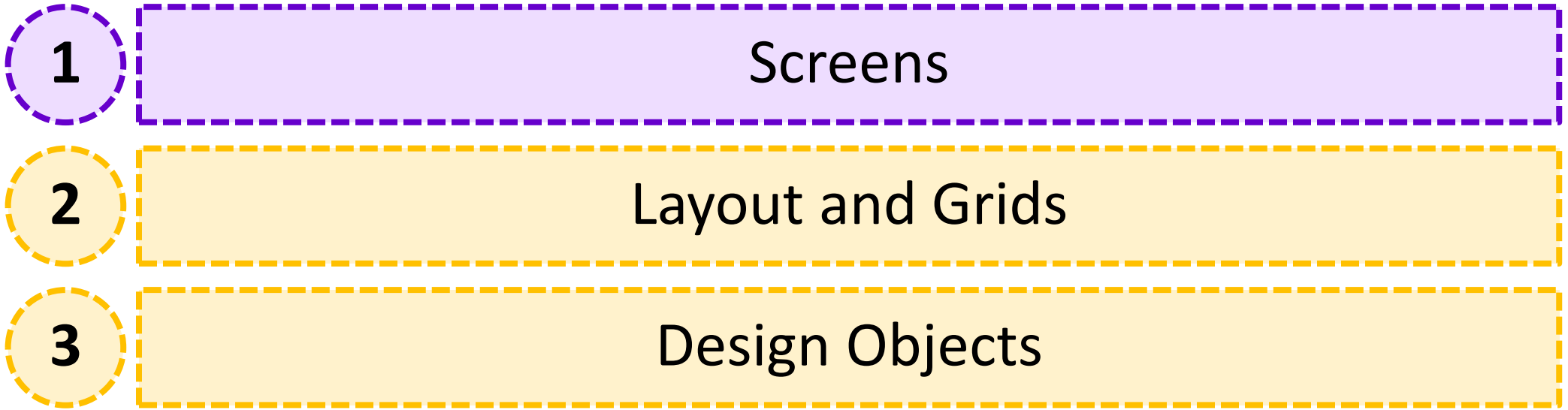
Starting Out Your UIUX Career

Module 02

Screens, Layouts, Objects

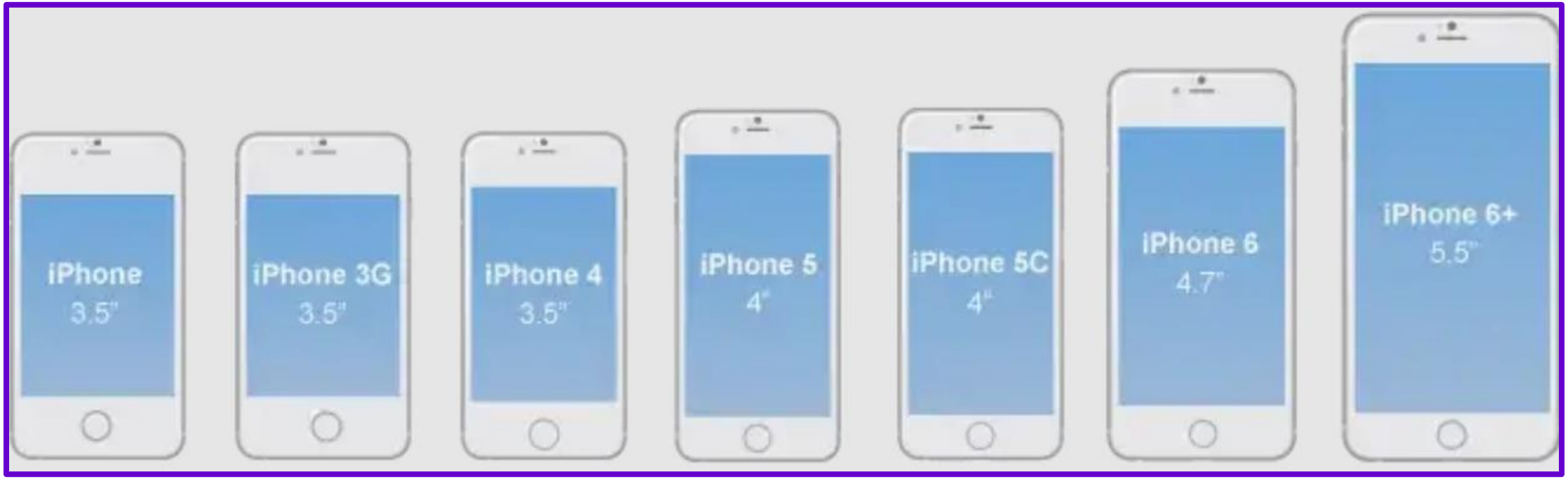
Ali Samanipour

Jan. 2023


1
Screens
2
Layout and Grids
3
Design Objects

Screen Size

The screen size is the length of the screen diagonally or from one corner to the other.

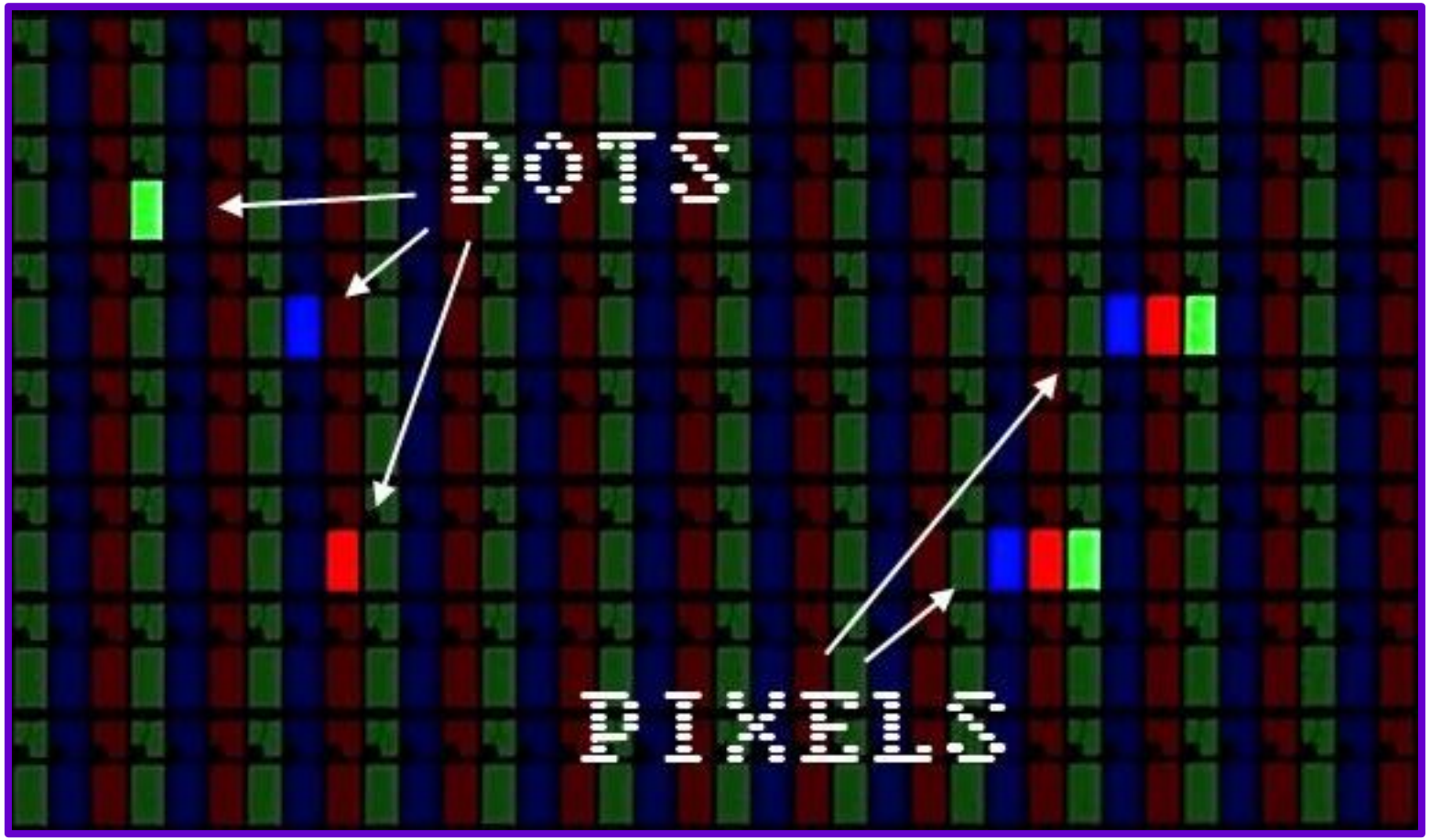


Screen Resolution

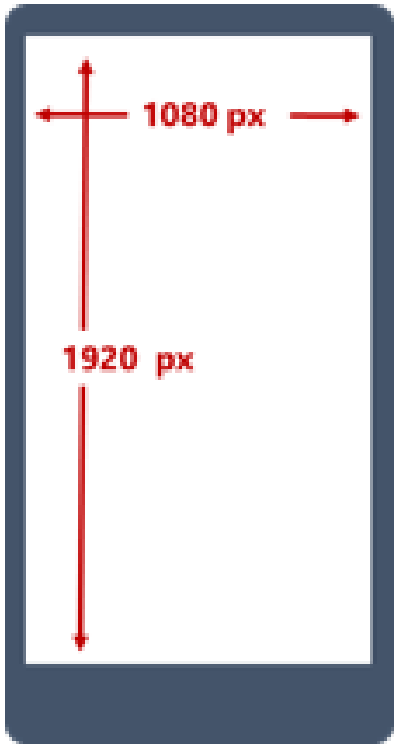
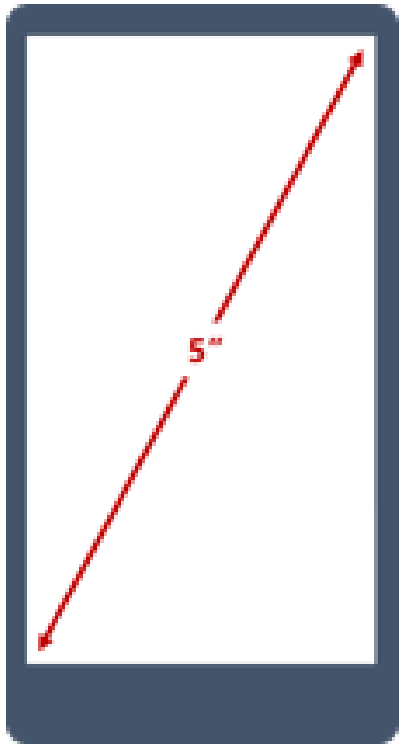
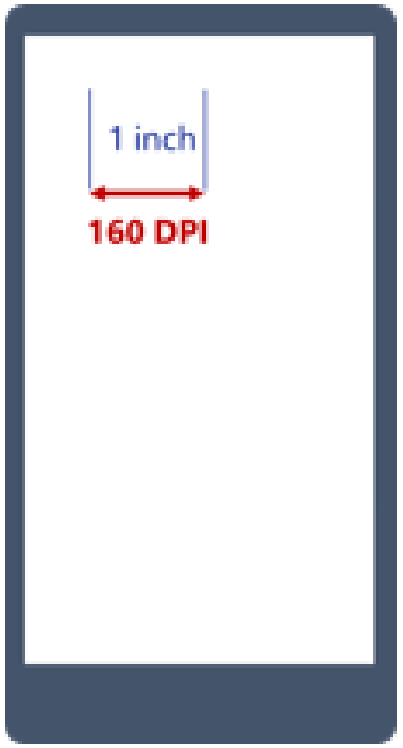
Resolution is the number of pixels going across the screen multiplied by the number of pixels going down.

Pixels

A pixel is a single group of colored dots (normally red, green and blue) on a screen.



DPI, Size and Resolution

Screen Resolution	Size	Density (DPI)
The number of physical pixels in each direction	The diagonal size of the screen	The number of physical pixels/inch
		

Screens Evolutions

A typical late 90's CRT display had about 1/6 the resolution of the current iPhone that's much smaller in size.

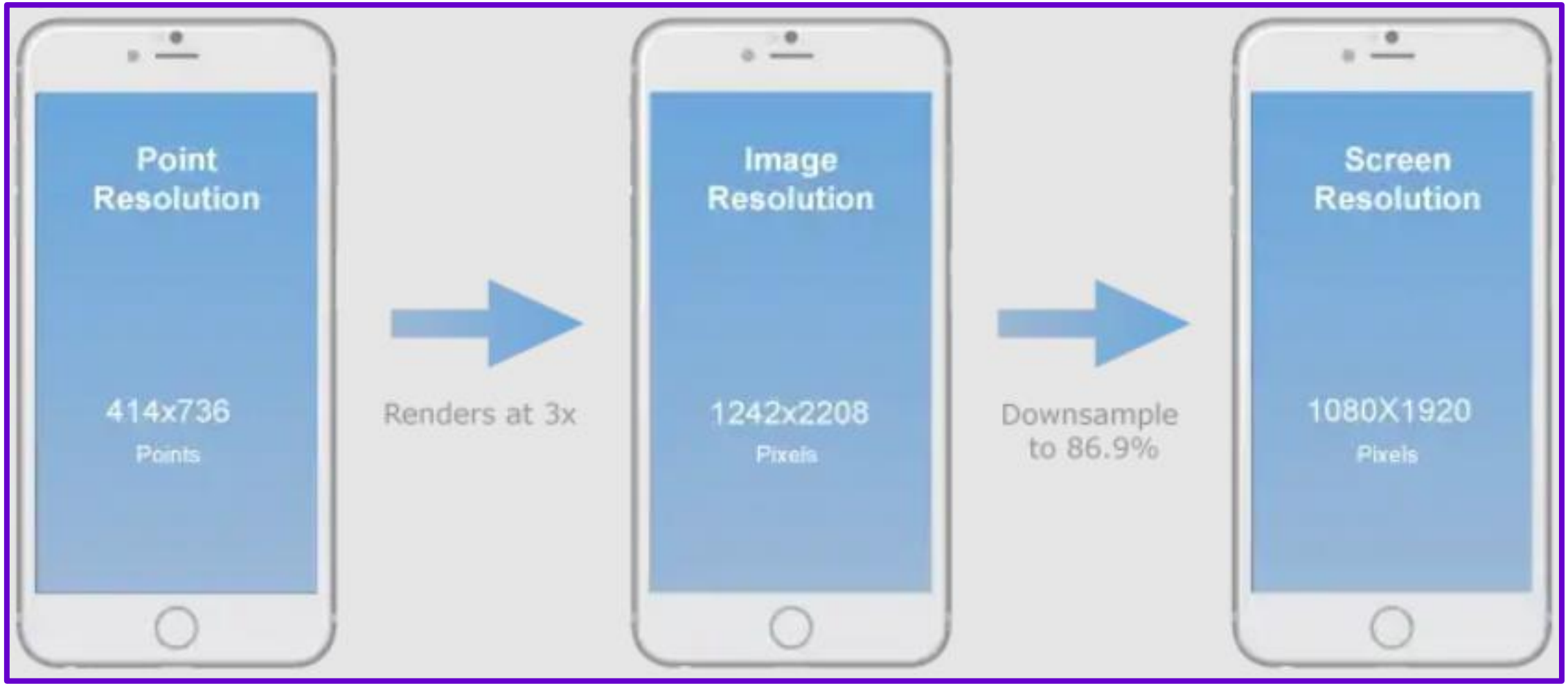
Density Independent Pixels(DP) vs Point

Problem: how to design UI that Independ from devices resolutions?

iOS Pixels = (Points * DPI) / 163

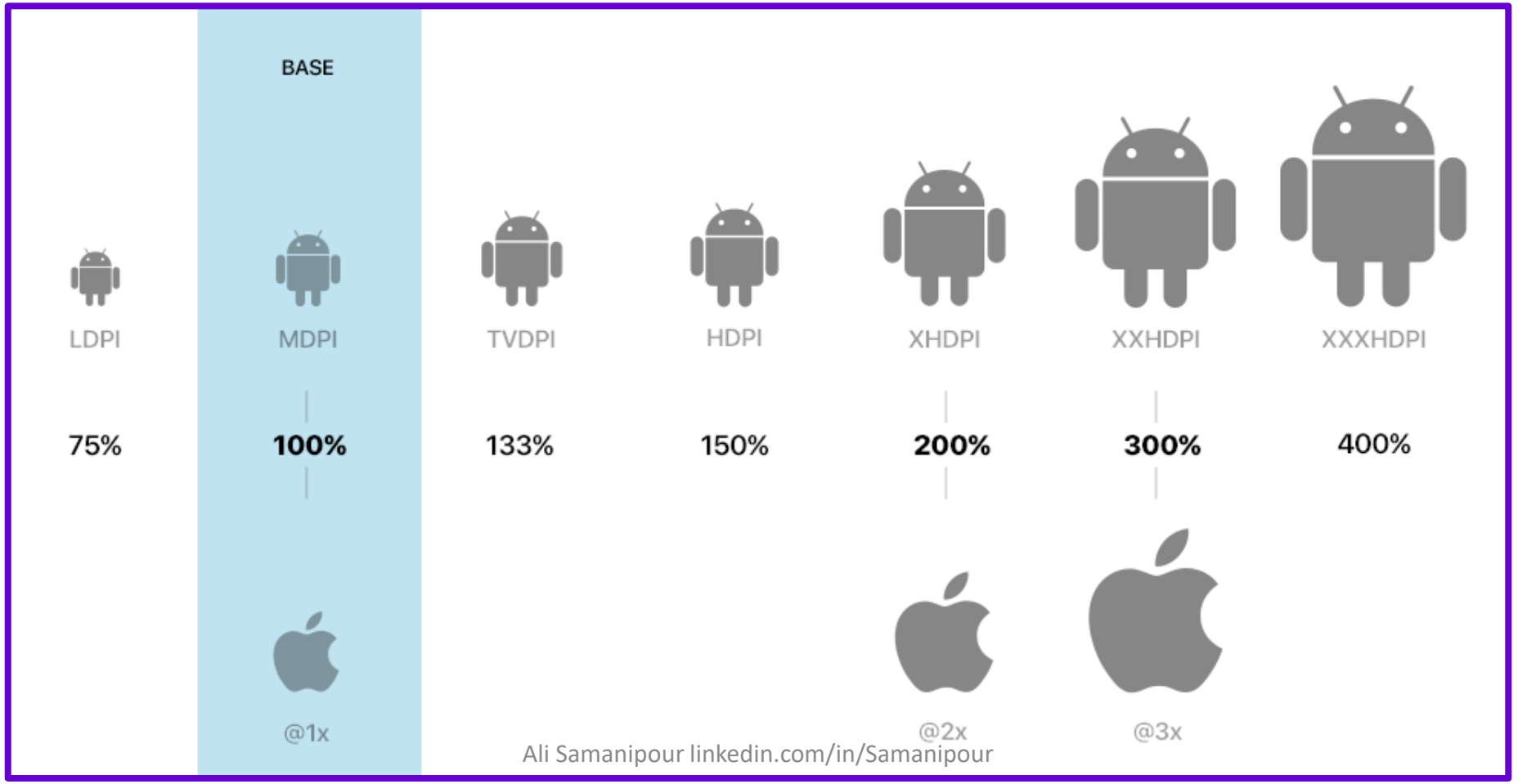
Android Pixels = (DP * DPI) / 160

Point, Image and Screen Resolution



Achieve Resolution Independence

Always design for the base screen resolution or 1x.



