



2023

UI COURSE

# USER INTERFACE FUNDAMENTALS

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UI FUNDAMENTALS

KYRIAKOS IOANNIDIS





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# WHAT UI MEANS?

Briefly, UI (User Interface) involves the design of the visual elements and layouts that users interact with when using a digital product, with the goal of making the user experience seamless, intuitive, and visually appealing.

UI designers use various design principles and tools to create interfaces that provide a positive user experience. The goal is to present the information to the user in a pleasant and entertaining way.

All UIs consist of three things:

- 1 visual assets (icons, images, graphics, logo...)
- 2 colors
- 3 text-typography.





# HOW WE READ?

On the internet, people don't read content, they scan it. They try to be efficient and put in the least amount of work possible to achieve their goal. They have learned that scanning can provide almost the same amount of information as reading, but with much less time and effort.

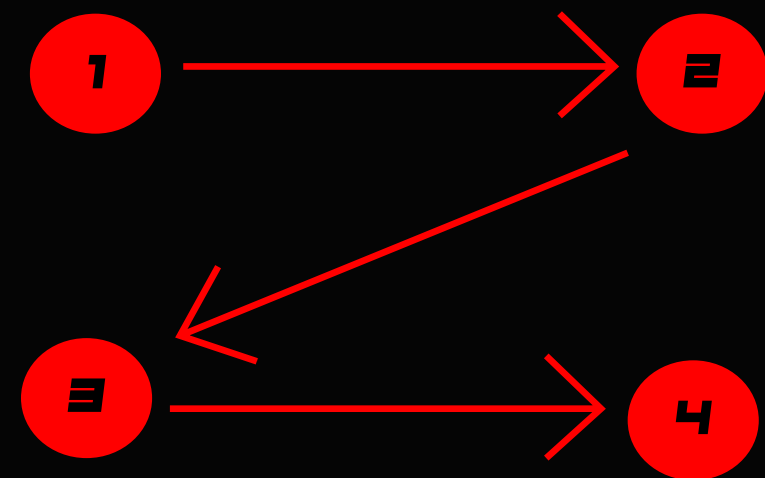
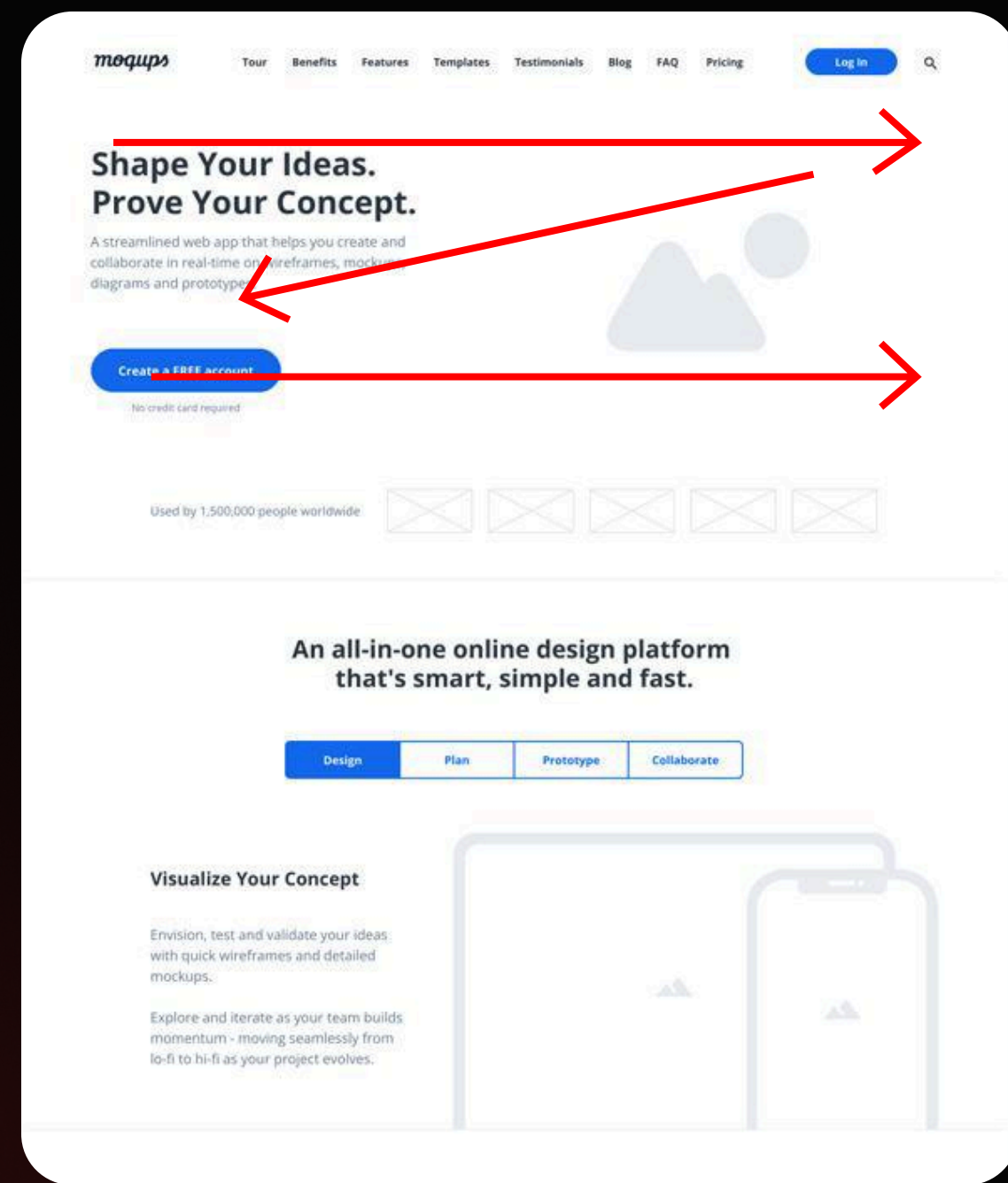
In general, the global standard is that we scan from top to bottom. Since we belong to the "Western World" and use mainly English or Spanish, we have learned to read the content from left to right. It always precedes left-right and then up-down. When we scan we create imaginary boxes in which the content is located.

This technique creates two different reading/scanning patterns: **Z-pattern**, **F-pattern**.



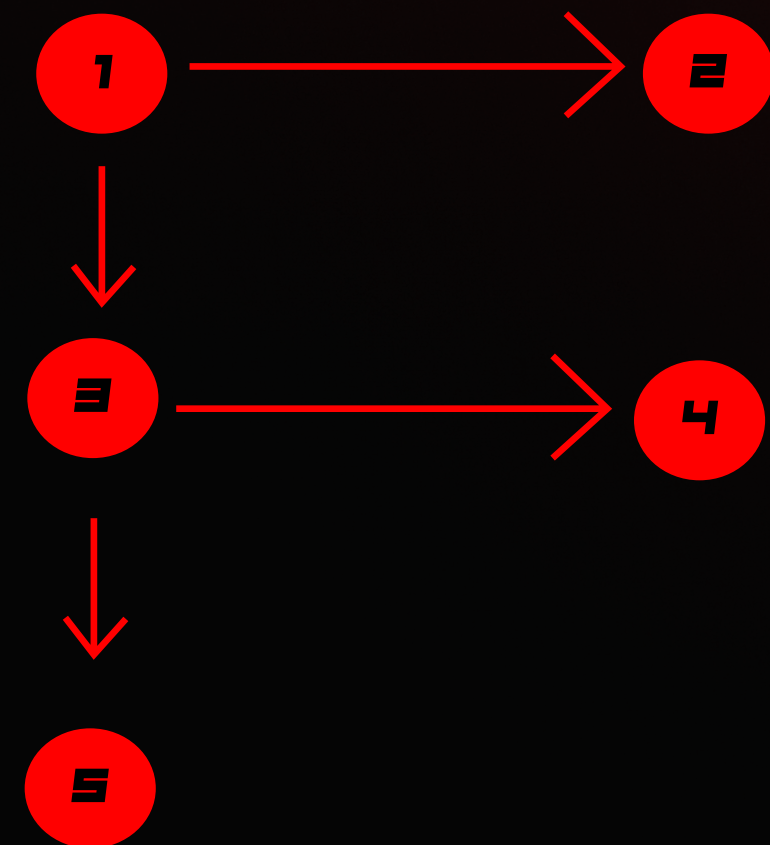
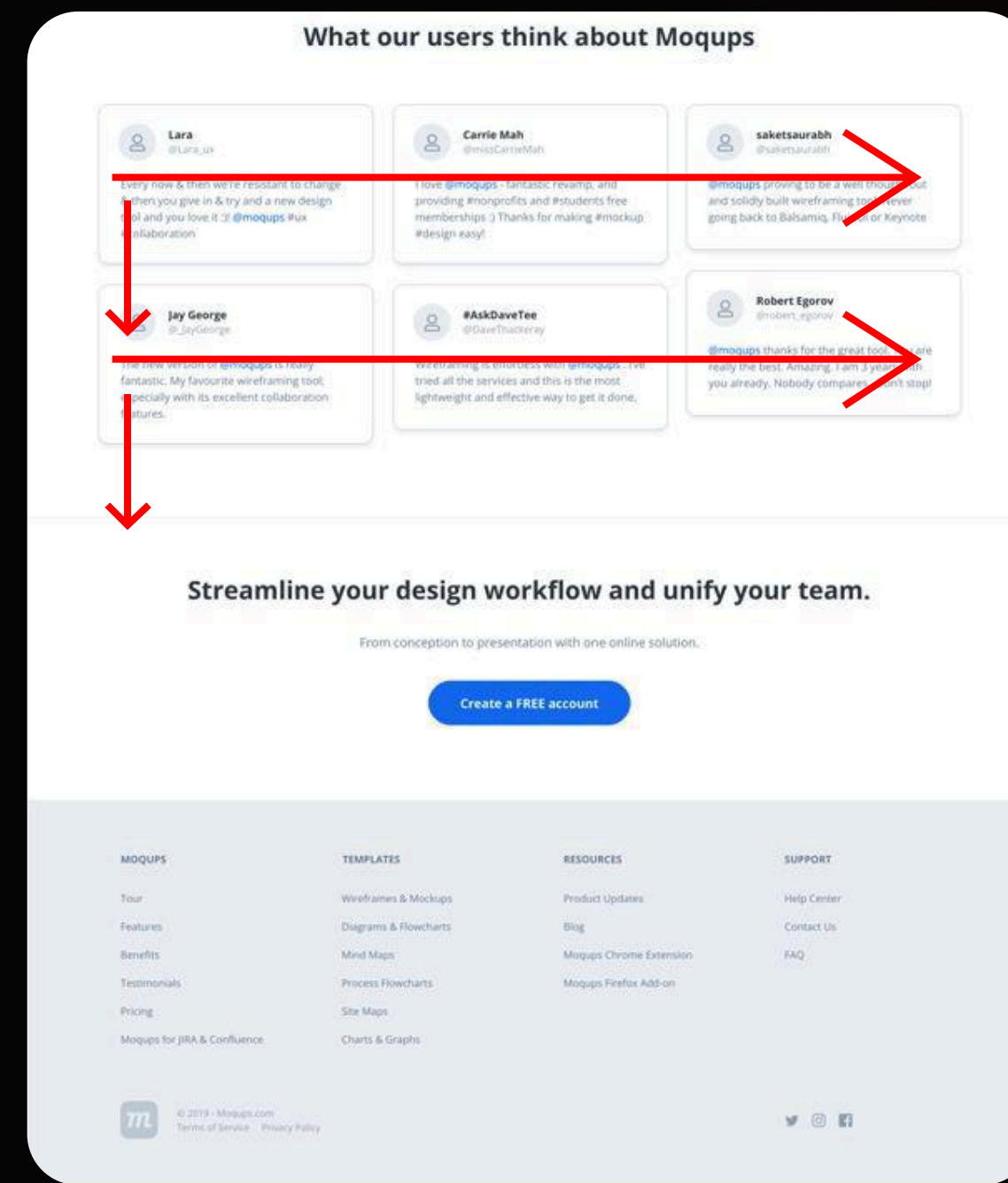


# Z PATTERN



# Z

# F PATTERN



# F





**THE HUAMN MNID DEOS NOT  
RAED ERVEY LTETER BUT THYE  
SACN THE WRDD AS A WLOHE.**

**- THE FIRST AND LAST LETTER MUST BE IN THE RIGHT PLACE.**





# UI PRINCIPLES

1. Hierarchy
2. Contrast
3. Alignment
4. Repetition (Consistency)
5. Proximity
6. Balance
7. White Space





# **THE EXAMPLE WE GOING TO COVER TO SHOWCASE THE PRINCIPLES**



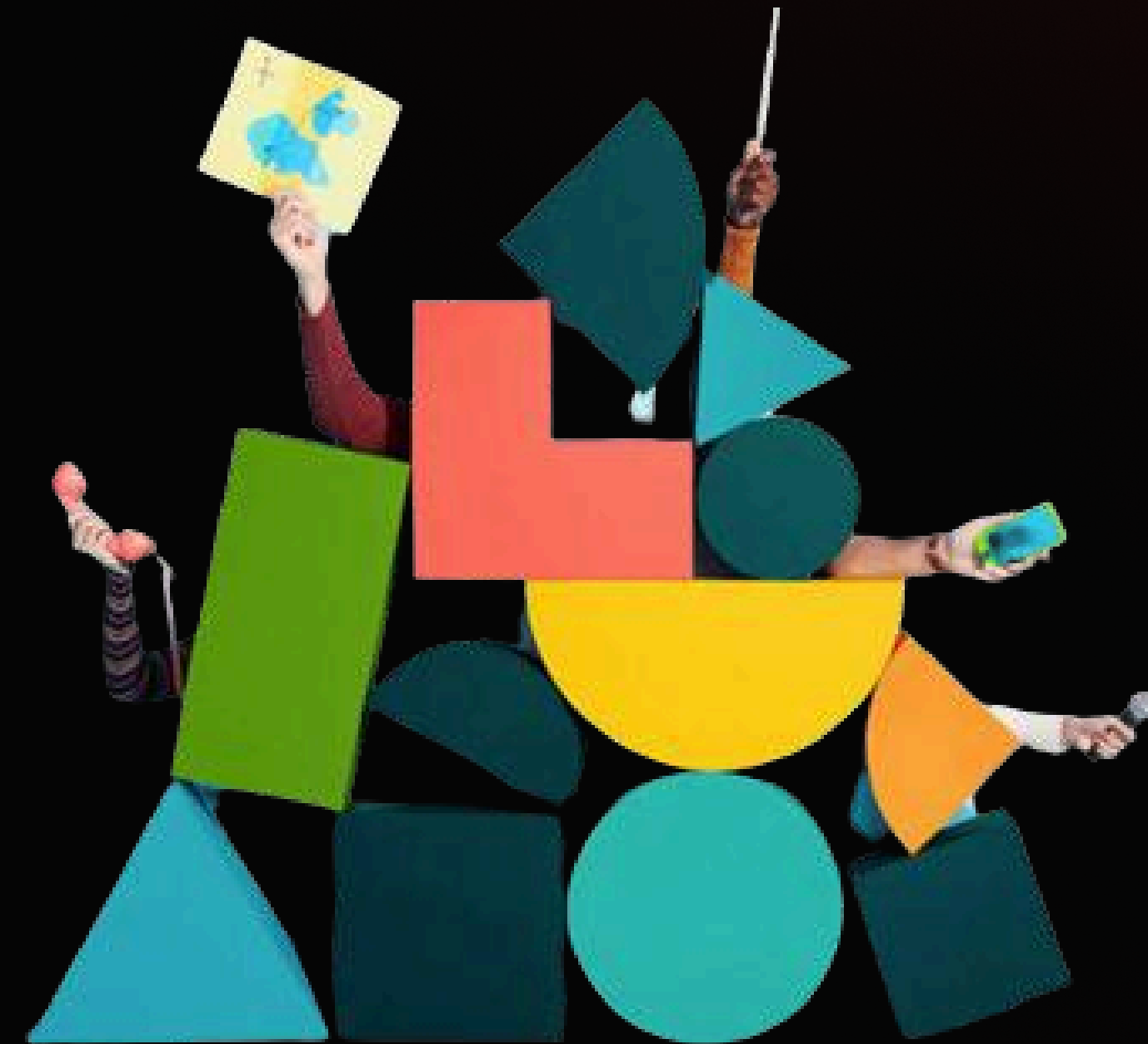


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01. PRINCIPLE

# HIERARCHY





# INTRODUCTION

Hierarchy provides the user with a road map (visual map) to navigate throughout our design. In an age where attention spans and patience are limited, hierarchy can be the secret weapon that ensures your users find what they need while encouraging them to explore further. Given the importance of user experience, hierarchy is often critical to the success of an Interface.

**Briefly:** It is the presentation of the design elements in order of their importance. With our specific design highlight what is most important in our layout.

**To achieve a good hierarchy we must use a combination of all the principles, for this we will mention them slowly as part of the hierarchy.**





# TYPES OF HIERARCHY.

There are several different types of hierarchy, however we will focus on only two important ones.

**Visual Hierarchy:** It is the method of arranging graphic elements in order of importance. This means that all the graphic elements present in a layout are not all equally important. Depending on the importance of the item we try to make it more prominent.

**Typography Hierarchy:** People aren't interested in reading every word you have to say. Typographic hierarchy allows you to organize your content in a way that helps readers find the information most relevant to their needs.



