

Simplicity

Mobile Application Development

David Gundry

d.gundry@yorks.ac.uk

Based on content by Abdulrazaq Abba and [MIT](#) licensed CC BY-SA

[CC BY-SA 4.0](#)

Learning Outcome

Apply basic (graphic) design principles to app design and evaluation

Overview

1. Simplicity
2. Simplicity in practice
3. C.R.A.P. graphic design principles
4. Redesigning an app

"Good design is a lot like clear thinking made visual."

Edward Tufte

Simplicity

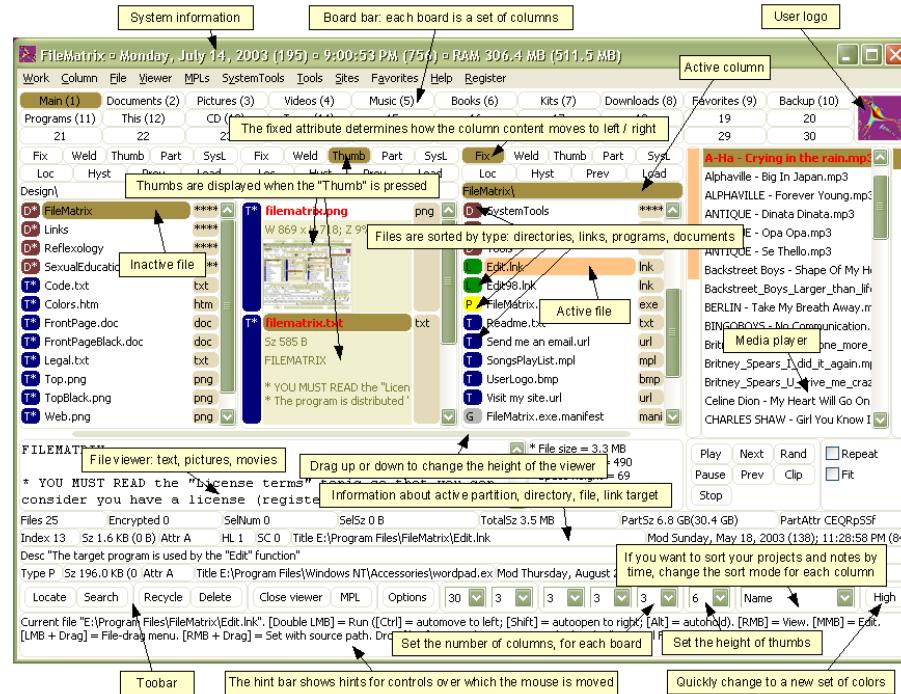
Nielsen (1999) proposes that designers go through all of their design elements and remove them one by one. If a design works just as well without an element, then remove it.

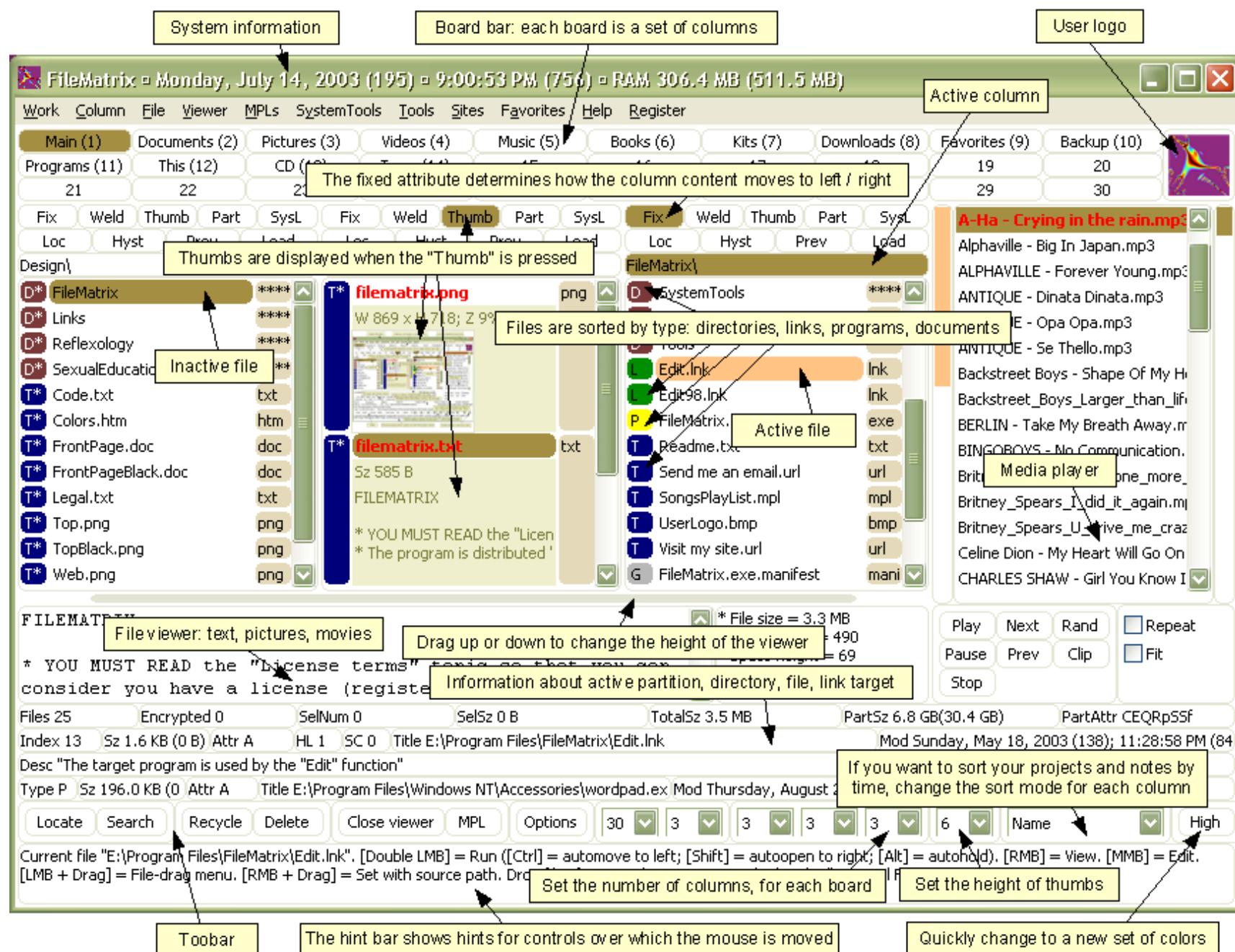
Simplicity

Nielsen (1999) proposes that designers go through all of their design elements and remove them one by one. If a design works just as well without an element, then remove it.

Anti-pattern: Crowded Layouts

It is tempting to cram too much into a screenful of space, making it unwieldy for people to find what they are interested in.





