## Design Day

## Thurs, Feb 27th

Design Industry Keynote 6-7PM
Professor Harry West,
Former CEO at frog design
CPizza Included ?

## Breaking into Design Panel

Columbia designers from companies including Google, United Nations, Airbnb, IDEO, Tencent, and Nike
Fri, Feb 28th Pulitzer Hall, 1st Floor

How to Get a Design Job 2-3PM
Portfolio \& Design Recruiting
Building Practical Design Skills
$3-4 P M$ Figma 101

## Creating Your Design Story

Branding \& Storytelling


## Color, Typography, Gestalt

No screens

Prof. Lydia Chilton<br>COMS 4170<br>24 February 2020

Say your name


คْ COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

The human brain is always interpreting meaning, even if it's not there.


Color

## In addition to signaling importance, colors have meaning.



## Where is color used? What does it mean?



## Where is color used? What does it mean?



## What are your associations with these colors?



## And the associations in France?

| Culture |  | Red | Blue | Green | Yellow |
| :---: | :--- | :--- | :--- | :---: | :---: |
| United States | Danger | Masculinity | Safety | Cowardice | Purity |
| France | Aristocracy | Freedom <br> Peace | Criminality | Temporary | Neutrality |

## Do you see any contradictions?

| Culture | Red | Blue | Green | Yellow | White |
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| Egypt | Death | Virtue <br> Faith <br> Truth | Fertility Strength | Happiness Prosperity | Joy |
| India | Life Creativity |  | Prosperity Fertility | Success | Death Purity |
| Japan | Anger Danger | Villainy | Future Youth Energy | Grace Nobility | Death |
| China | Happiness | Heavens Clouds | Ming Dynasty Heavens Clouds | Birth Wealth Power | Death Purity |

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## What does blue mean in India?

| Culture | Red | Blue | Green | Yellow | White |
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## What cultural associations do these colors have?



## What cultural associations do these colors have?



2016


1992

## Are color meanings arbitrary?

Color meanings are not absolute $=0$
they may mean something you don't intend.

## Color Representation

There are three perceptual dimensions of color: HSV - Hue, Saturation, Value (Brightness)

## Hue

Saturation

Brightness


## There are many ways to represent Color




Red, Green, Blue

## CMYK



Cyan, Magenta, Yellow (Black)


Luminosity, $\mathrm{a}, \mathrm{b}$

## The web uses represents color in RGB



If you have have
Red: 0, Green: 0, Blue: 0
Black What color will you get?

If you have have
Red: 100\%
Green: 100\%
Blue: 100\%
What color will you get?

## Ways to specify a color in HTML

```
.blue_text{
    color: blue;
}
.blue_text{
    color: rgb(0,0, 255);
}
.blue_text{
    color: #0000FF;
}
.blue_transparent_text{
    color: rgba(0,0, 255, 0.5);
}
```


## Choosing color combinations

## Color Schemes

| complementary colors <br> hues opposite the color wheel <br> complementary colors are <br> more intense, and "vibrate" <br> when placed next to each other <br> as they compete for your attention |
| :--- |
| split complementary colors <br> one of the complementary colors <br> is spit off inta a pair of <br> neighboring hues |
| analogous colors <br> colors that neighbor one another <br> on the color wheel <br> hues appear to "push" at each <br> other, creating an optical illusion <br> where each zone appeeras sarger <br> when it has your attention |
| triad colors <br> hues equidistant on the color <br> wheel |

# If you are not a color expert, let an expert pick for you 

Use color last.