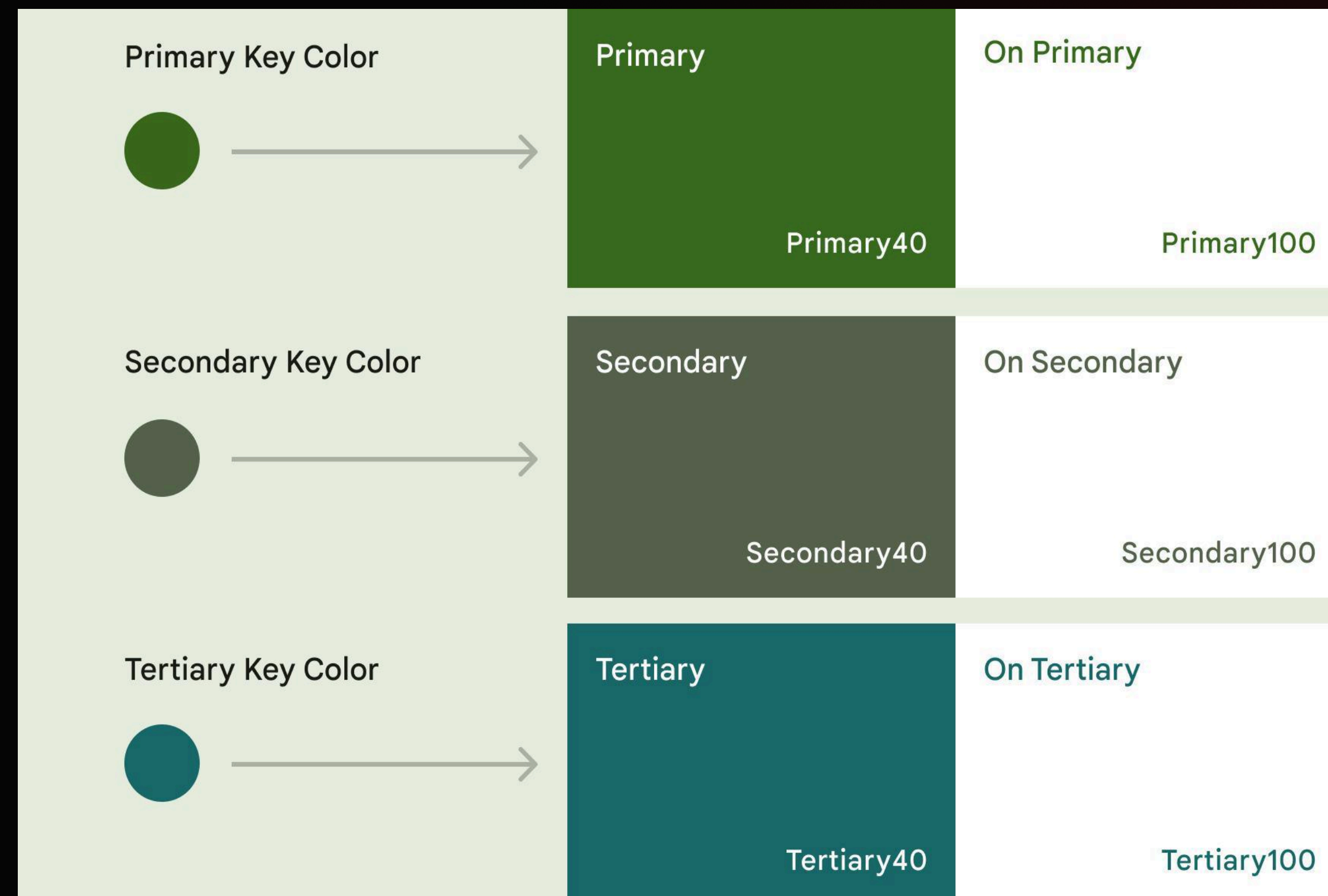
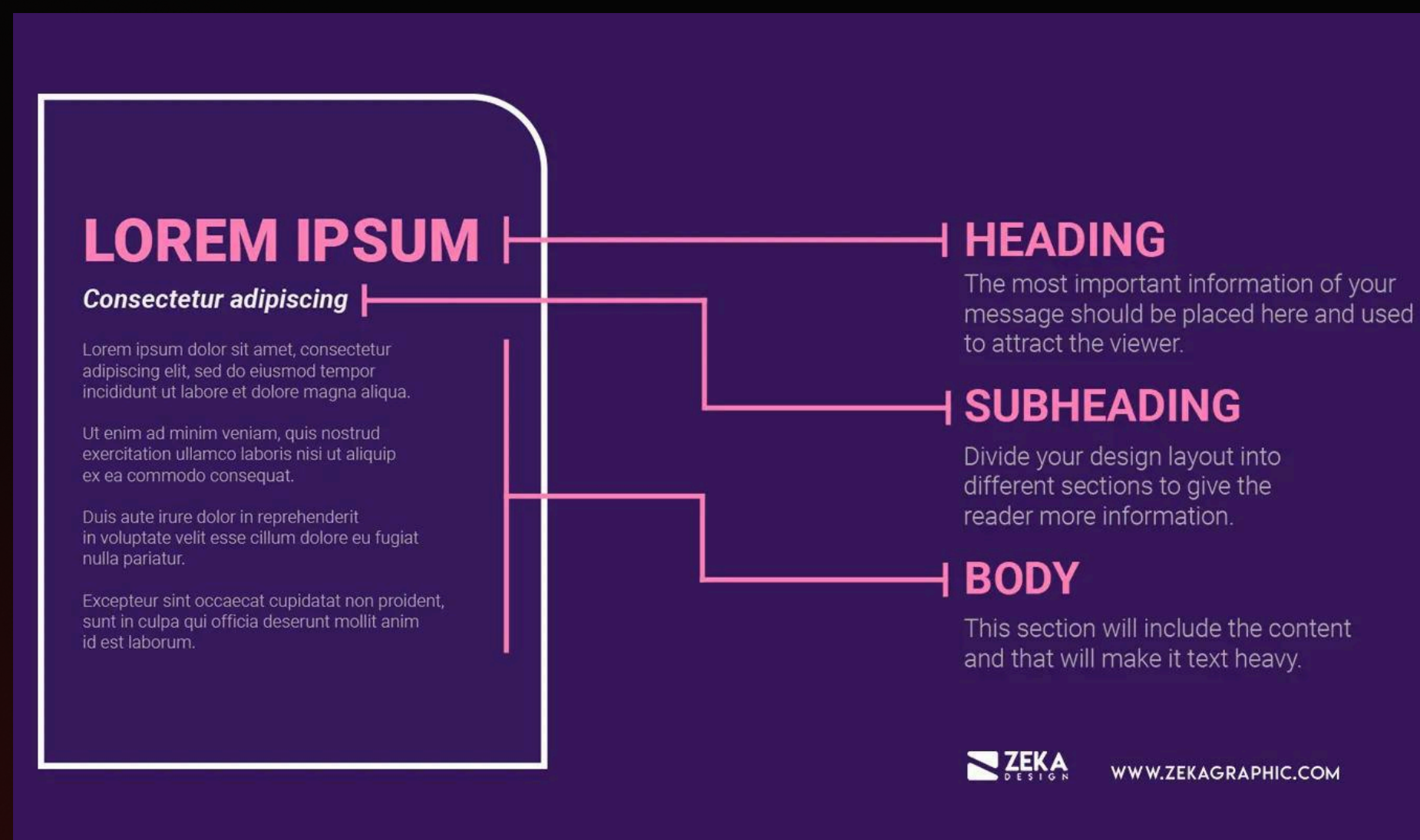
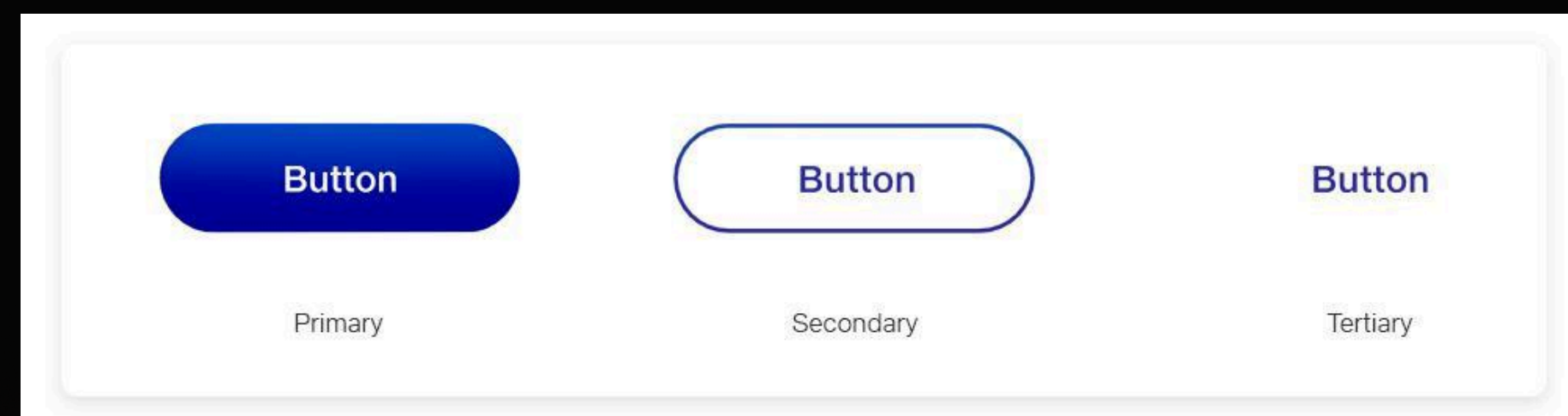


# ELEMENTS OF HIERARCHY.

Establishing a hierarchy often involves organizing elements into primary, secondary, and tertiary based on their importance or importance. This hierarchical structure helps users quickly understand the relationships between different elements within a design.

For typography there is a different structure Heading, Subheading, body, but it has exactly the same hierarchy logic. With this division into hierarchies it becomes easier to direct the user to what to see first. This technique is important so that the user can easily distinguish the displayed content and not be overwhelmed and not know where to look.









HEADINGS

80px **heading 1**

64px **heading 2**

48px **heading 3**

40px **heading 4**

32px **heading 5**

24px **HEADING 6**

TEXT

BUTTON TEXT

example **SAVE ALL CHANGES**

paragraph text

example Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

paragraph text bold

example Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

small text

example Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

<https://medium.com/@joanaboavida>





# ELEMENTS HIERARCHY



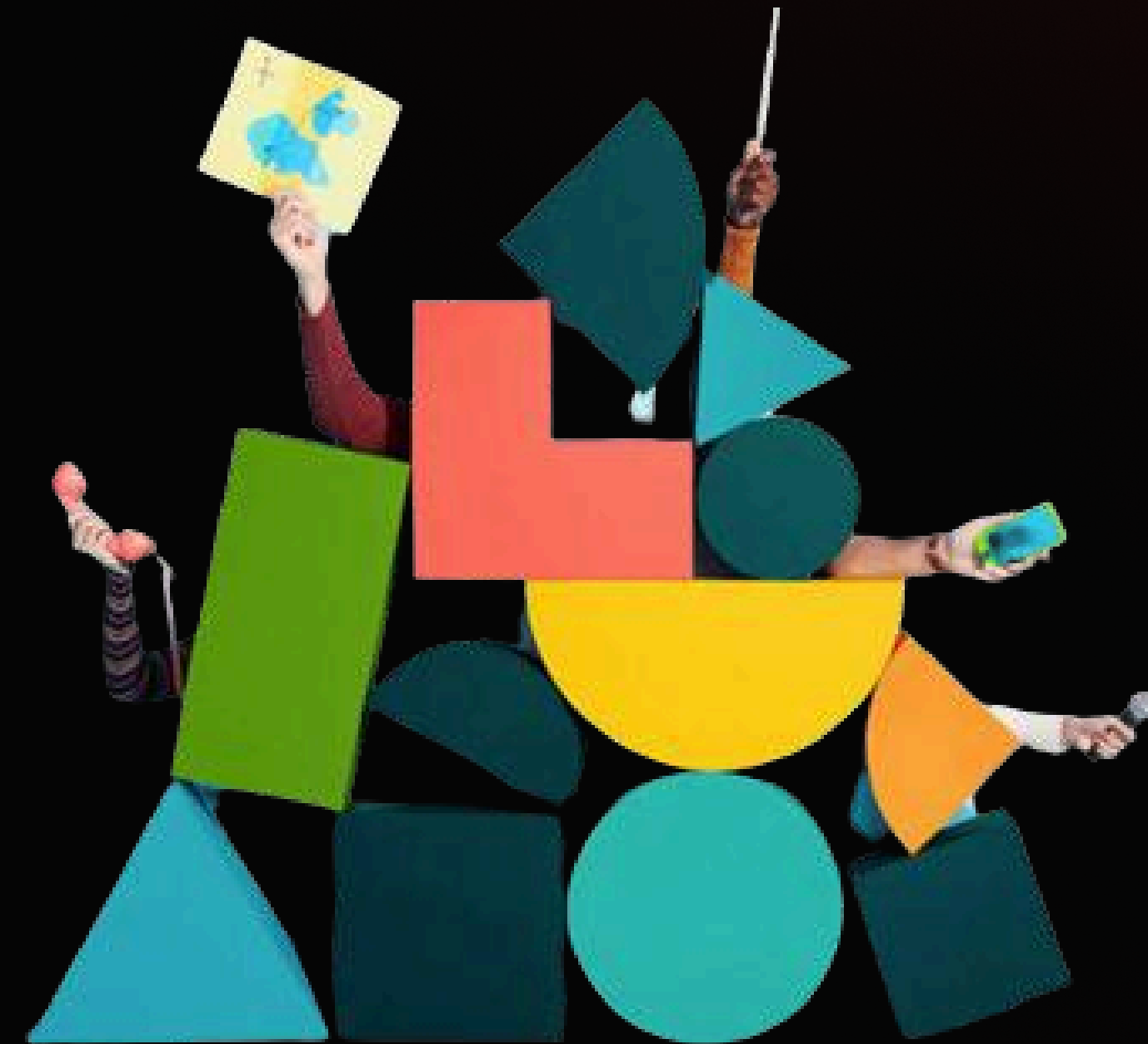


We can lend a hand

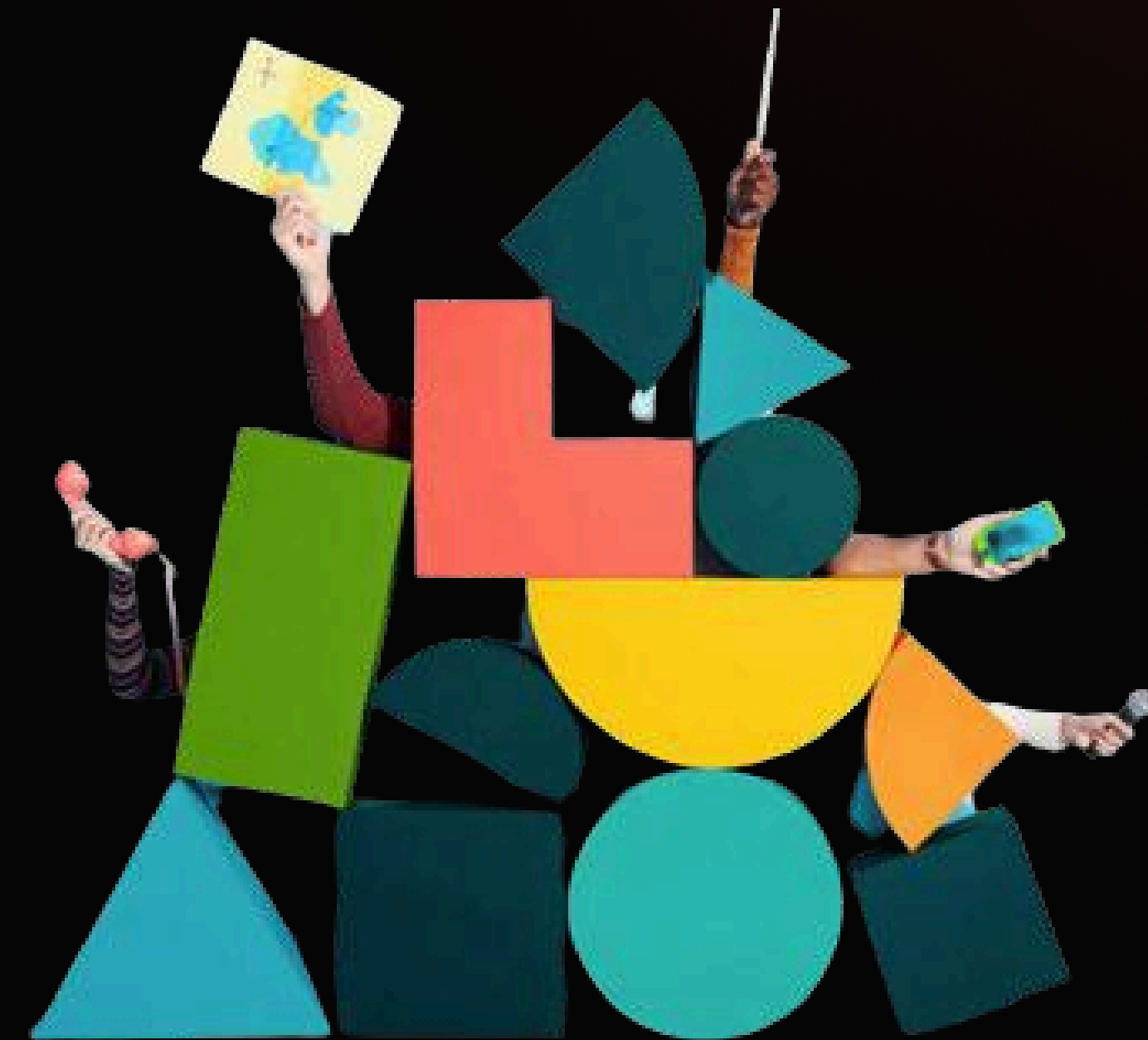
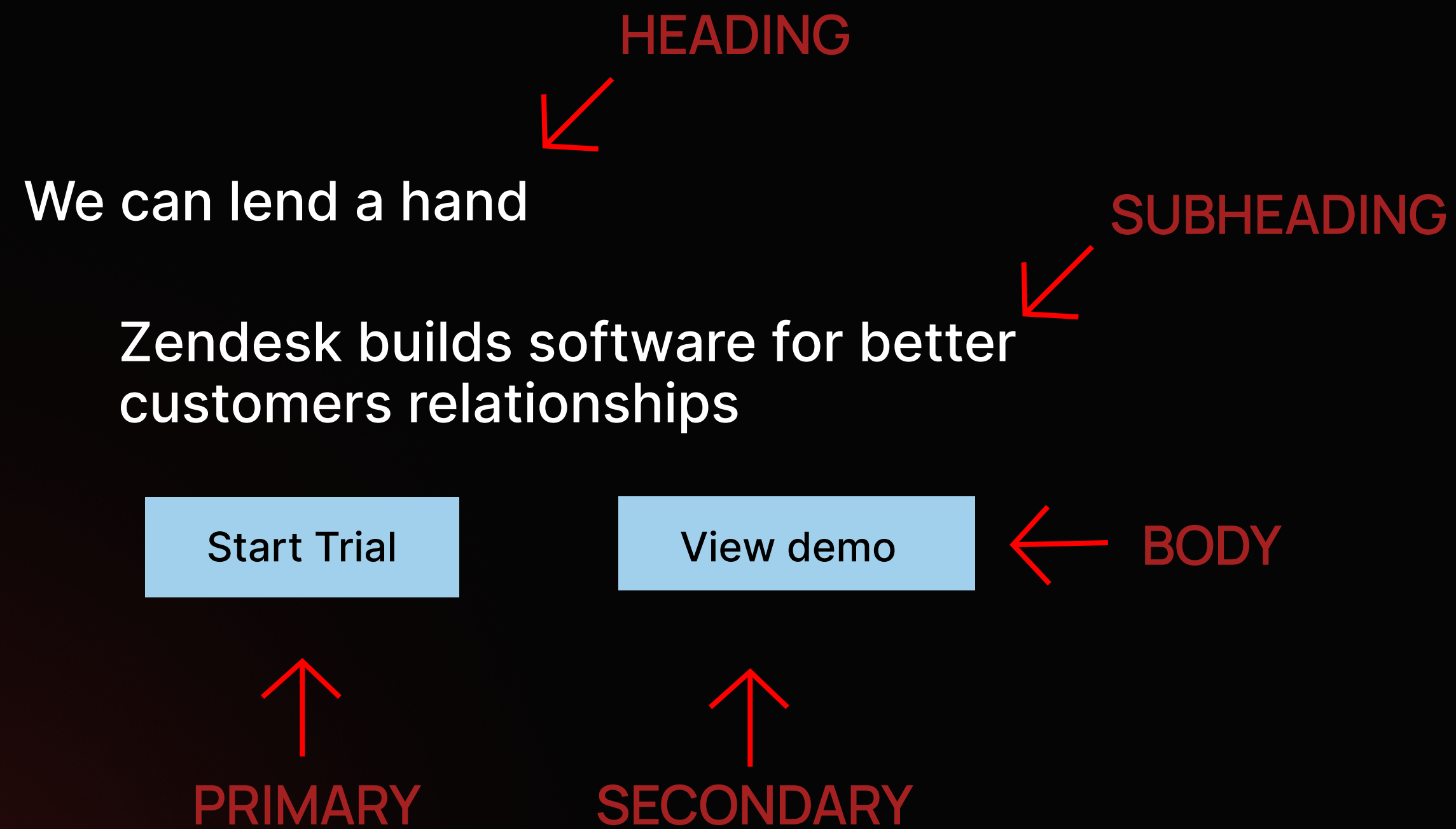
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\*\*More important for the business goals, is to start the trial, than to watch the video because they want more leads.





