Class #8

DIGITAL MEDIA FOUNDATIONS

Class #8

RESPONSIVE DESIGN & VIDEO FORMATS

Today's agenda

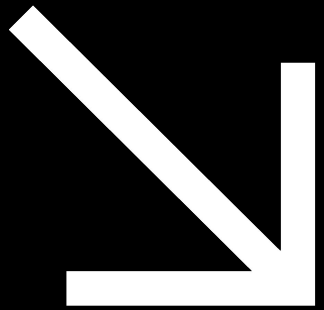
Responsive Design

Video Formats

Homework reviews

Your homework: Start Design!

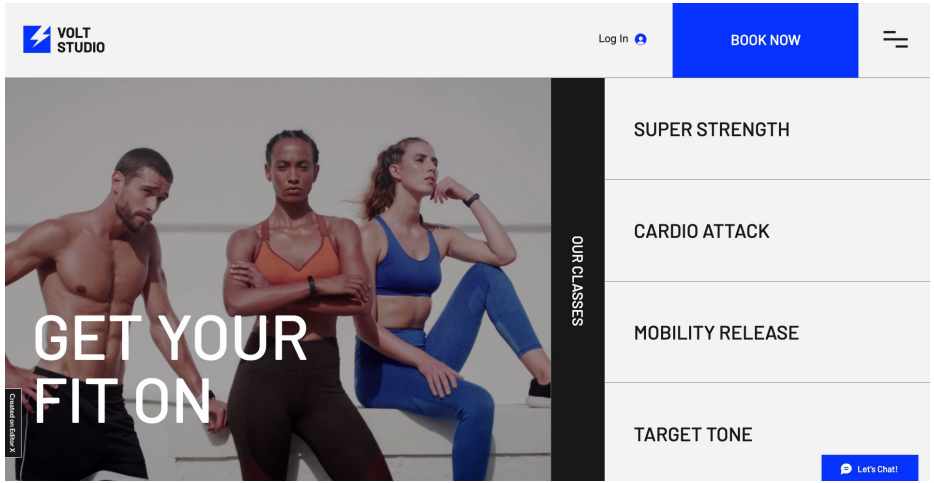
Responsive Design

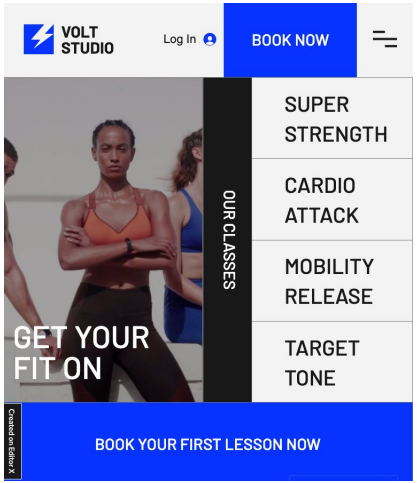


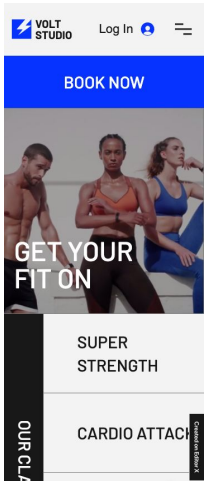
> “Responsive web design is an approach to web design which makes web pages render well on a variety of devices, windows or screen sizes ”

Google Search
The Internet

Seamless Experience

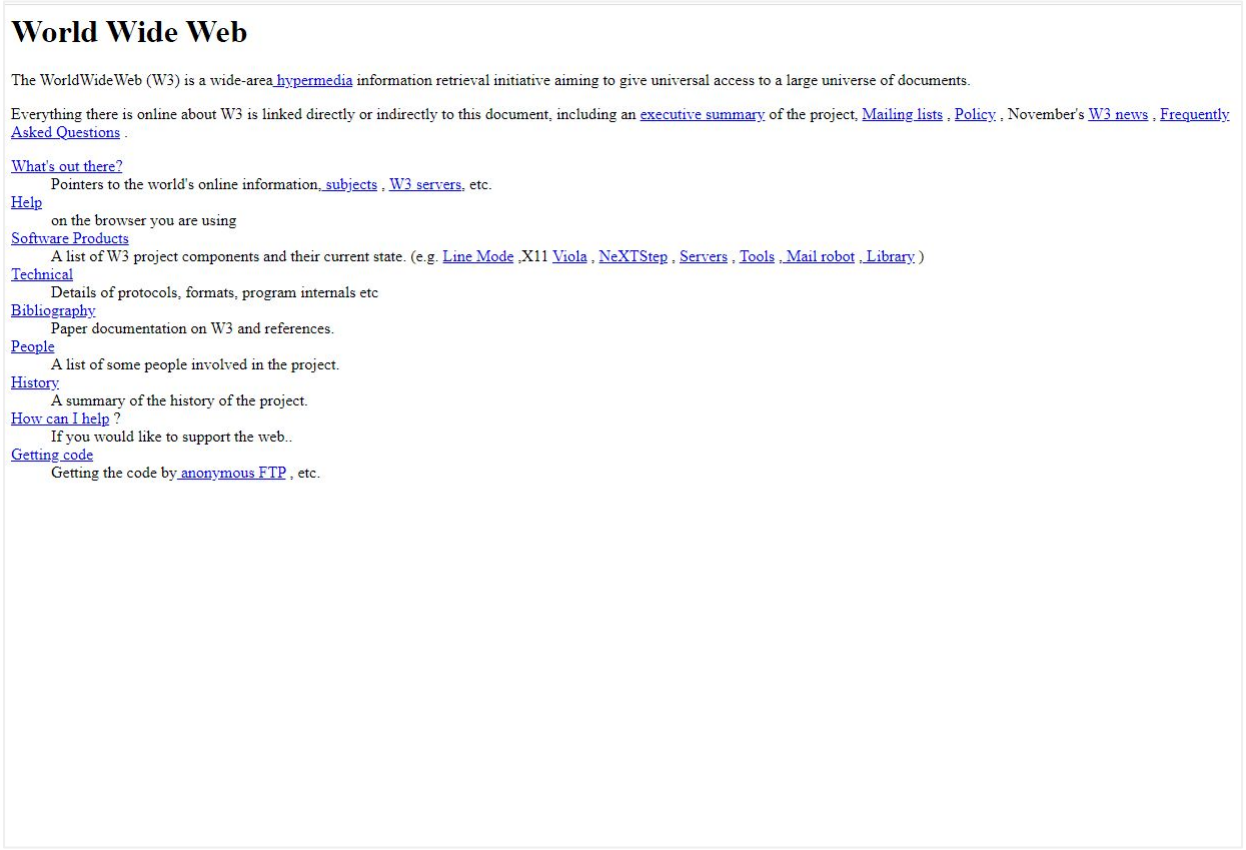






The First Ever Website

This is the first website on the internet From 1991. it's also fully responsive.



World Wide Web

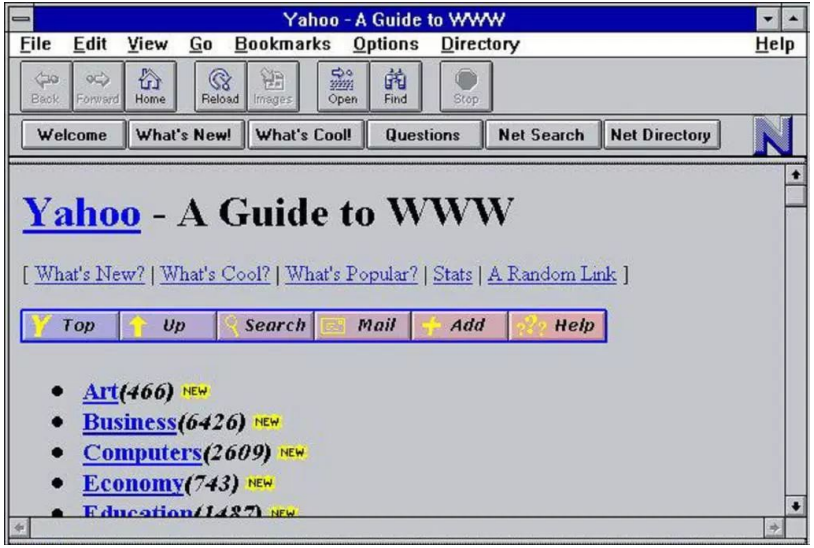
The WorldWideWeb (W3) is a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an executive summary of the project, Mailing lists , Policy , November's W3 news , Frequently Asked Questions .

What's out there?
Pointers to the world's online information, subjects , W3 servers, etc.
Help
on the browser you are using
Software Products
A list of W3 project components and their current state. (e.g. Line Mode ,X11 Viola , NeXTStep , Servers , Tools , Mail robot , Library)
Technical
Details of protocols, formats, program internals etc
Bibliography
Paper documentation on W3 and references.
People
A list of some people involved in the project.
History
A summary of the history of the project.
How can I help ?
If you would like to support the web..
Getting code
Getting the code by anonymous FTP , etc.