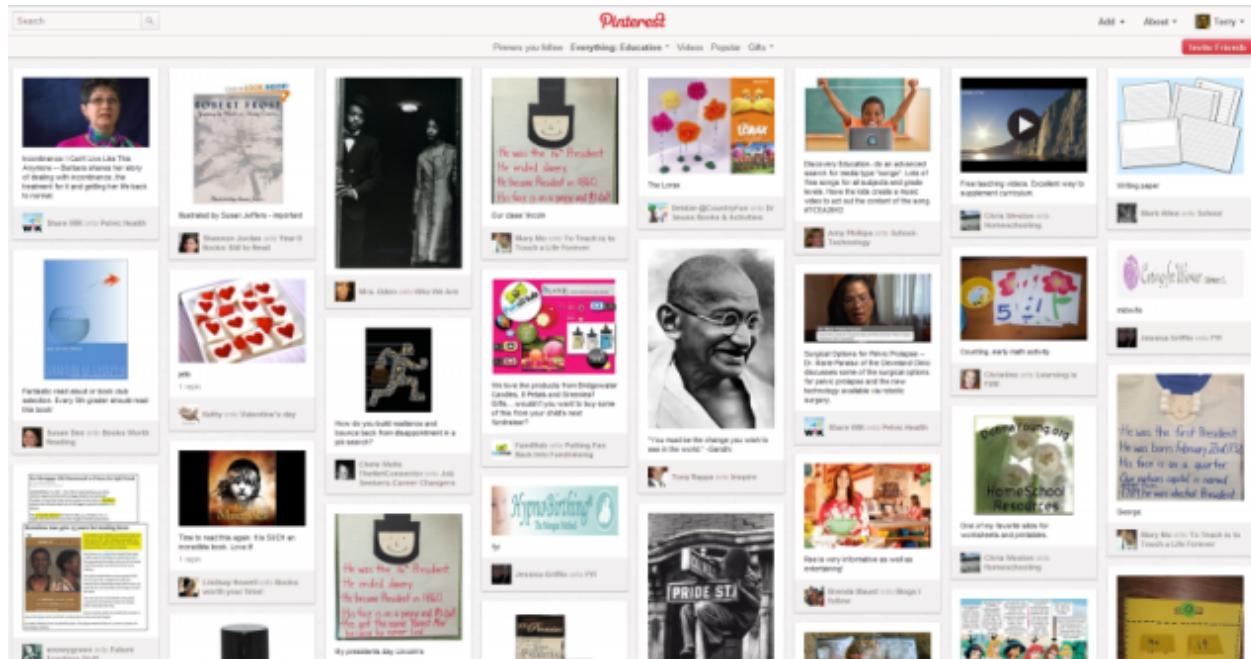
Signal to Noise Ratio

Minimise the amount of unnecessary information presented to the user.