# **HIERARCHY**

## **- SIZE**





# ELEMENTS SIZE.

One factor that can create hierarchy is size. The bigger the size of an element, the more attention it gets. Size can also add emphasis to a frame or design content, making it more important.

In the previous example if you noticed, the first thing our eye sees is the big graphic that is there, then it goes to the second biggest which is the Heading then to the subheading.

Lets see some visual examples first and later we will proceed with analyzing some already made layouts, and changing our example to use the hierarchy.





✓ YES



✗ NO







# WHAT WE WATCH FIRST/SECOND THIRD?







01

Interior  
Design  
Studio  
NYC



WE  
LISTEN,  
DESIGN  
& DELIVER



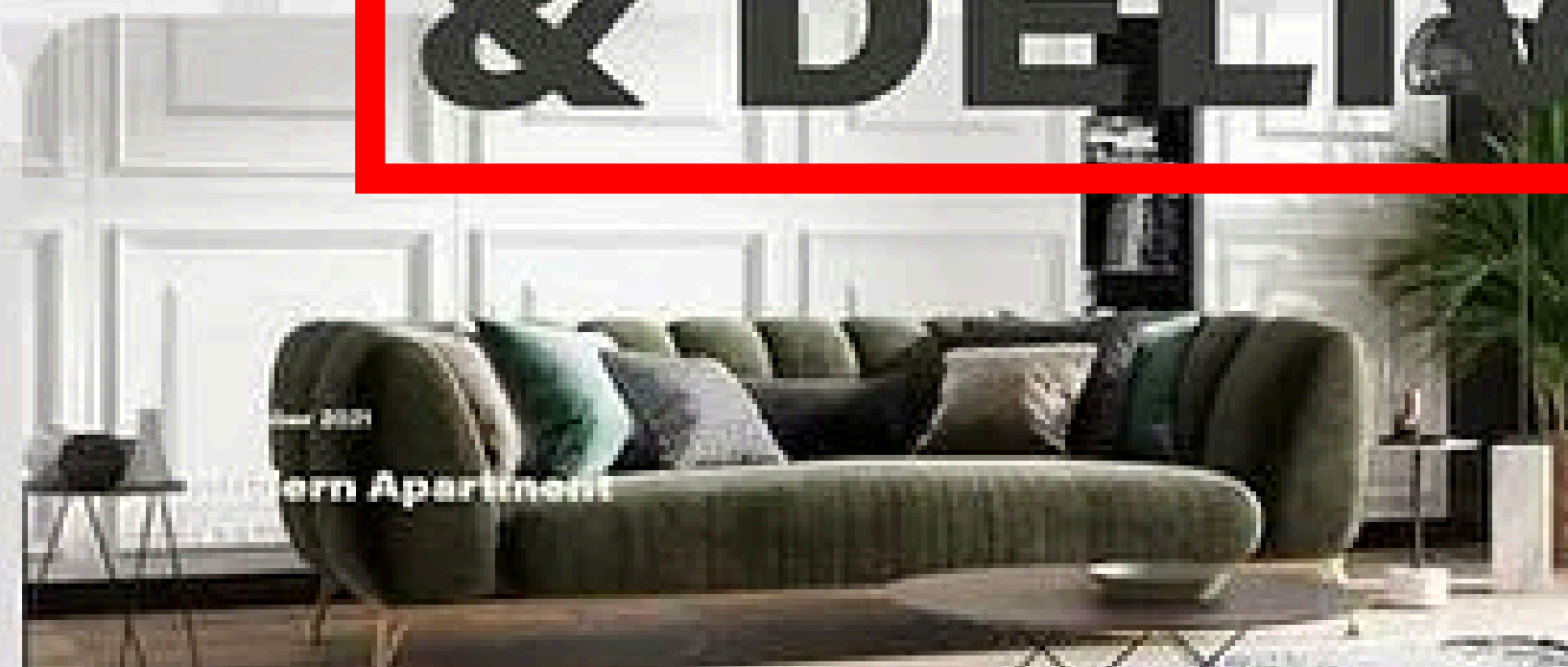
≡ MENU

We make experiencing  
your ideas possible.

OUR SERVICES →

02

03



Scroll down







**Why do we see the text “We listen,” first?**

It is obvious because in our layout it is the largest element.

**Why do we see the text "We make expert..." second?**

While normally based on size, we should have seen the image below, we see the text because we follow the F pattern we mentioned. First right-left then up and down.

**Why do we see the “OUR SERVICES” button third?**

Following as before the F pattern since there is nothing to the right, we descend down into the logical framework that our mind has formed.





# VISUAL HIERARCHY

## SIZE - SCALE



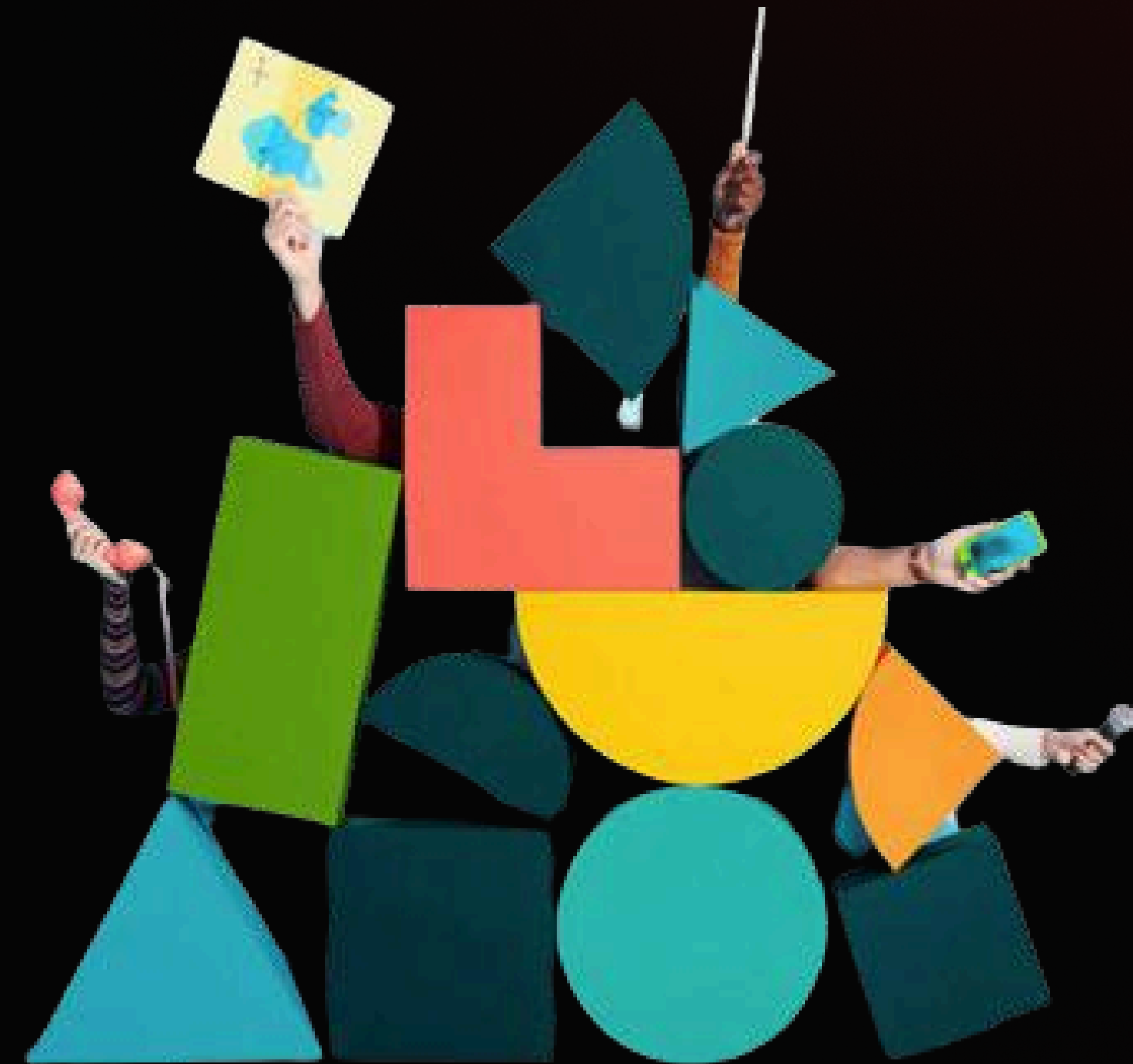


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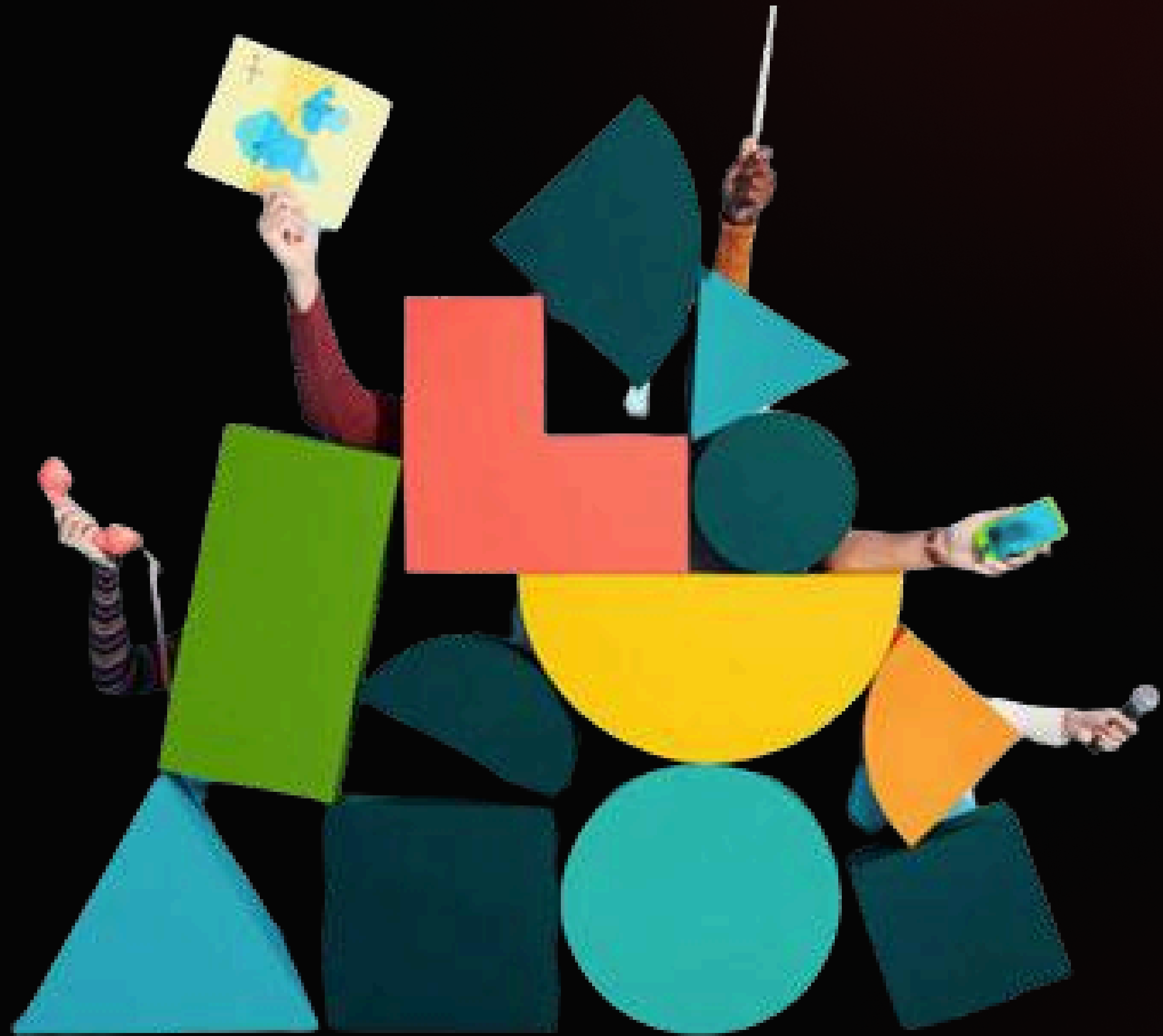


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02

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\*\*More important is the graphic in the case because it shows hands and the slogan is we can lend a hand, so we pay more attention to it by making it bigger.

01







# **TYPED HIERARCHY**

## **SIZE - SCALE**



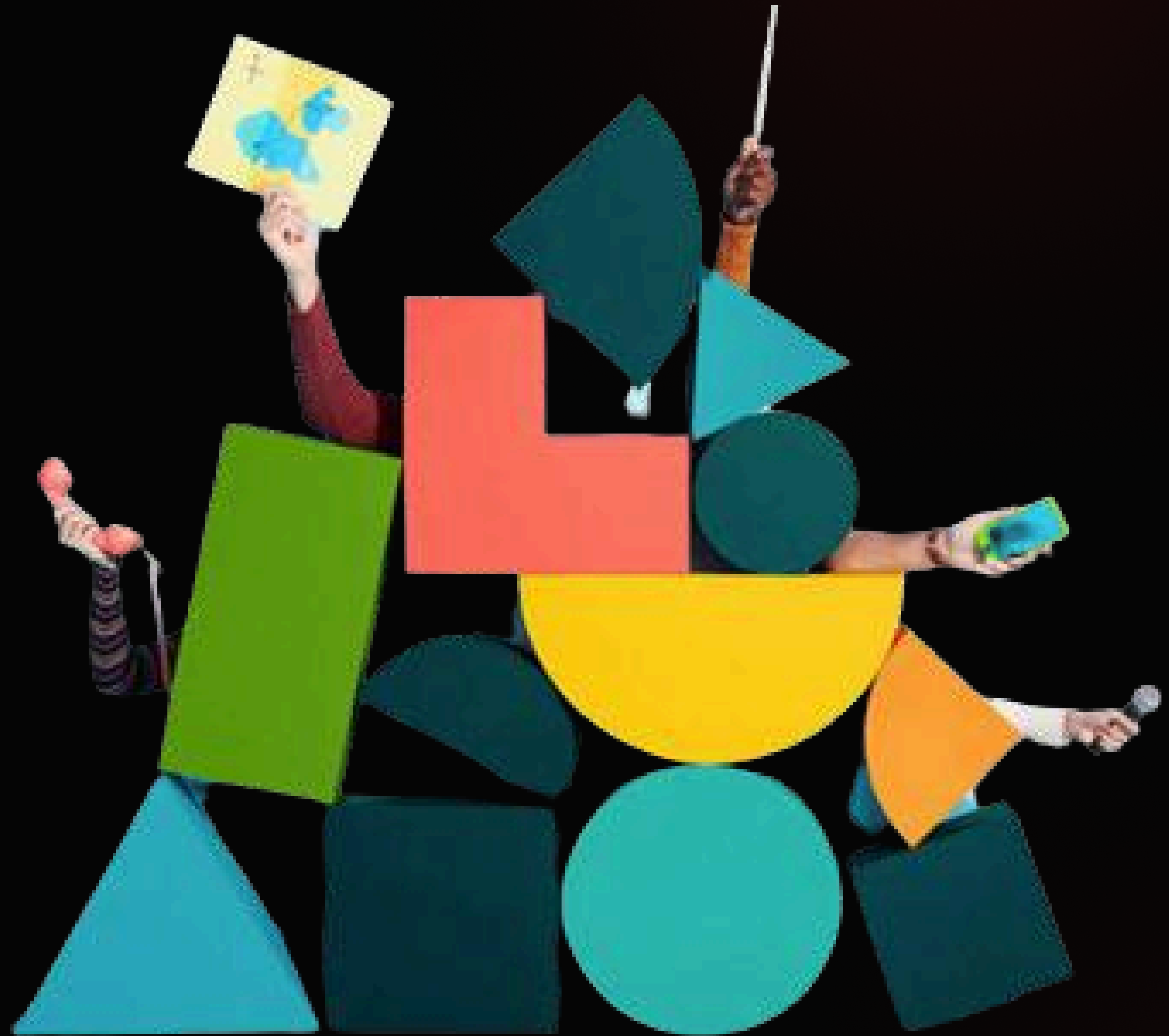


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# We can Larger size and greater weight. lend a hand

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**02. PRINCIPLE**

# **ALIGNMENT**





# ALIGNMENT.

Alignment is the design principle that builds order, organization and as a byproduct of a successful application, improves readability. It is often a fine art and requires careful attention to small detail, however, if delivered accurately, it will make an interface look better.

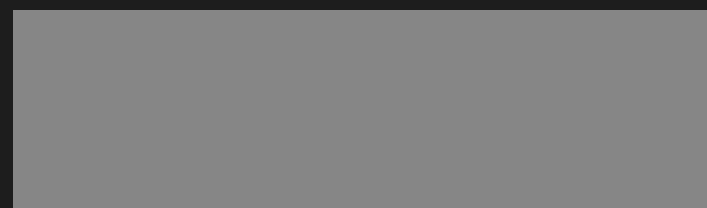
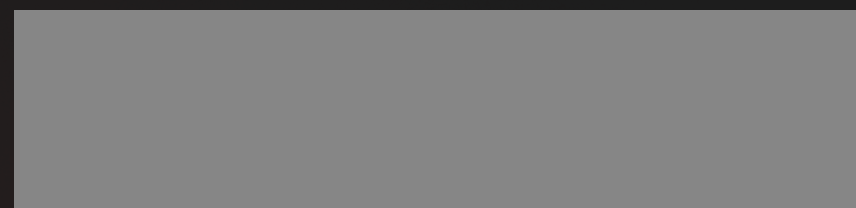
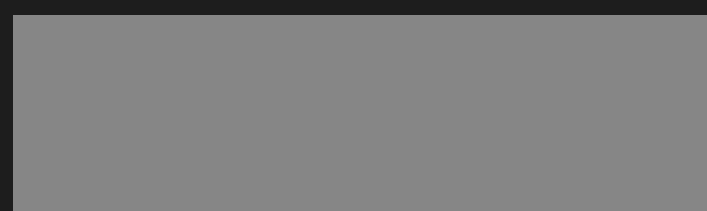
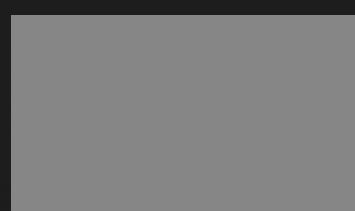
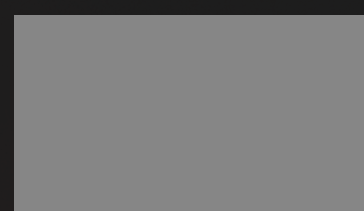
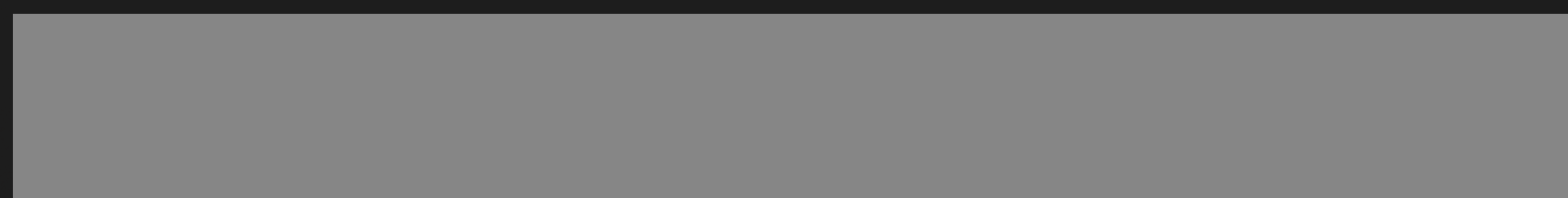
The alignment of elements creates a subjective invisible structure. We can imagine with our mind invisible lines that break the contents as we saw before in boxes.

