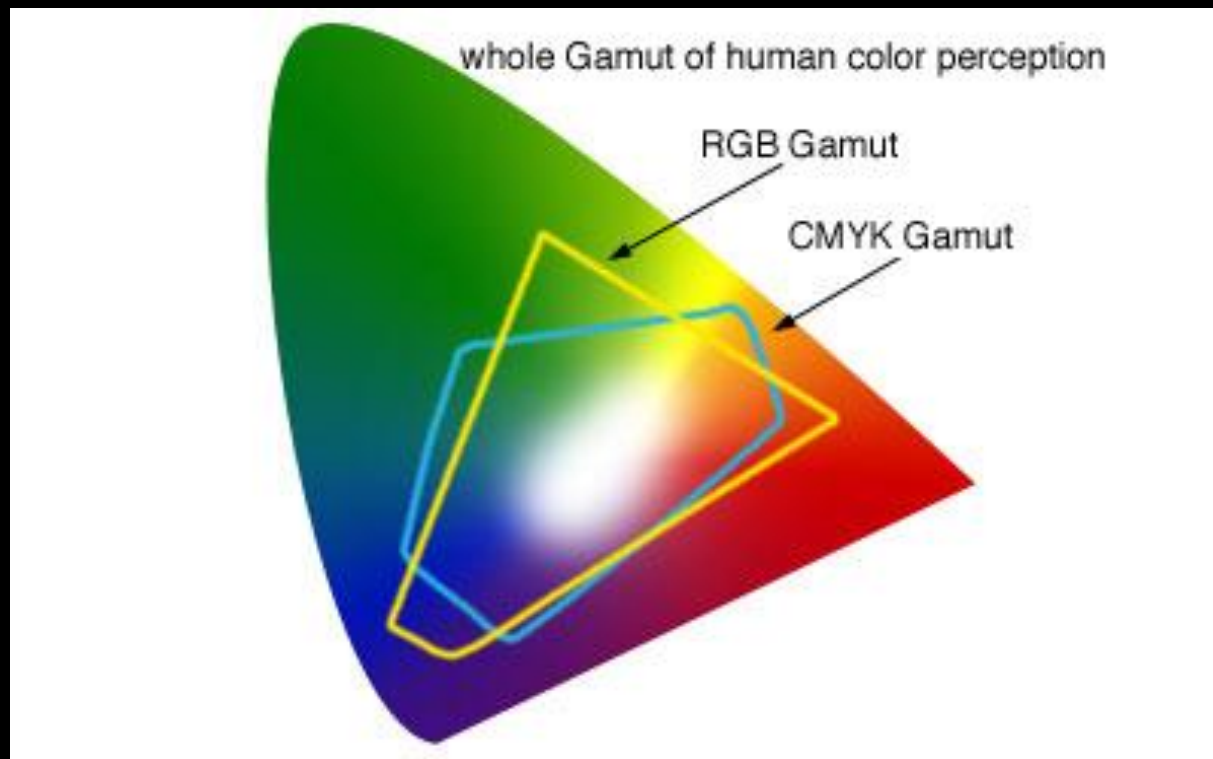
Color Spaces – Not all colors are created equal!

CMYK

- Cyan, magenta, yellow, black (K = key)
- Used for print
- Add up to **black**
 - i.e. higher number = darker color
- Values are 0% – 100%
- Example:
 - 60, 0, 100, 11



Color Spaces – Not all colors are created equal!



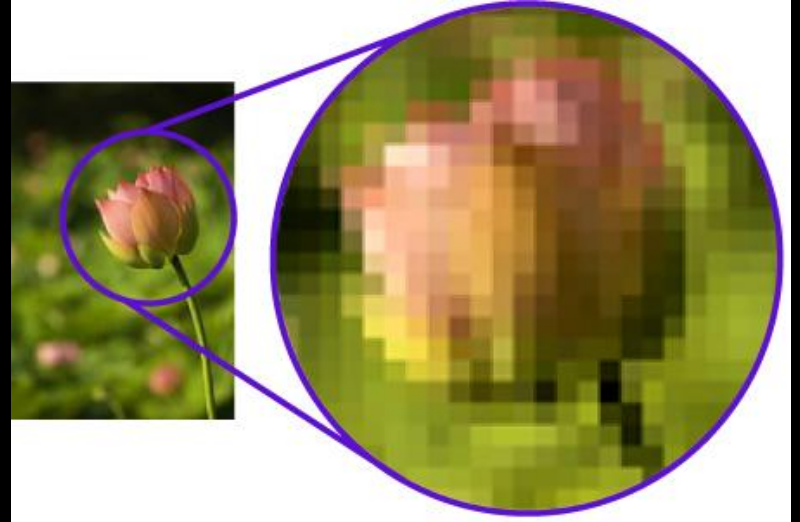


Raster vs. Vector?