Less information → lower cognitive load

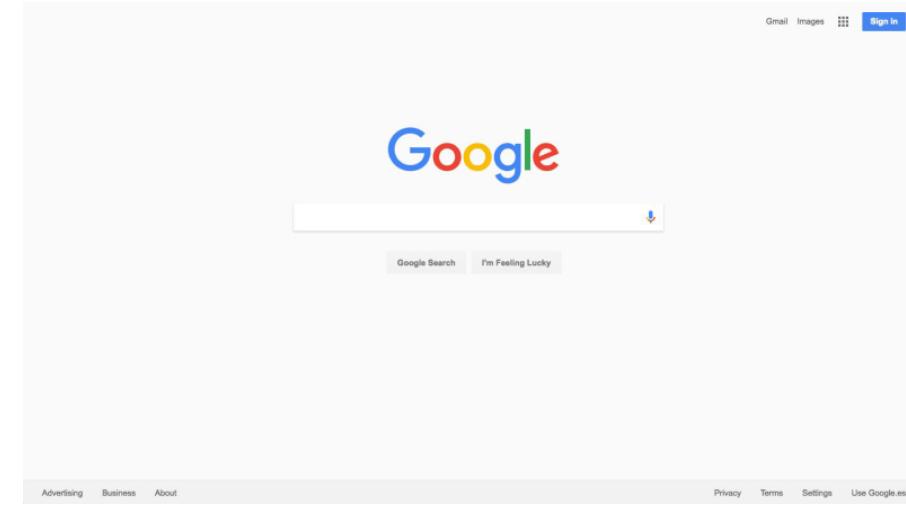
Regularity

Use a regular pattern and limit inessential variation among elements



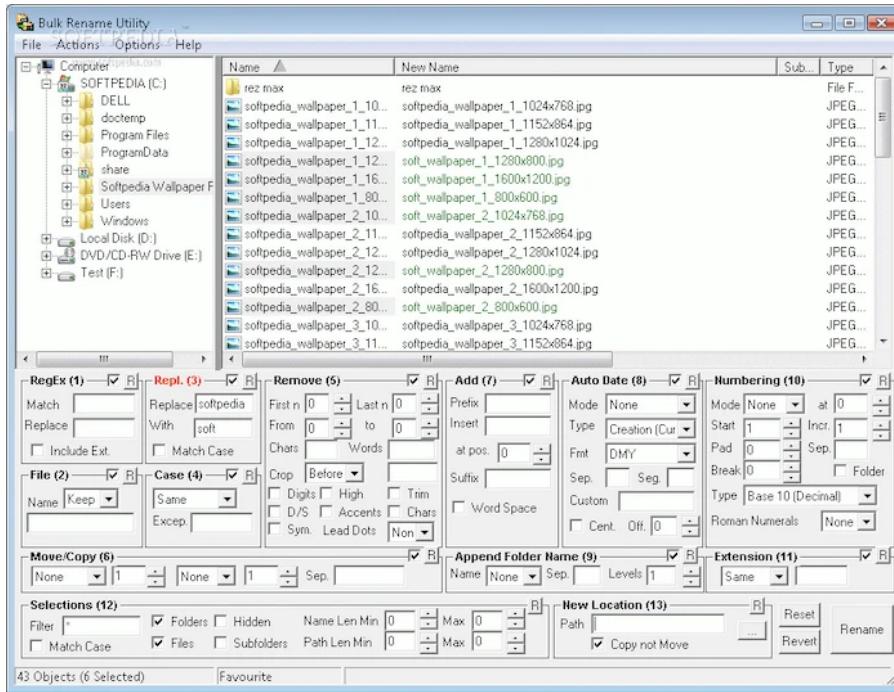
White space

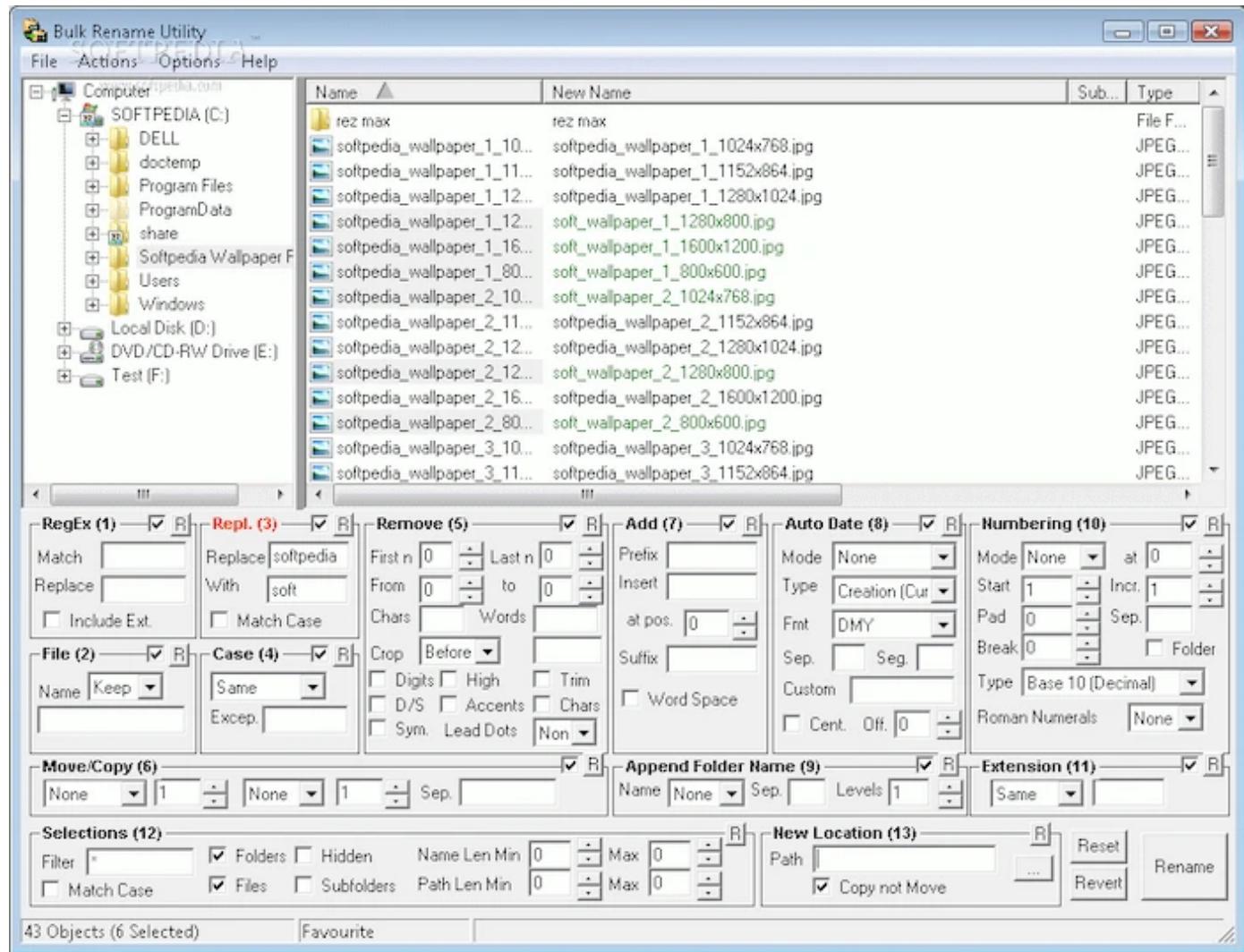
Allow content space to breathe



Anti-pattern: Button-per-feature

Avoid the temptation of simply adding a new button, menu, or UI feature for every piece of functionality.

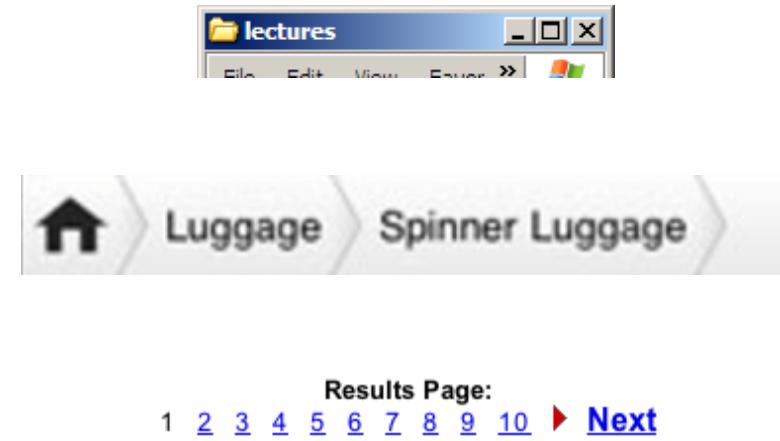




Double Duty

Make elements play multiple roles in a design

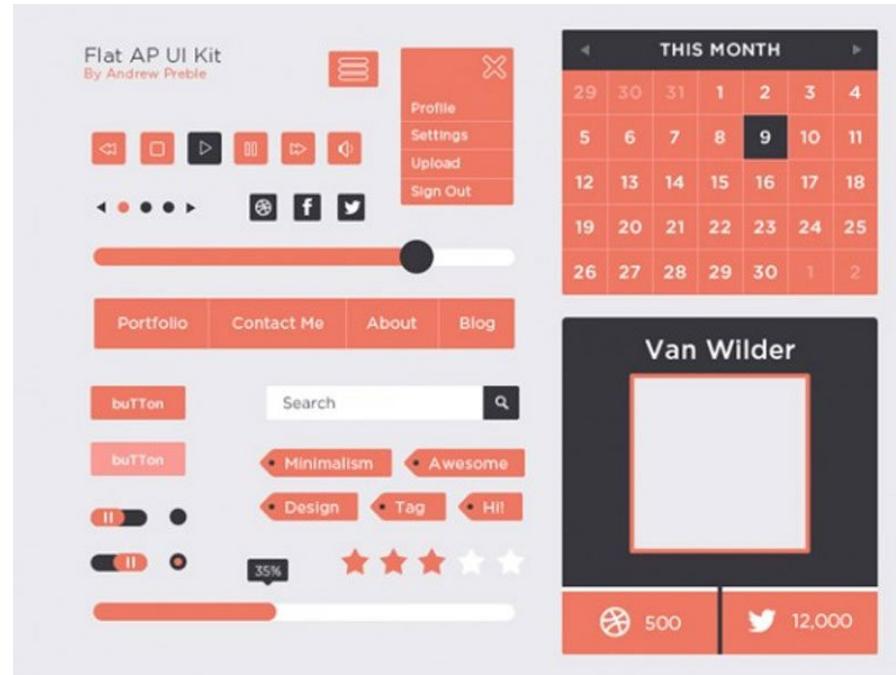
What roles do the elements to the right serve?



Minimalism

Unnecessary graphics, shading, and decoration can be stripped, leaving a cleaner, crisper, and easier-to-use app.