The alignment for visuals and typography has no difference in terms of alignment. There are alignments on two levels, vertical and horizontal. There are four horizontal alignments. Left, right, center, justified. In the vertical there are also 4 top, center, bottom, justified.

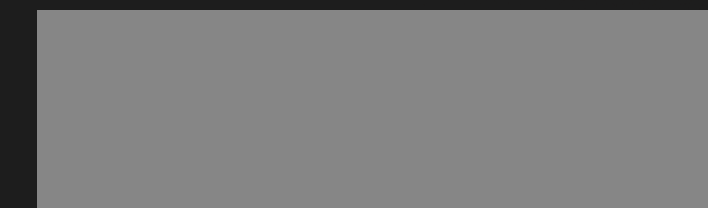
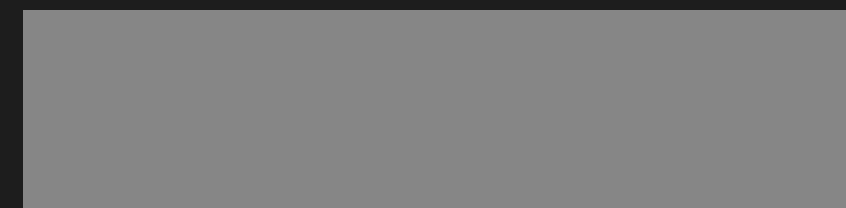
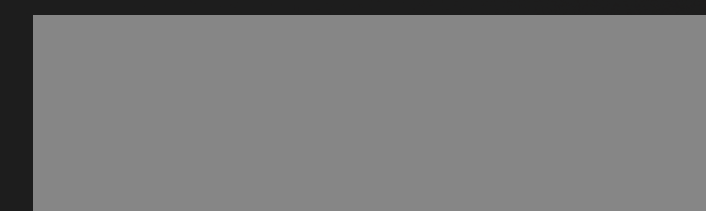
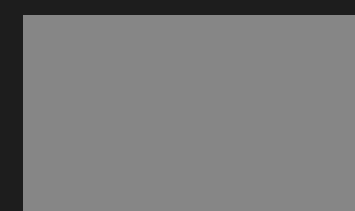
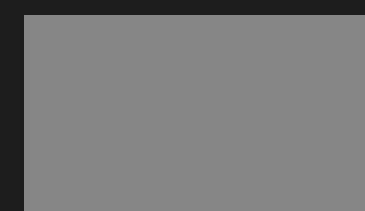
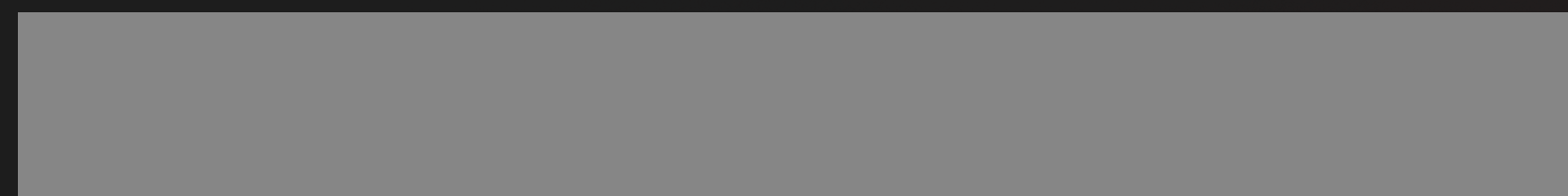




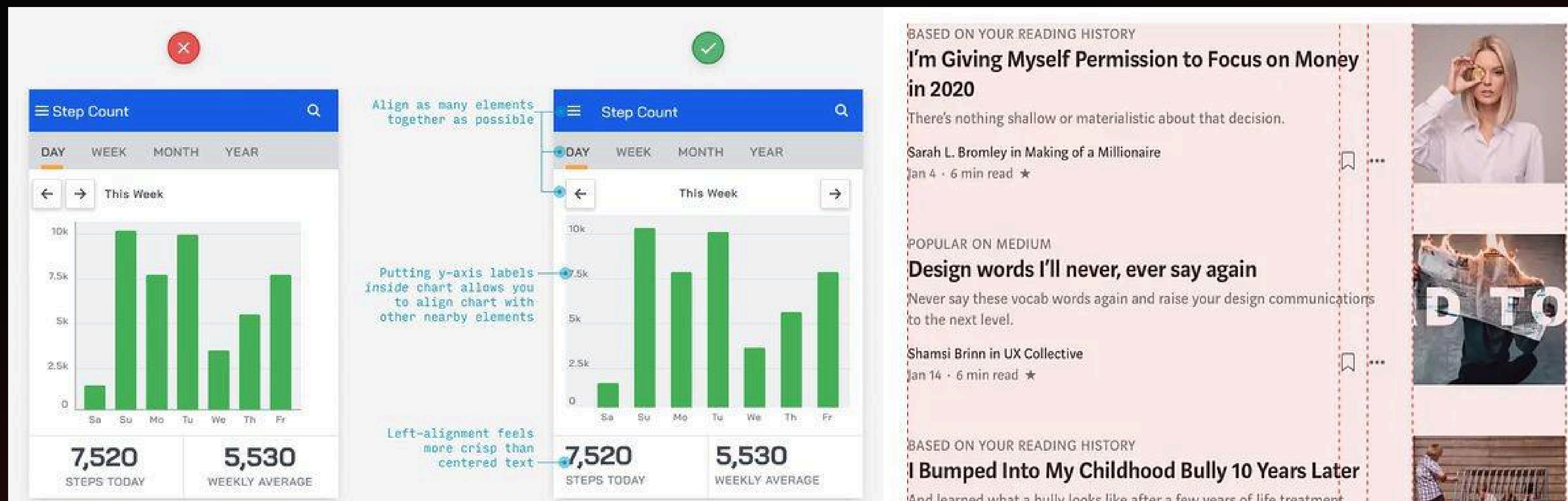
✓ YES



✗ NO











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It is located in the center of the horizontal  
layout and all elements start and end on the  
same vertical axis.

209px

209px





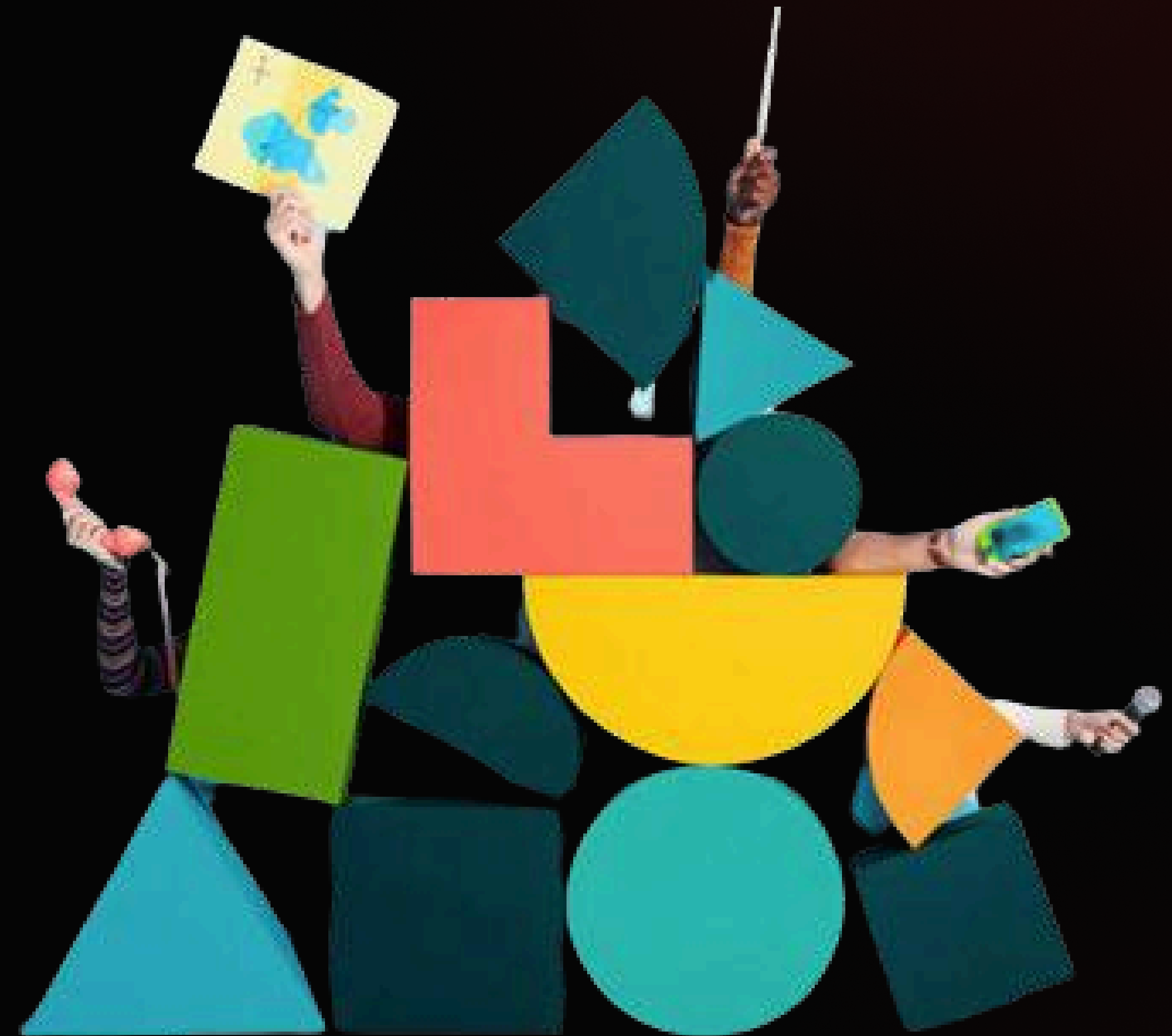


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**03. PRINCIPLE**

**CONTRAST**





# COLOR CONTRAST.

When most elements have the same color/size, then one that has a different color and creates a contrast is sure to attract more attention. This way we can create hierarchy. This technique is mainly used on the primary buttons that we want the user to press.

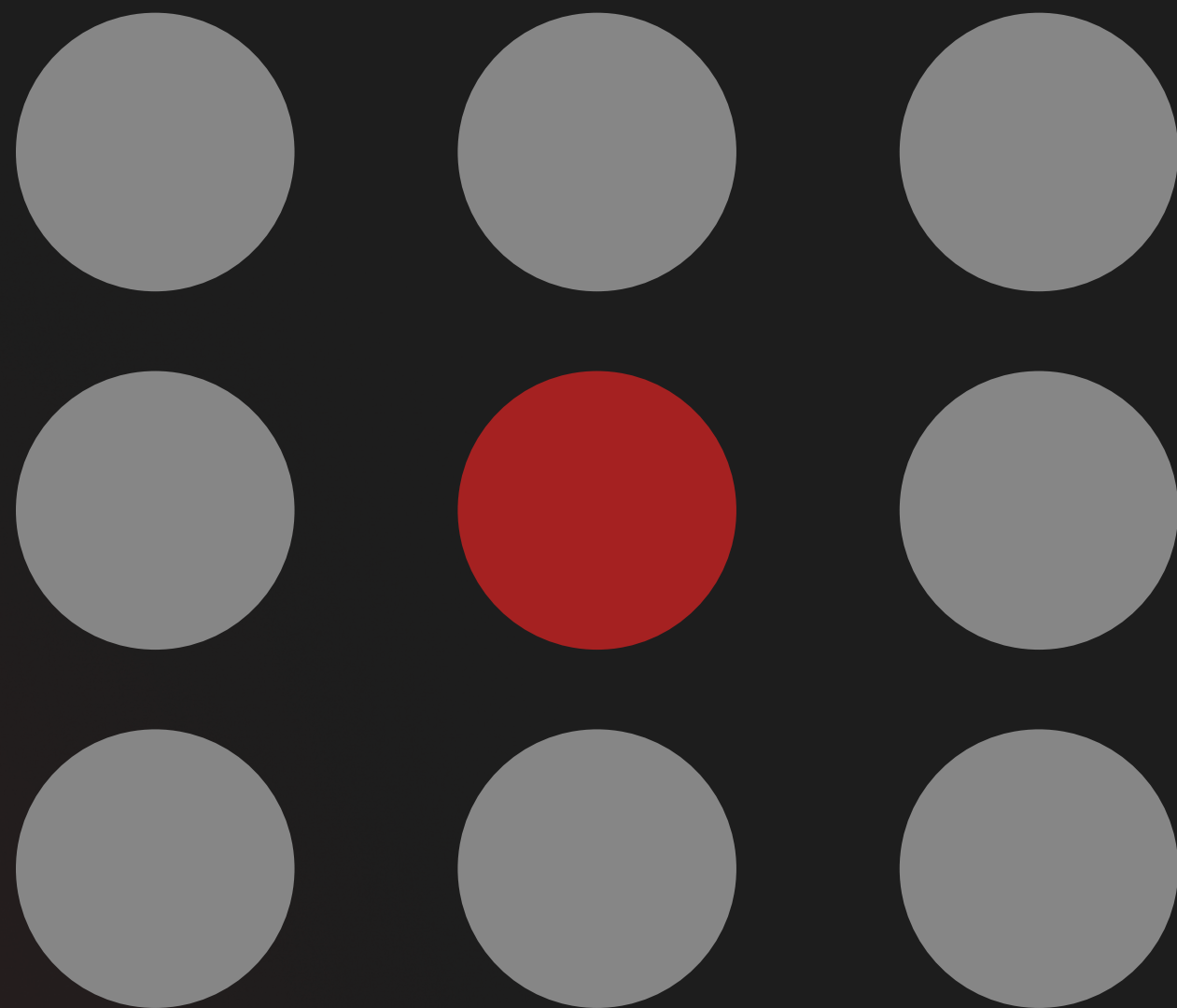
As we saw in UX-Fundamentals, there must always be a good contrast between the elements with the background-color that supports the **WCAG (Web Content Accessibility Guidelines) standard, at least 3:1(AA)**.

**Pro Tip:** The more intense the color, the more contrast it has from the background, the more attention it gets.

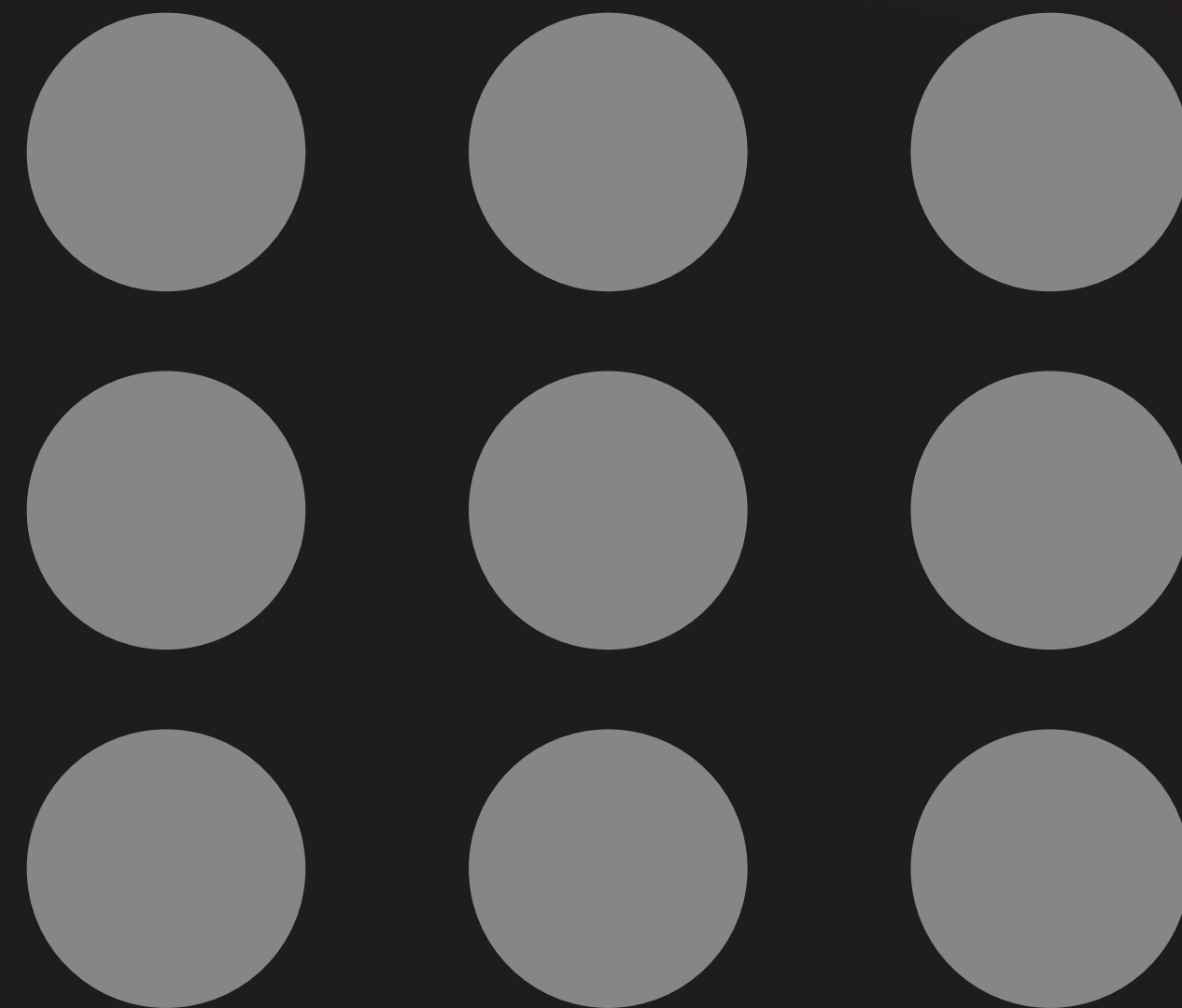




✓ YES



✗ NO



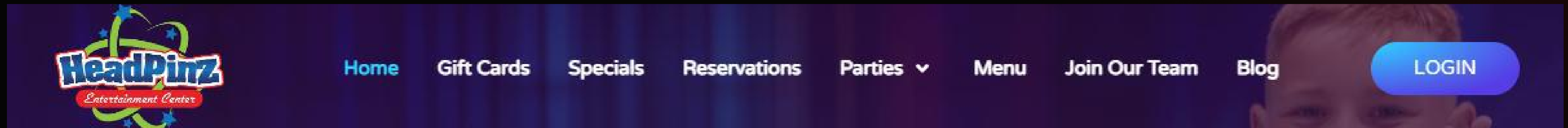




# VISUAL HIERARCHY

## COLOR CONTRAST





01

In this header, it is obvious that the button that says login stands out from the rest because it is a more important page and it is the page that we want users to click on. It stands out both in size and color.