Benefits of 1x Design

improve scalability and ensure that you create “future proof” designs that will work in any resolution

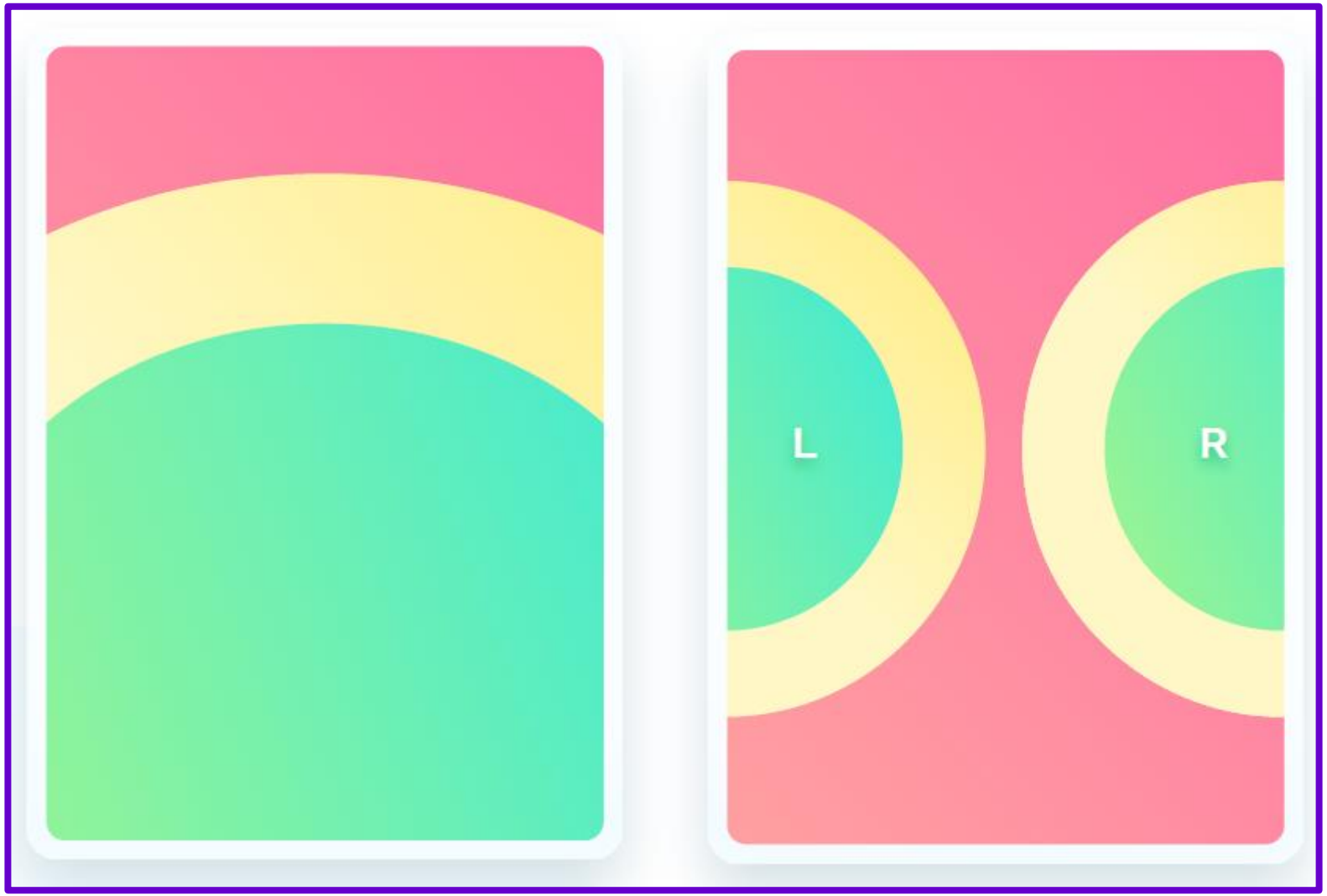
RANGE AND REACH

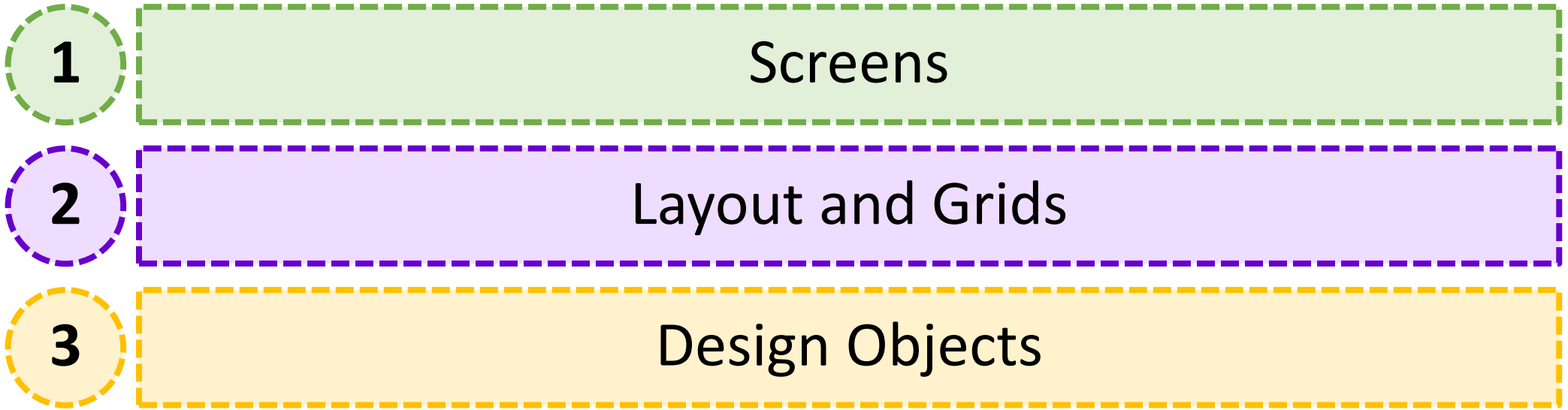
RANGE AND REACH

Reach help determine how easy it will be to navigate the product

TABLET REACH

The most common way is one hand holding the device, while the other one is actively interacting with the UI

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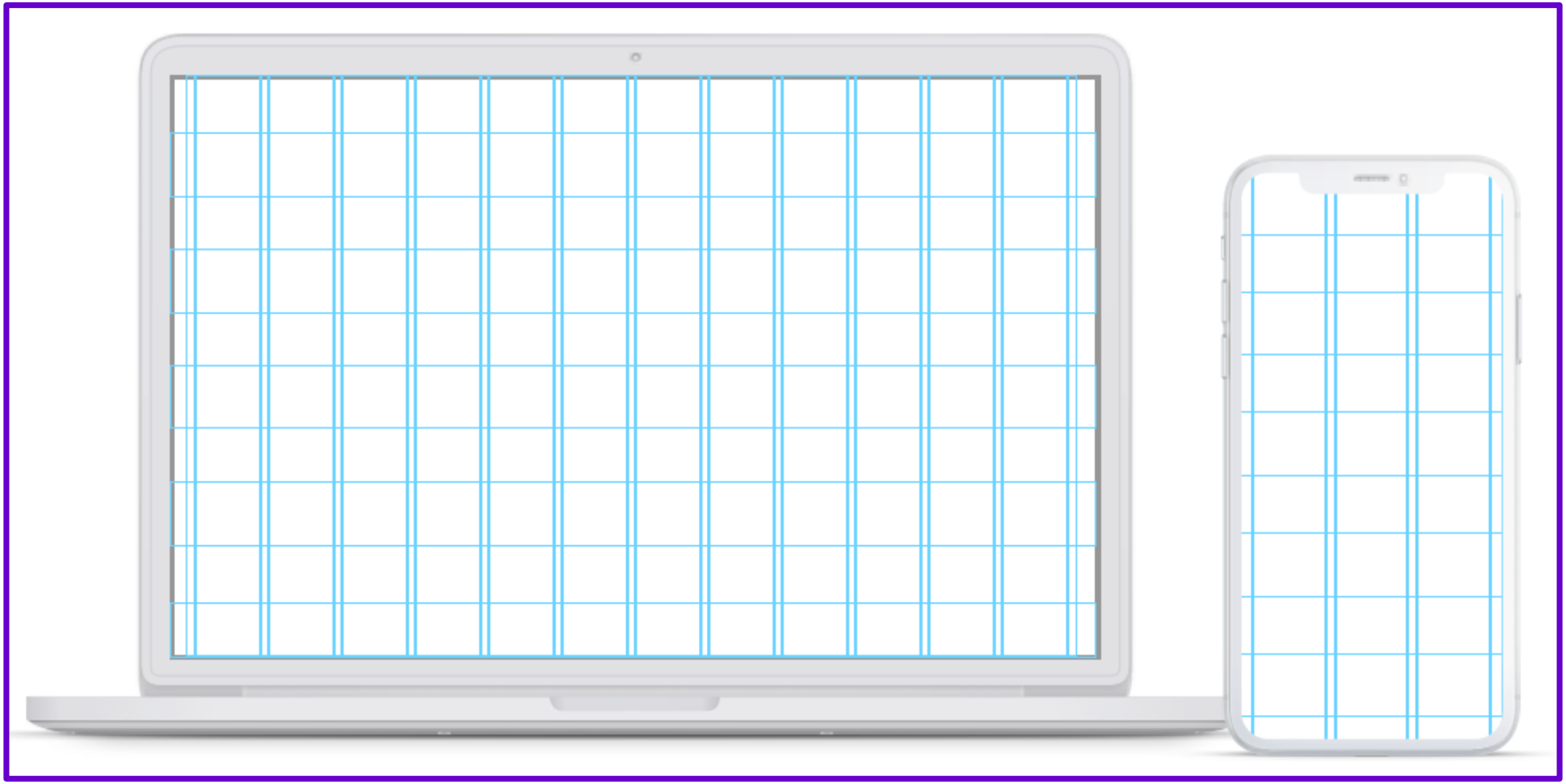
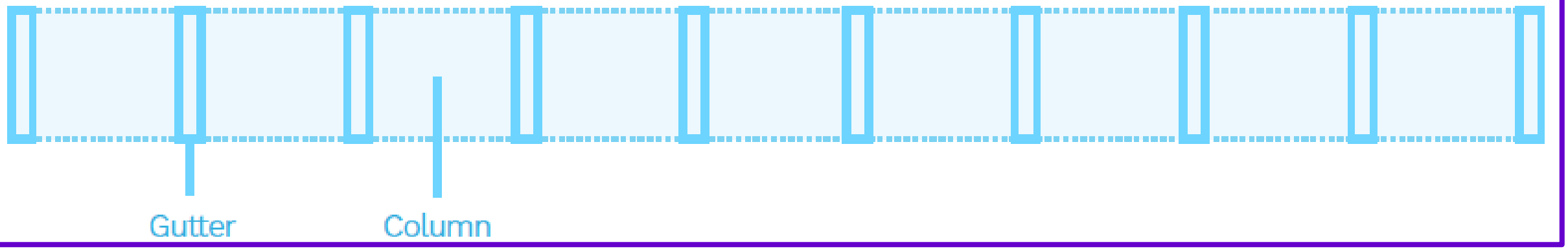
Layout & Grids



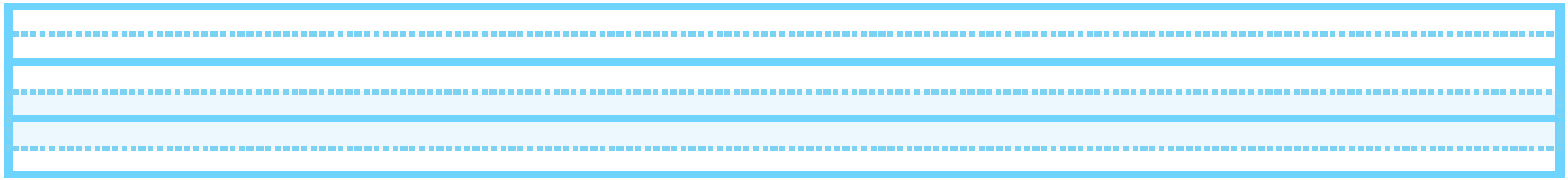
TYPES OF GRIDS (HORIZONTAL)

A horizontal grid is composed of vertical columns and margins between them, called gutters. Both of them can have either pre-set or flexible widths.



TYPES OF GRIDS (VERTICAL)

The vertical grid is less prevalent. It can help set the heights of elements, sections, and vertical whitespace.



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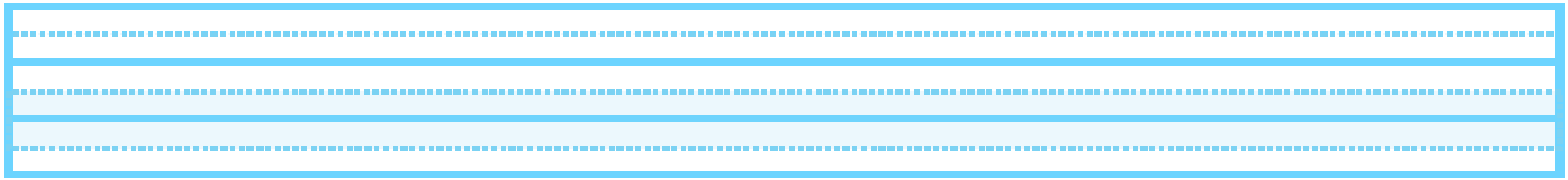
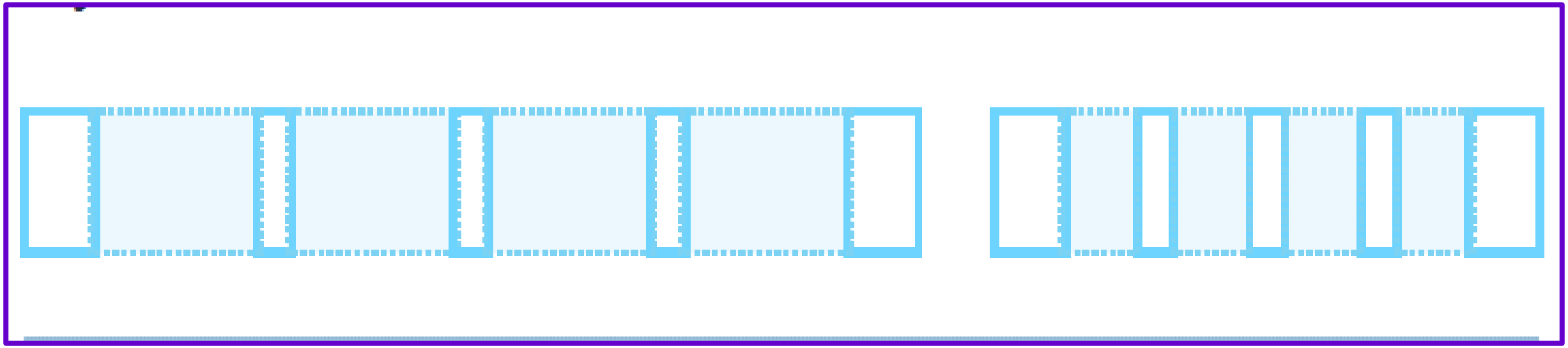


FLUID GRID

The fluid grid assumes an outer margin and gutter widths and adjusts the column widths to fit the screen. That makes the columns have varied width, and the gutters are what's keeping the alignment together

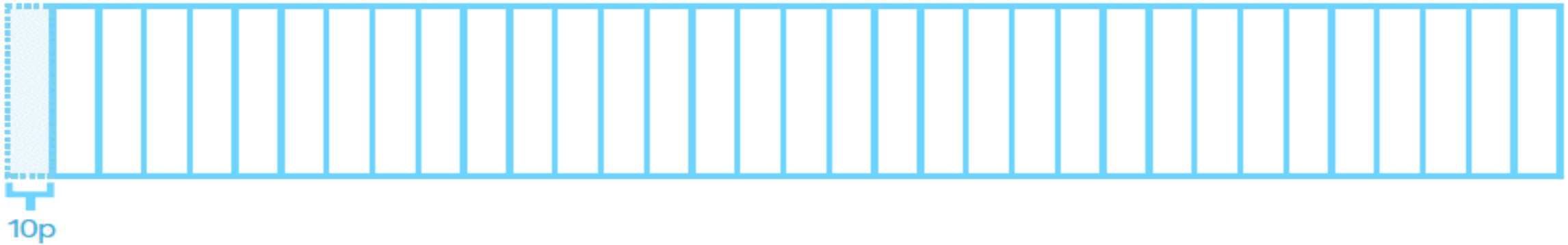


FIXED GRID

The fixed grid works with a set value for both the columns and gutter widths. If our screen is wider than the grid, we end up with blank space on the sides.

BASE VALUE (10 POINT GRID)

Building a grid should always start with choosing its base value. It’s the smallest number we use to set all the other values. In general, all our grid values should be divisible by that base number.