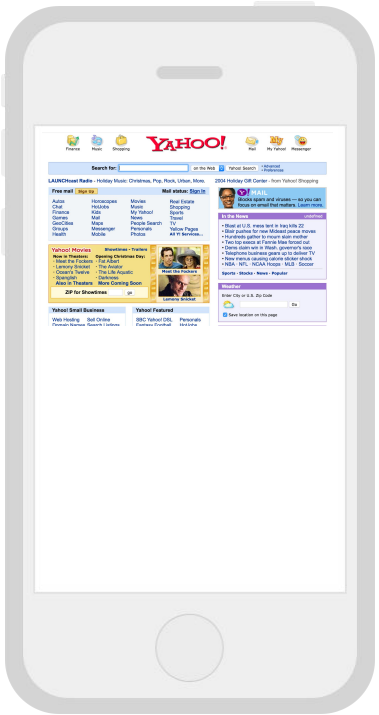
Fixed Desktop

Yahoo website in 1994 viewed viewed on a 640 pixel width monitor



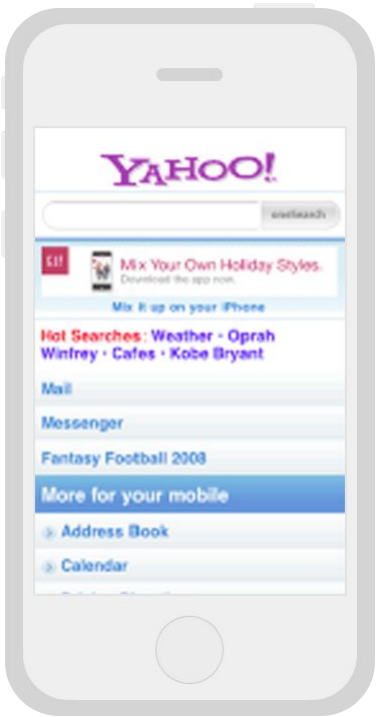
Desktop On Mobile

Desktop Yahoo website viewed on the iPhone 1, circa 2007



Dedicated Mobile

Mobile Yahoo website on the iPhone 1, circe 2008



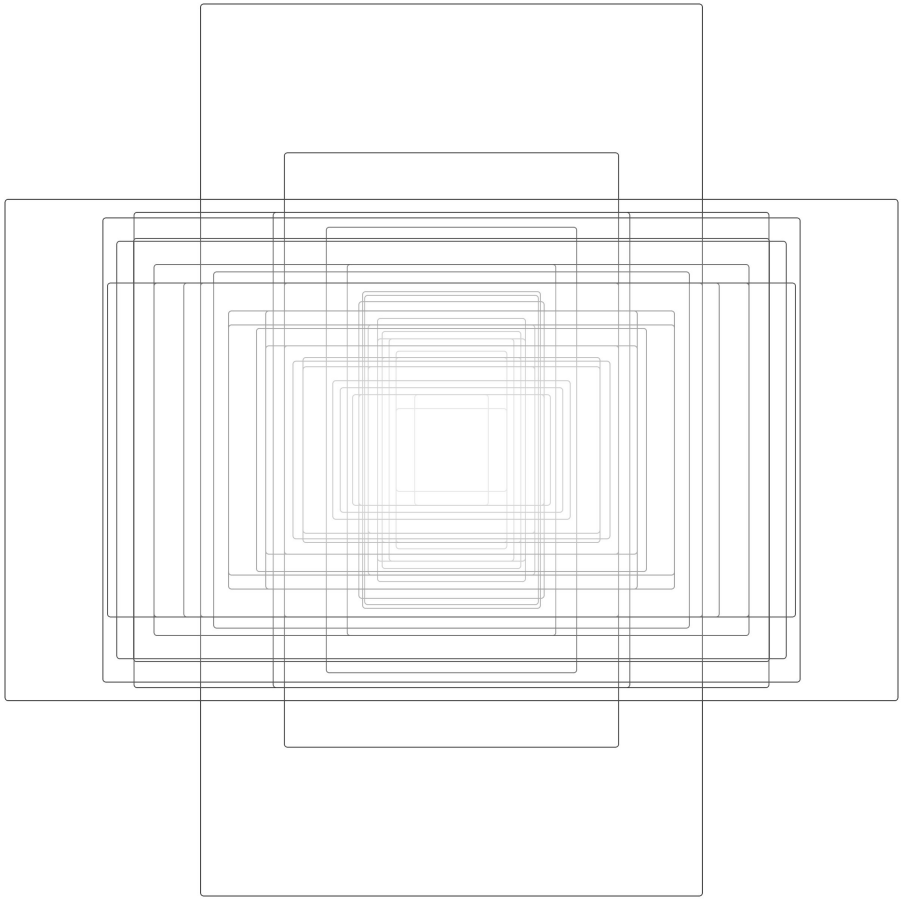
Adaptive Sites

Adaptive sites, circa 2013
Each site is it's own creation these are still not responsive websites.

Read about Adaptive VS Responsive

Today

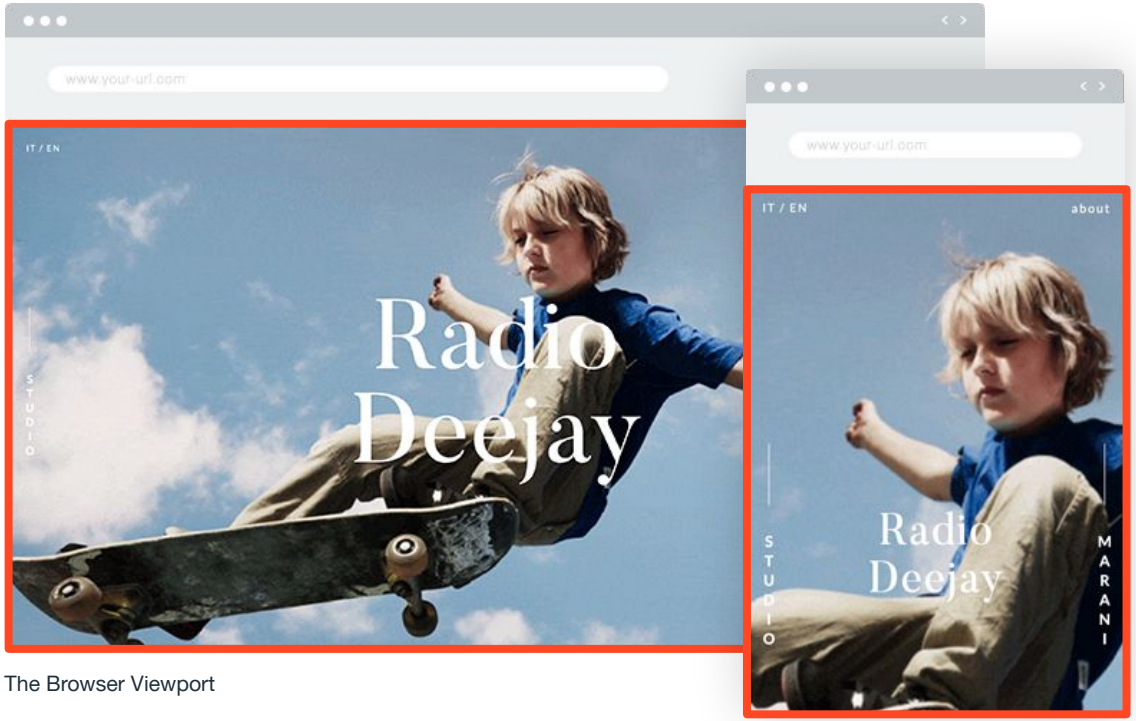
A fraction of the device sizes used in the market today. Which device should you target?



Viewports

The viewport is the user's visible area of a web page.

Read About Viewports
Read About Viewport Height



The Browser Viewport

Viewport in a smaller resolution

What Tools Do We Use in Responsive Design ?

Our Tools For Responsive

We can deconstruct responsive design into these three main parts.

Fluidity

Position, Size & Constraints

Breakpoints

Apply Change to Layouts or Styling

Responsive Layouts

Standalone Layout Components

Fluidity

Fluid Elements are using relative units for scale and / or position.