An overview of file types

Raster Overview

- Raster: “resolution-dependent”
- Made up of tiny dots called pixels
- DPI: number of pixels per inch in an image
- Good for photos
- Use Photoshop for raster images
- ***Can be scaled down but not scaled up***

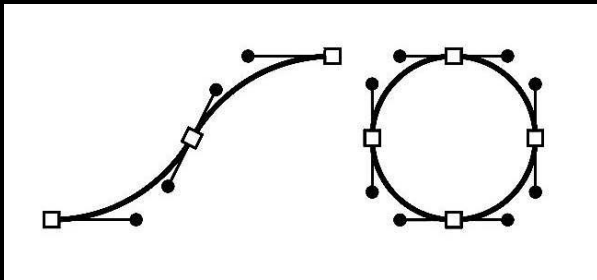


Raster File Types

- PSD
 - **Photoshop native format. Supports layers.** Only Photoshop and other Adobe programs can open.
- JPG or JPEG
 - **COMPRESSION (Lossy).** Great for small files, particularly images. Awesome for web, not necessarily awesome for printing.
- PNG
 - **Supports transparency.** Achieves compression by limiting the number of colors used. This makes it great for graphics, not as great for photos.
- TIF or TIFF
 - Supports layers at a smaller size than PSD, offers **lossless compression.**
- GIF
 - **Supports animation.** Limits colors like PNG.

Vector Overview

- Vector: “resolution-independent”
- Made up of anchor points and vectors
- Good for graphics
- Use Illustrator for vector images
- ***Infinitely scalable***



Vector File Types

- **AI**
 - **Illustrator native format. Supports layers/objects.** Newer versions can be opened in PDF viewers like Acrobat.
- **PDF**
 - Supports vector but is not necessarily vector. **Gold standard for sending files to print.** High compatibility with other applications.
- **EPS**
 - **Older file format,** less commonly used. Supports layers/objects. Cross-compatible across different vector editing software.
- **SVG**
 - **Supports animation.** This is the standard file format when vector graphics need to be used on the web.



Using the Right Tools

Industry Standards vs. Free Alternatives

An abstract digital background featuring a complex network of thin, glowing lines and larger, semi-transparent geometric shapes. The color palette is dominated by teal and cyan at the top, transitioning through purple and magenta in the middle, and ending in deep red and orange at the bottom. The overall effect is a sense of depth and dynamic movement, with the lines appearing to converge towards a central point.

Typography

What makes good typography?

- Invites the audience to read
- Reinforces the content's meaning
- Demands attention, then fades into the background
- Affects the reader's mood and comprehension



Typography Terminology

- **Serif vs. Sans Serif**
- **Display vs. Text type**
 - Most text type can also be display, but not all display can be text
- **Combining typefaces**
 - Limit yourself to one or two per piece!

Helvetica Neue 25 Ultra Light
Helvetica Neue 35 Thin
Helvetica Neue 45 Light
Helvetica Neue 55 Roman
Helvetica Neue 65 Medium
Helvetica Neue 75 Bold
Helvetica Neue 85 Heavy
Helvetica Neue 95 Black



Applications for FRC Teams
BRAND STANDARDS

Standardizing Your Brand

- A brand is more than a logo!
 - Good branding **supports** the logo in a **unified** manner
- Items to standardize
 - Brand themes/key messages
 - Colors and fonts
 - Logo configurations
 - Logo size and white space



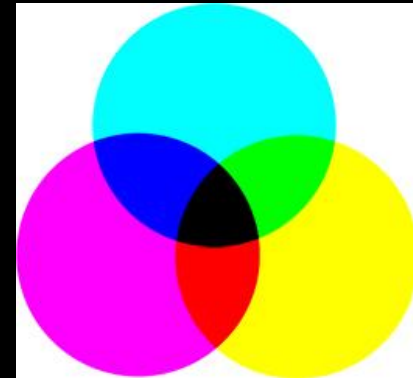
The background is a complex, abstract composition of various geometric elements. It features a dense arrangement of overlapping squares and rectangles in shades of green, yellow, and grey. Interspersed among these shapes are thin, light-colored lines that form a network of interconnected paths, some resembling circuit traces or digital data lines. The overall effect is a vibrant, layered, and somewhat chaotic digital aesthetic.

Applications for FRC Teams

T-SHIRTS

T-Shirt Best Practices

- File types?
- Software?
- Color space?
 - Minimize # of colors
- Getting what you need from your sponsors
- Talk to your vendor and ask them questions!
 - *They are the experts and they are there to help!*





Applications for FRC Teams
WEBSITES

Designing a Successful Website

- CMS?
 - *(Content Management System)*
- Responsive design?
- Designing for readability and easy access of information
- Keeping content up to date





QUESTIONS?