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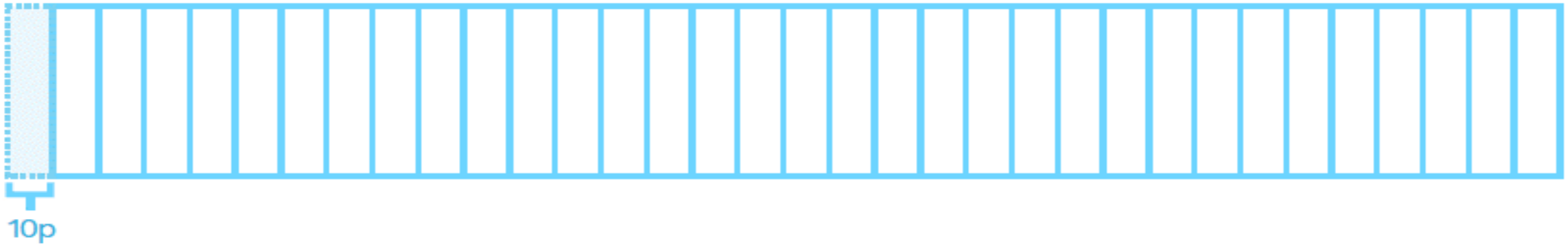
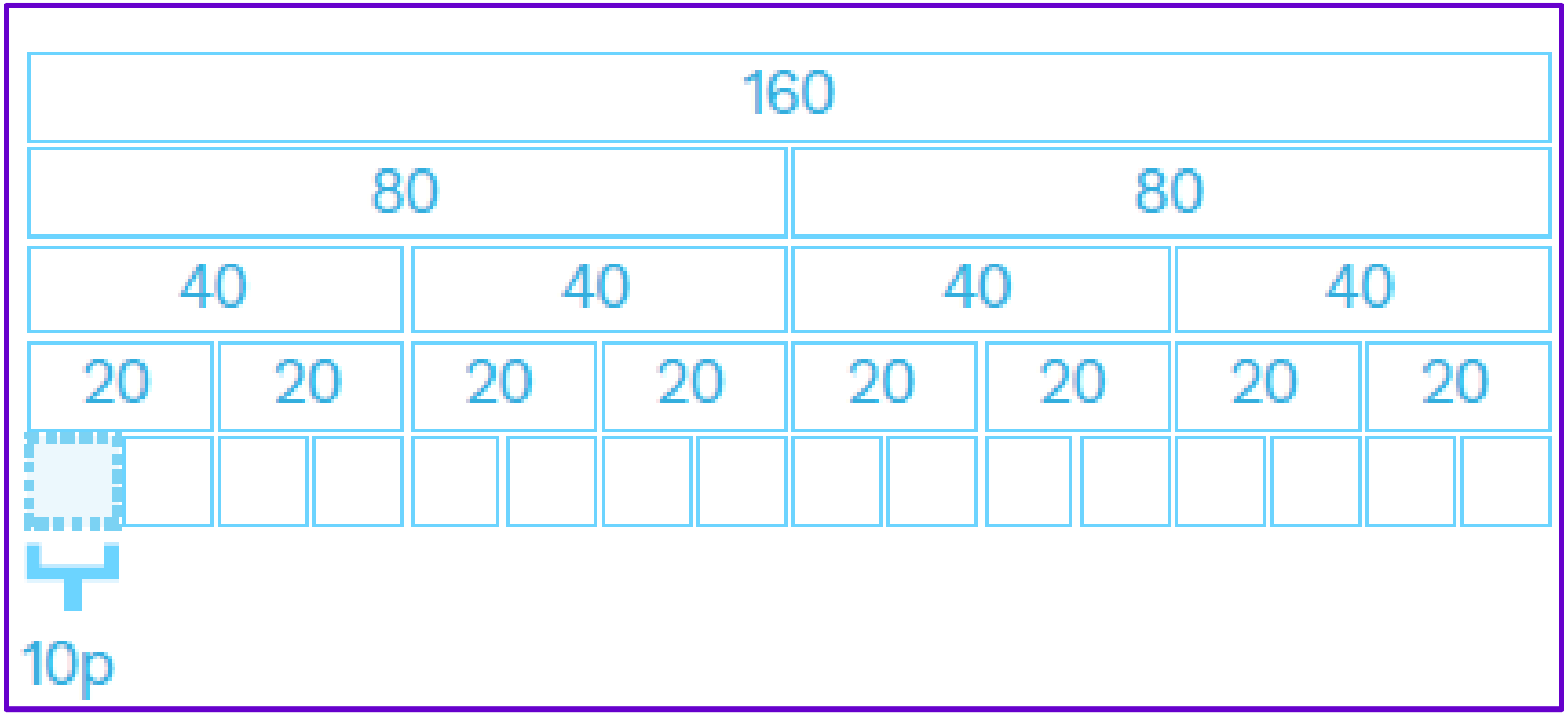
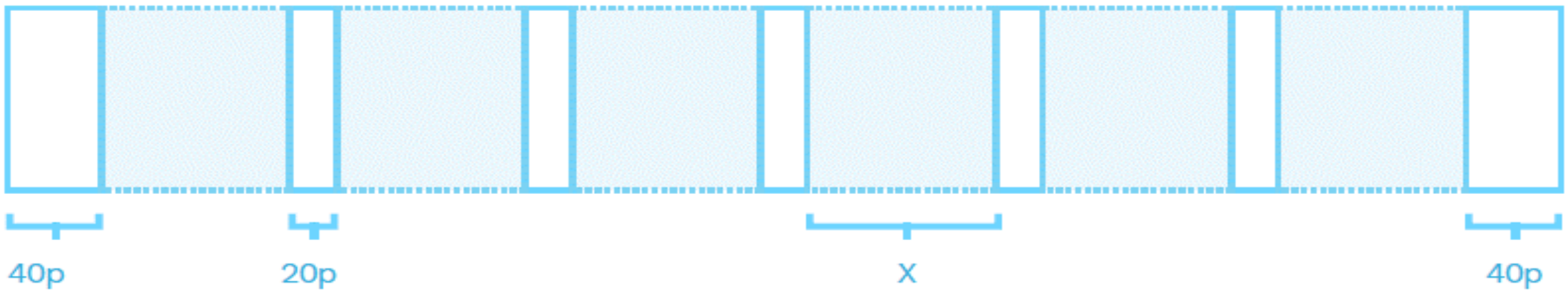


10 POINT GRID SYSTEM



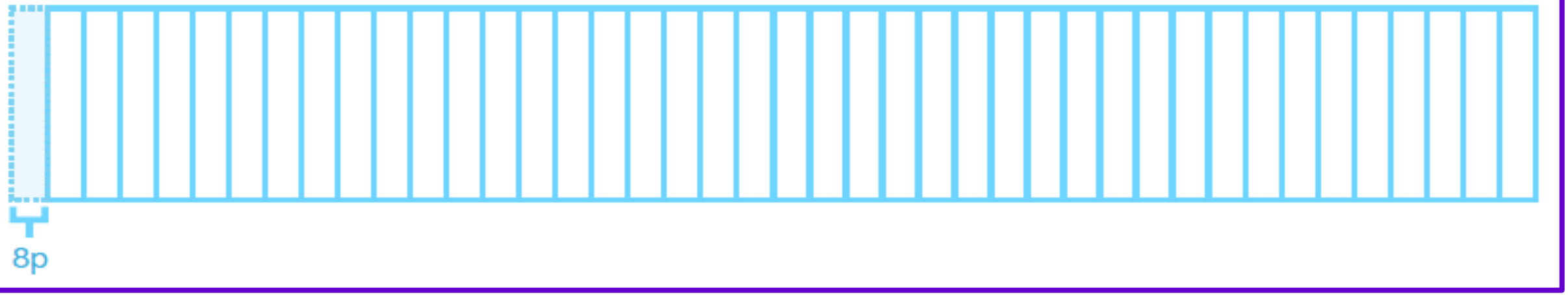
10 POINT FLUID GRID

As ten itself is probably too small of a number to work well as our gutter (for readability), we go with double that for gutter and quadruple for outer margins.

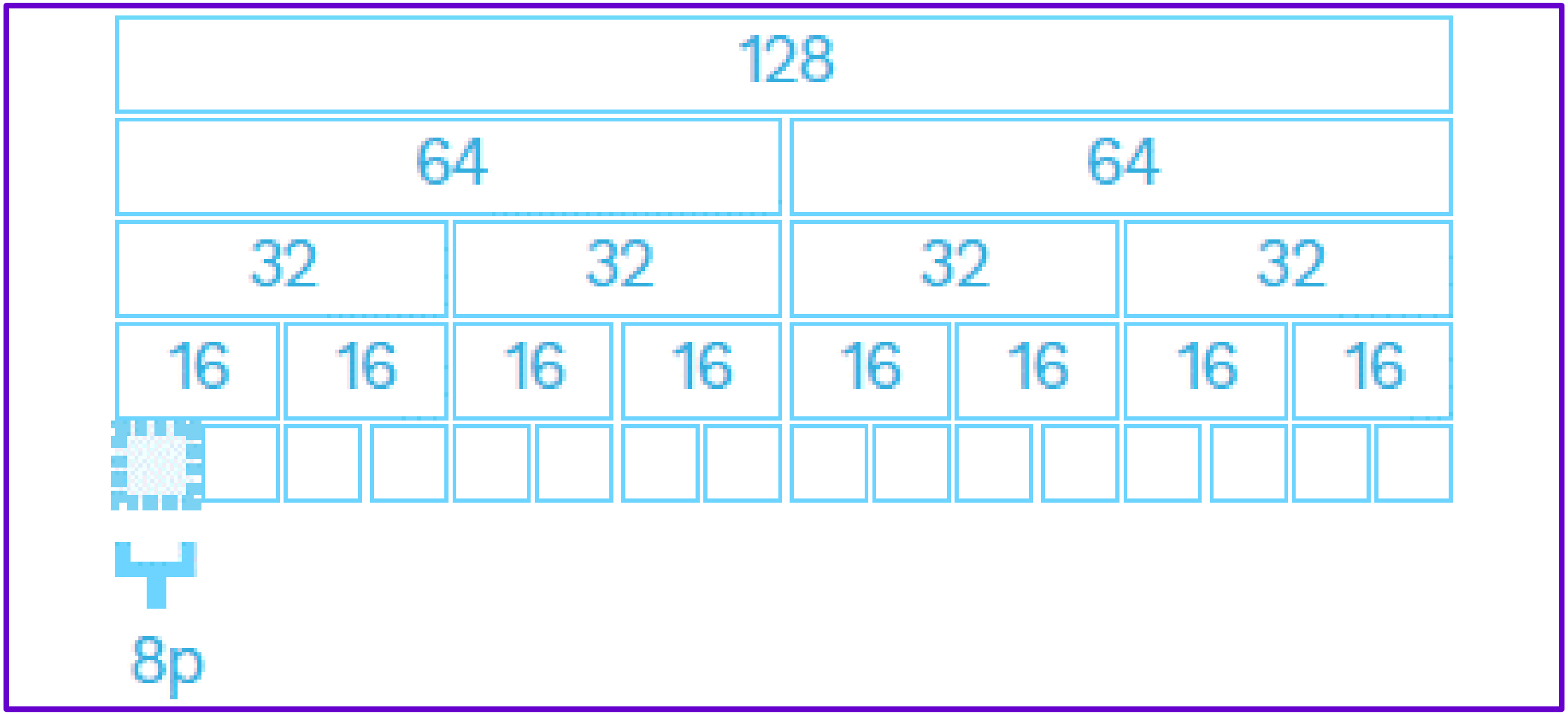


BASE VALUE (8 POINT GRID)

The 8-point grid is currently the most popular grid-type in modern UI design. It requires a bit of extra effort, but it's well worth trying it.

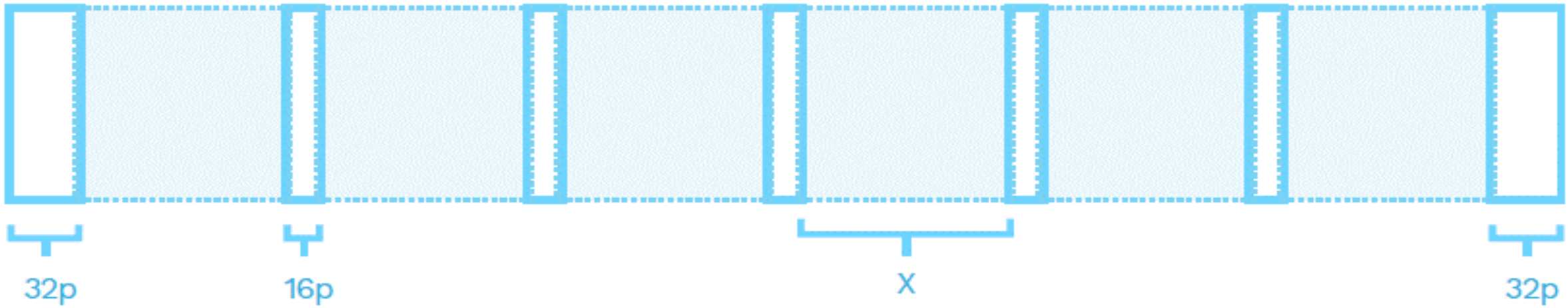


8 POINT GRID SYSTEM



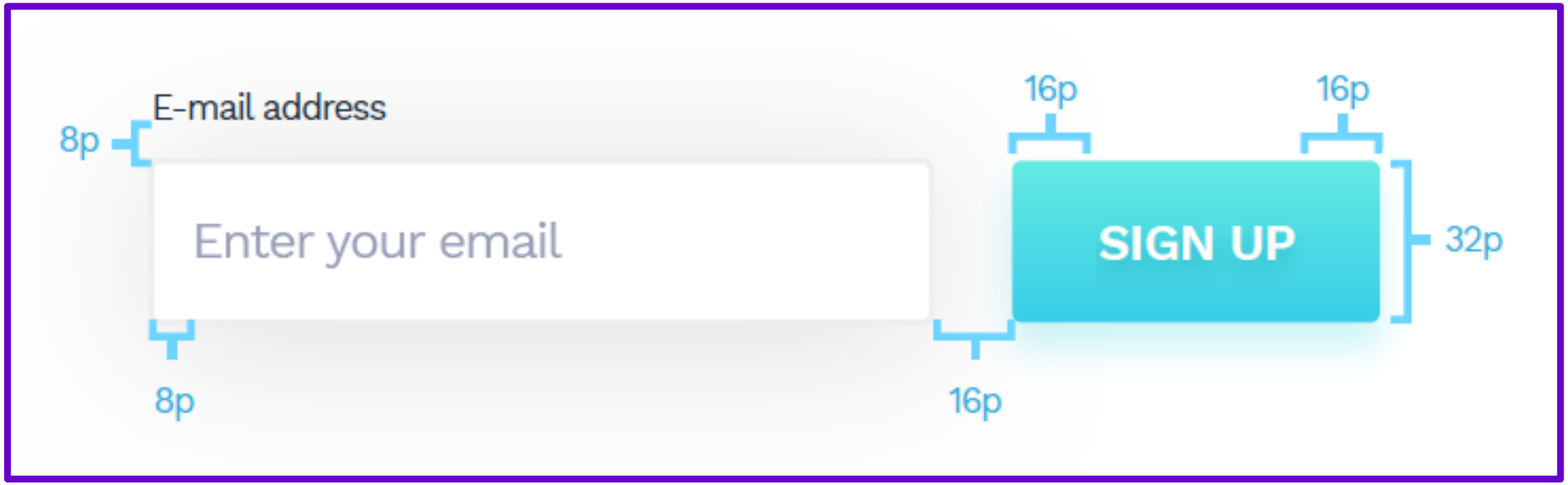
8 POINT FLUID GRID

Creating an 8-point fluid grid should start with multiplying the base number by two. Eight in itself is too small to be the right choice for separating objects



WHY 8 IS BETTER THAN 10?

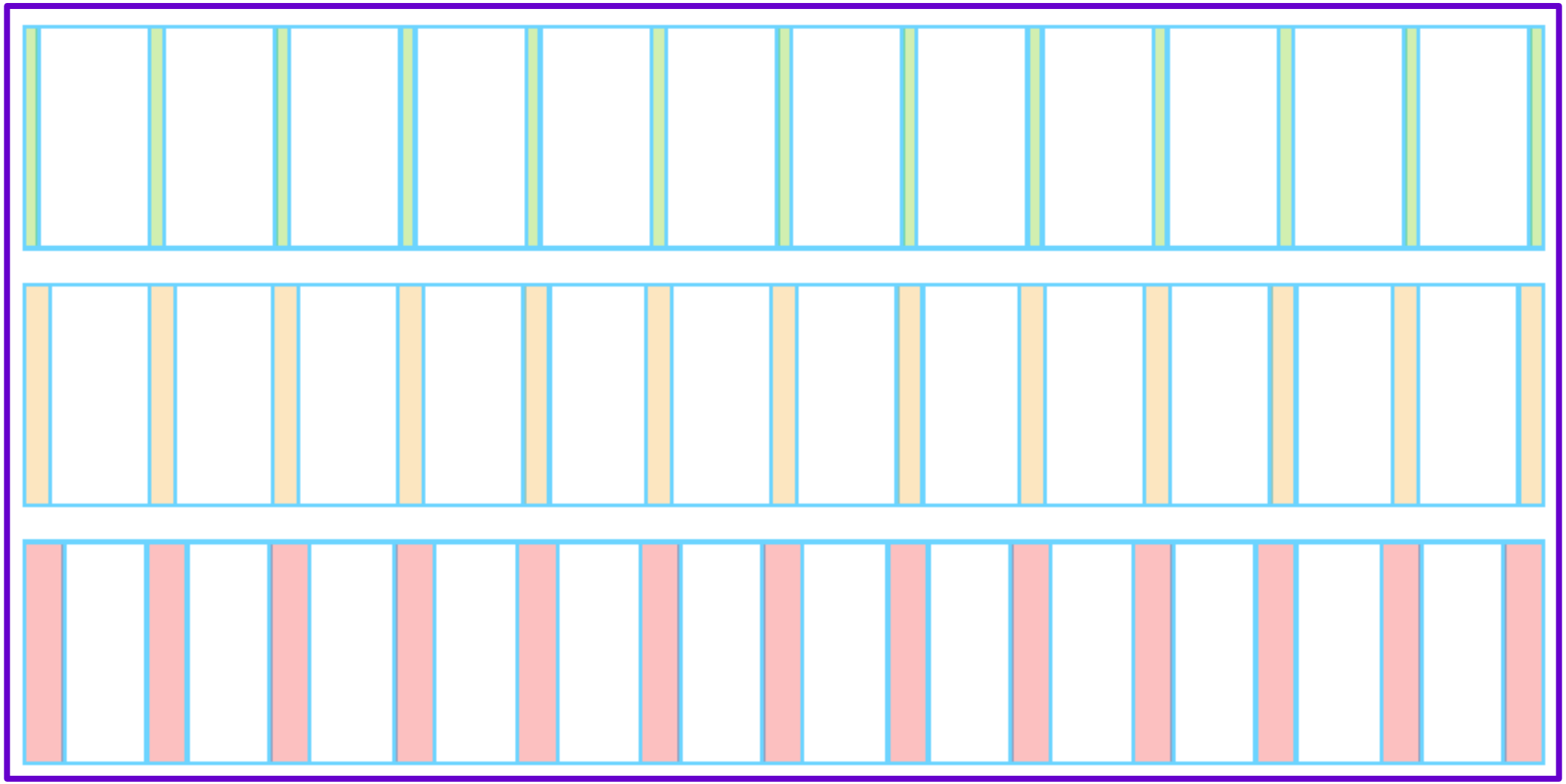
One of the primary reasons is the fact that if we use the multiples of 8, it allows us to have more freedom with setting both external and internal margins in an object



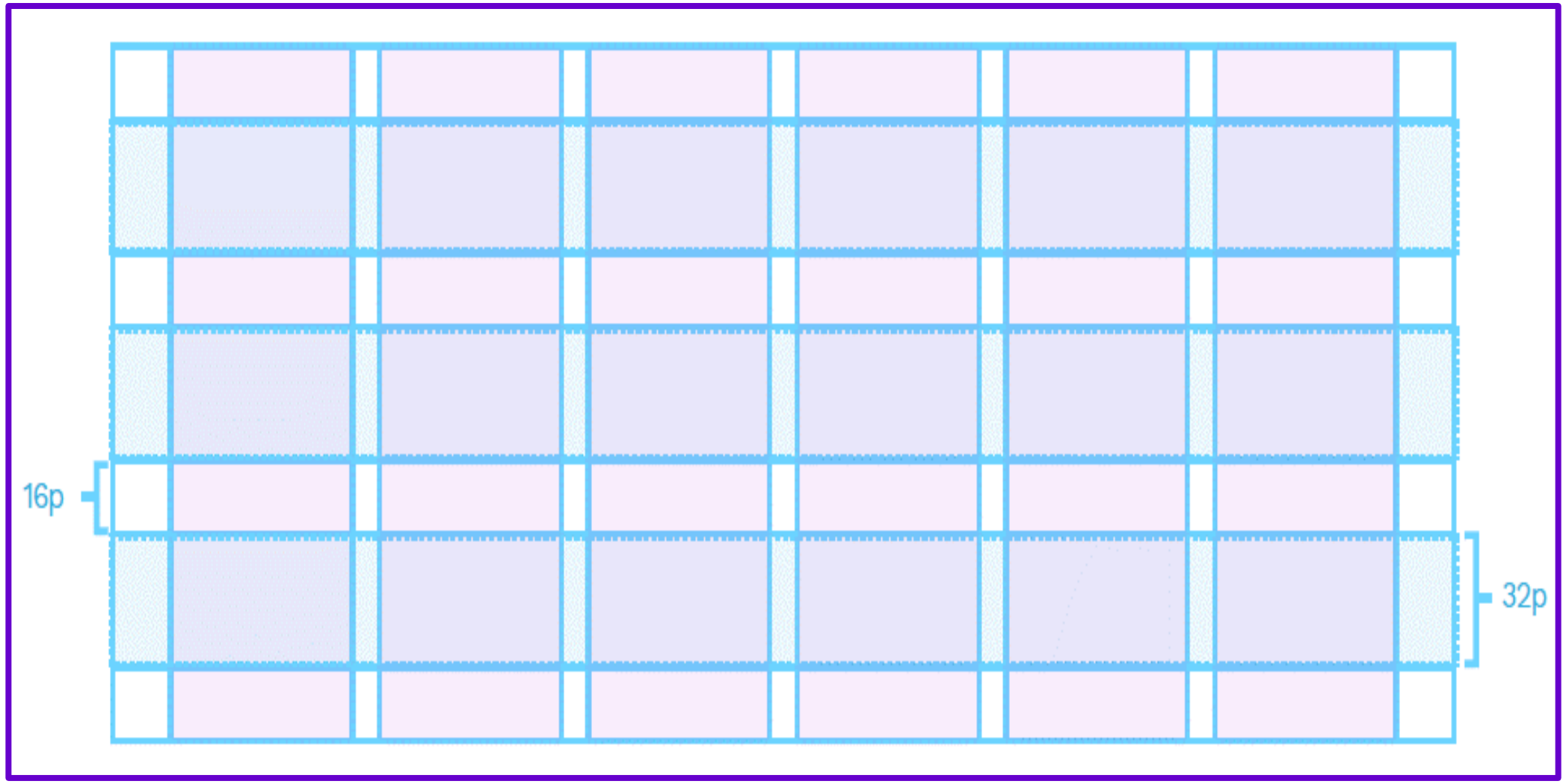
WHY 8 IS BETTER THAN 10?