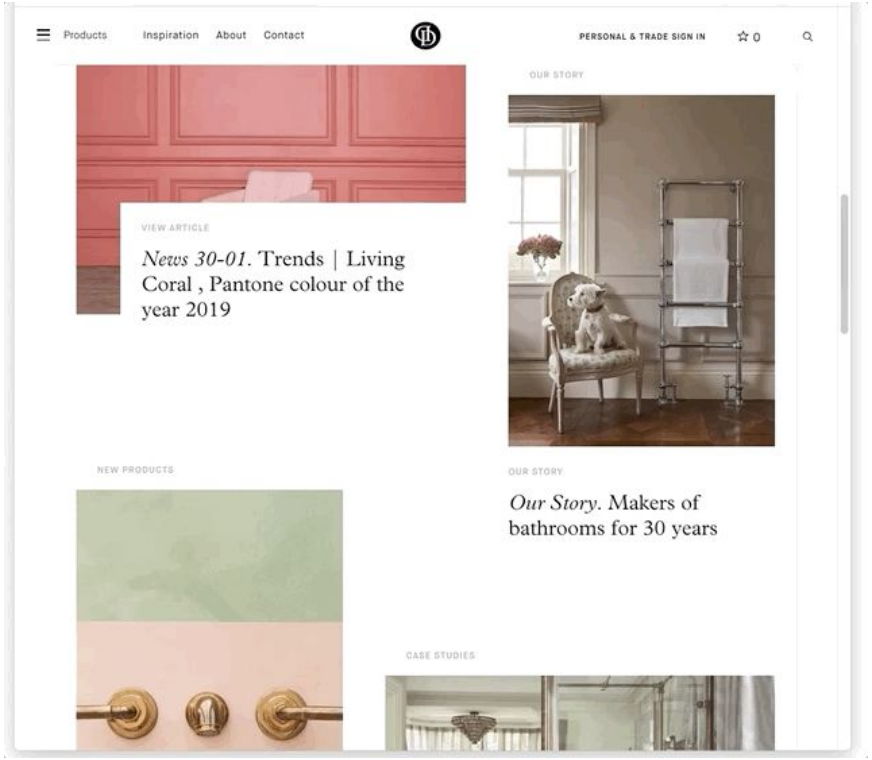
Fluid means the elements can scale and move gradually relative to the parent container page or viewport.

Fluidity is the most basic element of responsive design.

A fluid only website
There are no breakpoints or any responsive layouts here.
Note how many overlaps. **Fluidity is not enough!**

Breakpoints

Sometimes fluidity is not enough. When we need to make changes to a website's layout or style, we can place a **breakpoint**.



How many breakpoints do you count?

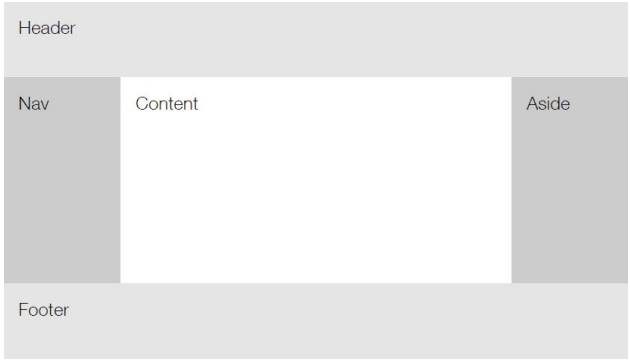
Responsive Layout

Using only fluidity and breakpoints you can already make some great responsive websites.

But to create awesome responsive websites we need responsive layout components. We categorize them to two types **Lists** and **Grids**.

List Layout

Grid Layout



Units

Lets drill in.

Fluidity

CSS has many units to choose from. Some are considered fixed and some fluid. For example a pixel is a fixed unit while percentage is a fluid unit.

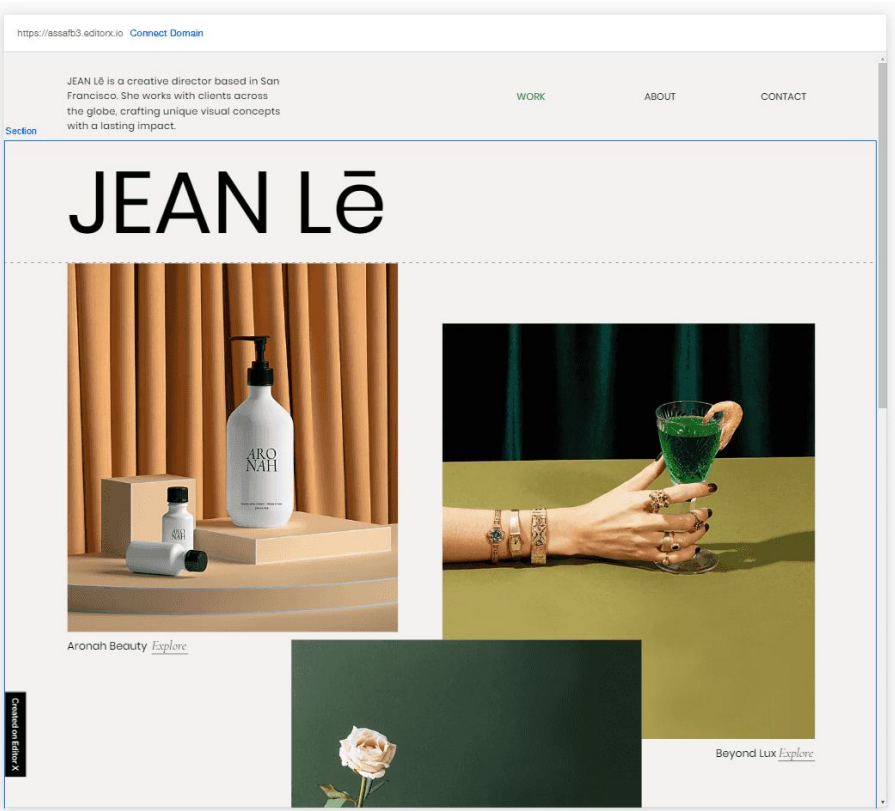
Check this **link** for live examples

A fluid only website
There are no breakpoints or any responsive layouts here.
Note how many overlaps. **Fluidity is not enough!**

Units - PX

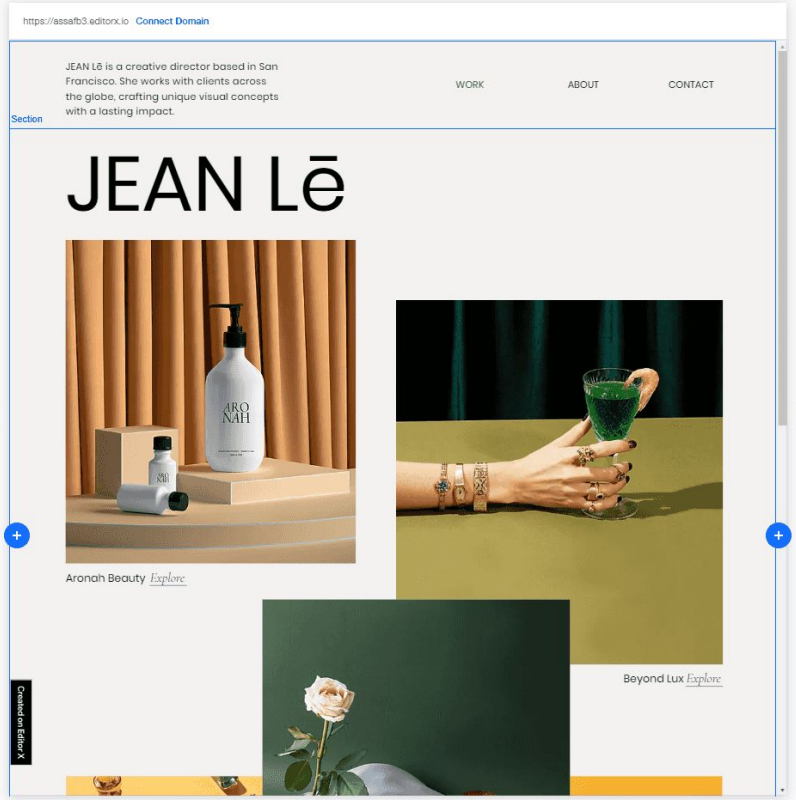
An absolute length unit of measurement, Pixels (px) are relative to the viewing device. For low-dpi devices,

1px is one device pixel (dot) of the display. For high resolution screens 1px implies multiple device pixels.



Units - %

This is a relative length unit of measurement. percentage is relative to the parent element. For example, a container set to 50% width is half the width of its parent container.