02

We also notice that Home has a different color than the rest of the links, because it is important to let the user know that he is on this page. (active page)



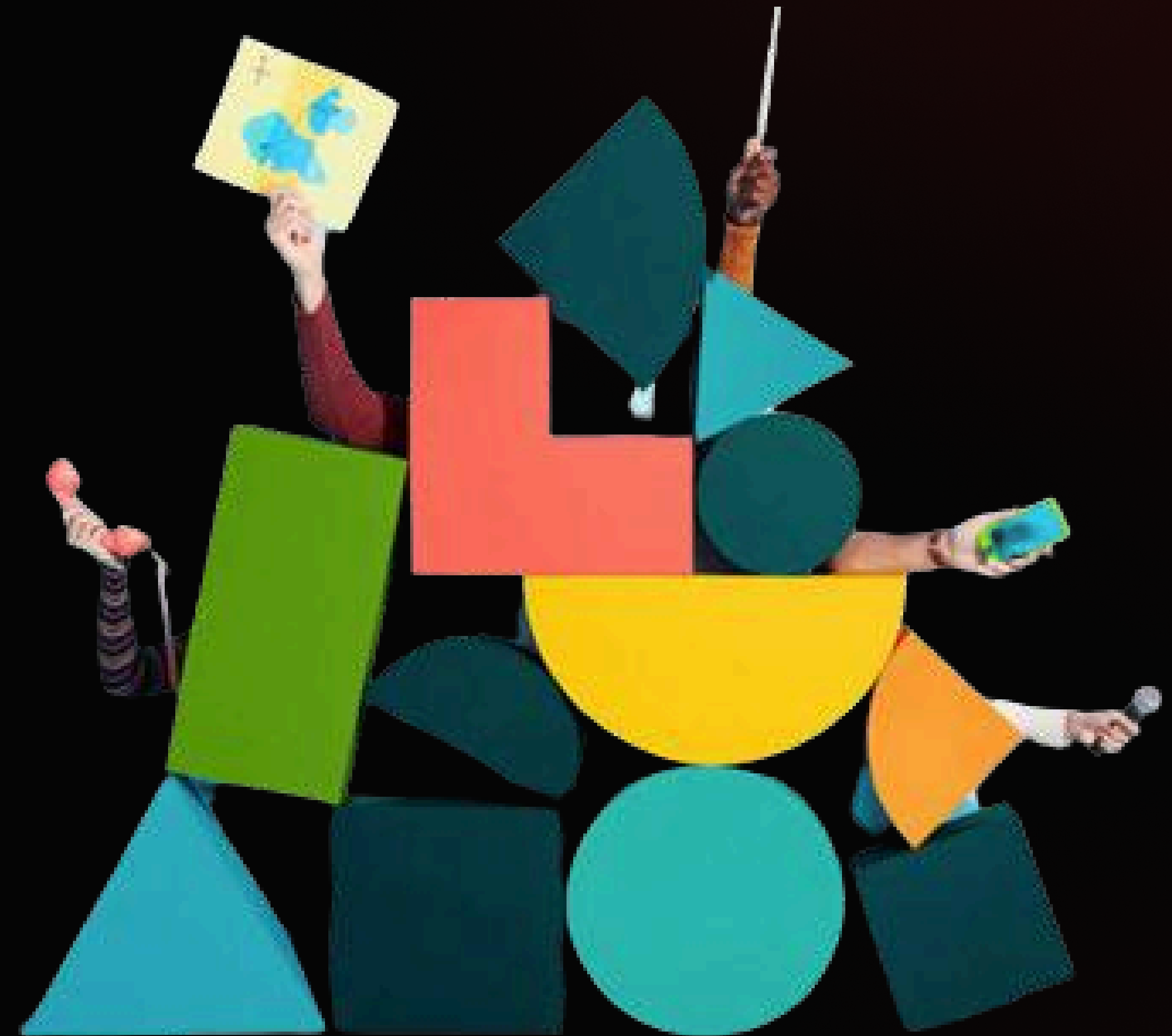


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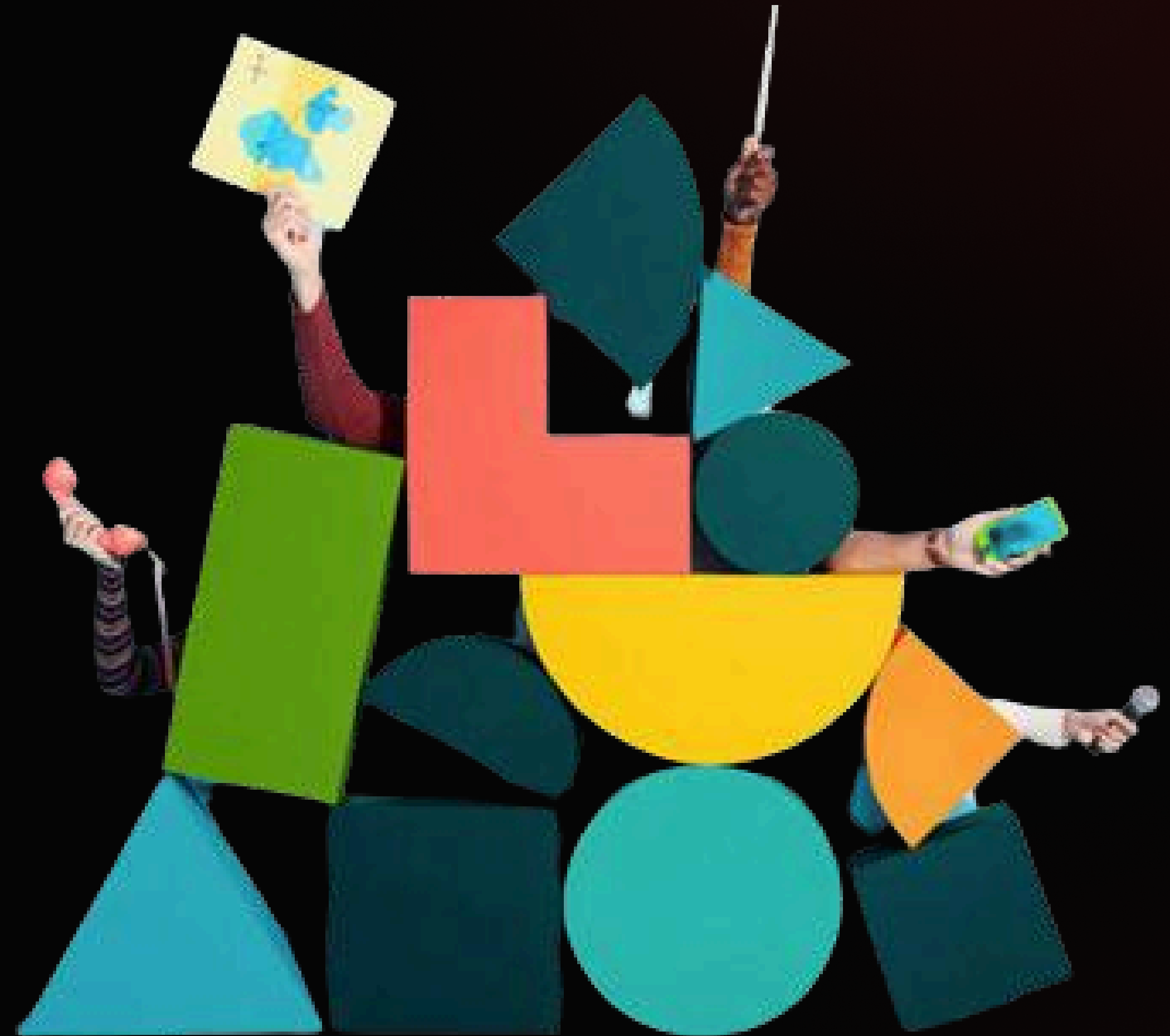


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# **TYPO HIERARCHY**

## **COLOR CONTRAST**



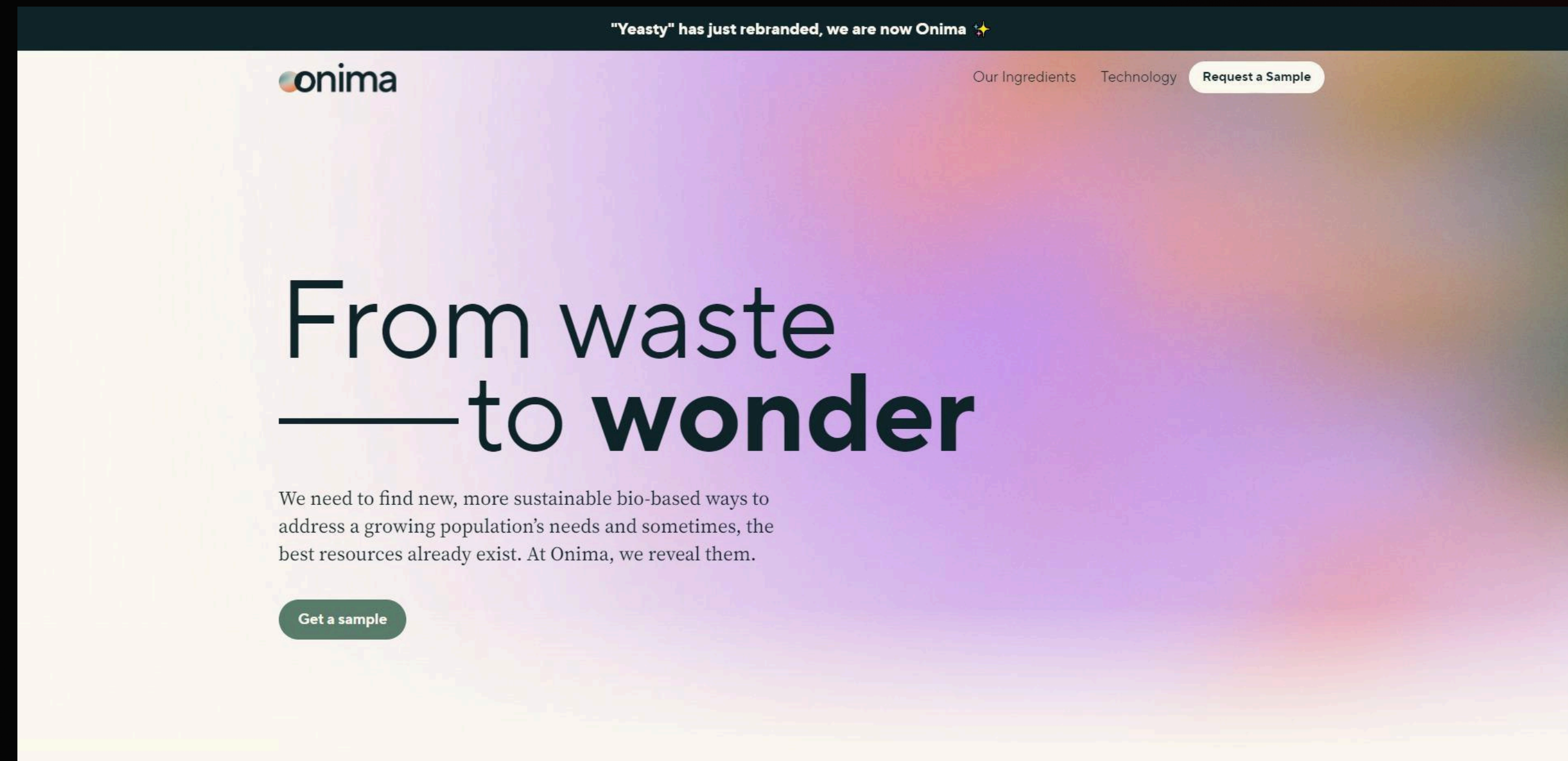


Lumata was founded by **Dr. Steve Fransen**, a practicing **retina specialist** with over 30 years of experience, to ensure no patients slip through the cracks in care that ultimately lead to irreversible vision loss.



We notice that while all the text is black the important words we want to focus on in this text are blue. Similar technique for changing color we can lower the opacity of the color.





Another way to change the color is to increase the font-weight on the words we want to pay attention to.



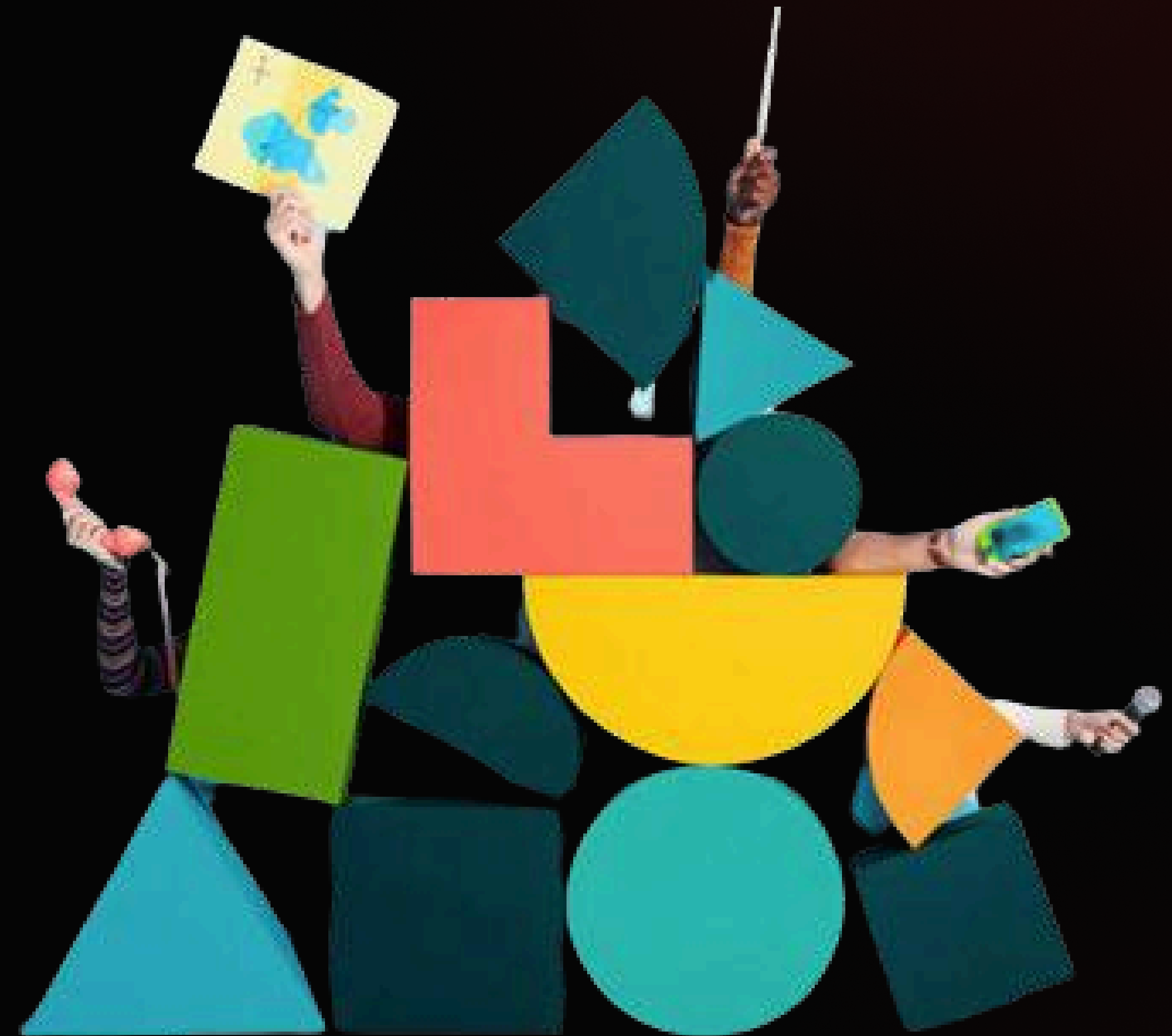


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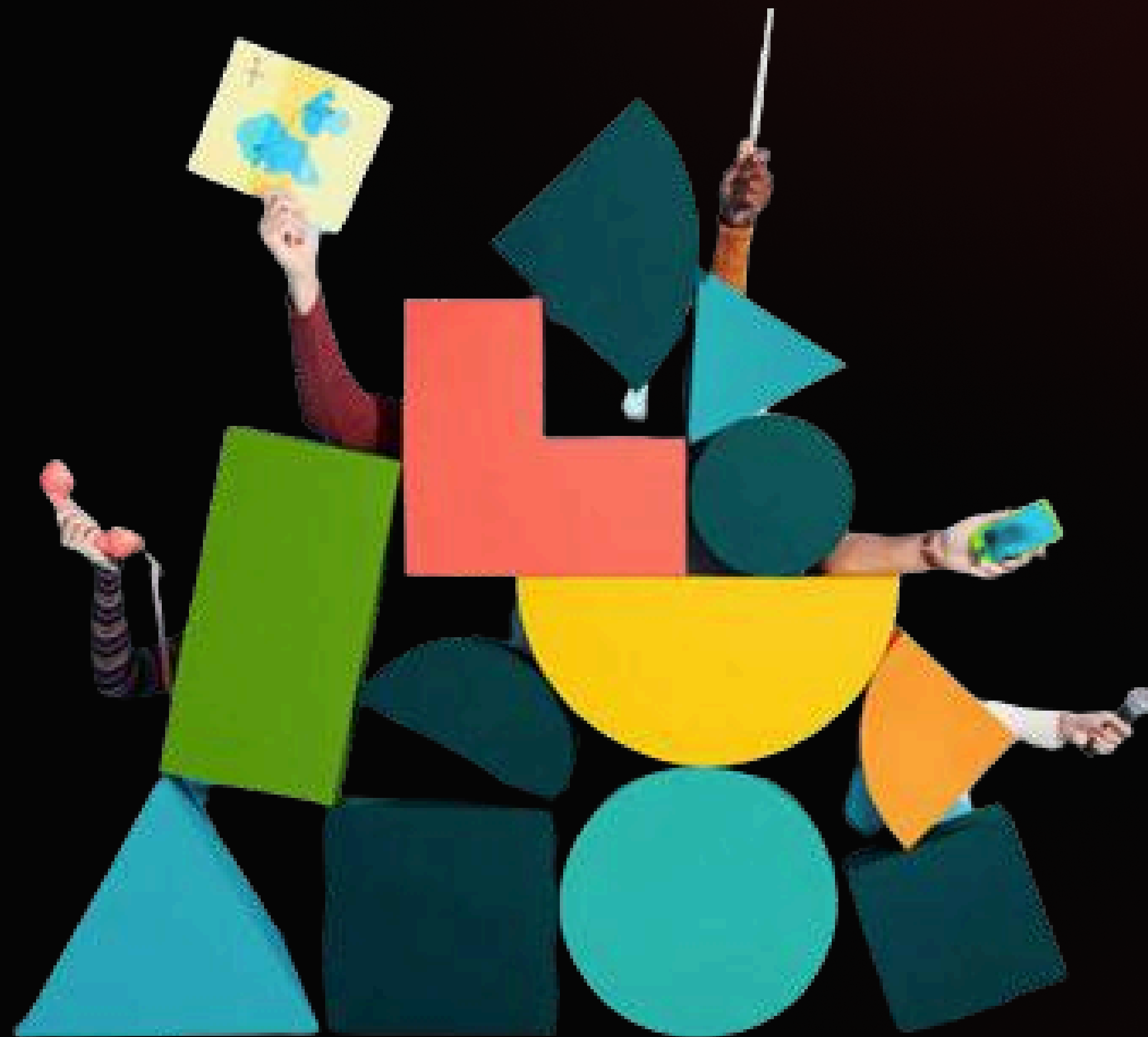
Start Trial

View Demo

Now we have a contrast that reaches 3:1



By lowering the weight we create the illusion that it is lighter compared to the heading.