When our minimum nudge value equals ten, it forces us to have much larger margins (of 20).

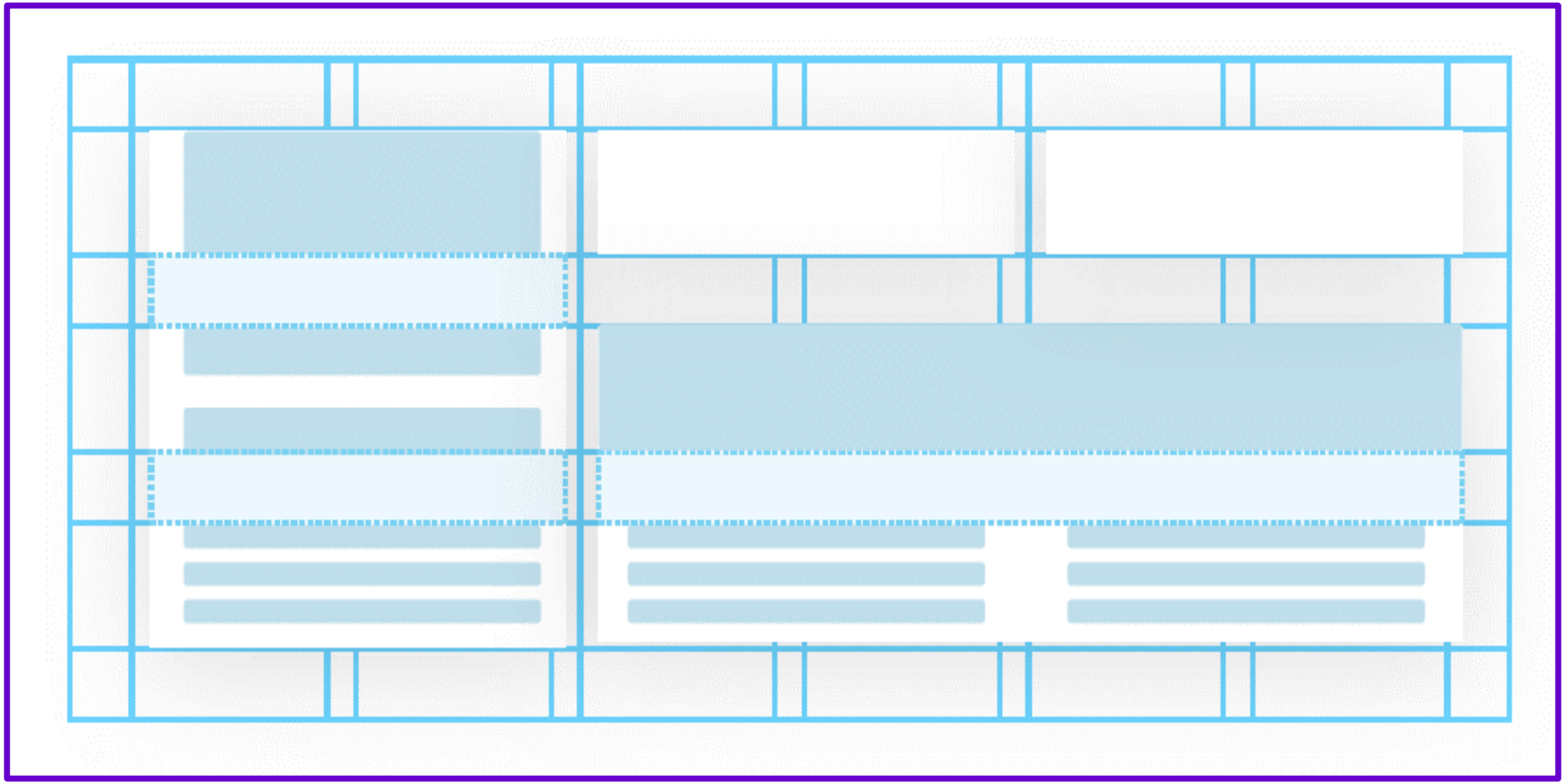
MULTIPLE GRIDS



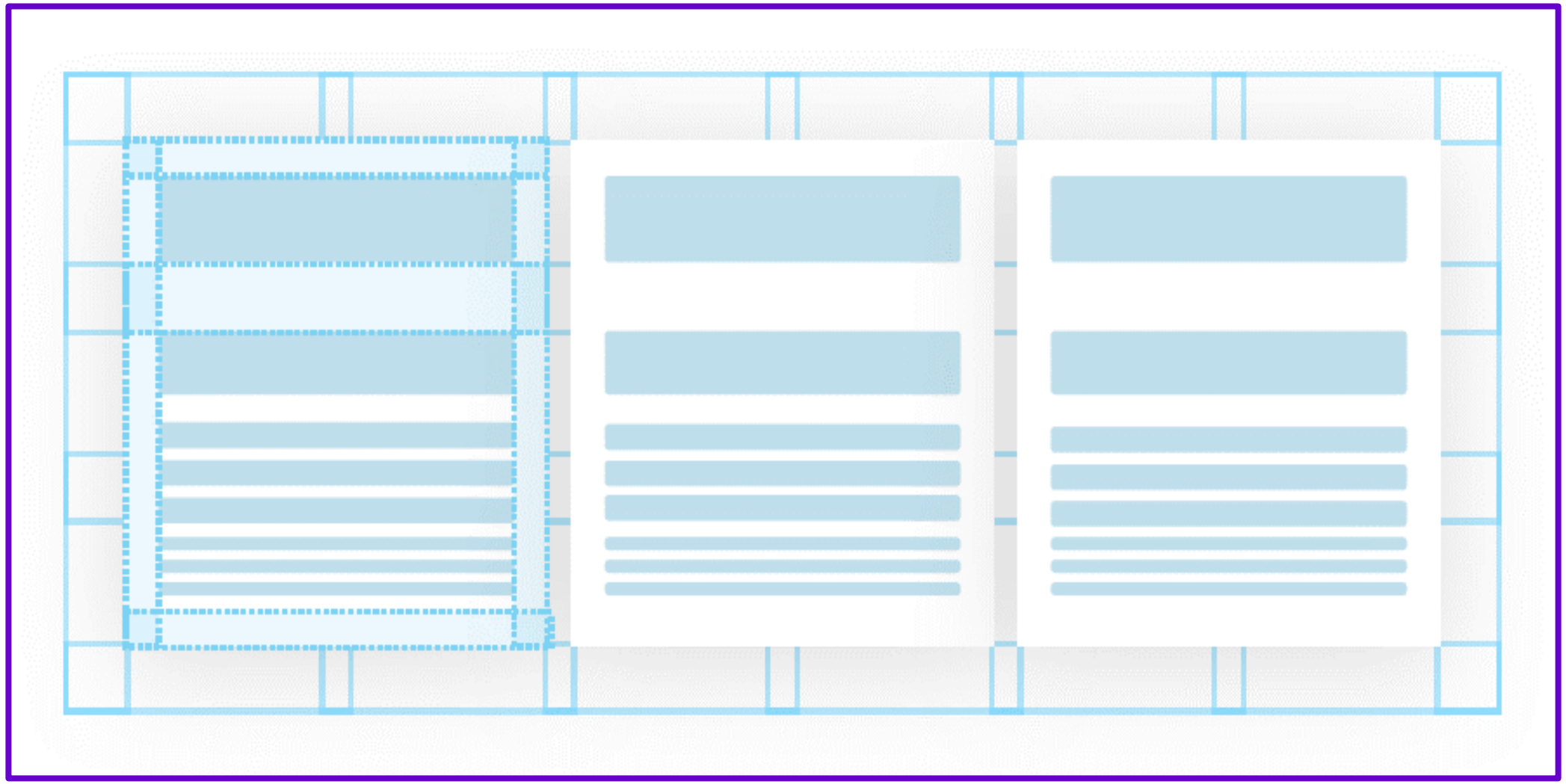
VERTICAL RHYTHM



ALIGNING OBJECTS TO HORIZONTAL AND VERTICAL GRIEDS

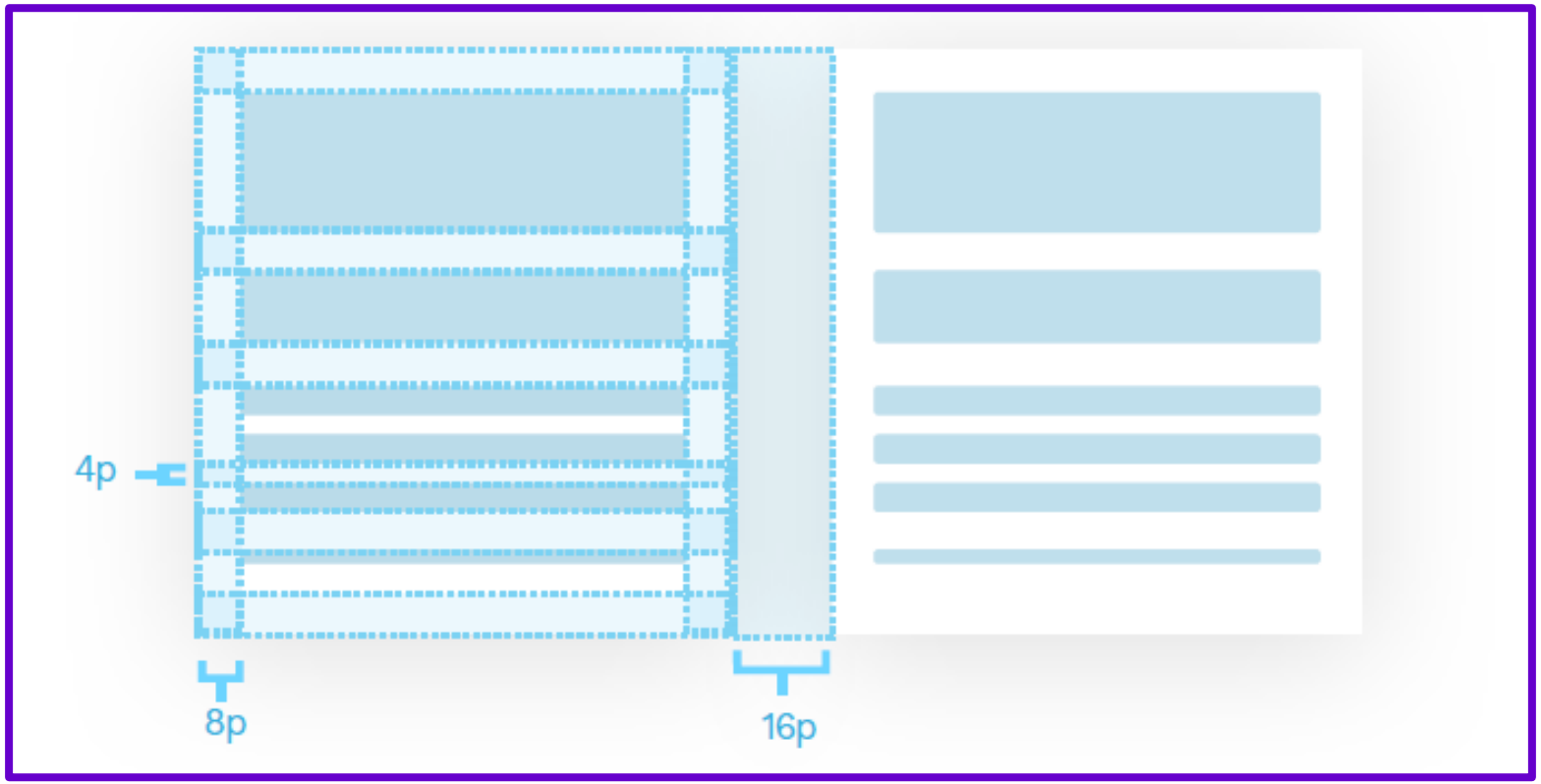


COMPONENT

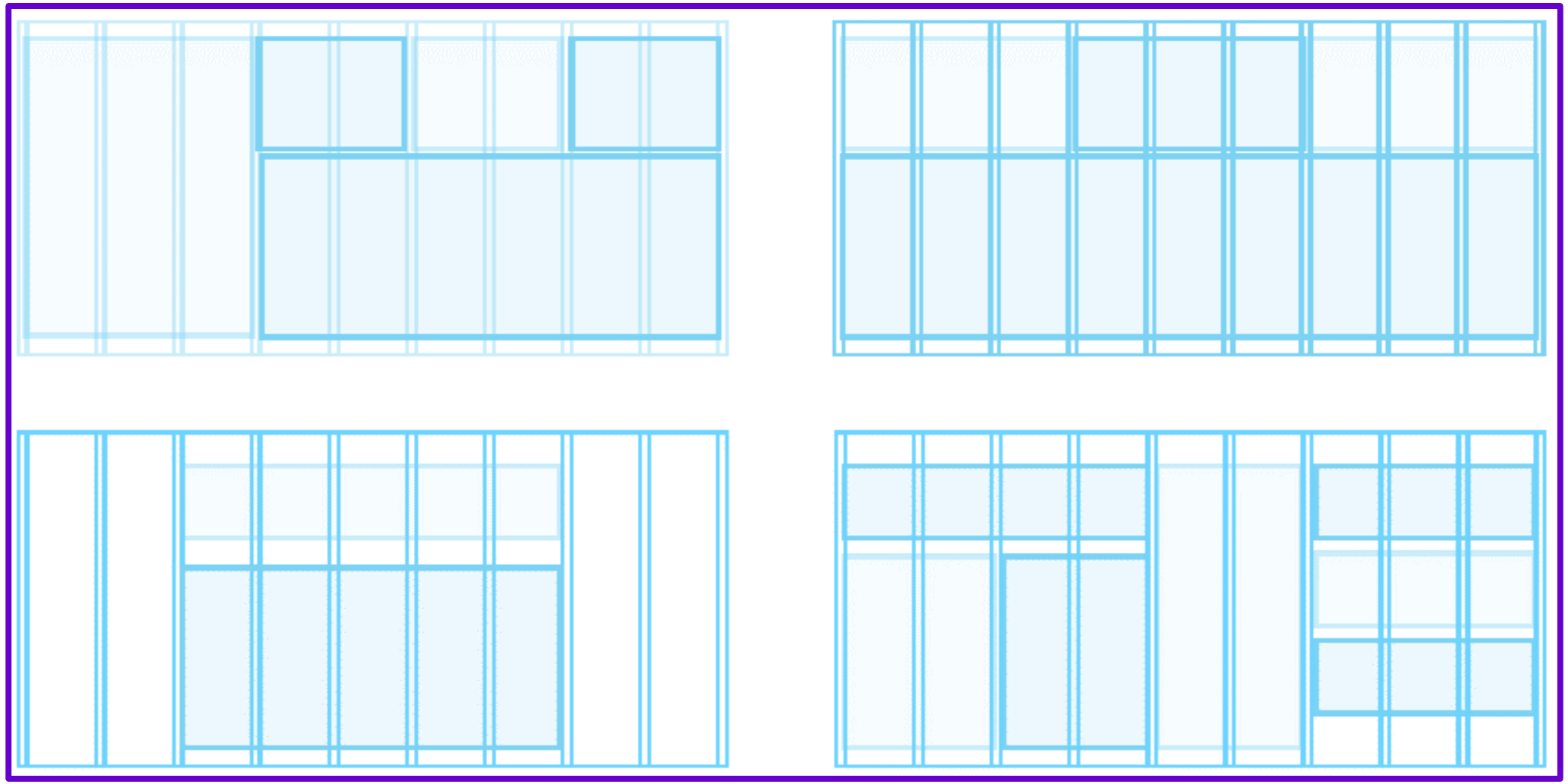


SOFT GRID

A soft grid is a rule of aligning objects using the base number and its multiplies