## Typography

## Typography is an art form



Gill Sans, designed by Eric Gill and released
by the Monotype Corporation in 1928

## Six Typographic terms



## S\} Point size



## Gill Sans Calibri

## S

\} Leading

## SiX $\}$ x-height



Lucida Bright high x-height


Baskerville Low x-height

Typefaces with high x-height: easier to read at small point size

Typefaces with low x-height:
harder to read at small point size

## Six Typographic Terms <br> descenders

## Six Typographic Terms <br> regh reglar <br> bold

weight

## Weights and Styles

Roboto Thin \& Thin Oblique<br>Roboto Light \& Light Oblique<br>Roboto Regular \& Oblique<br>Roboto Medium \& Medium Oblique<br>Roboto Bold \& Bold Oblique<br>Roboto Black \& Black Oblique<br>Roboto Condensed Light \& Condensed Light Oblique<br>Roboto Condensed \& Condensed Oblique<br>Roboto Condensed Bold \& Condensed Bold Oblique

What indicates a serif font?


## Serifs - there's more!



## Serif vs.

Sans serifs


The Serif Hypothesis

# Serif fonts are faster to read. The little hooks indicate where your eyes should move next. 

## There is no evidence to support this.

Any differences in reading speed are dwarfed by individual differences, or familiarity.

## Who follows the Serif Hypothesis?

Ebe Ate Hork Eimes

LONDON - The stage filled with women in Princess Diana masks, smashing VHS cassettes with hammers. A dancer wove her way through a bar, muttering about kittens. A figure wrapped in a filthy comforter emerged from a tent, crawling among clubbers dressed in
fetish gear.

## Like Colors, there are cultural connotations for fonts

## MOTHERBOARD

теснby Vice

## Scientists Found Breathable C Another Galaxy for the First Ti

Molecular oxygen is a key component of the air humans breathe, and now astronomers have spotted it a half-billion light years away. But don't hold your breath for quasar whippets.

## The Alw Hork Times

## Microbes Point the Way to Shipwrecks

Distinct microbiomes flourish around sunken ships as they become artificial reefs, new research in the Gulf of Mexico reveals.

San Serif = Modern, simple

Serif =
Intellectual, Elite

## Mixing fonts: Concordant fonts

## Typography

FROM WIKIPEDIA, THE FREE ENCYCLOPEDIA
Typography is the art and technique of arranging type, type design, and modifying type glyphs. Type glyphs are created and modified using a variety of illustration techniques. The arrangement of type involves the selection of typefaces, point size, line length, leading (line spacing), adjusting the spaces between groups of letters (tracking) and adjusting the space between pairs of letters (kerning).

Adobe Caslon Semibold 48 pt

Adobe Caslon Smallcaps, 14 pt
Adobe Caslon Regular, 12 pt

## Mixing fonts of the same font-family is great.

## Mixing fonts: Contrasting fonts

## Typography <br> From Wikipedia, the free encyclopedia

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Gill Sans Light
48 pt
Gill Sans Light, 16 pt
UC Berkeley OldStyle, I2 pt

Mixing San Serif and Serif is ok. (But edgier)

## BAD font mix: Conflicting fonts

## Typography

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Futura Medium, 14 pt
Myriad Regular, 12 pt

## Mixing multi San Serif or Serif fonts is considered bad. It doesn't look intentional.

## What connotation does this font have?

##  <br> Open Letter to Fans from Cavaliers Majority Owner Dan Gilbert <br> Status of Standard Model Higgs searches in ATLAS <br> Dear Cleveland, All Of Northeast Ohio and Cleveland Cavaliers Supporters Whereve

 Your font should not detract from your message.Fobiolal Gianotti (CERN), representing the ATLAS Collaboration

$\pi$
 is no longer a Cleveland Cavalier

## You're an idiot.

Eight Gestalt Principles

## ge•stalt

/gə'SHtält/ 4)
noun PSYCHOLOGY
an organized whole that is perceived as more than the sum of its parts.

```
German *
```

Y $\rightarrow$ English •
gestalt
shape

## Proximity

## 

Dots appear as columns


Dots appear as rows

## Gestalt Principle \#1

## Proximity



Dots appear as two groups
$X$ is in group a.