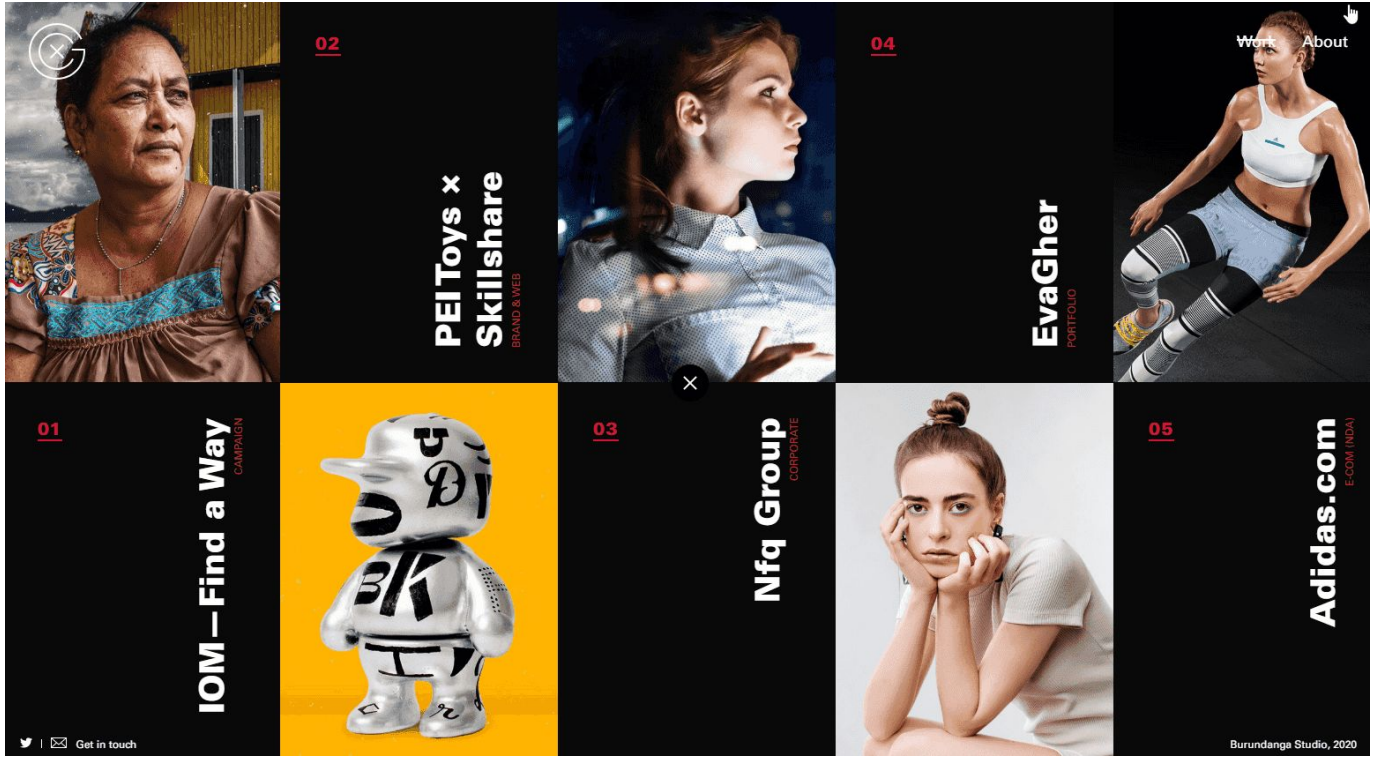
Units - vw/vh

These are relative length units of measurement.

1VW is 1% of the viewport's current width

1VH is 1% of the viewport's current height.

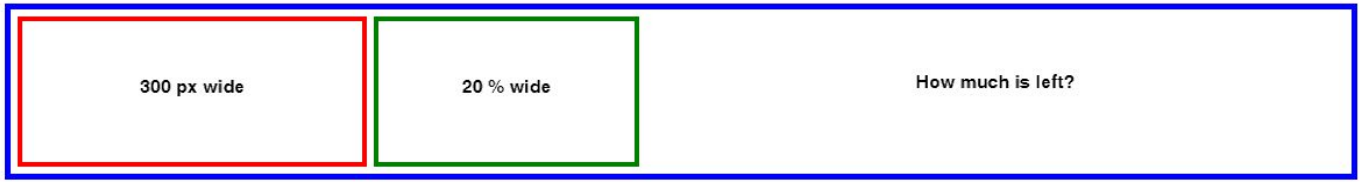
100VW is the full viewport current width
100VH is the full viewport current height



Units - fr

This is a relative length unit of measurement used only in grid containers.

Fr is a fractional unit and 1fr is for 1 part of the available space.



Units - fr

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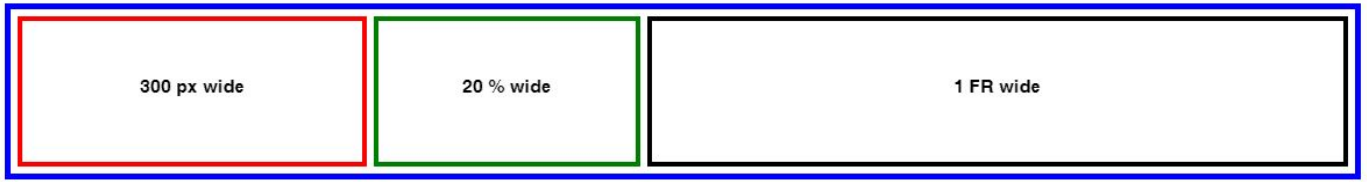

Units - fr

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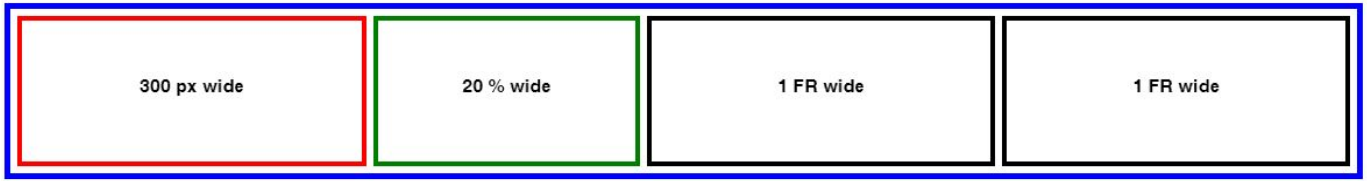


Units - fr

This is a relative length unit of measurement used only in grid containers.

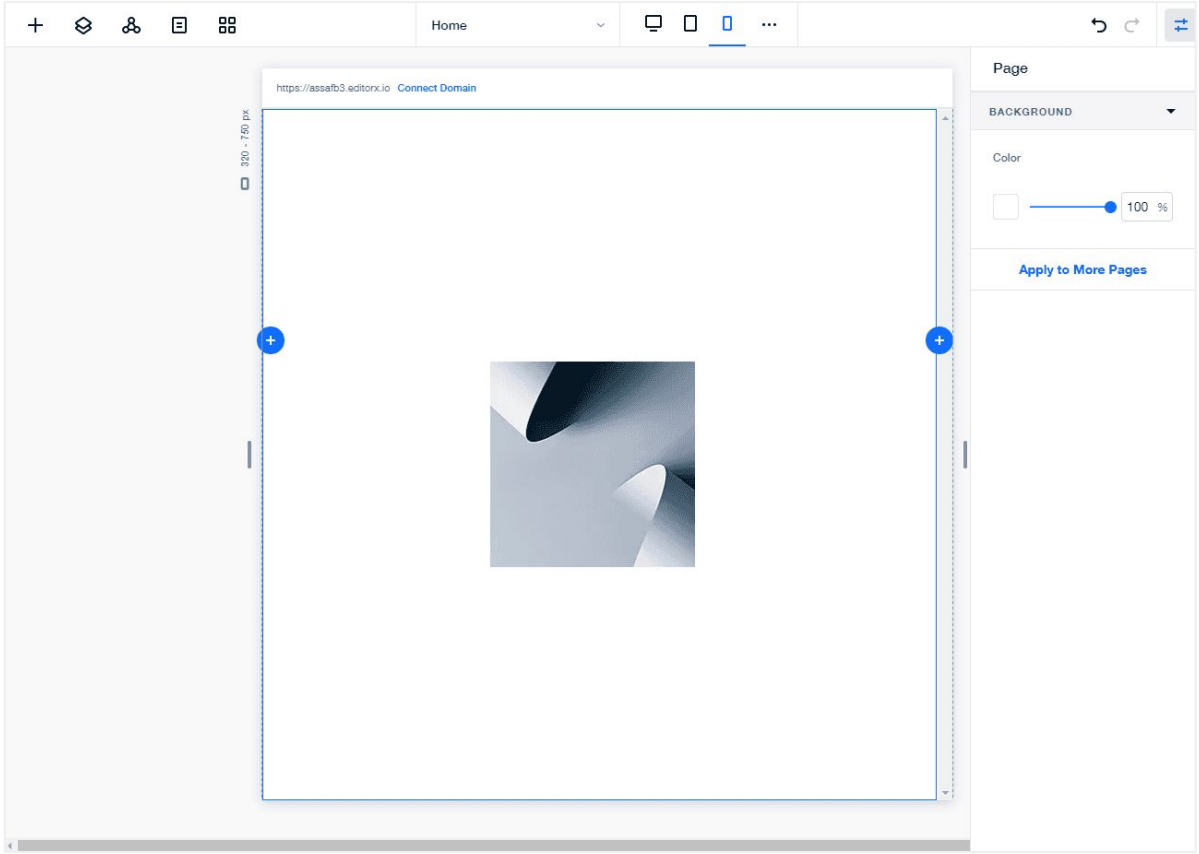
Fr is a fractional unit and 1fr is for 1 part of the available space.