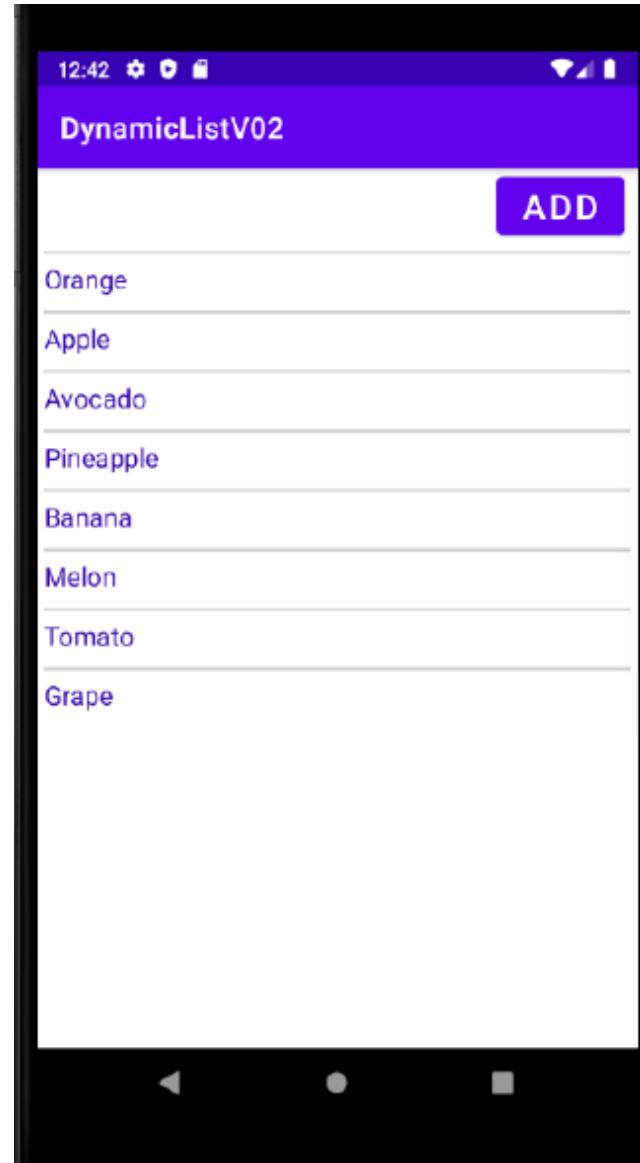
However, 'flat' UI takes this too far when it becomes hard to use



Anti-pattern: No graphic design

A plain app with just lists of text and a few buttons may not be as appealing.

"The design is not just what it looks like and feels like. The design is how it works"
- Steve Jobs



Aesthetics

A certain amount of graphics, colouring and formatting can make an app aesthetically pleasing and enjoyable to use.

The key is achieving both aesthetic appeal and usability

LV 6

Sidky



L1 Analyze

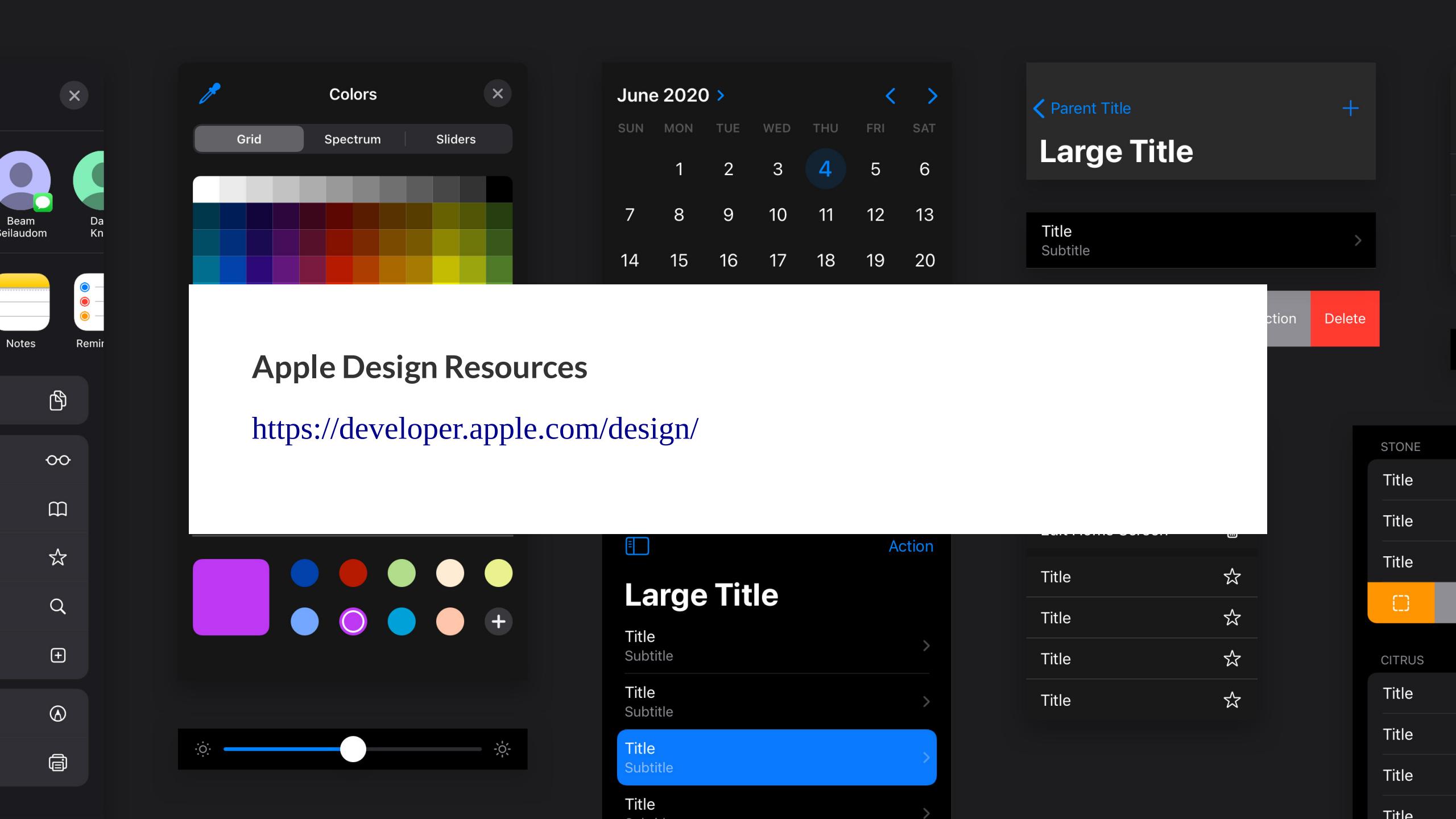
X Target

△ Next Turn

OPTIONS U Rush R1 Assist

Material Design

<https://material.io/>



Summary

Design is about clearly communicating purpose

Simplicity helps keep designs clear

- Easier to learn
- Faster to use
- Safer to use



Shop by category

Search for anything

All Categories

Search

Advanced

Back to previous page | Listed in category: [Collectables & Art](#) > ... > [Construction & Building Toys](#) > [LEGO \(R\) Building Toys](#) > [LEGO \(R\) Complete Sets & Packs](#)

Share | Add to Watch list



BLOXX Orchid Artificial Plant Building Set Flowers NEW w/Instructions

2 sold in the last 24 hours

Condition: New: Other (See Details)

Shop with confidence

eBay Money Back Guarantee

Get the item you ordered or get your money back.

[Learn more](#)



Elimination

Let's follow Nielsen's (1999) advice about elimination.

Eliminate elements from an Ebay product page one by one.

Which elements can we remove without harming usability?

How can we simplify what is left?

Have one to sell? Sell it yourself

Collection: Click & Collect - Select store at checkout.