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View Demo

Now we have a contrast that reaches 3:1



By lowering the weight we create the illusion that it is lighter compared to the heading.







**04. PRINCIPLE**

# **CONSISTENCY**





# REPETITION / CONSISTENCY.

Consistency in UI design is an important element that reflects the consistency and overall user experience when using an app or website. It's about maintaining similarity in appearance, design and functionality throughout the UI.

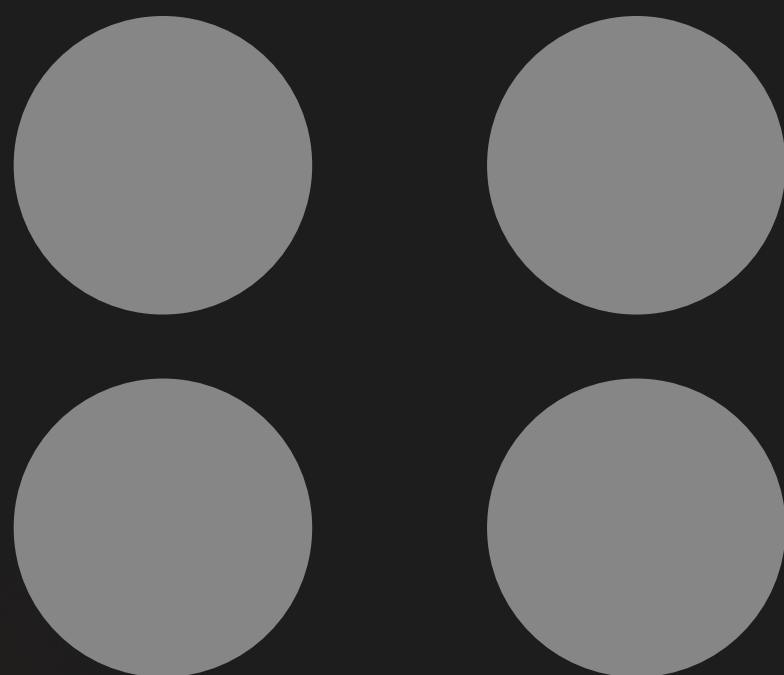
As we saw in [UX Fundamentals](#) → according to the principles of [Gestalt Principles-Similarity](#), the human mind can understand objects that present similar characteristics (color, shape, size, etc.) as a group and are considered to have the same function.

In order to achieve this, the elements we use on the site, when they have the same function, must have the same characteristics. We can't have different button colors or different elements/texts along the page, because it will confuse the user.

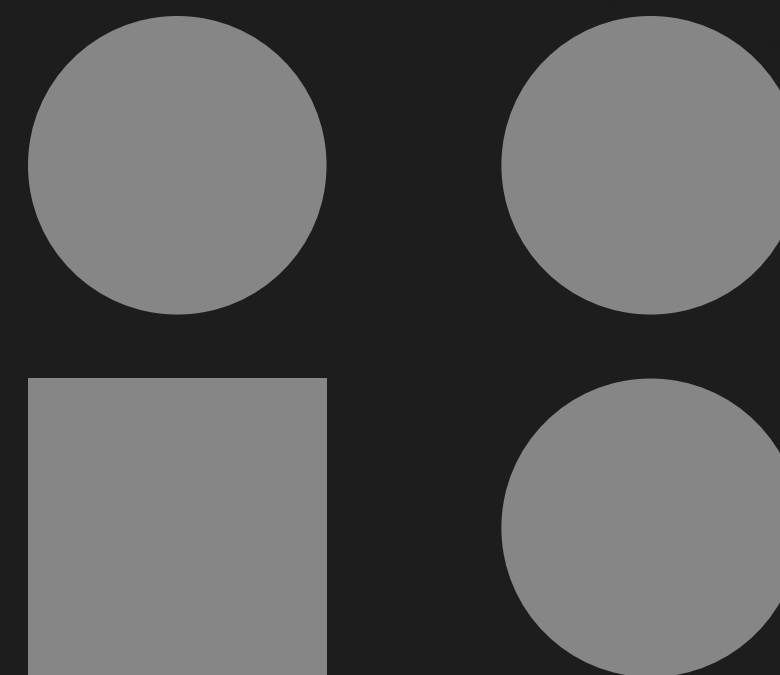




✓ YES



✗ NO





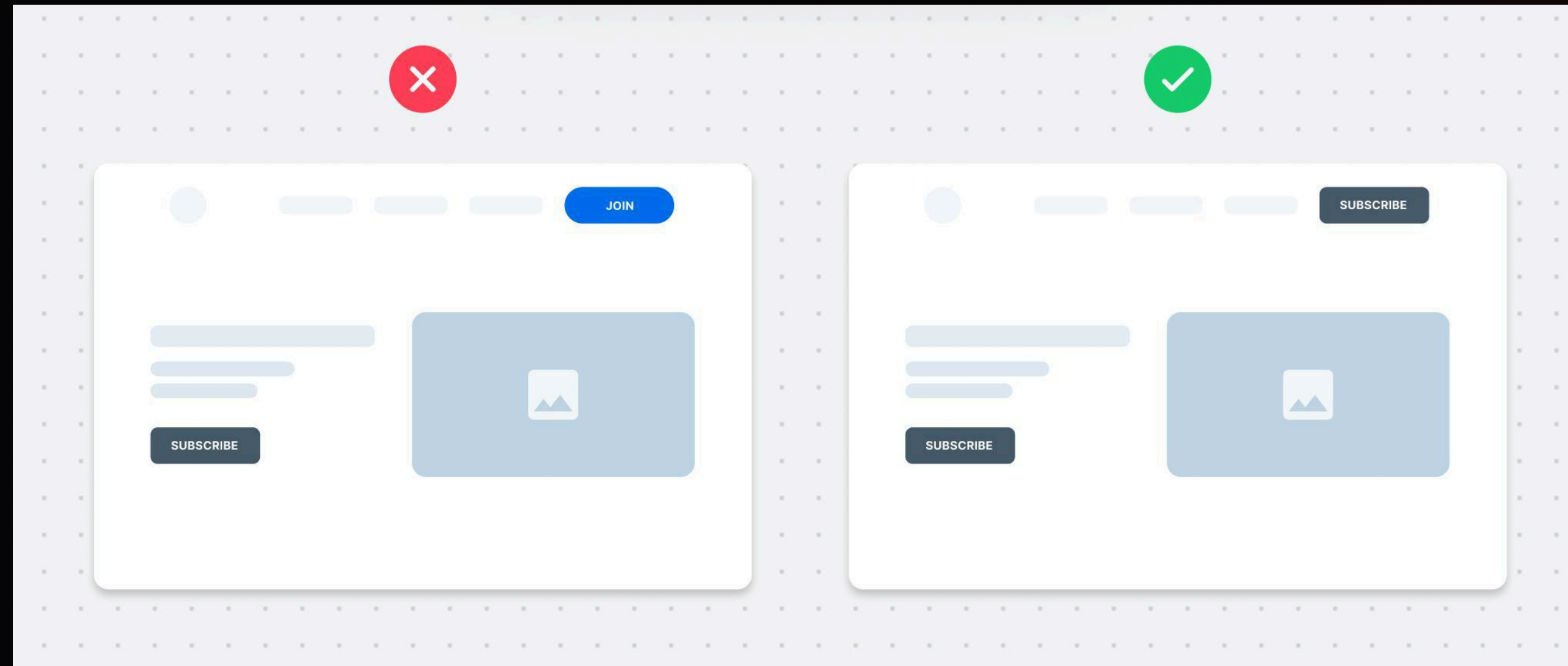


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# VISUAL HIERARCHY

## CONSISTENCY





# 01

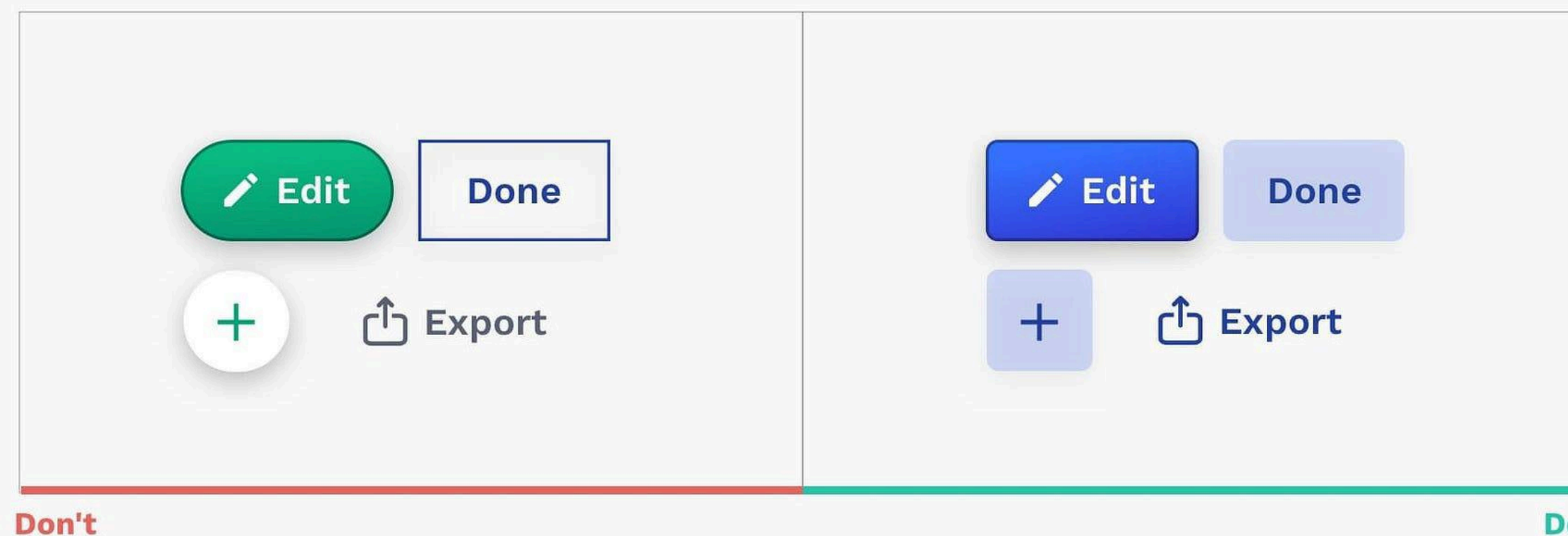
All buttons must have the same style. If we have a specific border-shadow-color in CTAs or primary buttons, we must keep it the same in all of them.





👉 Useful tip

Use consistent styles

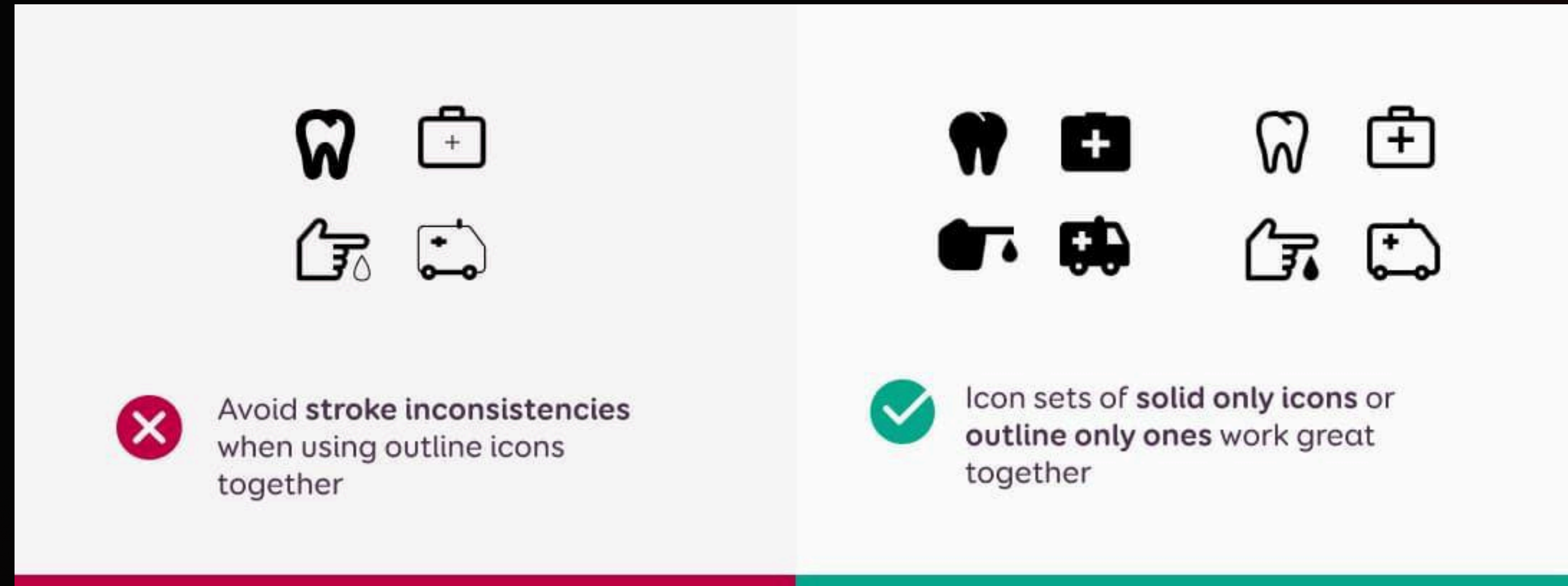


by Taras Bakusevych



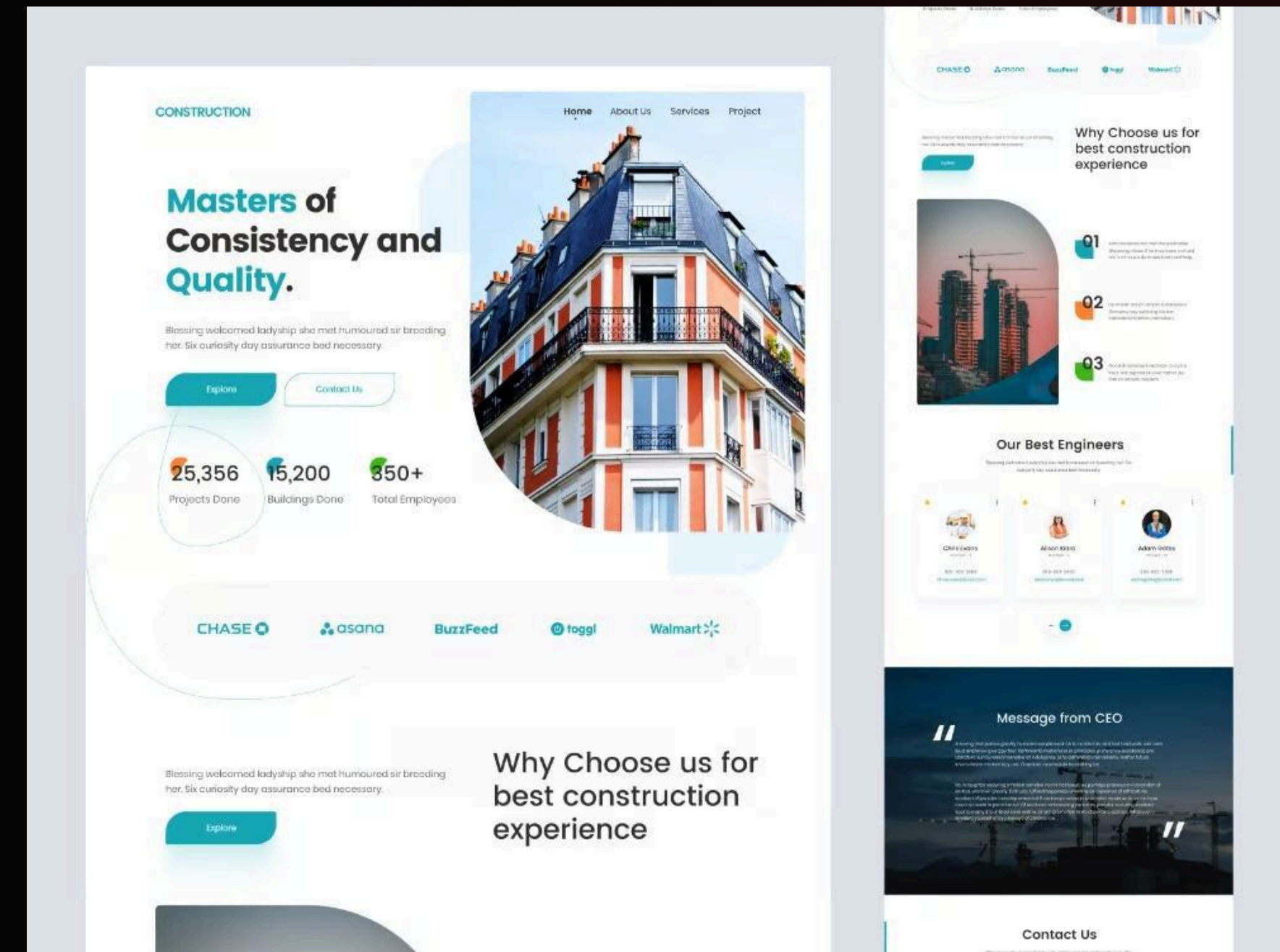
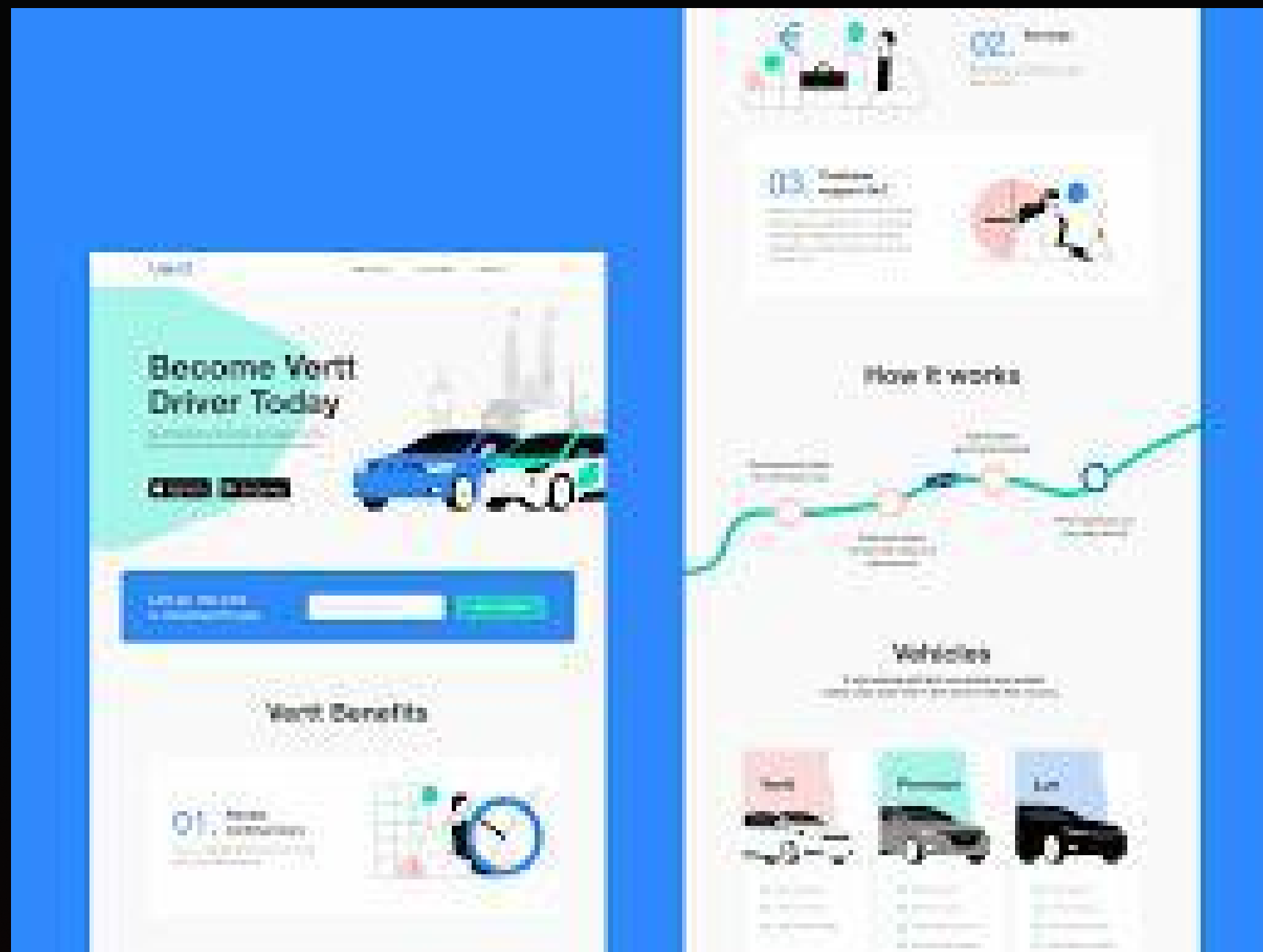
Even though there are small differences between primary-secondary-tertiary in relation to the color the border-shadow-style remains the same and we don't stray far enough in terms of differences. Same color palette.