What aspects of an element these units can affect?

Position

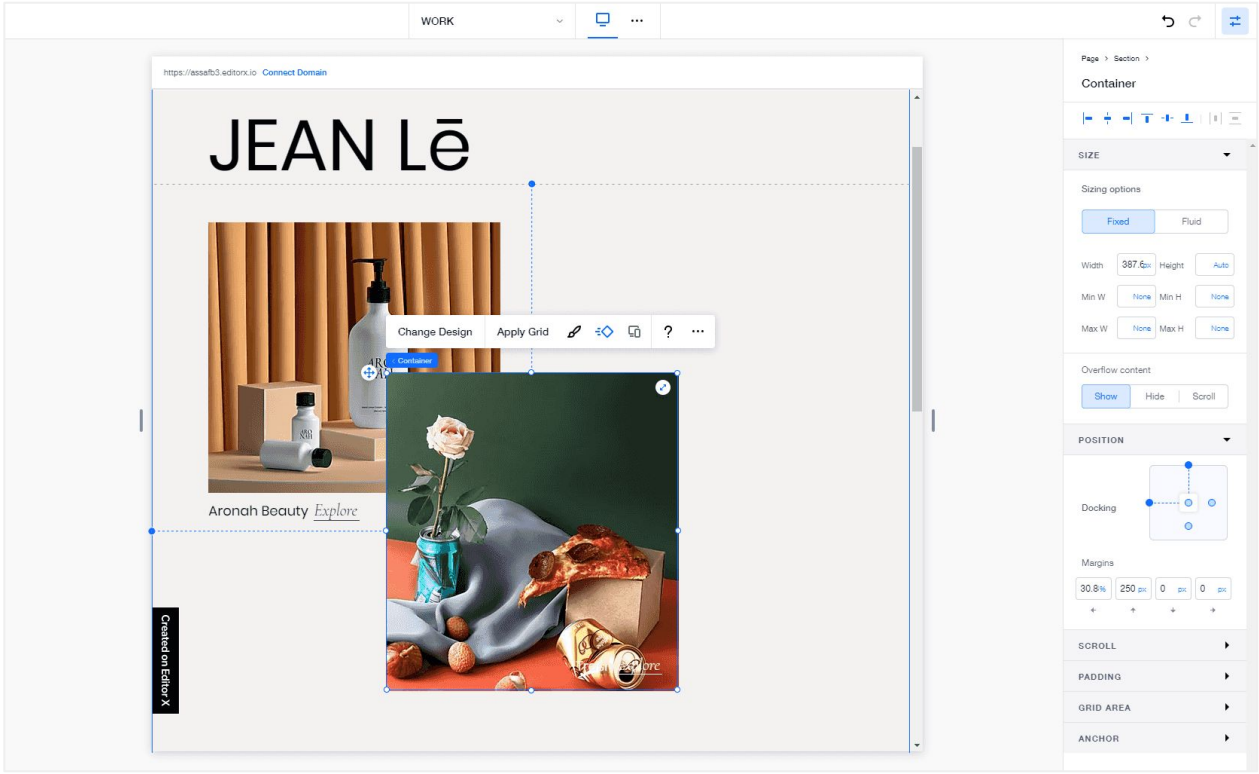
Position

Using **Docking** we can pin any element to any container on stage, be it the page, a box, a strip or any other container we may have.



Fixed vs Fluid Position

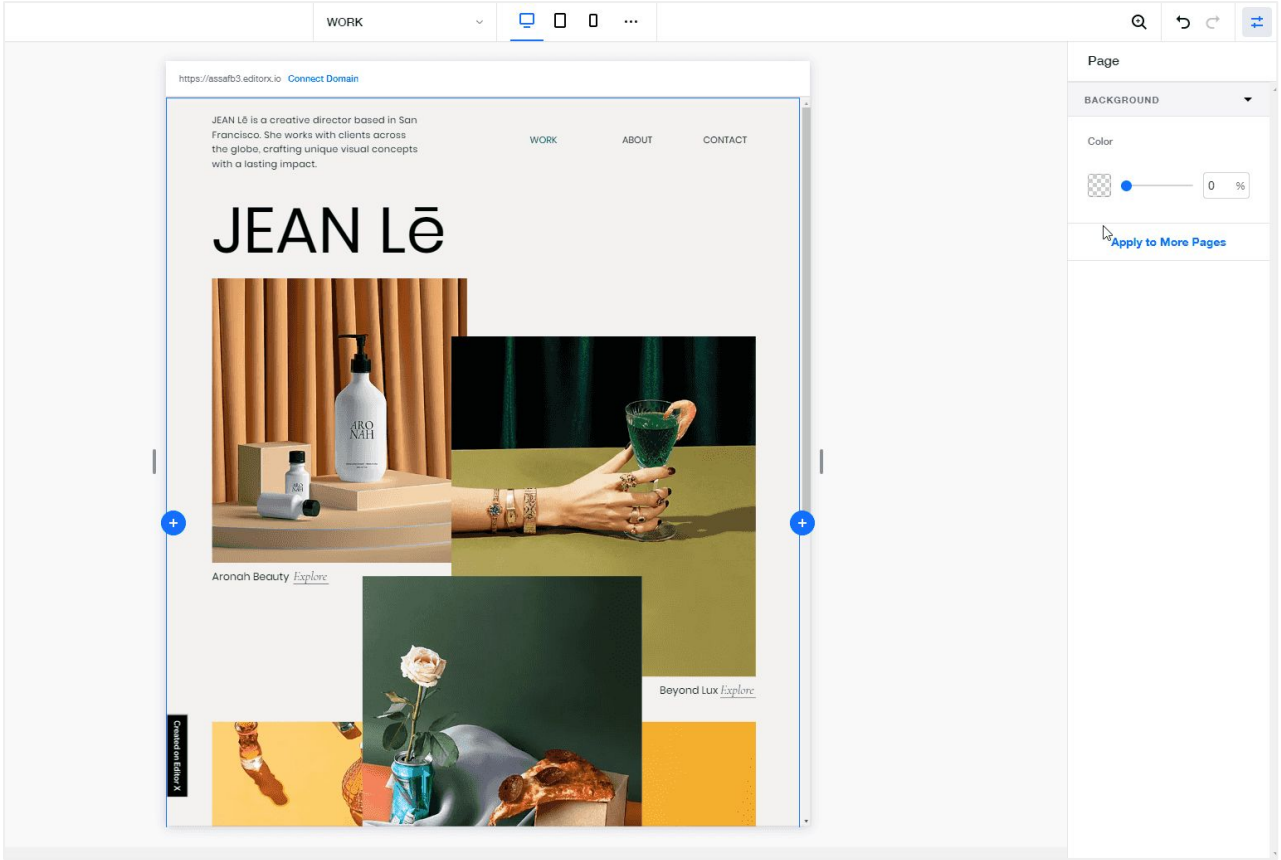
The difference between fixed position to fluid position is that in fixed position the margins are using pixel units and for fluid position the margins are using a relative unit like the percent unit