Postage: Free Economy Delivery. [See details](#)

Located in: Sheffield, United Kingdom

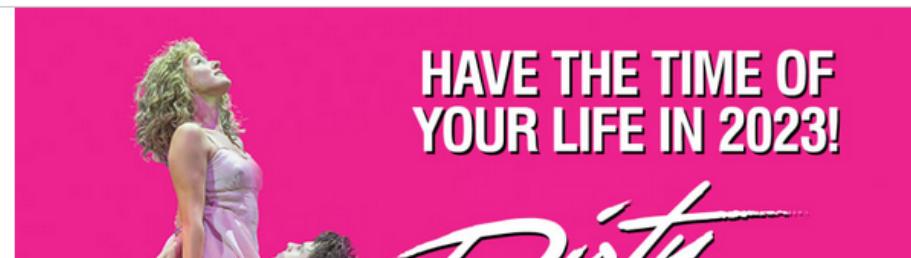
Delivery: Estimated between Fri, 14 Apr and Tue, 18 Apr ⓘ

Returns: 30 day return. Buyer pays for return postage. [See details](#)

Payments:

Get more time to pay. [See payment information](#)

WELCOME TO ATG TICKETS

Book an experience of a lifetime

Design Analysis

You can repeat this process with ticket booking apps to identify the core design features they share.

Seek inspiration and identify conventions for your assessment - but don't copy another app

HAMILTON
Buy tickets from £13
+ £3.80 transaction fee

PAN GOES WRONG
Buy tickets

Ruby Wax: I'm Not as Well as I Thought I Was
Buy tickets

SUPERSTAR
Buy tickets

Sat 11 Nov 2023 - Sat 24 Feb 2024

Hamilton

Musical [Palace Theatre Manchester](#)

Multiple Performances

Peter Pan Goes Wrong

Comedy Play [Tour \(3 venues\)](#)

Multiple Performances

Ruby Wax: I'm Not as Well as I Thought I Was

Comedy [Tour \(4 venues\)](#)

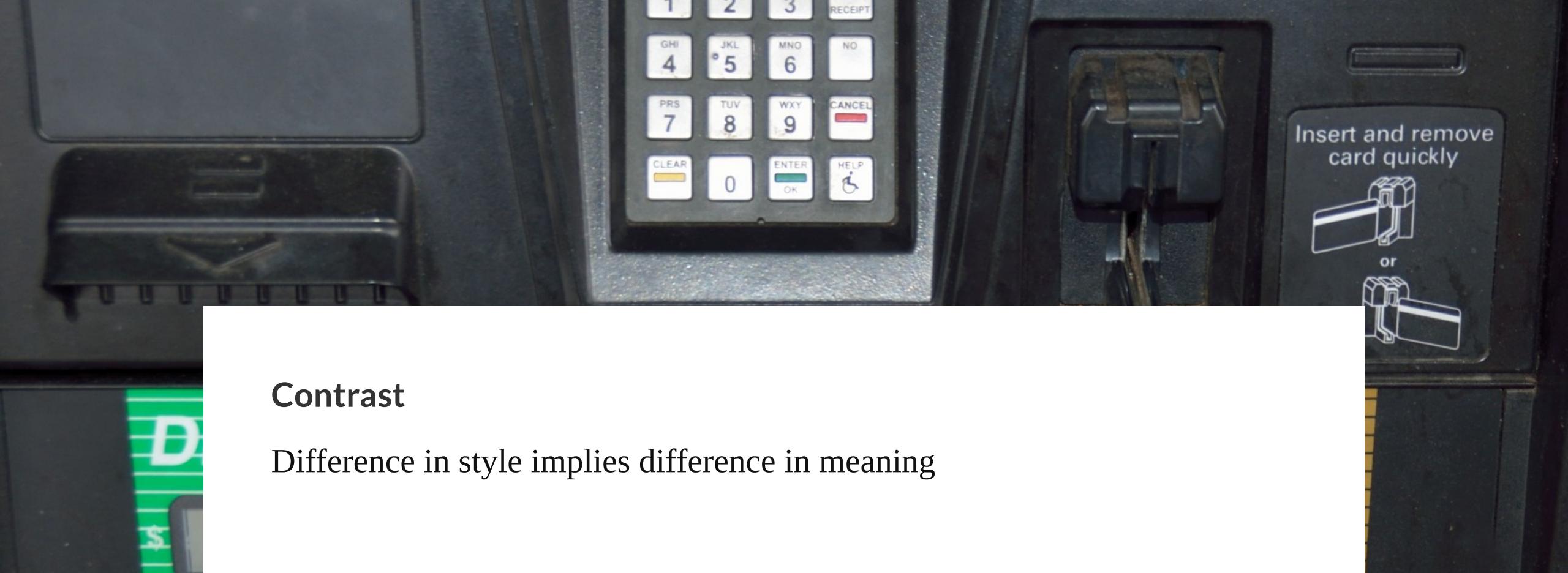
Multiple Performances

Jesus Christ Superstar

Musical [Tour \(7 venues\)](#)

C.R.A.P

Principles of Graphic Design ([Williams 2014](#))