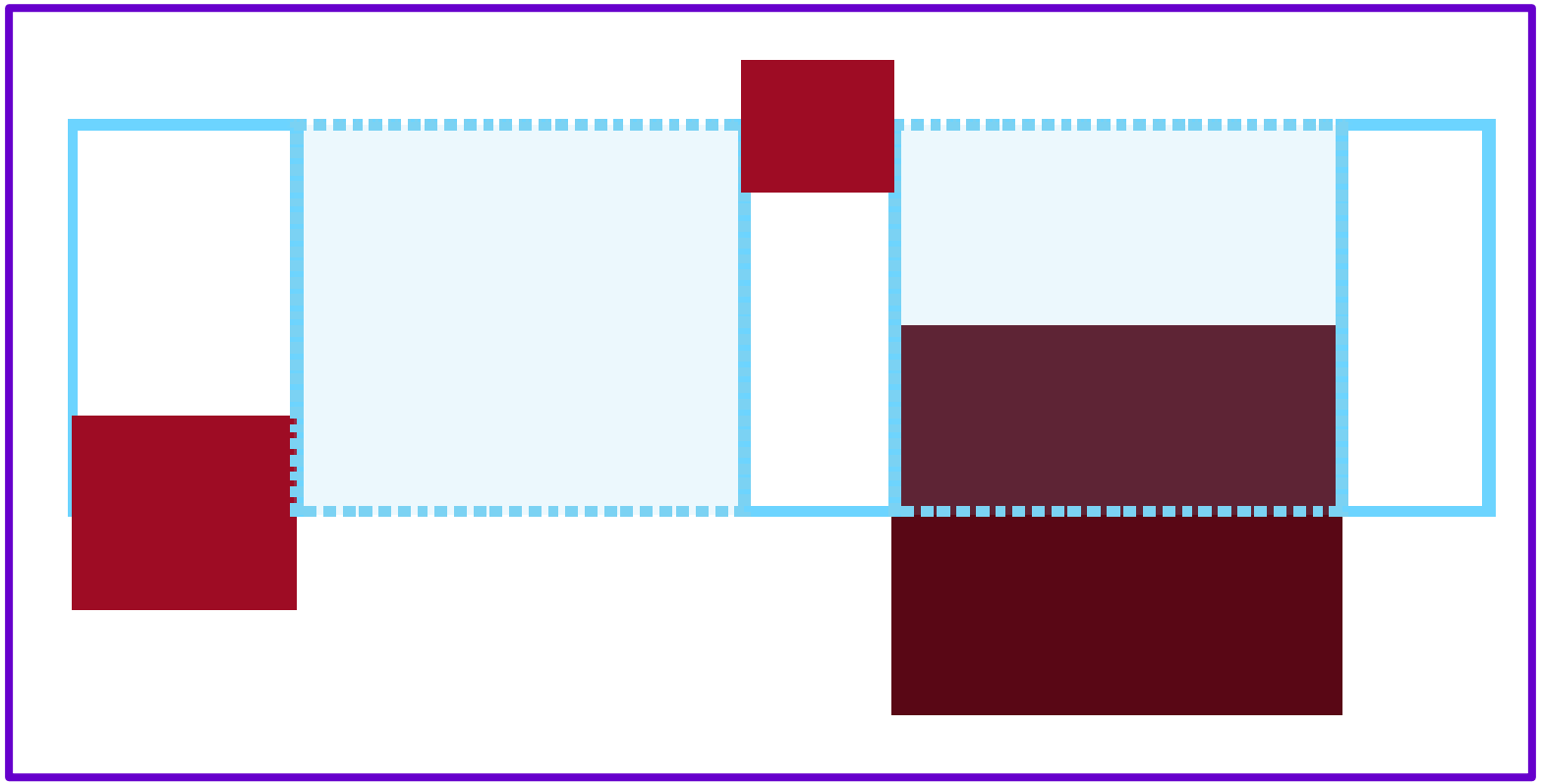


HOW TO CREATE A GRID?

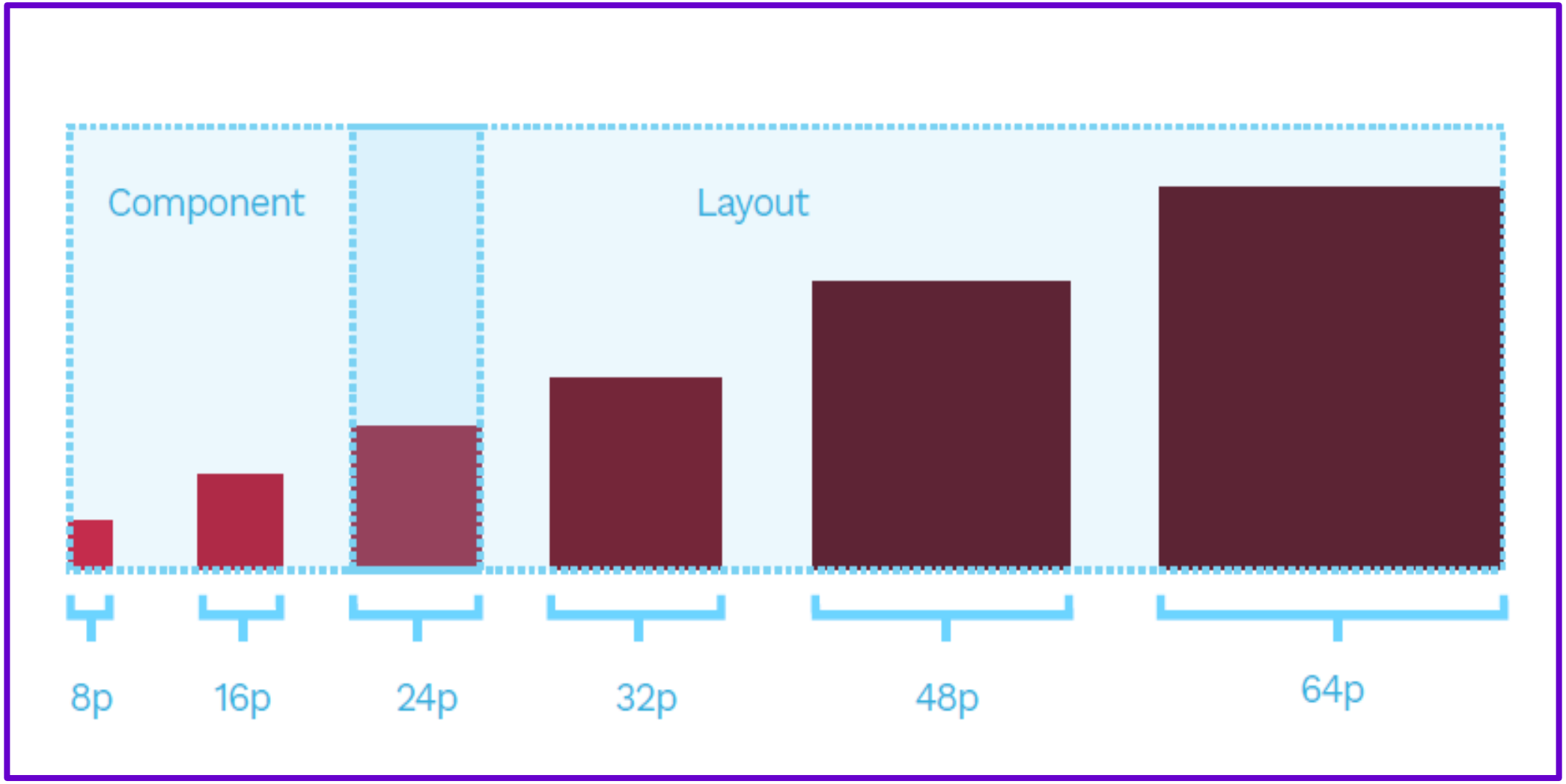


THE RED SQUARE METHOD

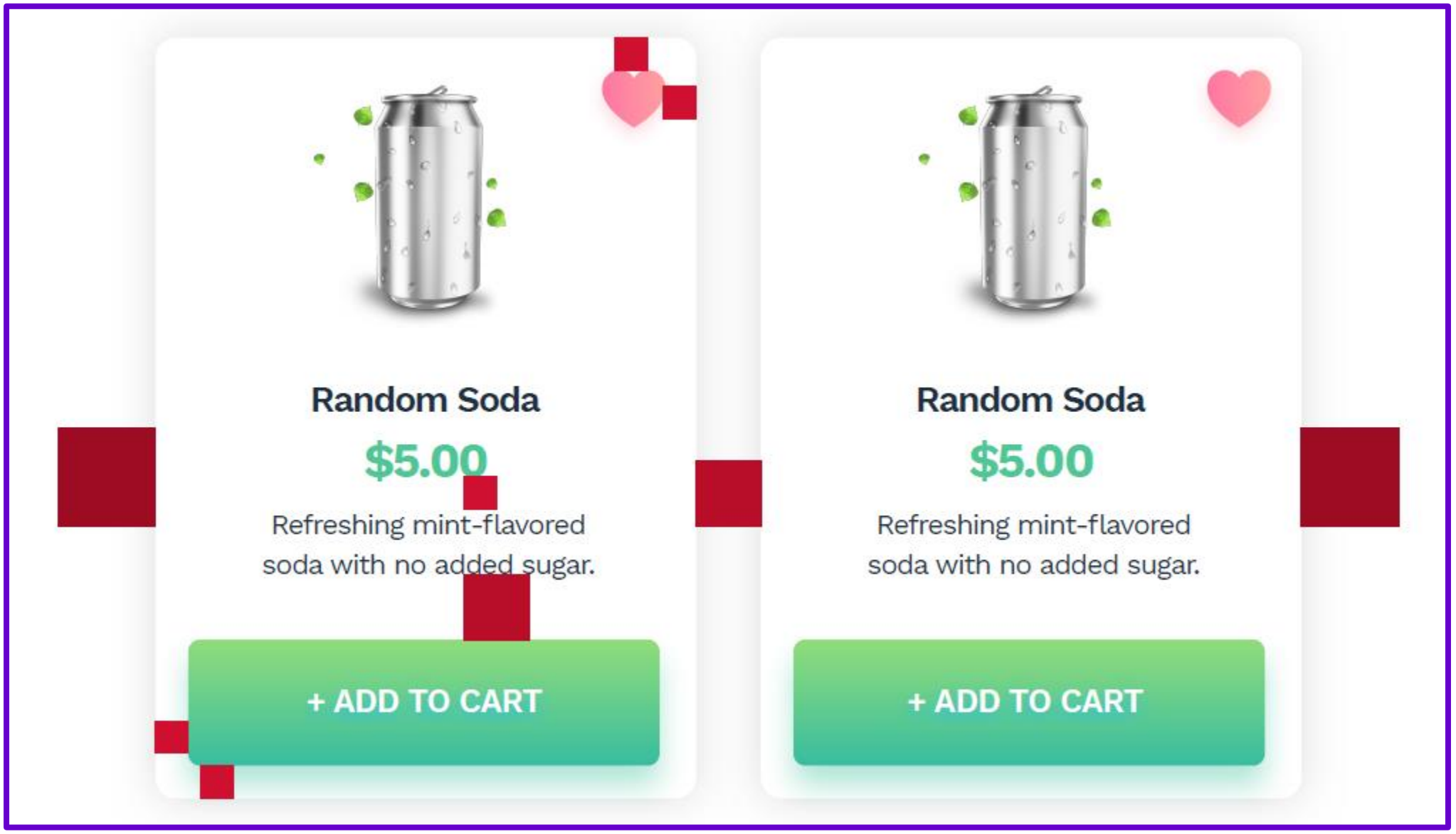
A Red Square is a full shape that you can place between the lines of any grid to check alignment.



THE RED SQUARE METHOD (Base Point)

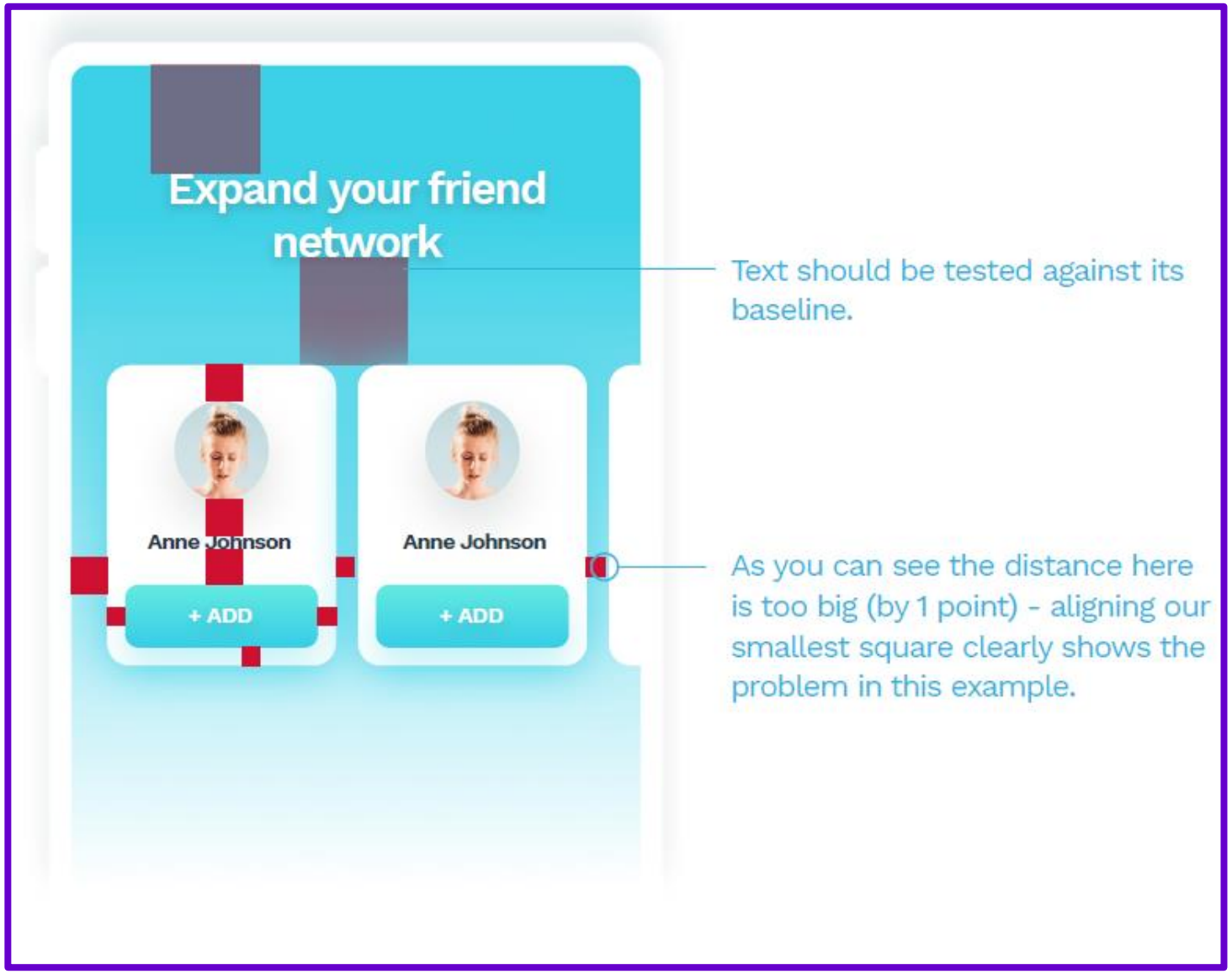


THE RED SQUARE METHOD

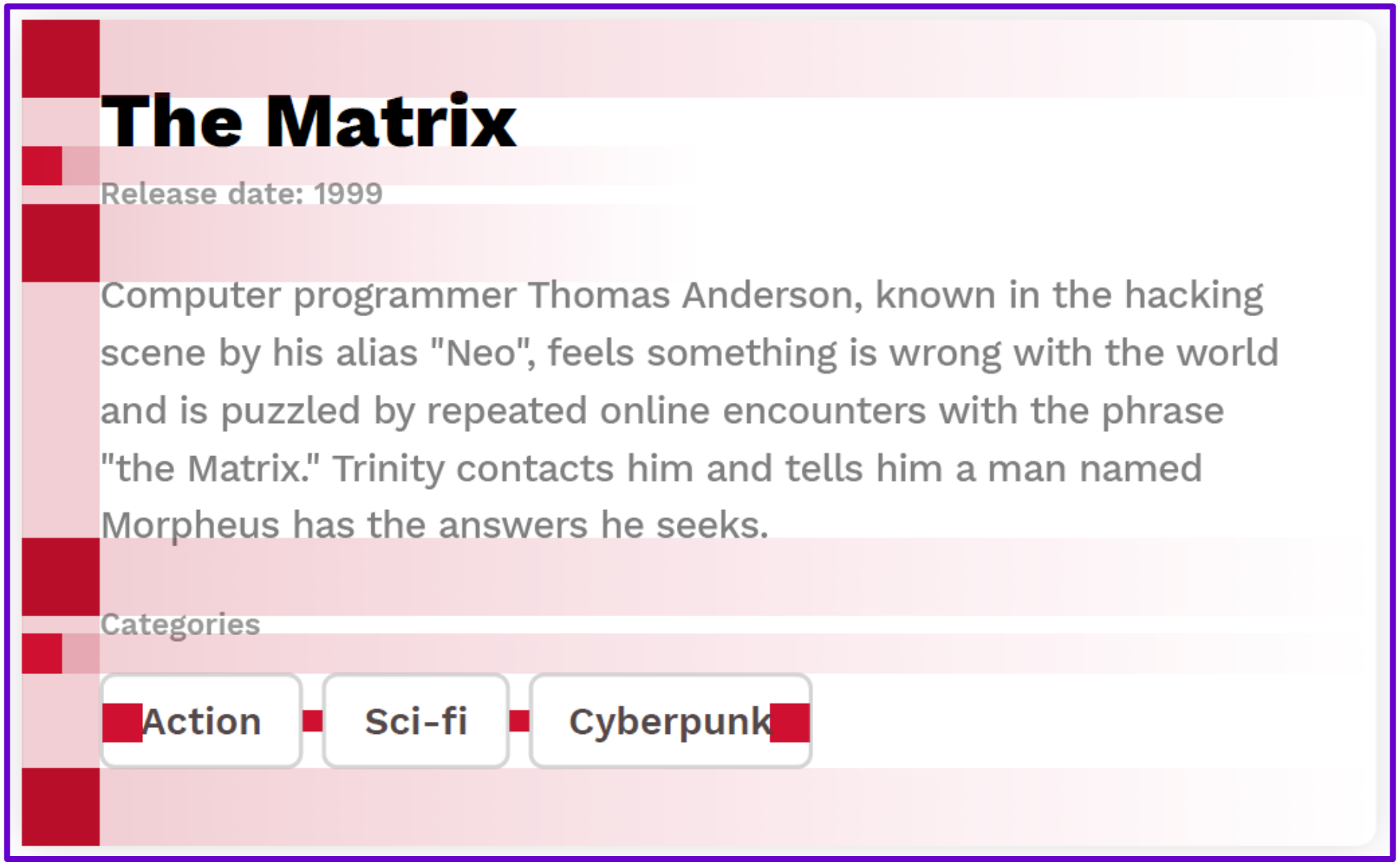


Auditing an existing design

looking for is deviations from the rules

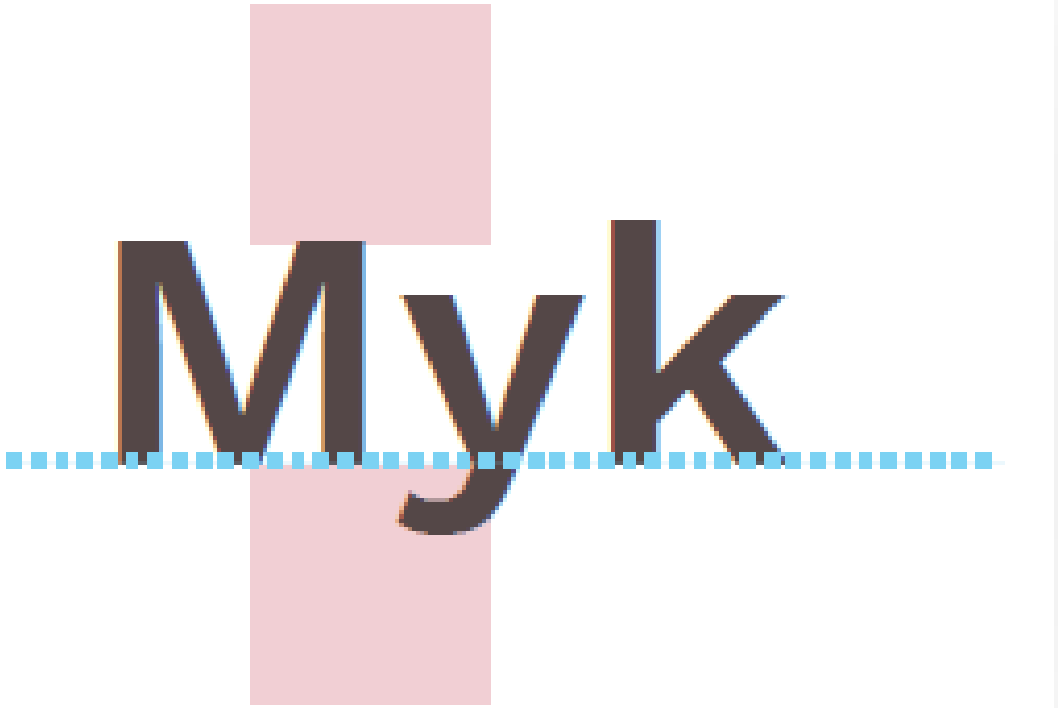


TEXT ALIGNMENT



TEXT ALIGNMENT

We are aligning our squares to the CAP-height which also means they align to the baselines of our font.