Scale

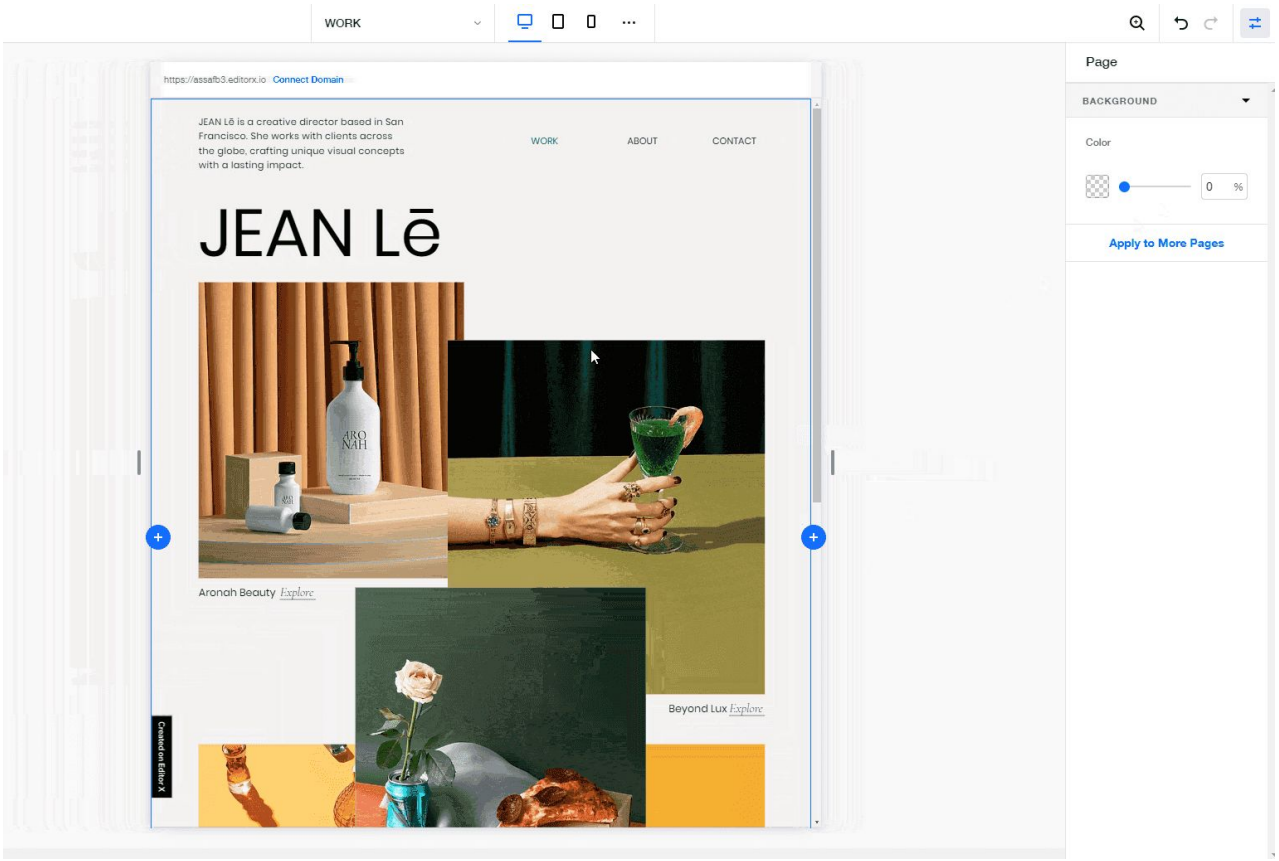
Fluid Scale

Note how the images are changing thier size as the viewport is shrinking and expanding



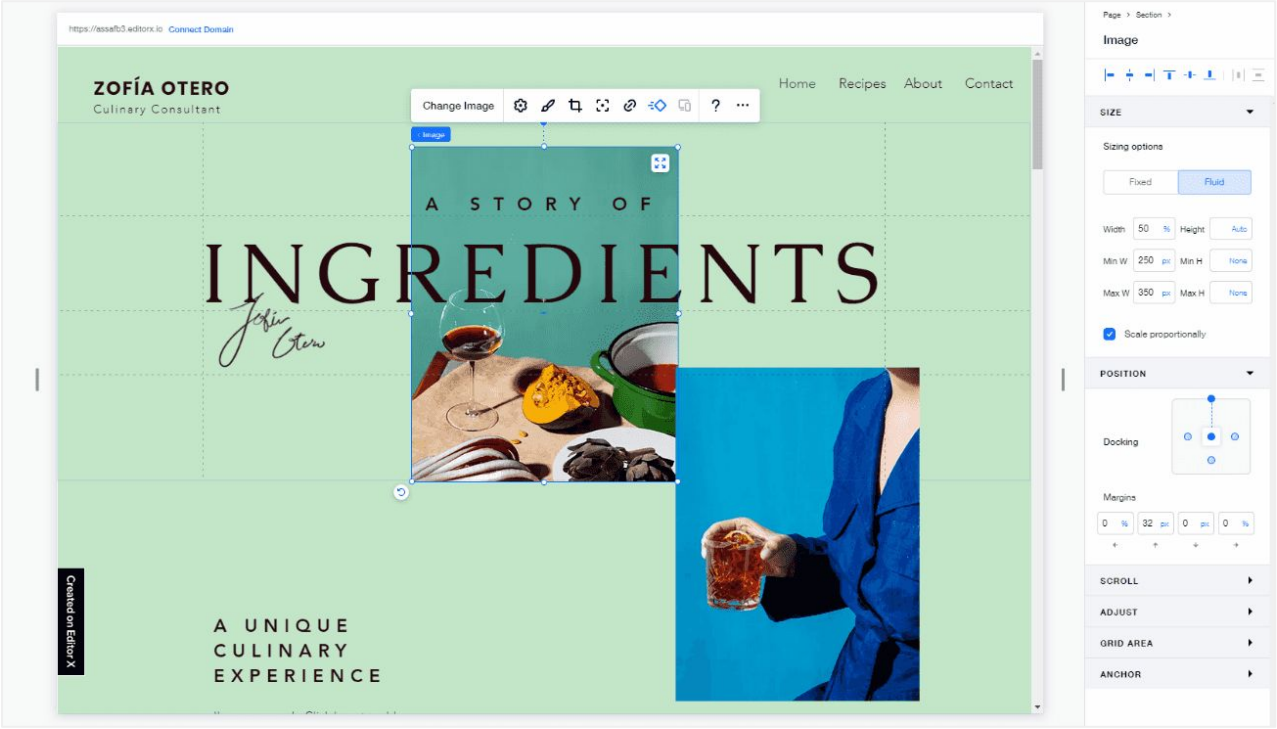
Fixed Scale

Note how the first image doesn't scale with the viewport anymore after changing it's width units to pixels.



Min / Max

Note how one image stops shrinking and expanding and the other image is not.



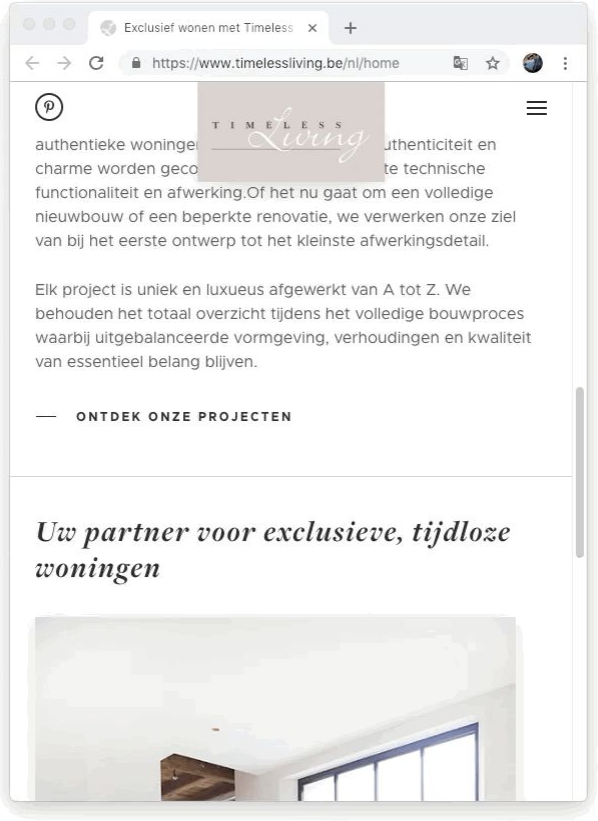
Pushing

As the text box shrinks in width it is growing in height.

As it grows it is pushing whatever is below or above it, depending on the grow direction.

The grow direction will be opposite to the docking direction.

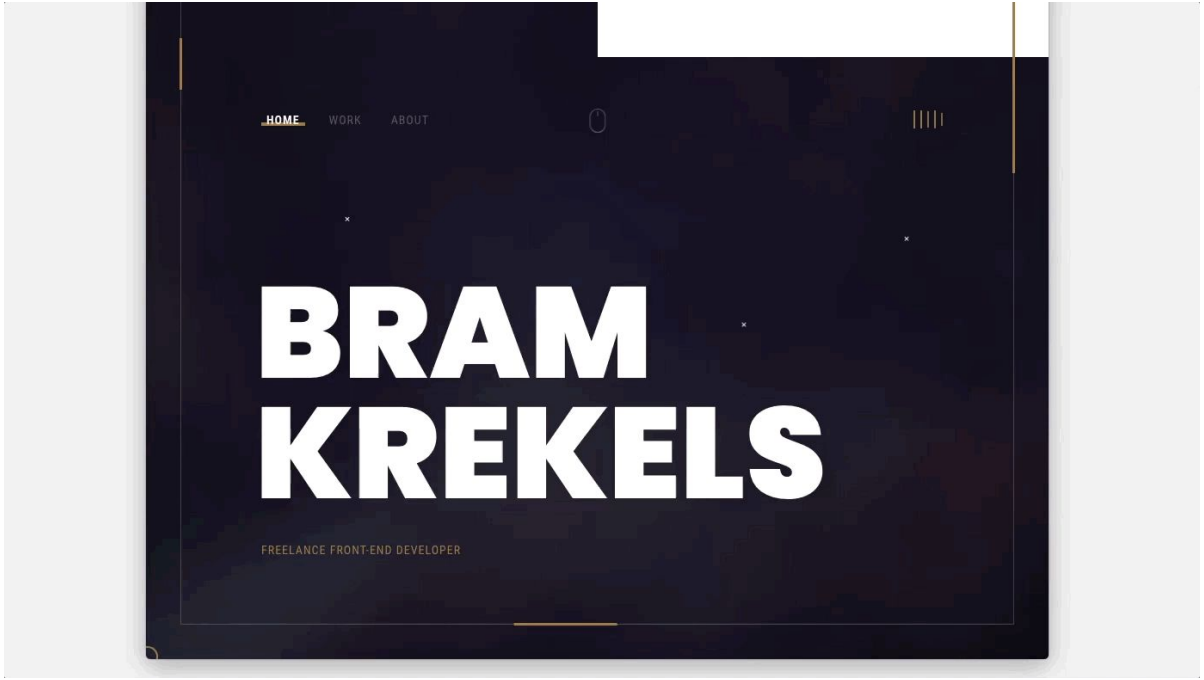
Text is pushing
Note the title is pushed down because the text above is growing down