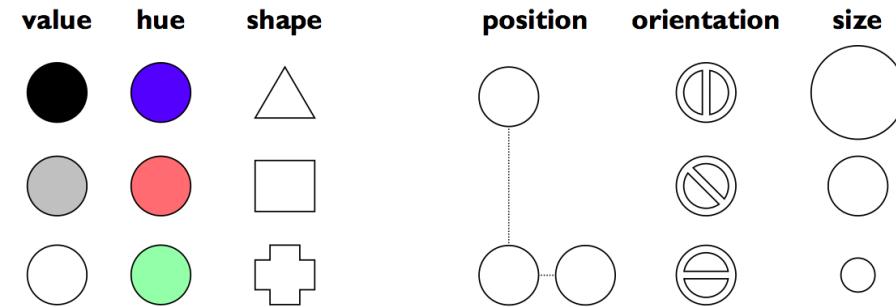
Contrast

Difference in style implies difference in meaning



Contrast

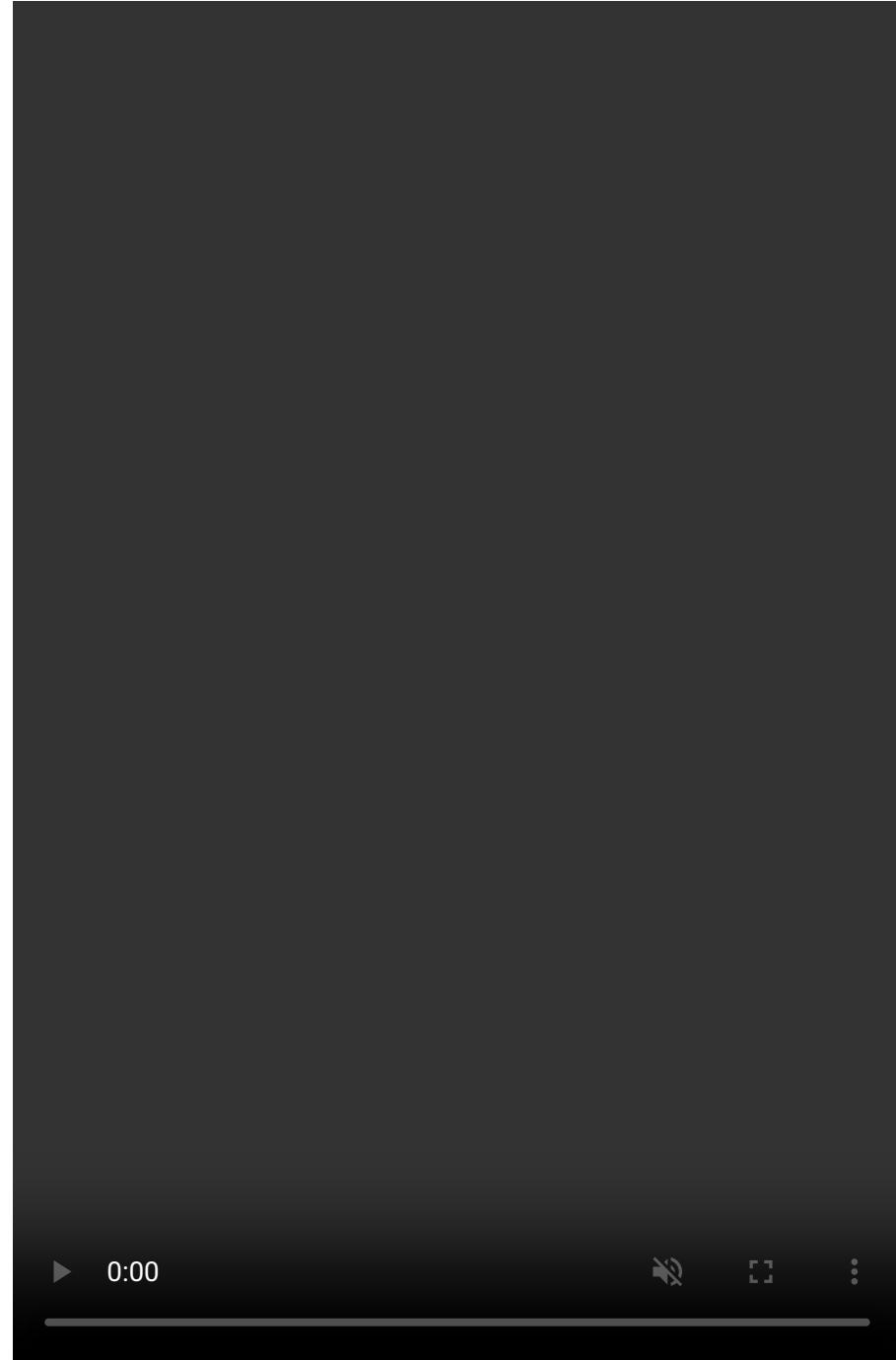
- Encode information along visual dimensions
 - Value
 - Hue
 - Shape
 - Position
 - Orientation
 - Size



Contrast

How are each of the following used in this demo?

1. Value
2. Hue
3. Shape
4. Position
5. Orientation
6. Size



Characteristics of Visual Variables (MIT 2018)

	Value	Hue	Shape	Position	Orient	Size
Nominal	✓	✓	✓	✓	✓	✓
Ordered	✓			✓	✓	
Quantitative				✓		✓
Scale	~10	~10	very long	very long	~4	~10



Repetition

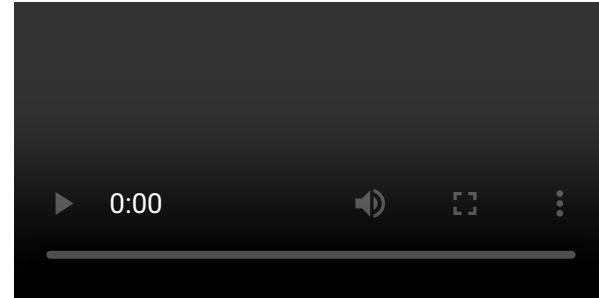
Repeat visual elements to create unity and cohesiveness



Repetition

Reuse similar elements, e.g.

- Colour
- Typefaces
- Graphic styles



Mistrz i wi śla

Alignment

Align elements to create visual connections and unity

Gliwicach powołano Zespół Wyborczy, którego członkowie zgrupowani w kilku sekcjach — organizacyjnej, spisowej, lokalowej i komunikacyjnej — prowadzą pracę przygotowawczą do kampanii wyborczej.

Chlorophyll was generally
higher in leaves of older
plants. The older plants also
had higher levels of chloro-
phyll, higher photosynthetic
activity & higher gross
photosynthesis.

kraju magazynów skor. zlopu-
wany systemem przemysłowym
z dużych bloków prefabrykowa-

23 sesja PRN

It is difficult to say exactly what
kind of life would be best for
the child. The parents should
try to find out what kind of
life would be best for their
child. They should also try to
find out what kind of work
would be best for their child.

futrzarskiego woj. katowickiego, z jednego raz na skopie.

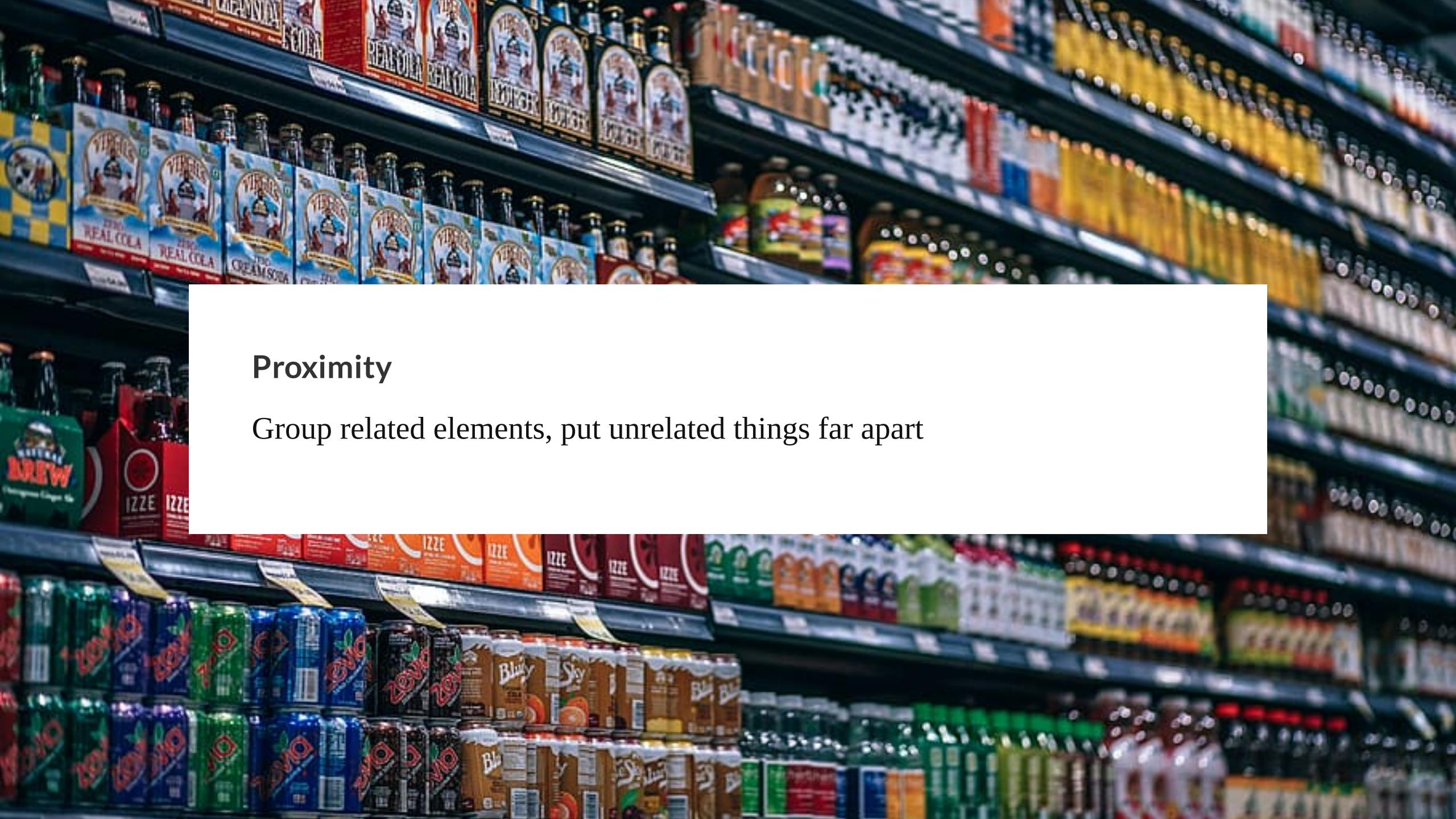
W magazynie znajdują się:
nienależące do 159 osób. (4)