Some Best Practices

Layouts should be simple. In web design projects start with either 12 or 16 columns for greater flexibility

Longer text (body copy) on a 12-column grid should not exceed eight columns

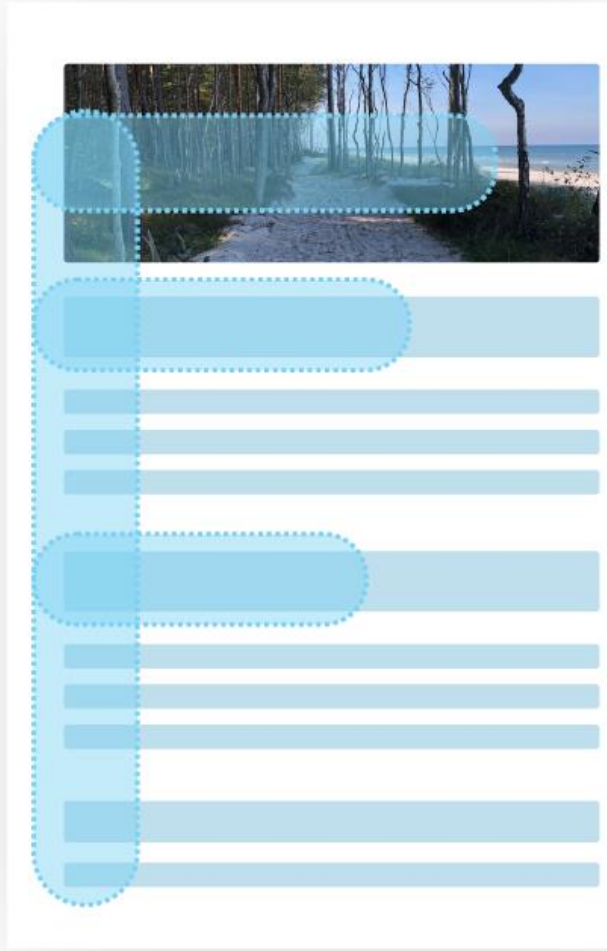
DEFINE THE GRID ASAP!

HOW WE SCAN CONTENT (F-Pattern)

We don't read anymore.

We scan.

The most popular across Europe and The US

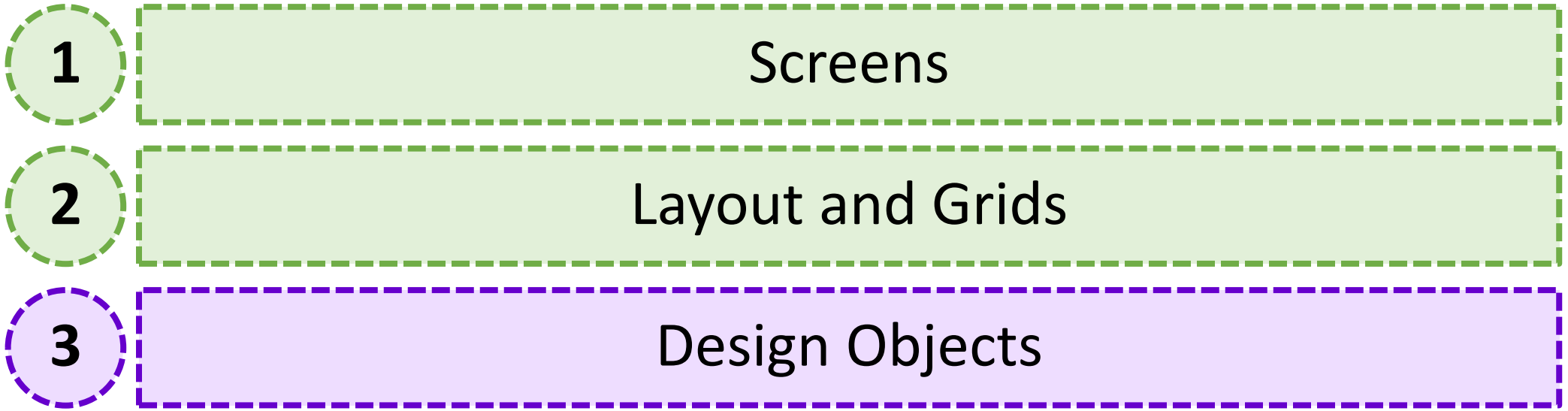


HOW WE SCAN CONTENT (Z-Pattern)

We don't read anymore.

We scan.

Z-pattern happens when a large photo or video breaks an F-pattern.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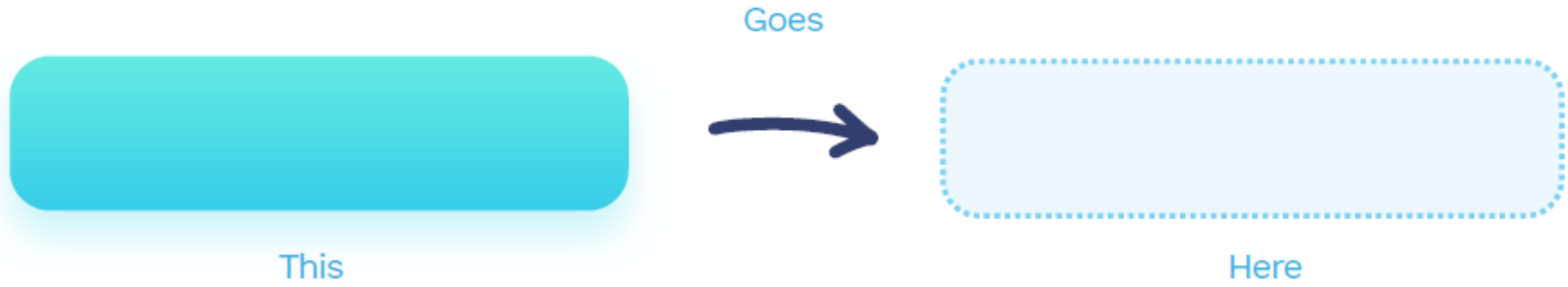
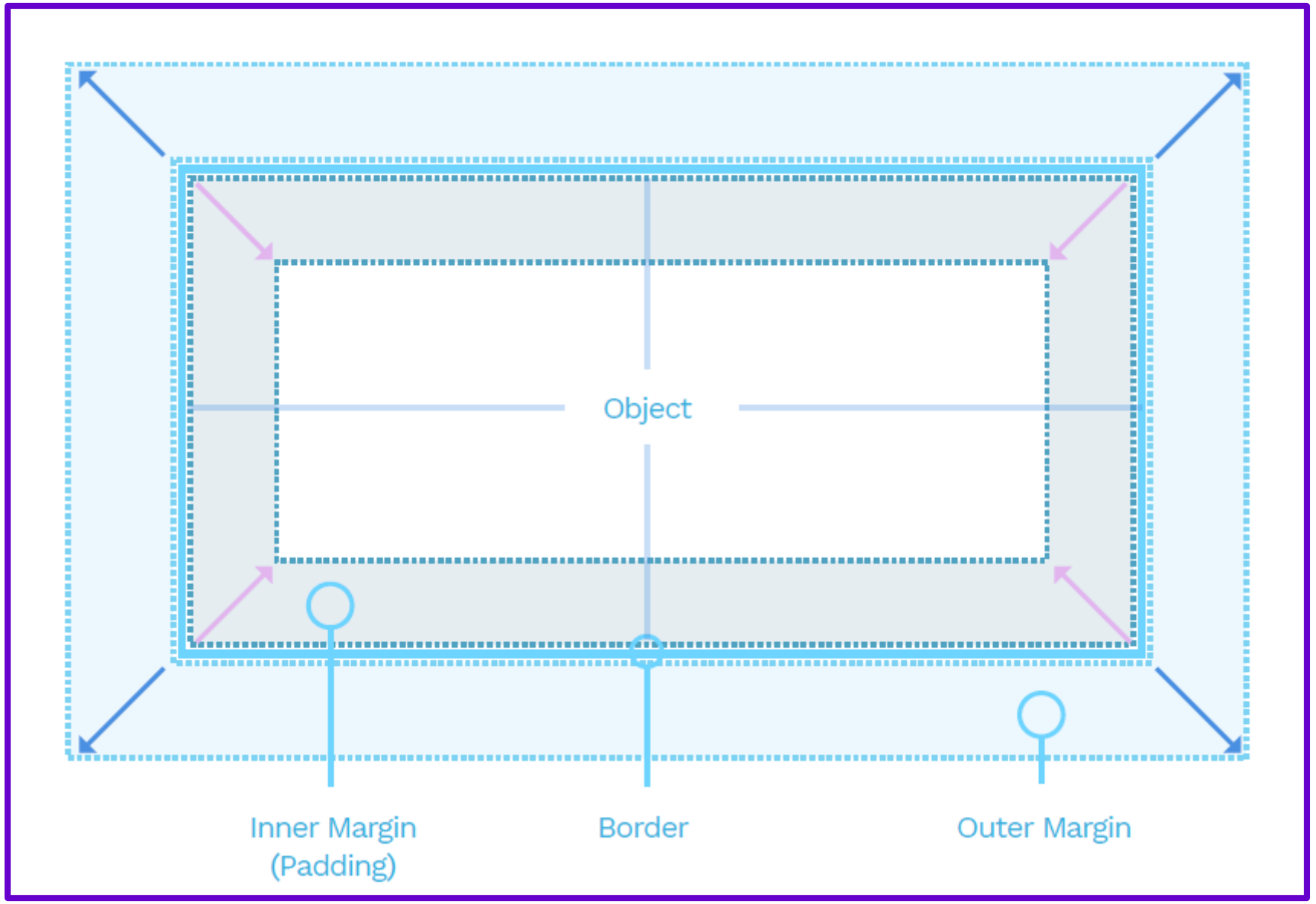
Objects

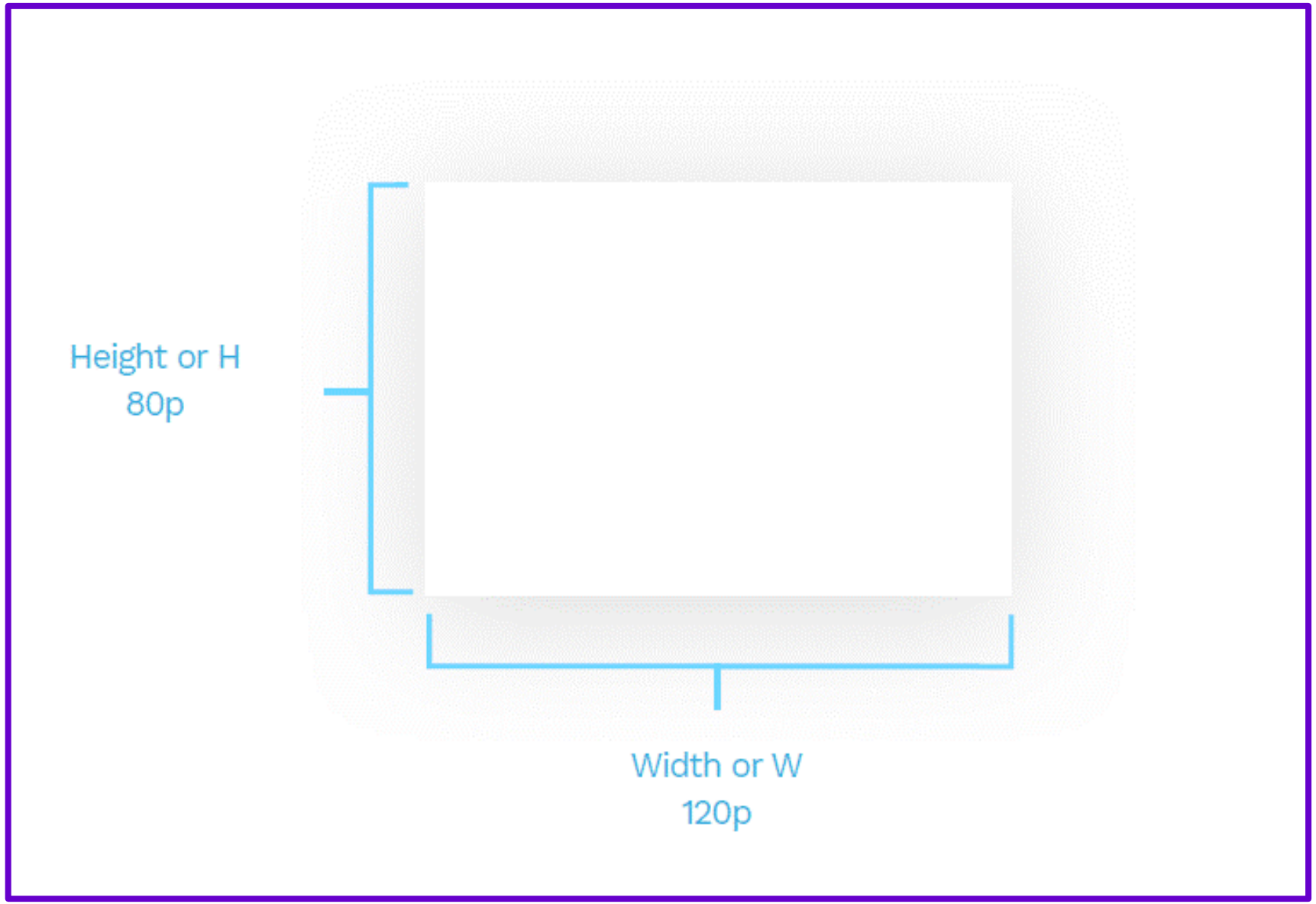
The general idea of UI design is about moving rectangles around in just the right way