Components

Fluid Size Titles

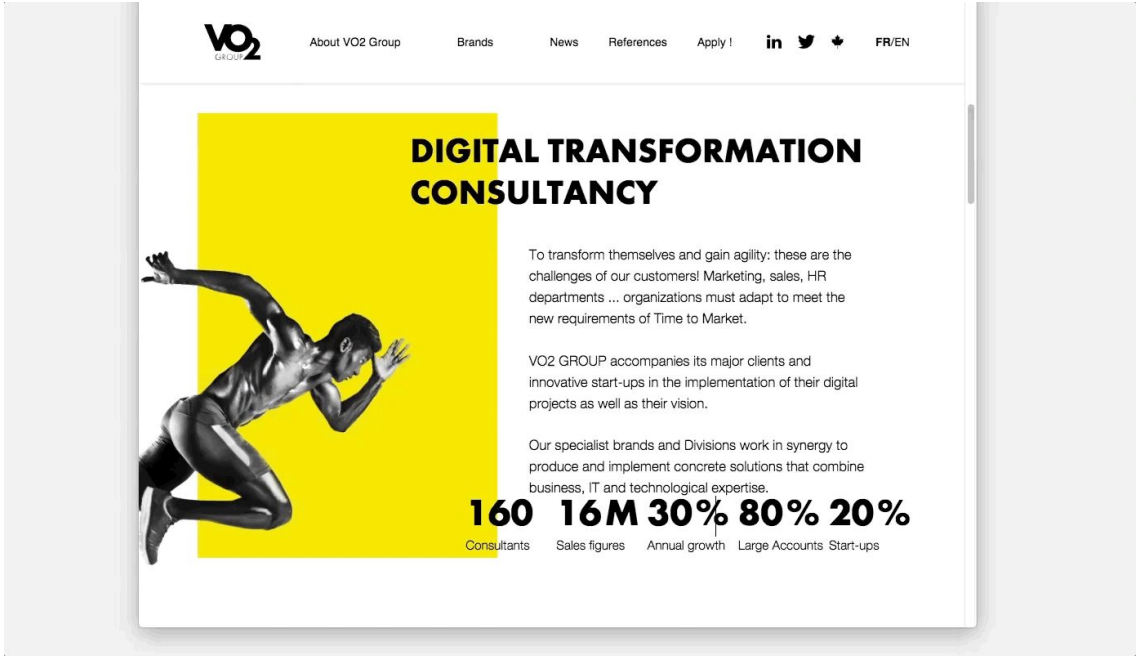
Fixed Size Titles



Fluid Running Text

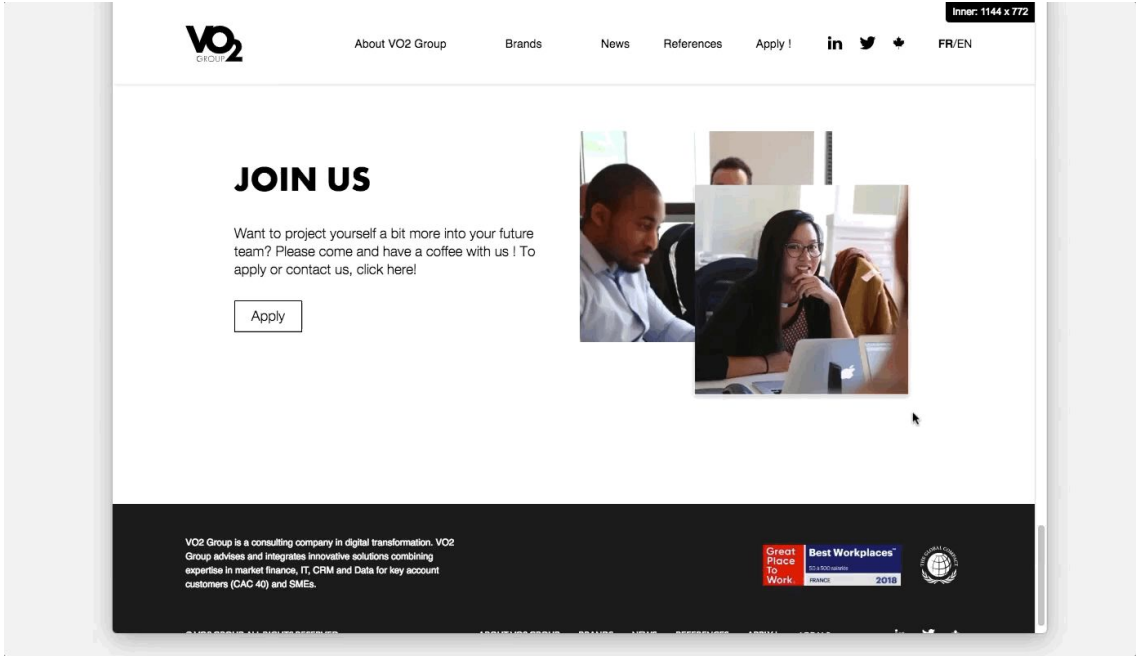
Fluid running text in this example is shrinking too much to the point it's unreadable.

Running text should always be set in **pixels** inside a breakpoint range



Fixed Size Running Text

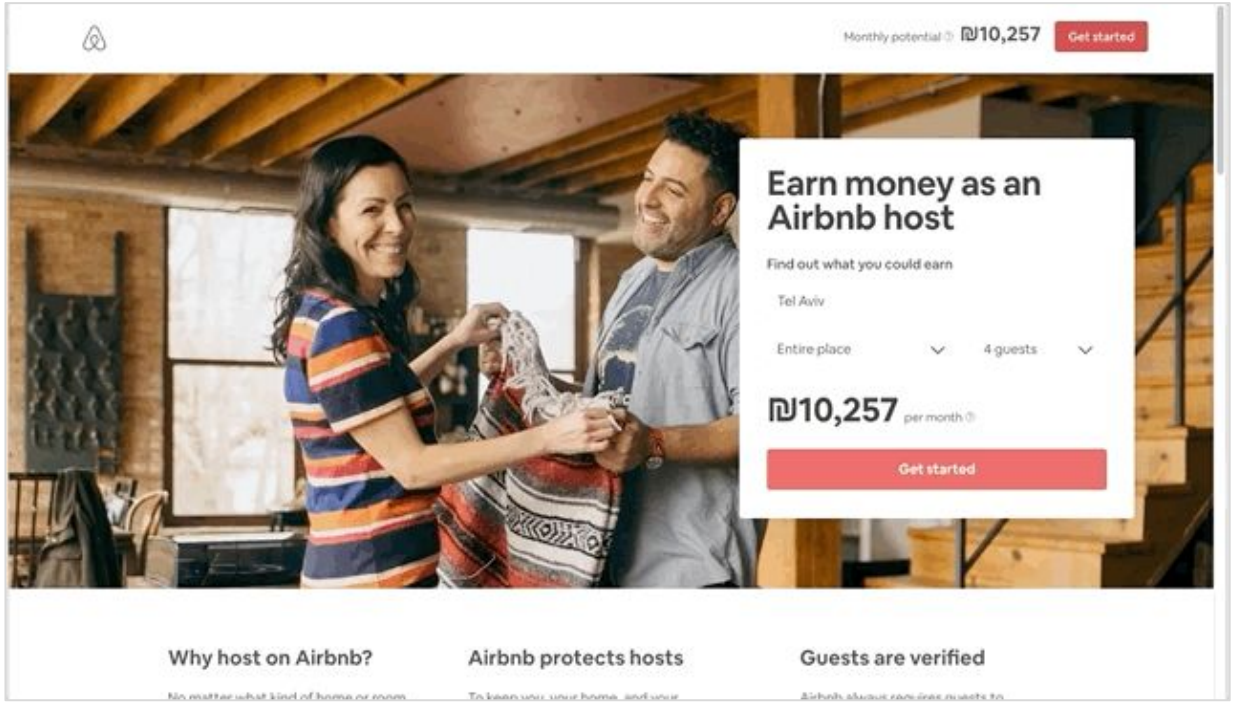
Running text is changing font size using a breakpoint.



Buttons

Buttons can be either fluid or fixed in size. Usually in larger viewports they are fixed in size while in the smaller viewports they can be fluid in size.

See more here about buttons in Responsive design.