Semafor wędruja d

Nothing should be placed arbitrarily

- Columns
- Grids
- Guide lines



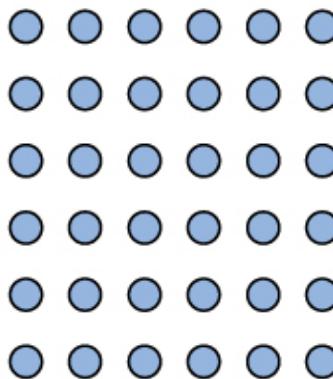


Proximity

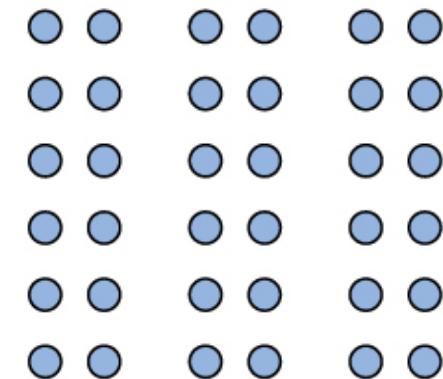
Group related elements, put unrelated things far apart

Gestalt Principle of Proximity

We perceive things that are grouped in space as related to each other



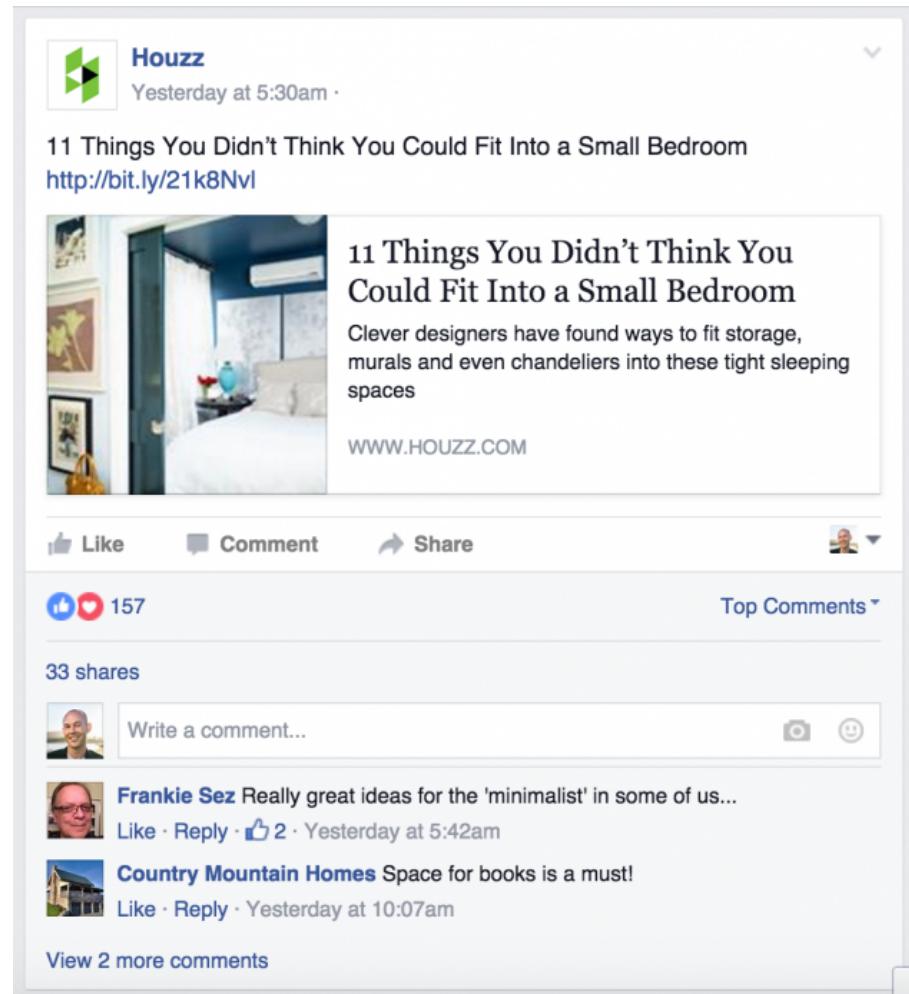
(a)