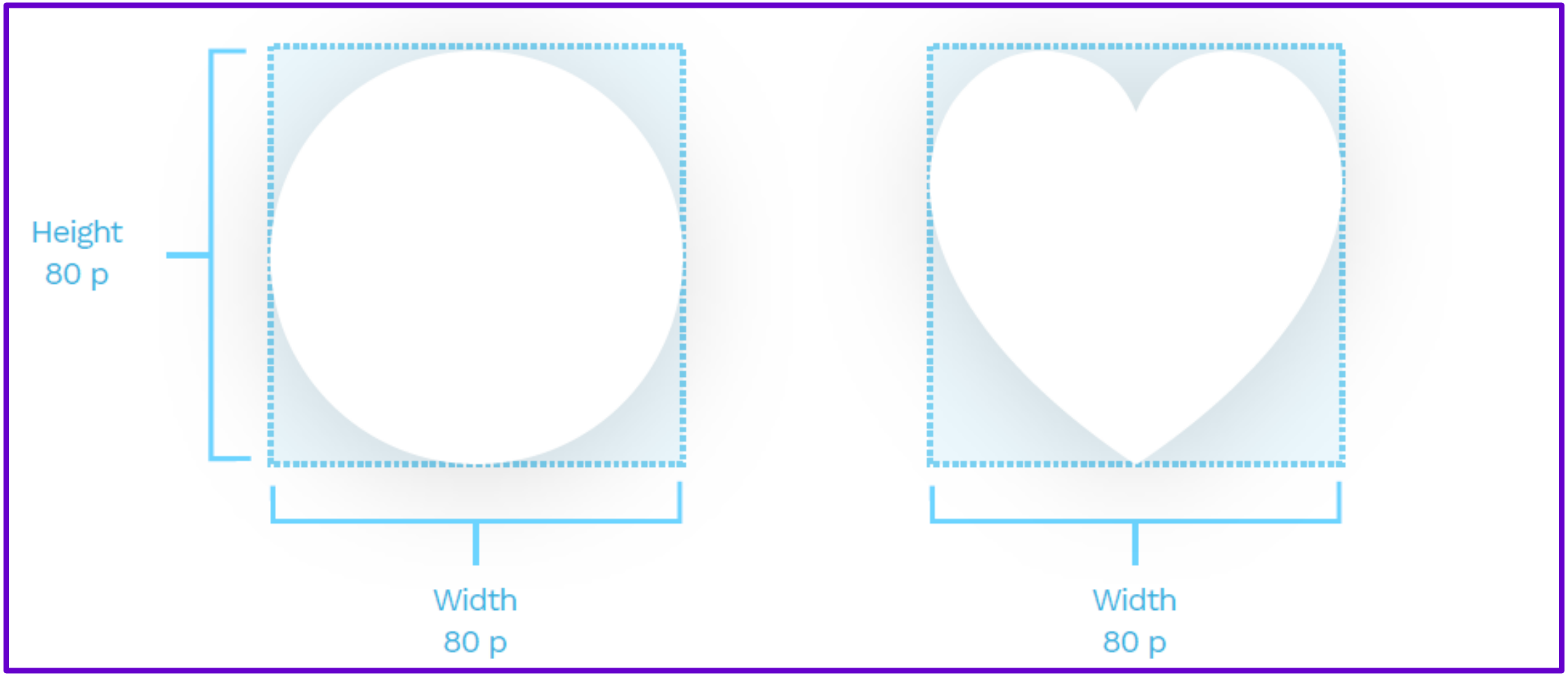
THE BOX MODEL



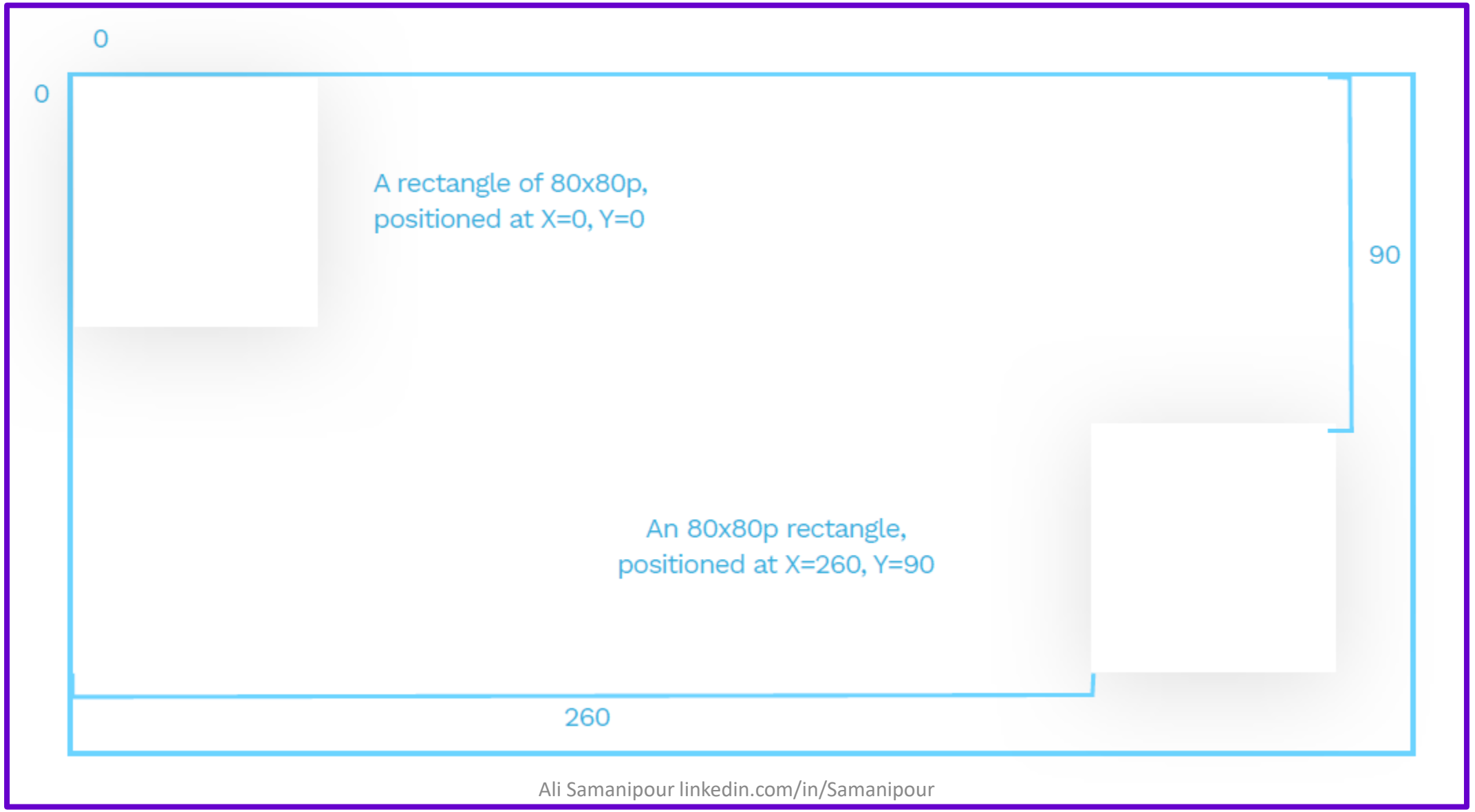
SIZE



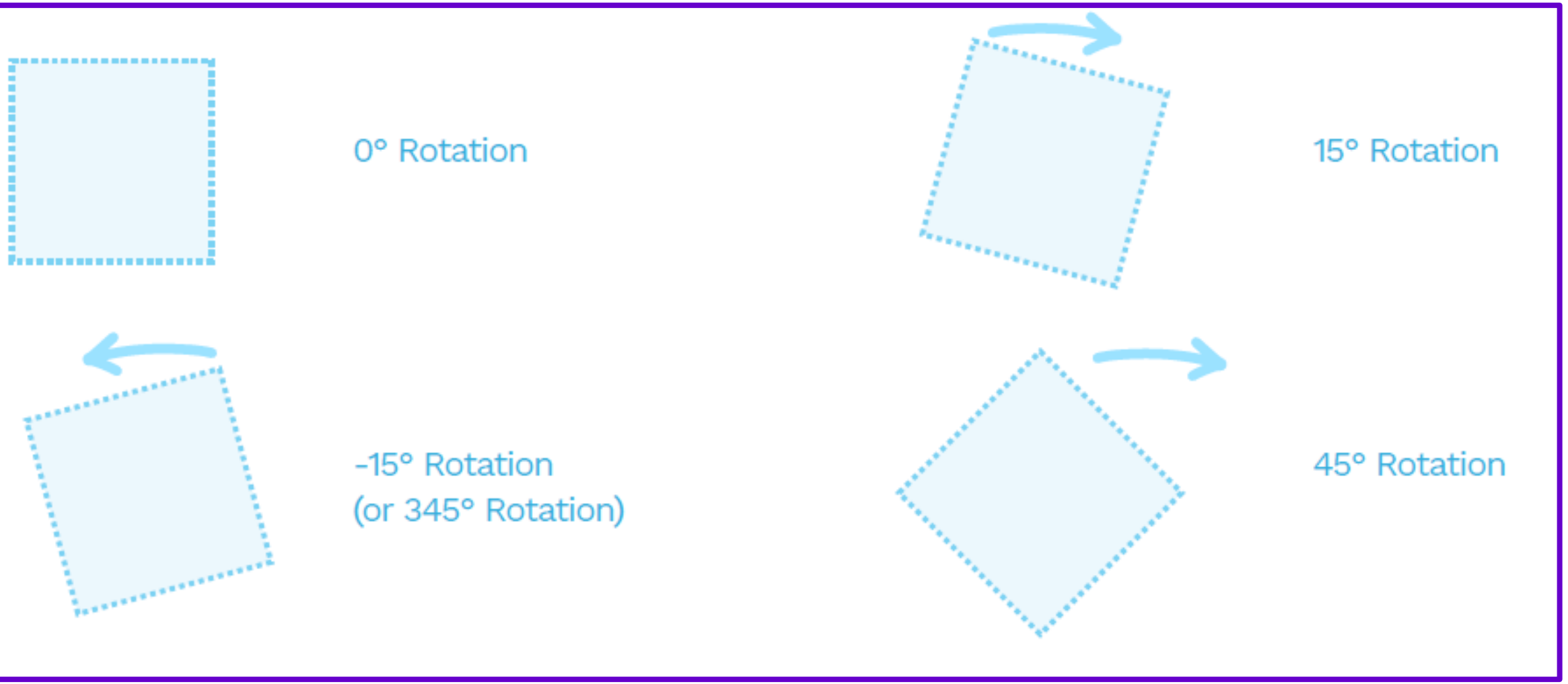
SIZE



POSITION


0
0
A rectangle of 80x80p,
positioned at X=0, Y=0
90
An 80x80p rectangle,
positioned at X=260, Y=90
260

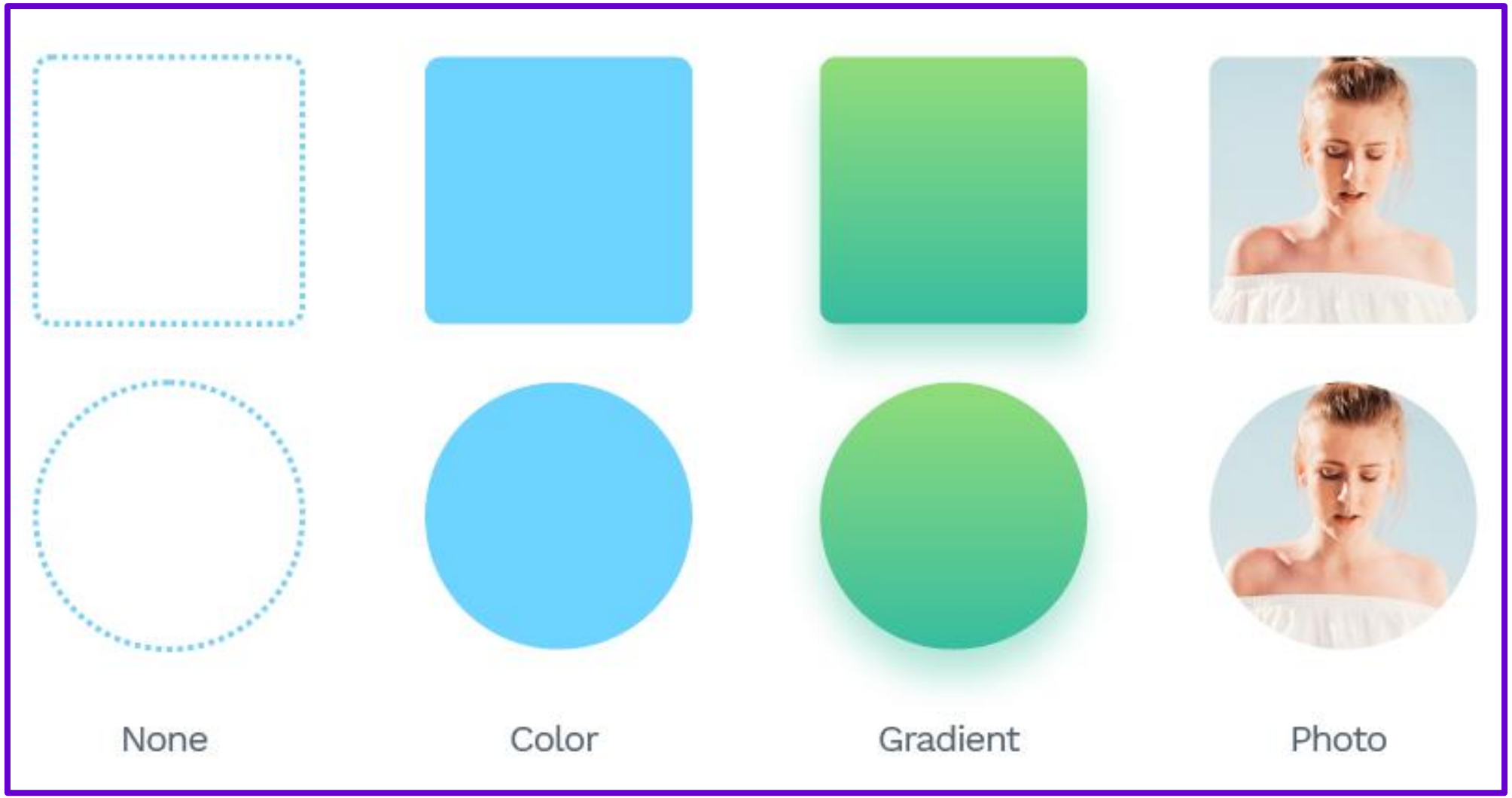
ANGLE


0° Rotation
15° Rotation
-15° Rotation
(or 345° Rotation)
45° Rotation

BORDER-RADIUS

Starting from the left a border-radius of : 0p , 2p , 6p , 100p

FILL



FILL...

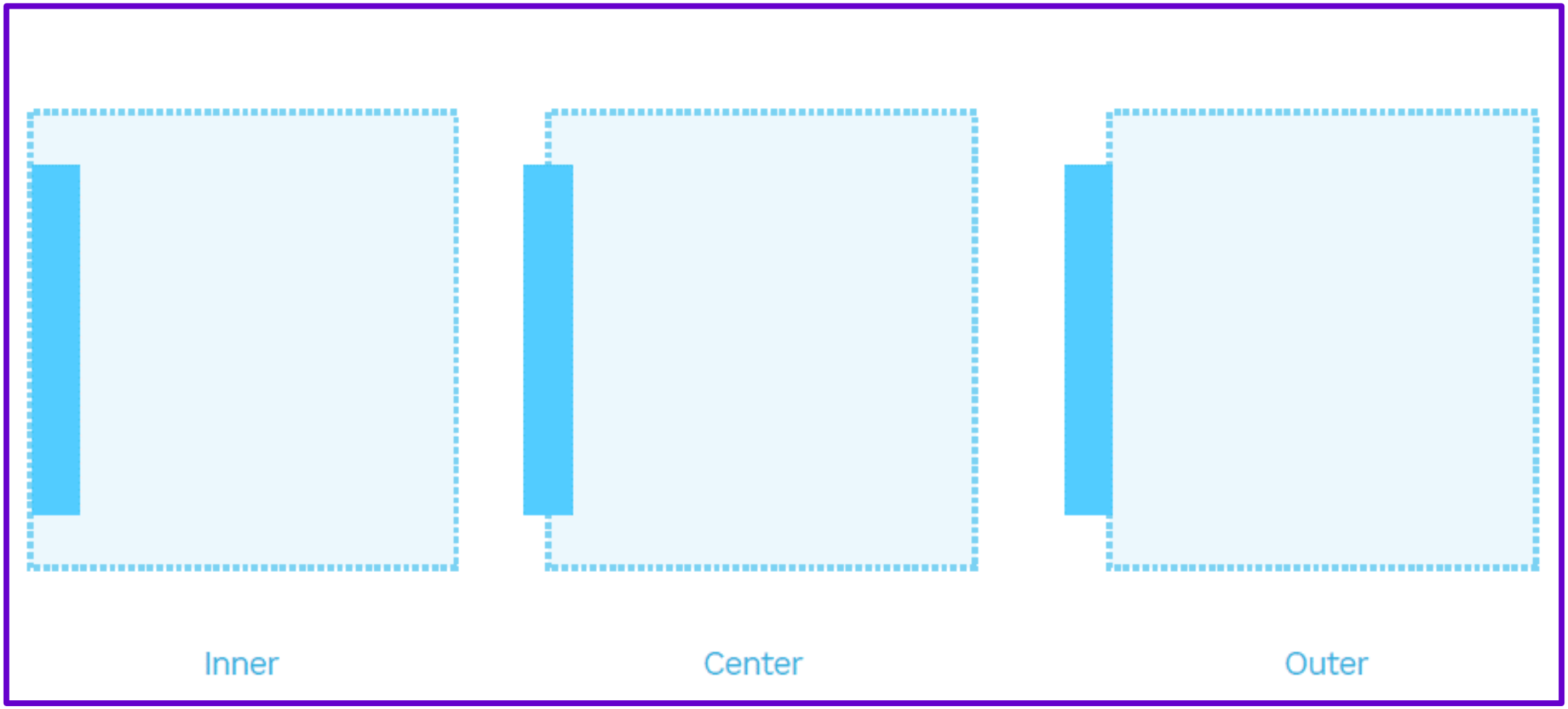
None

Color

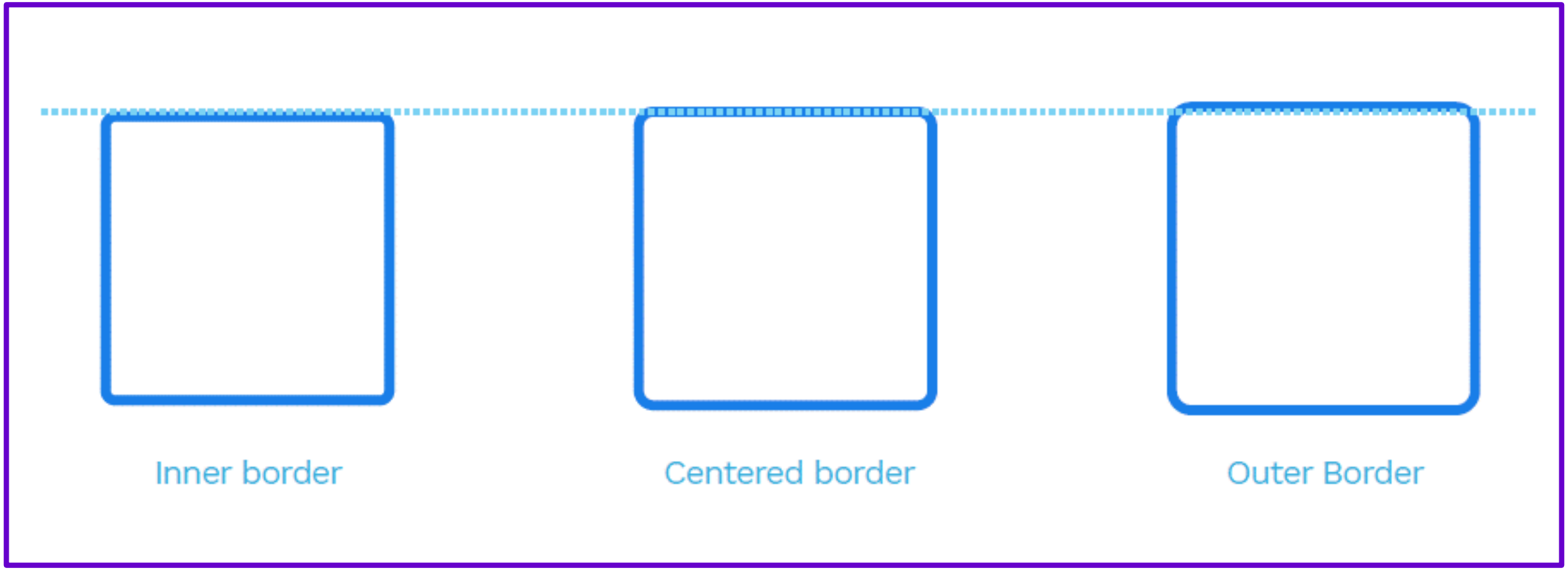
Gradient

Fade-out Gradient

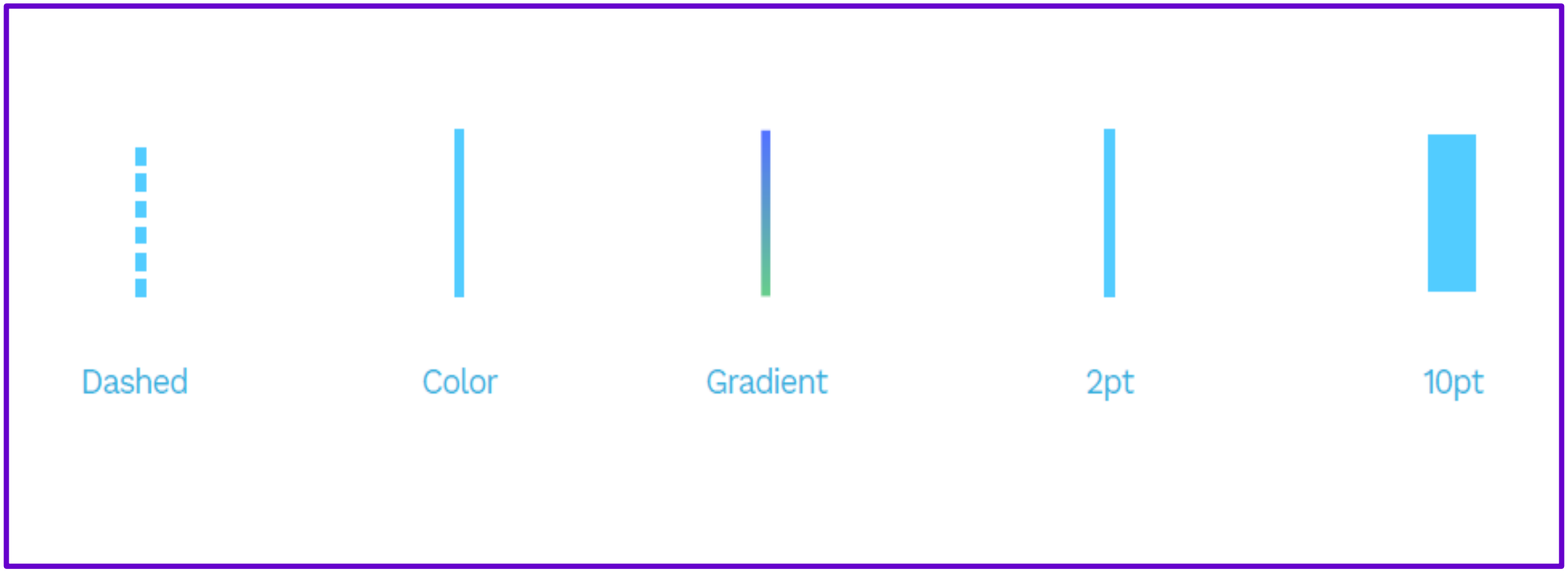
BORDER



BORDER ...