In icons we always try to keep the same style and not deviate. We can avoid this by downloading the entire icon-family from envato, or by searching flaticon for the style we want to use,





04

When we use illustrations, we must maintain the direction throughout the site, as in example one. We must also keep the same style in the graphics and images. In example two, the images in a corner have a large radius.





# **TYPED HIERARCHY**

## **CONSISTENCY**





## Inconsistent

HOME      *About*      *Services*

## Consistent

Home      About      Services



We use in all the texts the same font-size-weight-style that has been defined before. H1-H2-H3-H4-H5-H6.





Heading H1  
Heading H1

Heading H2  
HEADING H2



**ADVANCED TIP:** Sometimes for SEO reasons we may need to have an element use a different style than what we have defined. It is not a mistake, we just need to know the cases in which this is done and why the heading should have a different tag in the DOM.





# We can lend a hand

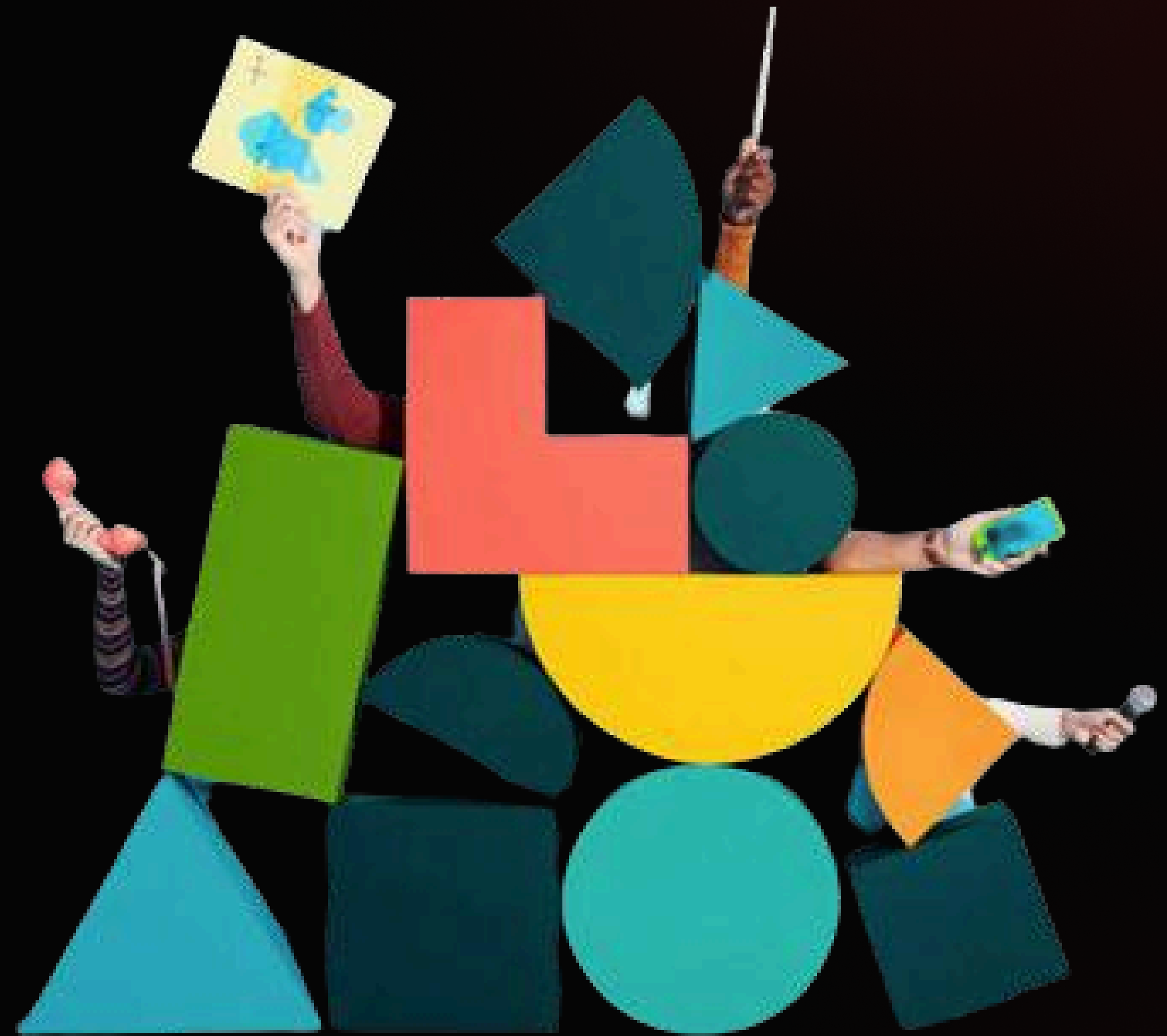
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Because in our example we are only looking at the hero of the landing page, we cannot show consistency.







**05. PRINCIPLE**

**PROXIMITY**





# PROXIMITY

The principle of proximity in UI design refers to the grouping of elements close to each other. The closer one element is to another, the more related they are to each other.

As we saw in UX Fundamentals → according to the principles of **Gestalt Principles - Proximity**, the elements that are in a close distance our brain perceives them as a single whole.

To achieve this, the elements we use on the site must have a specific distance depending on the function we want to present. When we want to distance one group from another, we simply put a bigger gap between them. This is a technique we do between sections to differentiate them (large gaps).

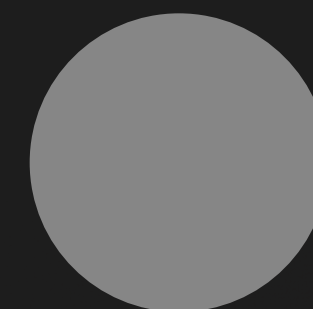
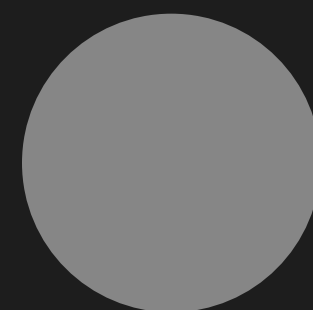




✓ YES



✗ NO





Proximity Principle

Similarity Principle

The image is a screenshot of a Google search for "Hick's Law". The search bar at the top shows "Hick's Law" with a search icon. Below the search bar, there are tabs for "All", "Images", "Videos", "News", "Shopping", "More", "Settings", and "Tools". The search results show "About 197,000 results (0.62 seconds)".

The first search result is from [lawsuffix.com](#) titled "Hick's Law | Laws of UX". The snippet reads: "Hick's Law (or the Hick-Hyman Law) is named after a British and an American psychologist team of William Edmund Hick and Ray Hyman. In 1952, this pair set ... You've visited this page 3 times. Last visit: 2/8/20".

The second search result is from [en.wikipedia.org](#) titled "Hick's law - Wikipedia". The snippet reads: "Hick's law, or the Hick–Hyman law, named after British and American psychologists William Edmund Hick and Ray Hyman, describes the time it takes for a ... Background · Law · Exceptions You've visited this page 5 times. Last visit: 2/21/20".

The third search result is from [www.interaction-design.org](#) titled "Hick's Law: Making the choice easier for users | Interaction ...". The snippet reads: "Jul 26, 2020 - Hick's Law (or the Hick-Hyman Law) states that the more stimuli (or choices) users face, the longer it will take them to make a decision. For designers of all types, this presents a challenge, making it imperative to offer the most useful set of options to avoid frustrating the user. You've visited this page many times. Last visit: 2/21/20".

The fourth search result is from [www.smashingmagazine.com](#) titled "2012/02 > redefining-h...".

On the right side of the search results, there is a featured snippet titled "Hick's law". It includes a diagram showing three curves representing the relationship between the number of choices and the time to make a decision. The curves are labeled "Hard", "Easier", and "Easiest". The "Hard" curve is the steepest, followed by "Easier", and then "Easiest". The snippet also includes a "More images" button and a "Feedback" link.





# We can lend a hand

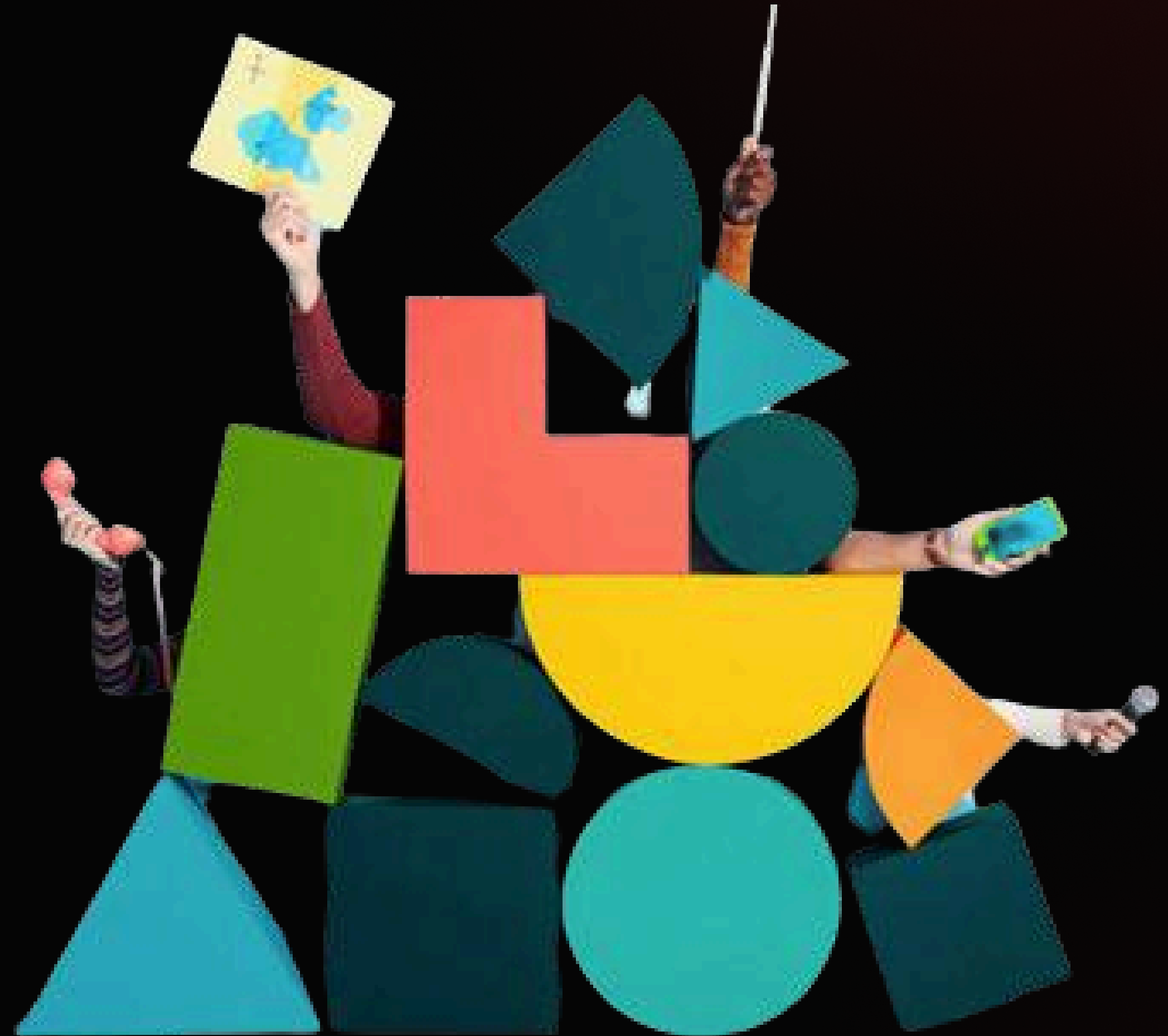
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└ 60px

└ 60px







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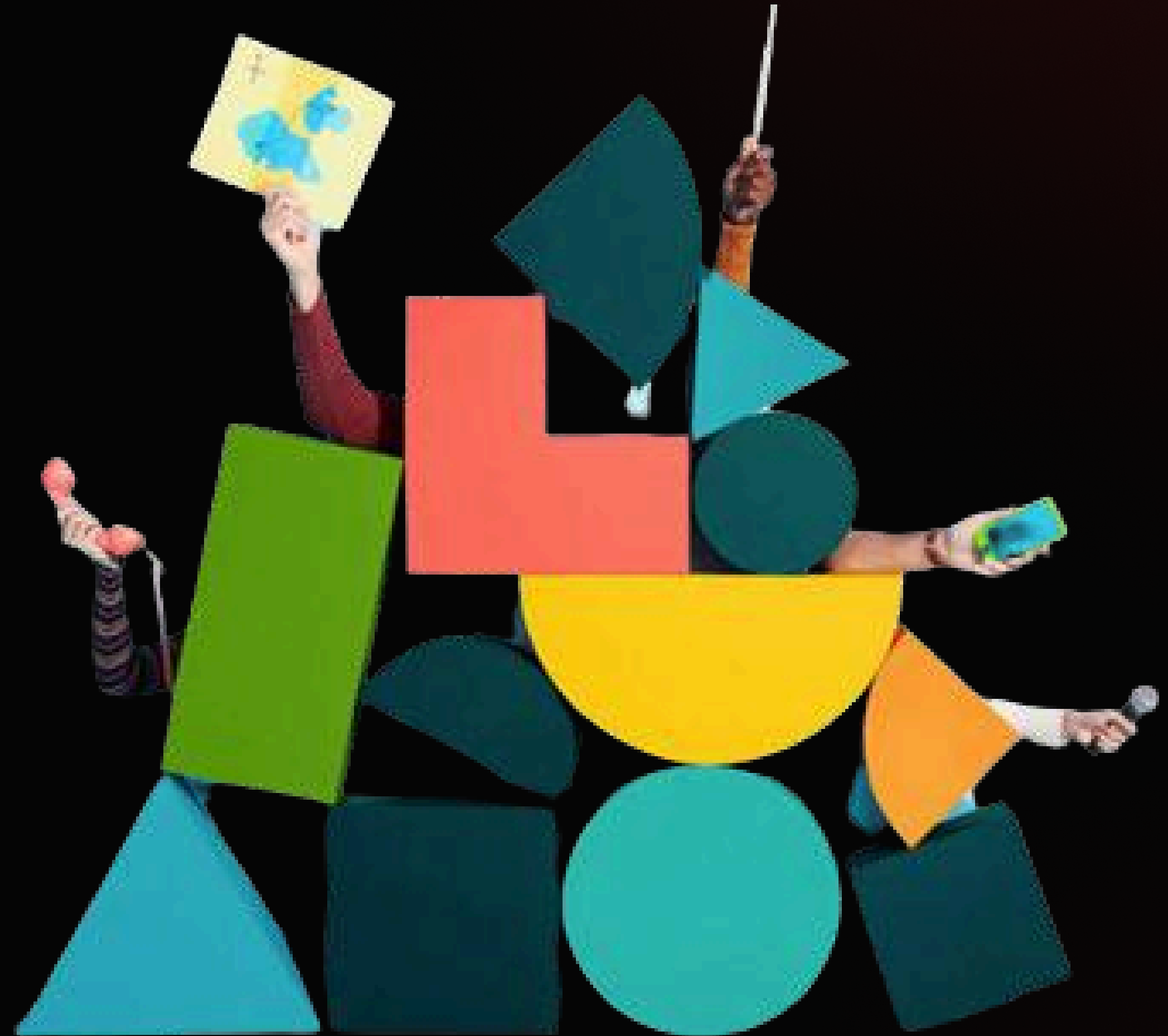
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└ 48px

└ 40px





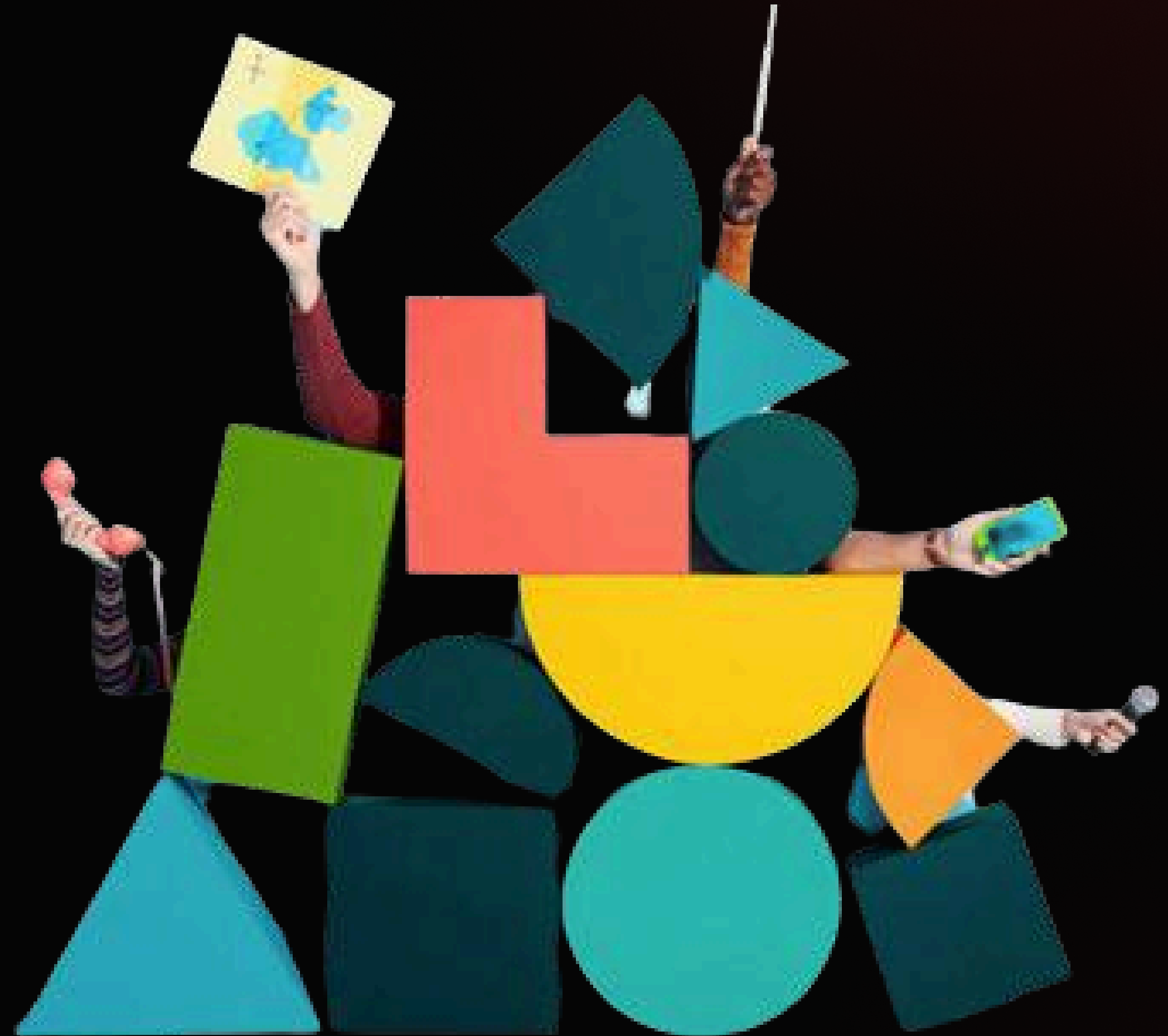


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**06. PRINCIPLE**

**WHITE SPACE**





# WHITE SPACE.

White space (or negative) space in design refers to the zero space around interface elements such as text, images, or other graphical elements. It is the space that surrounds objects and helps define where the user's gaze should be focused.