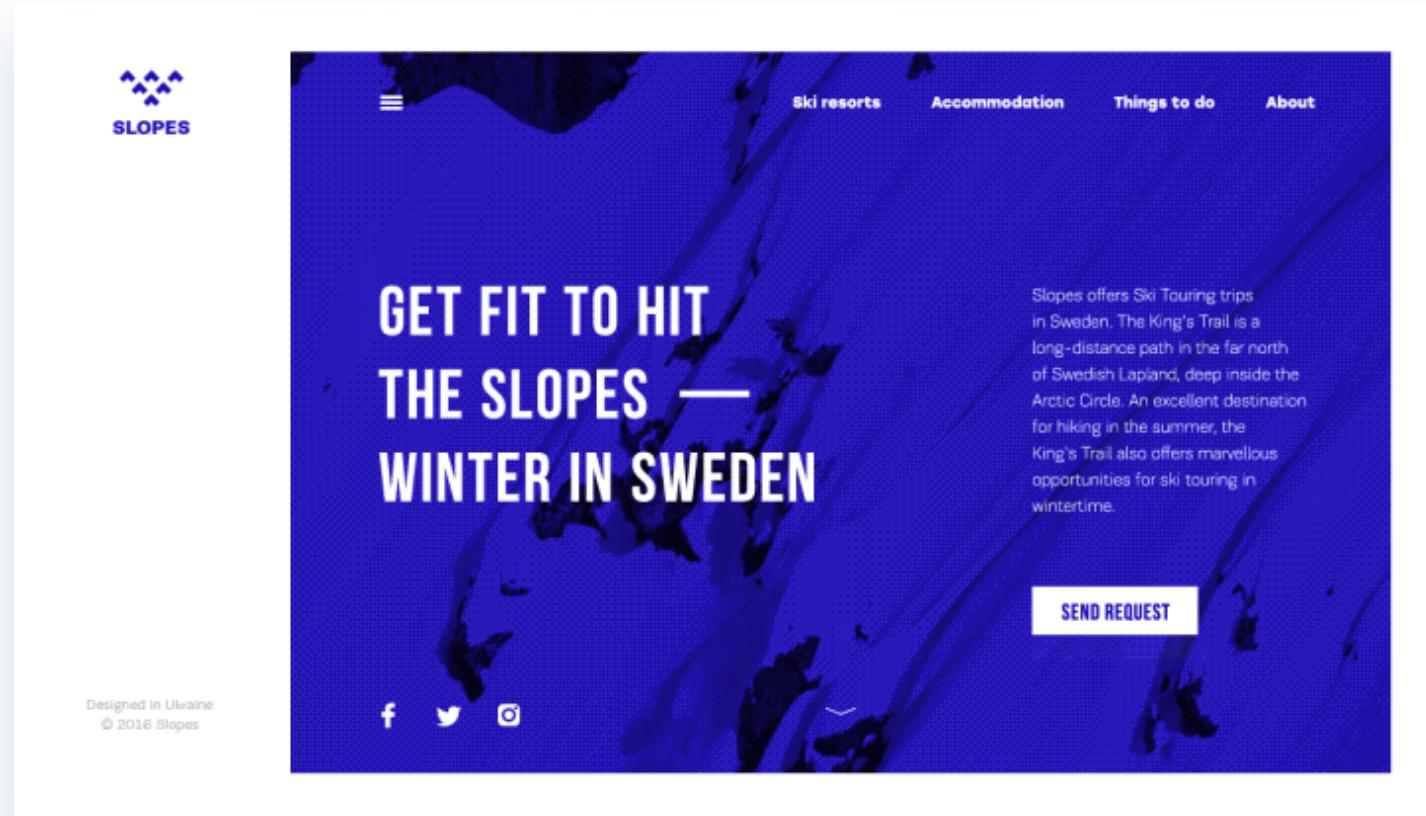
(b)

Gestalt Principle of Common Region

We see things in the same container as related



How is proximity used in this example?



Summary

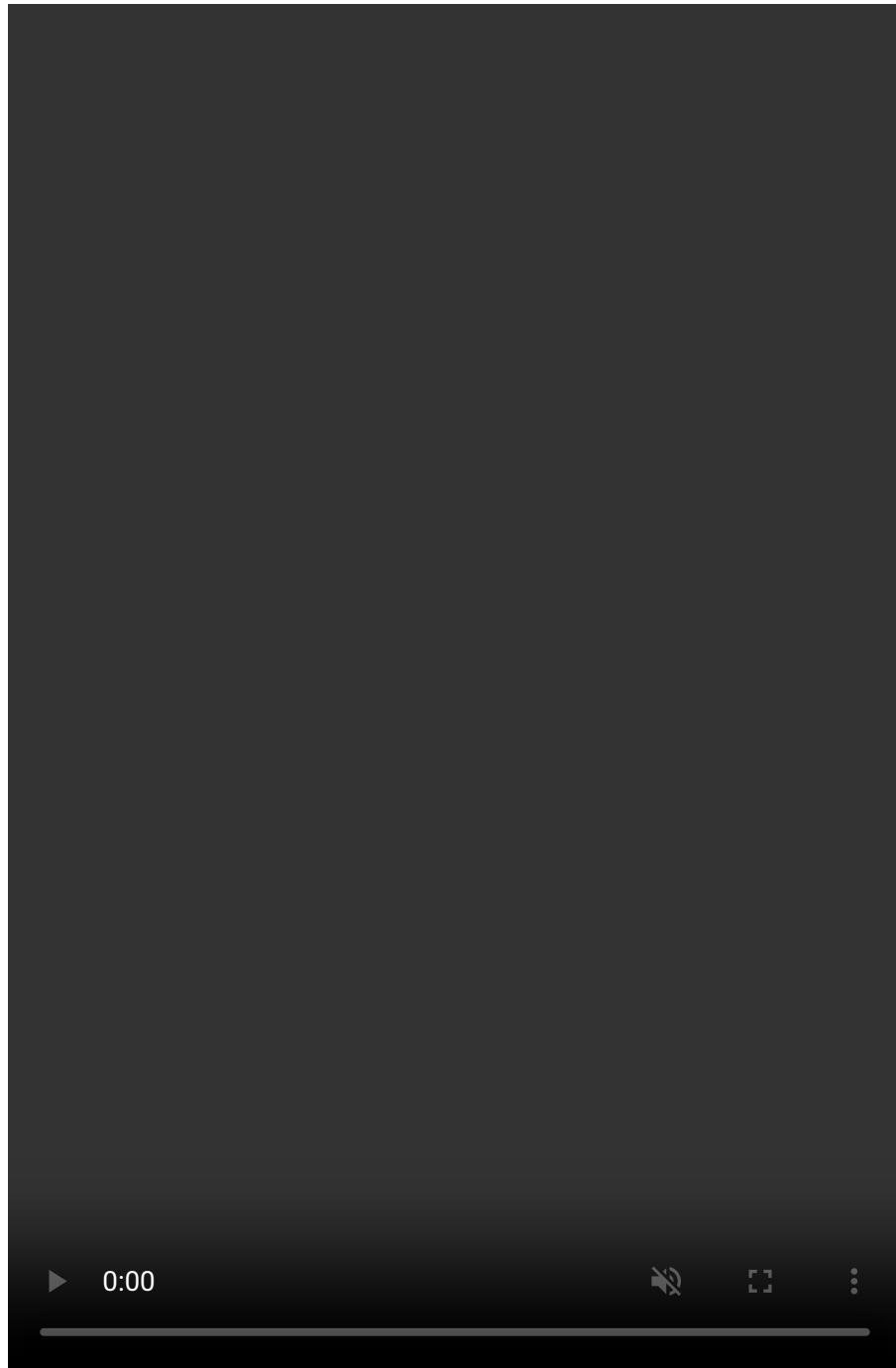
Apply these principles to your designs

- Contrast
- Repetition
- Alignment
- Proximity

Sketch a wireframe that uses a completely different way to encode information in this app (pitch, amplitude, waveforms of multiple oscillators).

Apply the principles below.

- Contrast
 1. Value
 2. Hue
 3. Shape
 4. Position
 5. Orientation
 6. Size
- Repetition
- Alignment
- Proximity



References

Nielsen, J. (1999). Designing web usability: The practice of simplicity. New riders publishing.

<https://web.mit.edu/6.813/www/sp18/classes/13-graphic-design/>

Williams, R. (2014). The Non-Designer's Design Book (4th ed.). Peachpit Press.