BORDER ...



BORDER ...

Flat, open end

Flat end

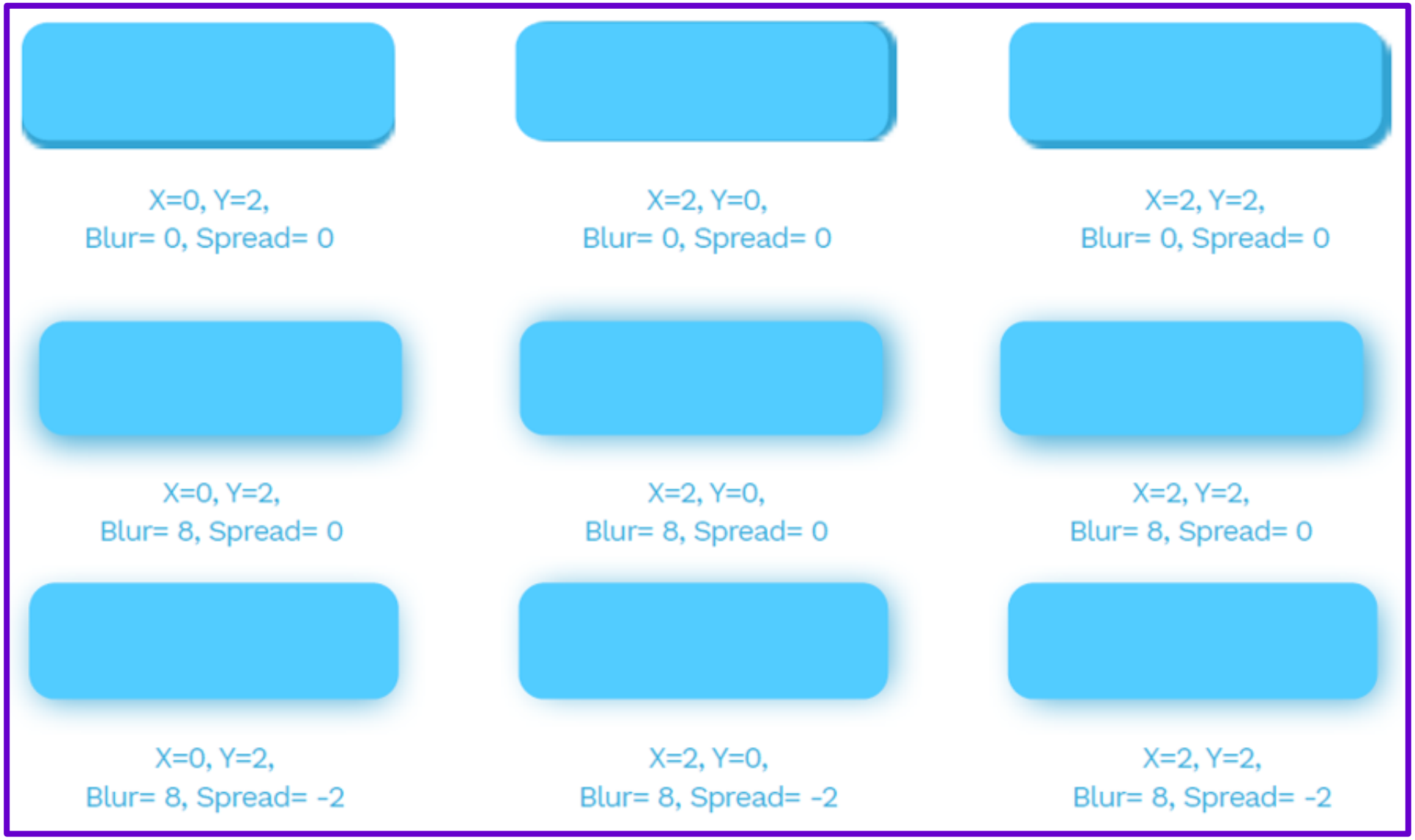
Rounded end

Straight joint

Rounded joint

Angled joint

DROP SHADOW


X=0, Y=2,
Blur= 0, Spread= 0
X=2, Y=0,
Blur= 0, Spread= 0
X=2, Y=2,
Blur= 0, Spread= 0
X=0, Y=2,
Blur= 8, Spread= 0
X=2, Y=0,
Blur= 8, Spread= 0
X=2, Y=2,
Blur= 8, Spread= 0
X=0, Y=2,
Blur= 8, Spread= -2
X=2, Y=0,
Blur= 8, Spread= -2
X=2, Y=2,
Blur= 8, Spread= -2

DROP SHADOW (Color)

The most important part of looking natural is avoiding pure black shadows and using a shadow derived from our primary color instead.

DROP SHADOW (Color)

The most important part of looking natural is avoiding pure black shadows and using a shadow derived from our primary color instead.

INNER SHADOW

The only use-cases of this style are form inputs and extruded shapes in the Neumorphism method.

OUTER SHADOW

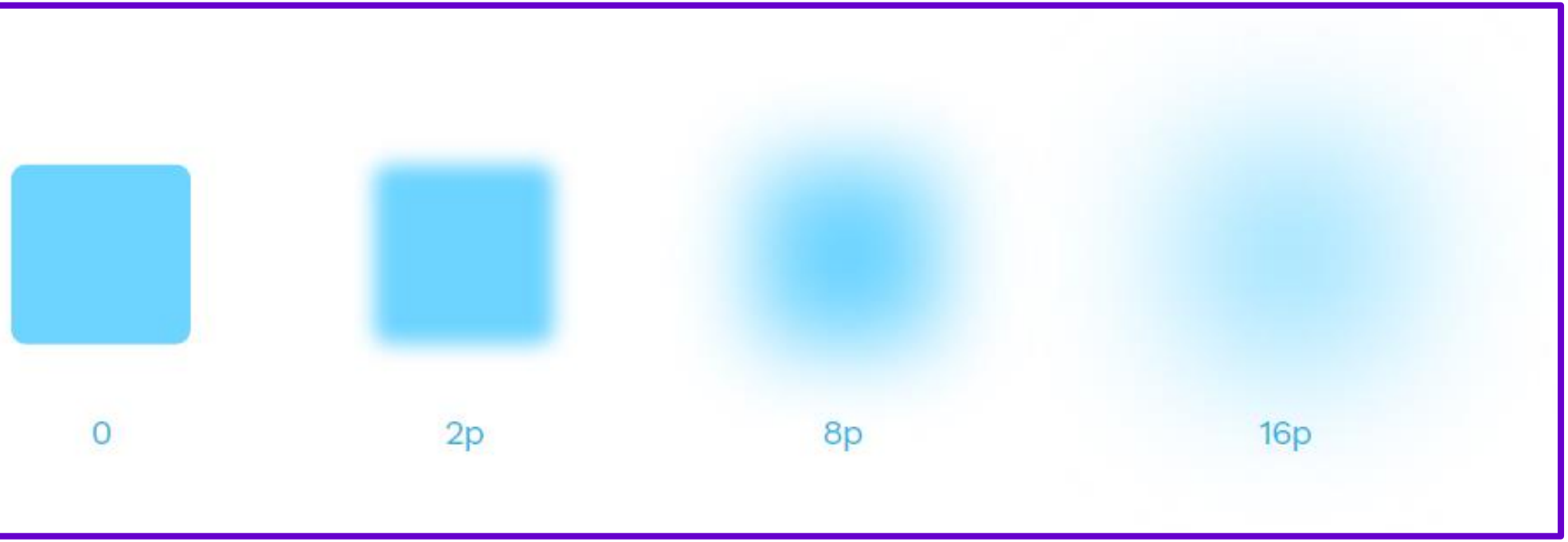
Modern UI's are using the shadows to build a visual hierarchy and layered structure of elements.

INNER SHADOW

An inner shadow makes us think the object has a hole in it, which breaks the expected layering structure and can be confusing.

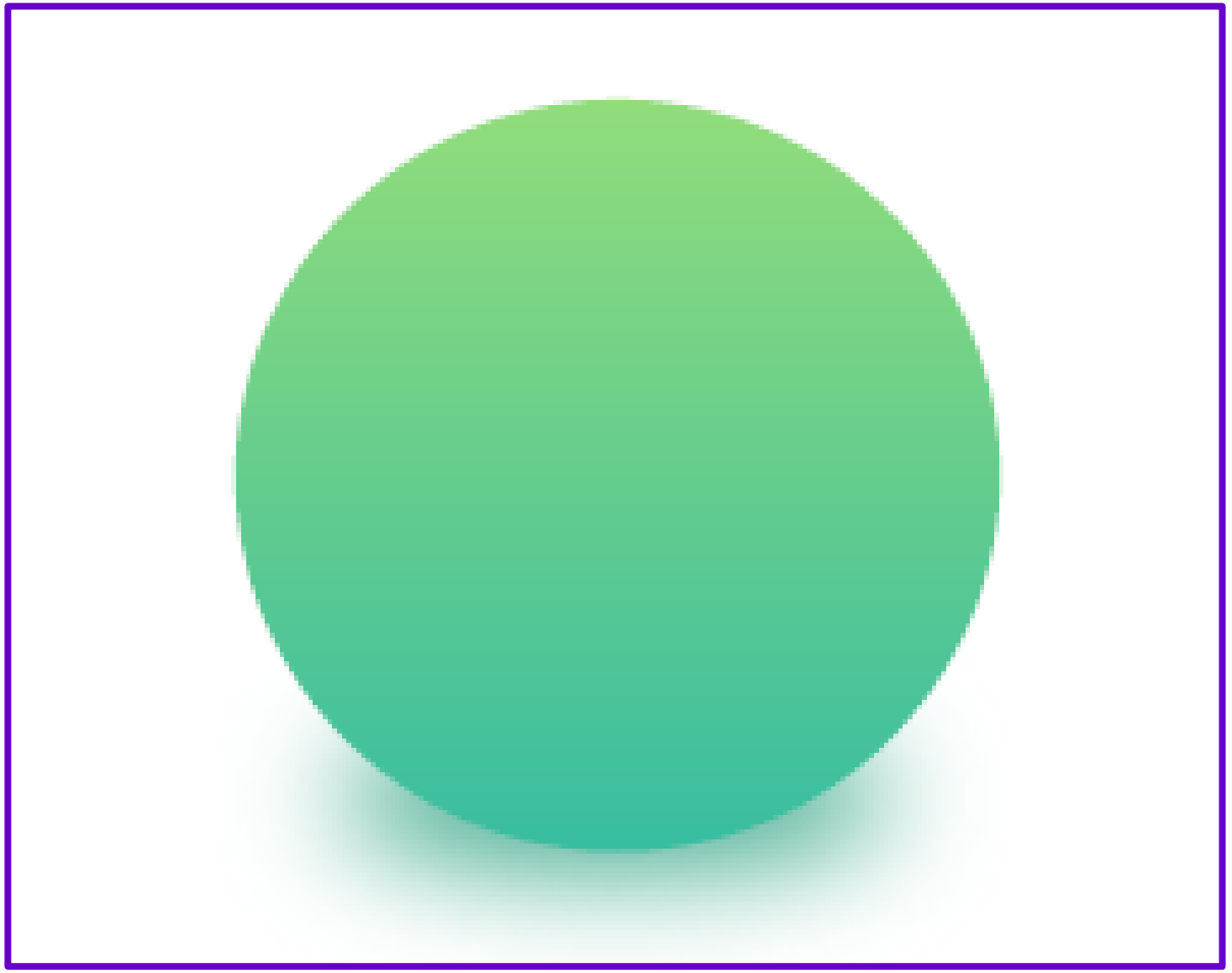
GAUSSIAN BLUR

You can employ it into transitions between screens, or show a bit of realistic depth of field by selectively blurring the background



non-standard, point-shadows under objects

The easiest way to achieve it is by blurring an ellipse and placing it under the object casting the shadow.

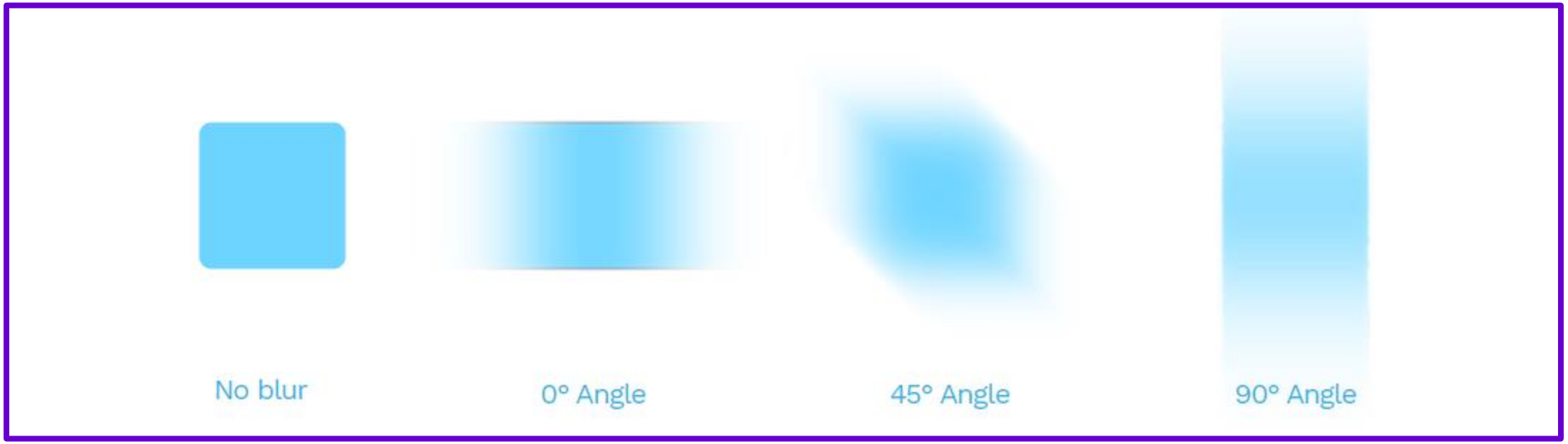


BACKGROUND BLUR

An object with this effect applied blurs everything under it.

MOTION BLUR

A motion blur simulates the movement of an object in a direction defined by the angle value

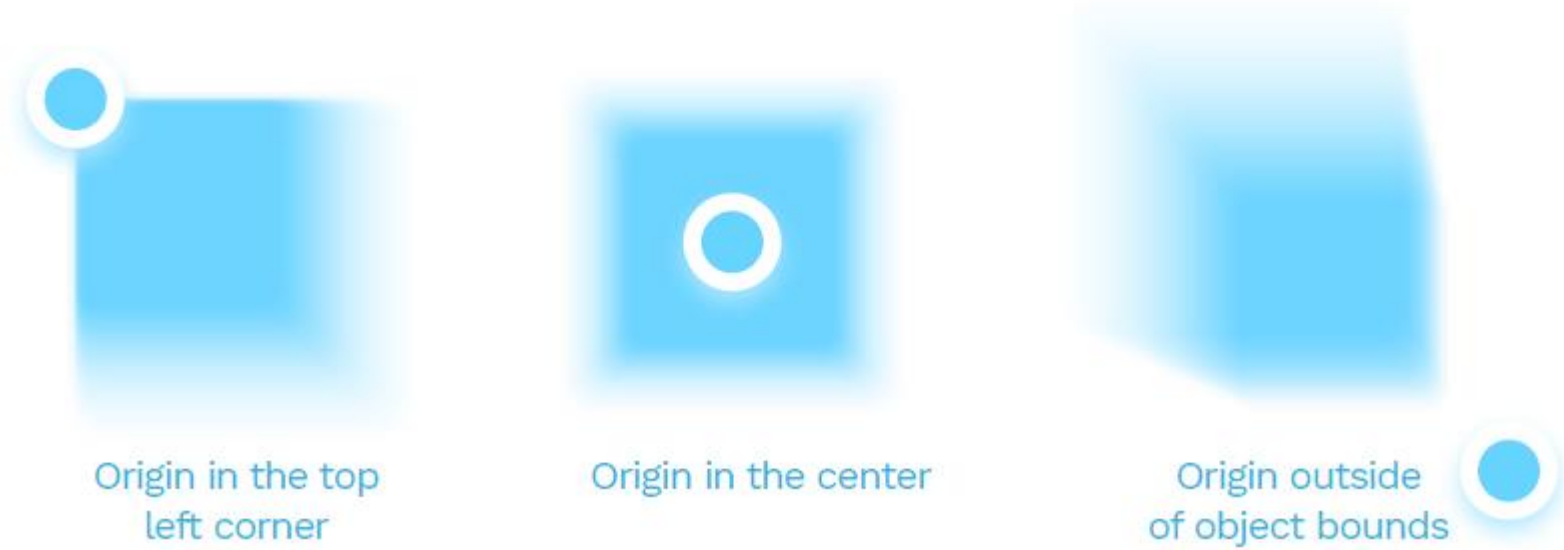


ZOOM BLUR

A zoom blur happens when the object becomes blurry from the inside out.

ZOOM BLUR …

In this particular blur type, you can also set the origin of the blur.



Course References

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- ***UI Design Styles: Trends and Design Patterns***, Michal Malewicz & Diana Malewice, 2020
- ***What UX Is Really About :Introducing a Mindset for Great Experiences,*** Celia Hodent, CRC Press, 2022
- ***Lean UX: Designing Great Products with Agile Teams 3rd Edition***, Jeff Gothelf & Josh Seiden, O'Reilly, 2021
- ***Laws of UX: Using Psychology to Design Better Products & Services,*** Jon Yablonski, O'Reilly, 2020
- ***Designing and Prototyping Interfaces with Figma***, Fabio Staiano, Packet Publishing, 2022

Accessing Course Resource

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