## How is similarity used to convey meaning?

Tuesday, November 4 -Election Day

An American Menu
$\$ 75$

Caesar salad with anchovies, egg, and Parmesan cheese

Clam chowder with Maine lobster and pancetta

Grilled chicken with house-made barbeque sauce with potato purée and greens

Apple and raspberry pecan crisp with vanilla ice cream

TUESDAY, NOVEMBER 4 - ELECTION DAY

## AN AMERICAN MENU <br> $\$ 75$

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with anchovies, egg, and Parmesan cheese
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with vanilla ice cream

## Similarity

How many green circles are there?

Gestalt Principle \#2:
Similarity


## Similarity

## How many green circles are there?



Colors are easy to scan for

## Similarity

## How many rectangles are there?

Gestalt Principle \#2:
Similarity


## Similarity

## How many rectangles are there?



Shapes are hard to scan for

## Similarity

How many triangles are there?

Gestalt Principle \#2:

## Similarity

- 
- 



## Similarity

How many triangles are there?


Size is easy to scan for

What properties are easy to scan for similarity?


Color and Size scans better than shape

Gestalt Principle \#3:
Enclosure


Gestalt Principle \#3:

## Enclosure



## Symmetry

## [ K H ]

## 110

Proximity indicates 4 groups



Symmetry indicates 3 groups

Gestalt Principle \#5:
Closure


Gestalt Principle \#6:

## Continuity



Gestalt Principle \#6:
Continuity

$$
\stackrel{\bullet \bullet \bullet}{\bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet}
$$

## Gestalt Principle \#7

## Connection



Figure and Ground




## 8 Gestalt Principles



## 2 Gestalt Principles I actually use



# I use proximity and color/contrast similarity 

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## Quiz: 8 Gestalt Principles

Proximity

## Quiz: what property is being used here?



Continuity
Our minds perceive lines and curves as continuing on their trajectory

## Quiz: what property is being used here?

## For other uses, see Design (disambiguation)

Design can have different connotations in different fields of application (see design disciplines below), but there are two basic meanings of design: as a verb and as a noun.
Design (as a verb: to design) is the intentional creation of a plan or specification for the construction of an object or system or for the implementation of an activity or process.
Design (as a noun: a design) can refer to such a plan or specification (e.g. a drawing or other document) or to the created object, etc., and features of it such as aesthetic, functional, economic or socio-political.
The process of creating a design can be brief (a quick sketch) or lengthy and complicated, involving considerable research negotiation, reflection, modelling, interactive adjustment and re-design. In some cases, the direct construction of an object without an explicit prior plan (such as in craftwork and some engineering, coding, and graphic design) is also considered to be a design activity.

Contents [hide]
1 Definitions
2 Design as a process
2.1 The rational model
2.1.1 Example sequence of stages
2.1.2 Criticism of the rational model
2.2 The action-centric model
2.2.1 Descriptions of design activities

3 Design disciplines
4 Philosophies and studies of design
4.1 Philosophies for guiding design
4.2 Approaches to design

## Similarity of Color

It is easy to scan for color

## Quiz: what property is being used here?



Figure and ground

## Summary

The human brain is always interpreting meaning, even if it's not there.


## Color Meaning and Representation

|  |  |  |  |  |  |  |
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Way to Shipwrecks

Status of Standard Model Higgs searches in ATLAS
Using the full datasets recorded in 2011 at $\sqrt{s}=7 \mathrm{TeV}$ and 2012 at $\sqrt{s}=8 \mathrm{TeV}$ : up to $10.7 \mathrm{fb}^{-1}$
Fabiola Gianotti (CERN), representing the ATLAS Collaboration


## 8 Gestalt Principles



## Fill out participation now! HW 5 is due Wednesday.

# User Interface Design 

COMS $4170 \cdot$ Spring 2020
Home Grading Syllabus Piazza

Participation Form
HW4 Review
Color, Type, Gestalt

FEBRUARY 26
Homework 5 due @ 4pm