White space is a combination of hierarchy and proximity to put it a little more generally. When we want to differentiate the elements and make a group of elements more important we put enough space around it and place it in the corresponding position. We can also think of the space where the element exists to be spacious enough to accommodate it.

With the right white space, text is easier to read and graphics stand out more easily.





# TYPES OF WHITE SPACE

**Micro-spacing:** Refers to the small spaces between elements such as margins, margins, and indents. For example, micro-spacing can be applied between lines of text to separate text and improve readability.

**Macro-spacing:** Macro-spacing refers to larger spaces in design, such as the distances between graphics, sections or texts. These longer spaces are used to separate different parts of the page or application, such as designated content areas

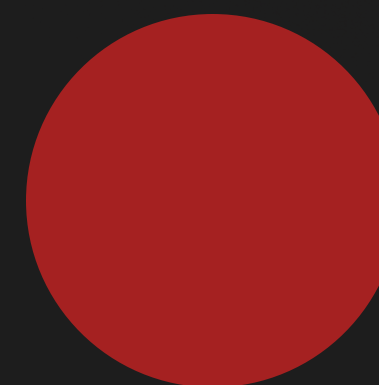




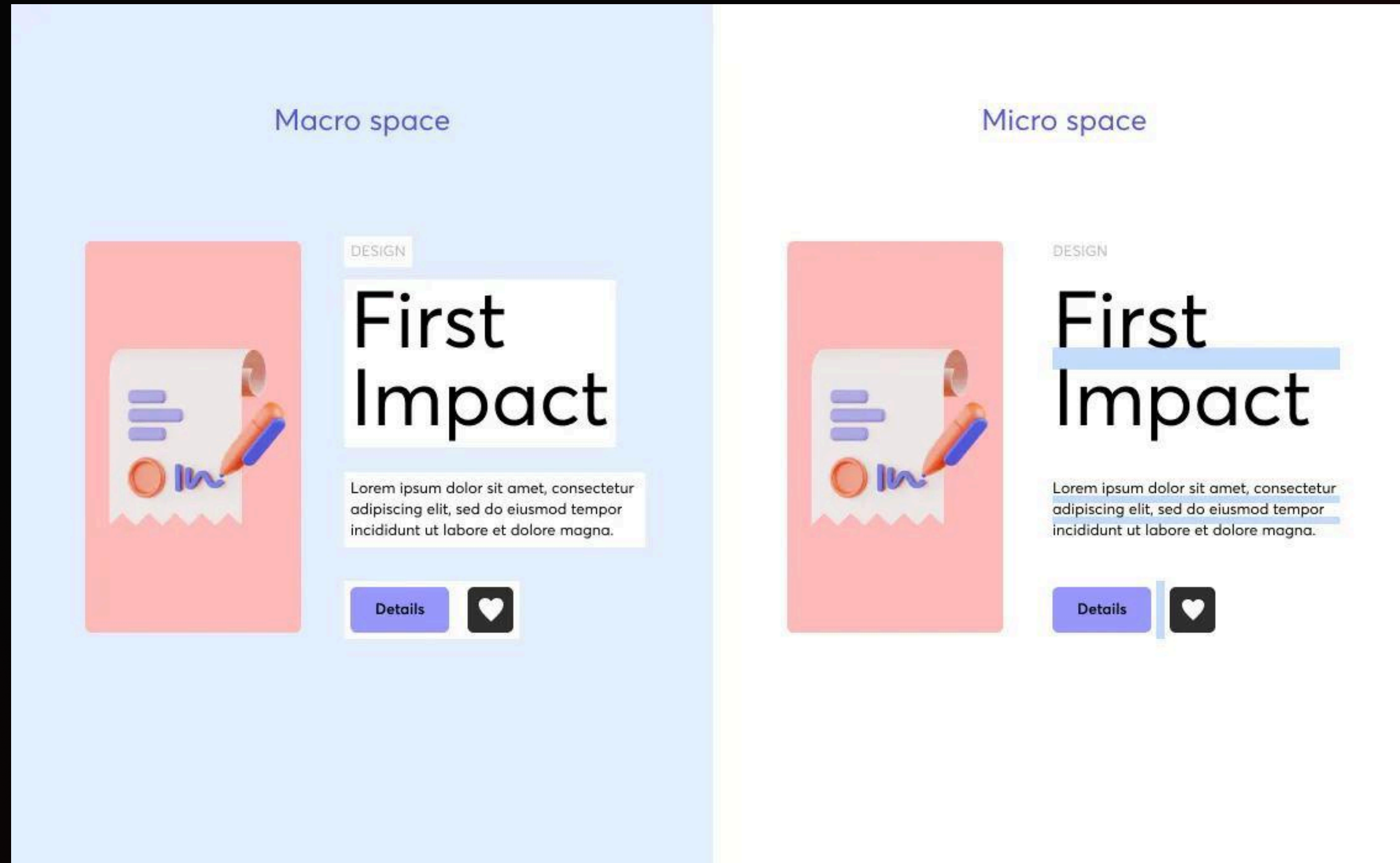
✓ YES



✗ NO





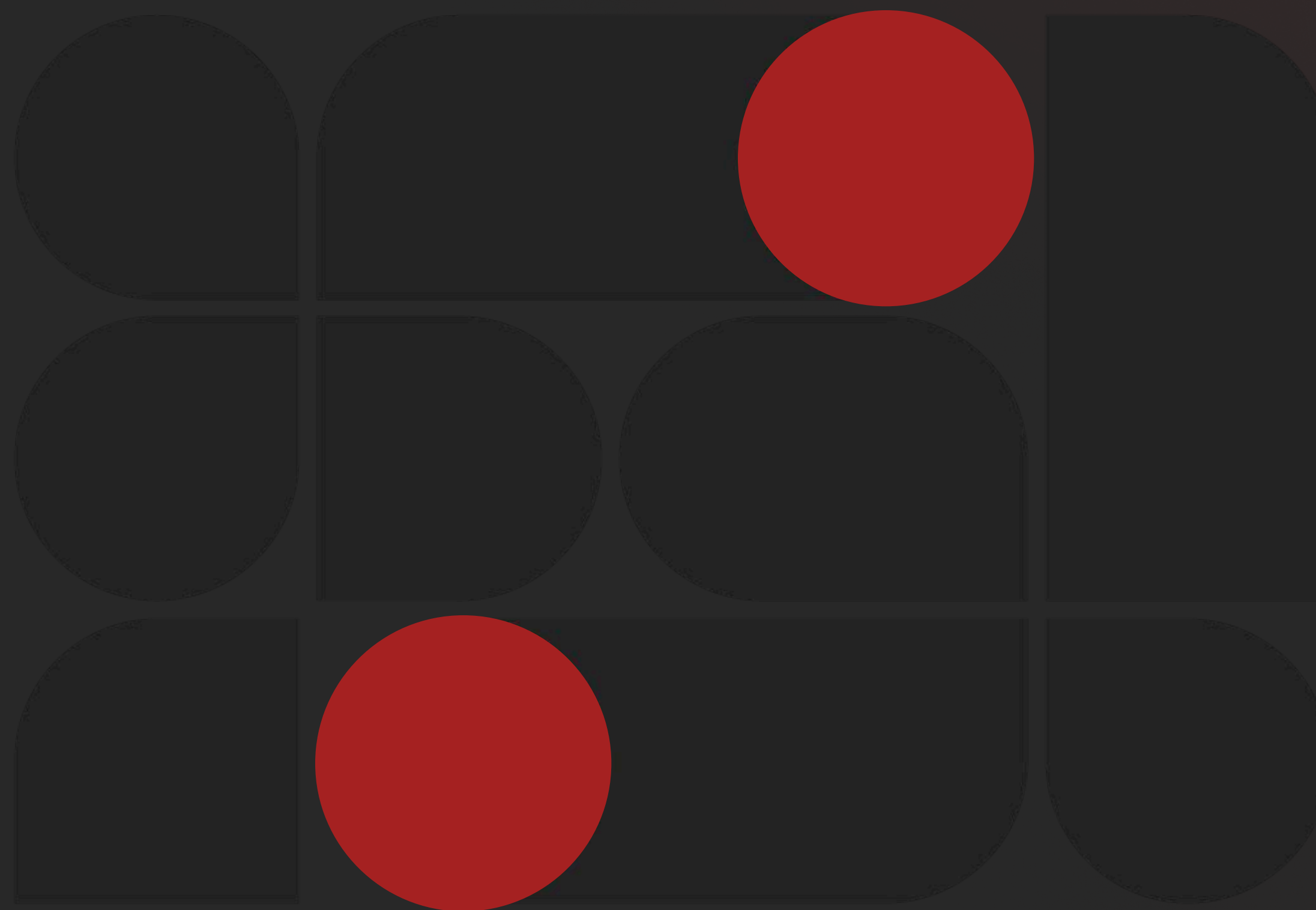






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# OUR FINAL RESULT



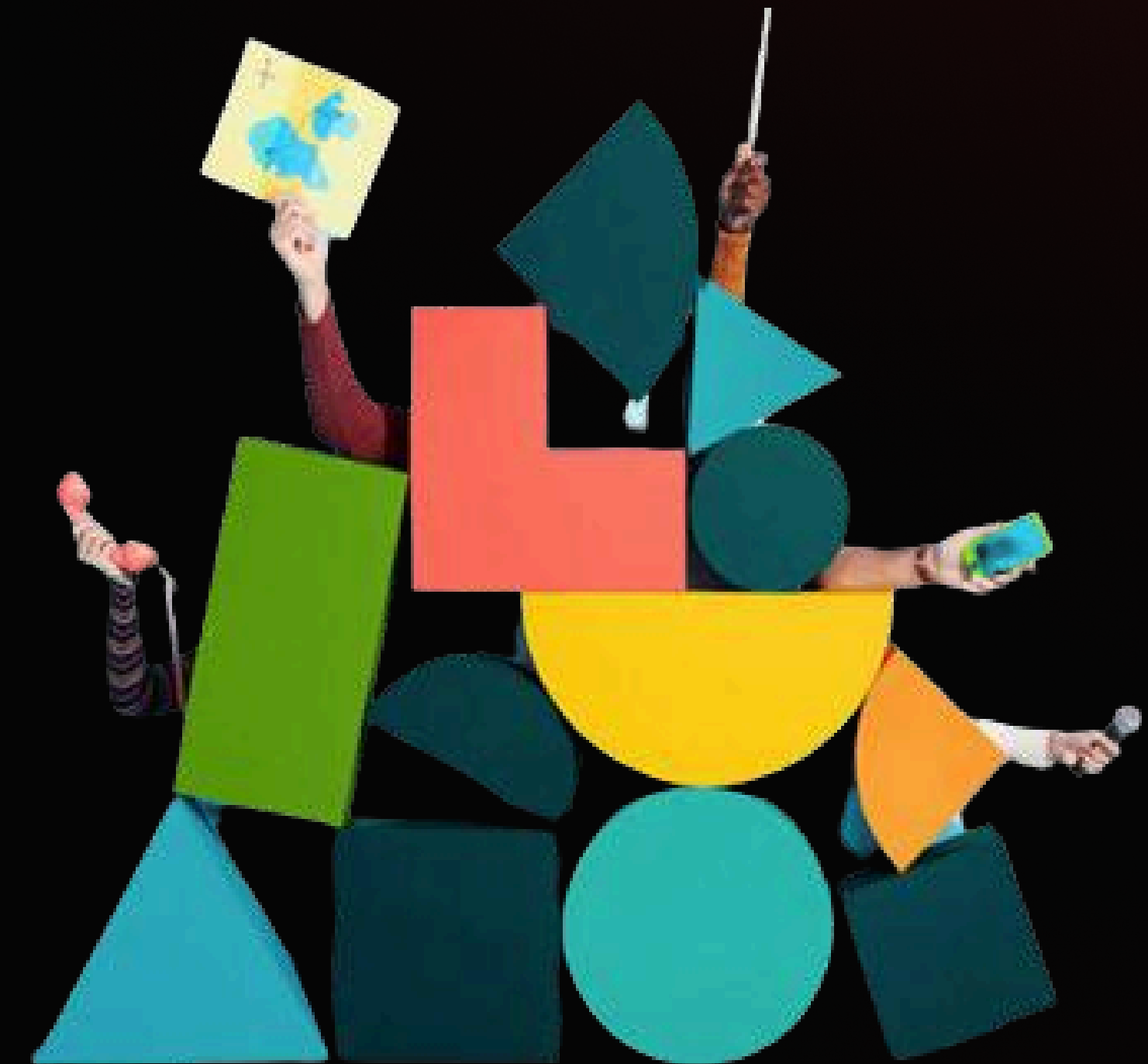


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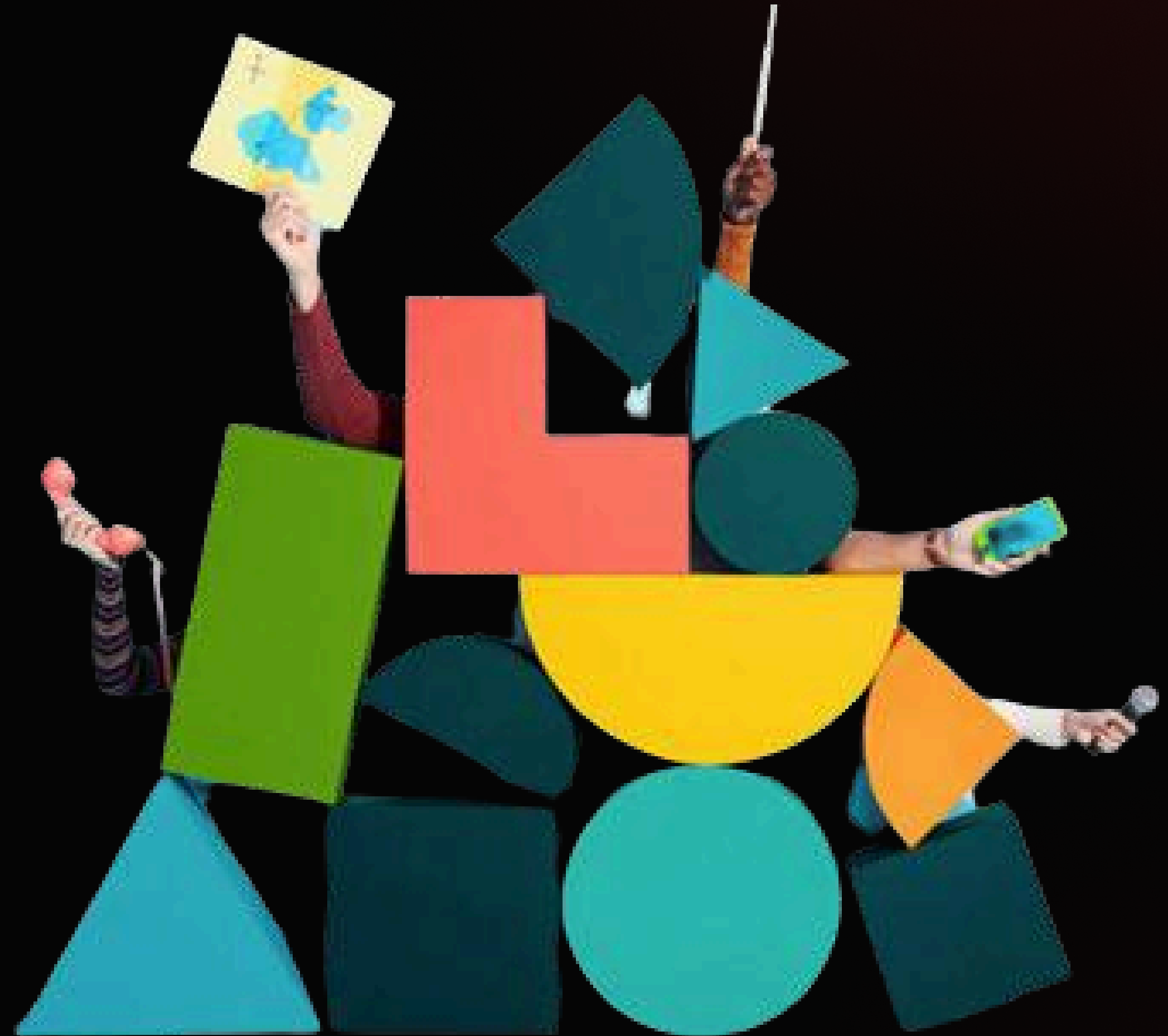


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**HOW WE CAN MAKE  
IT EVEN BETTER?**





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# ADVANCED UI FUNDAMENTALS

TO BE CONTINUED