Fixed button in Desktop turns into a fluid full width button in smaller BP

Image Fluidity

The blue dotted line represents the image parent.

Width > Height
Most common behavior

Height > Width
Also a common behavior

Non-Aspect Ratio
Mostly as background images

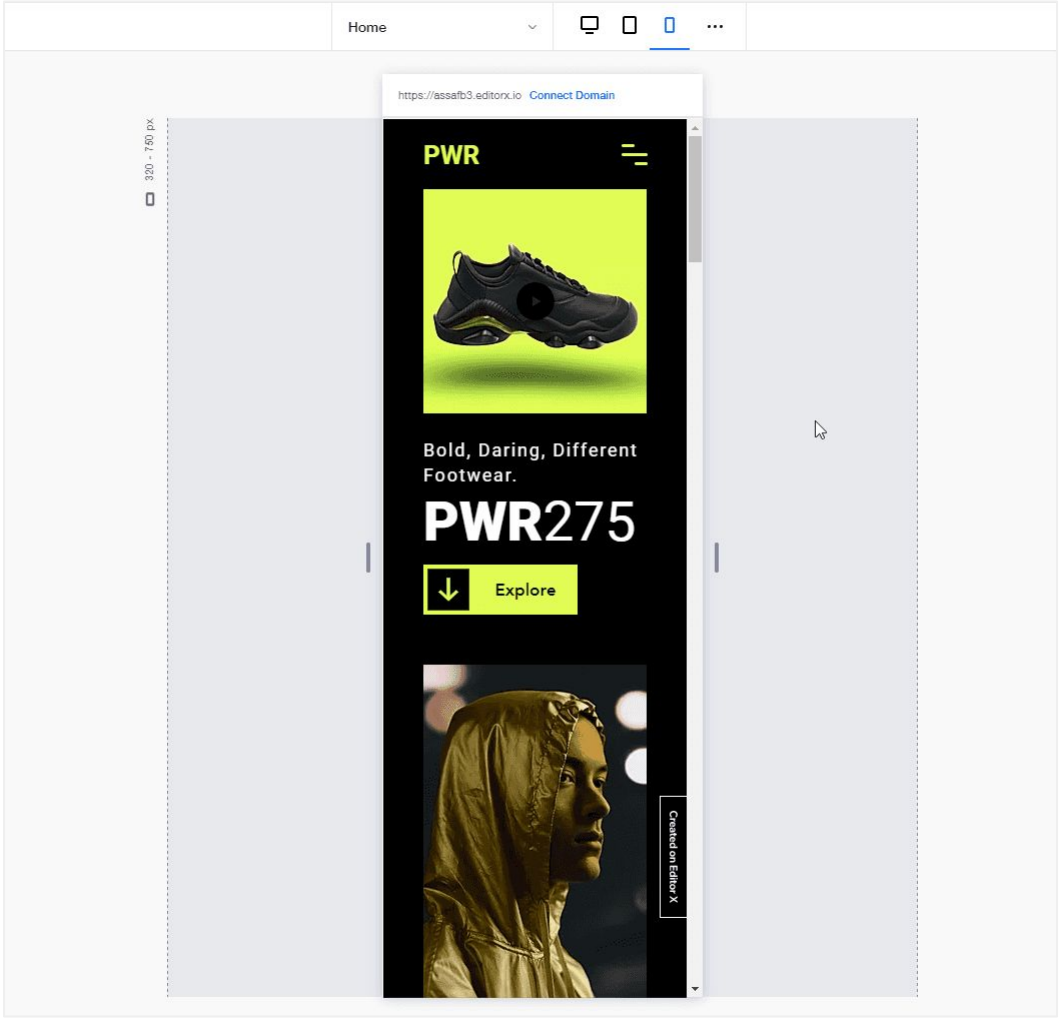
Scale Down
Useful in some edge cases (Product Image)

Stretch - Best to Avoid
Could be found used on patterns or abstracts

Breakpoints

Breakpoints Overview

A breakpoint is a point on a straight line which represents all the possible viewport sizes out there.

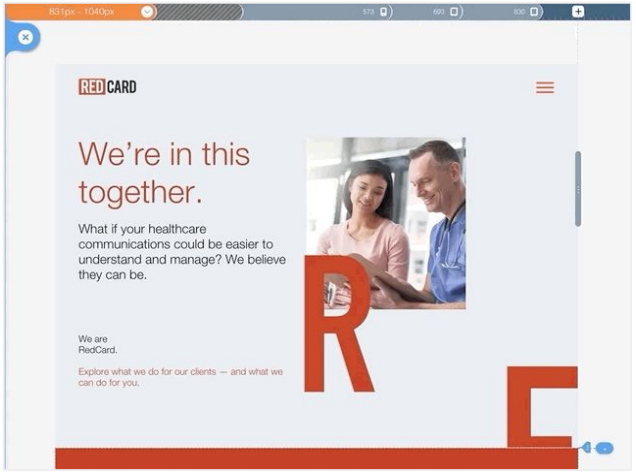


Creating Breakpoints

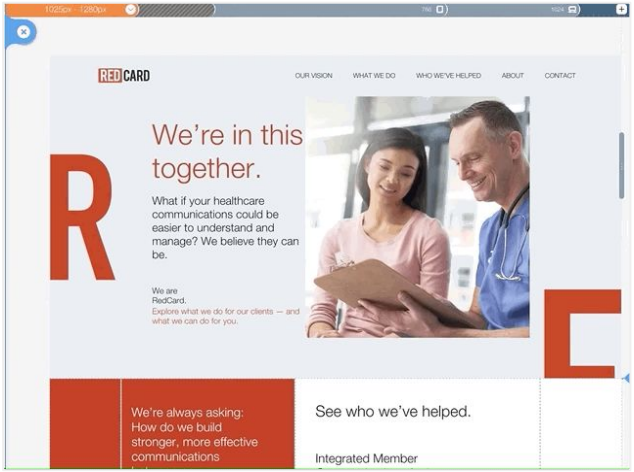
Generally there are two ways to approach breakpoint creation.

Content driven breakpoints and **Device driven breakpoints**.

Content driven BP



Device driven BP



Creating Breakpoints

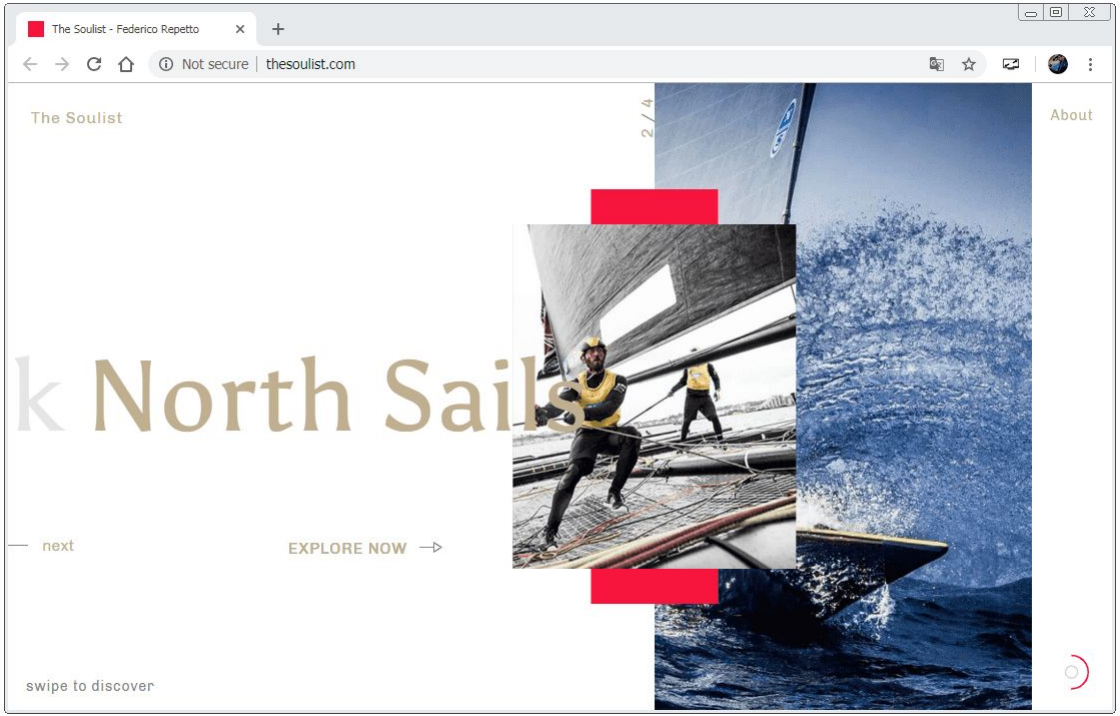
Content driven means you create a breakpoint when your site content demands it. (either the layout breaks or you need a style change).

Device driven means you set breakpoints according to popular devices and viewport sizes and design Your layout around those breakpoints.

	Pros	Cons
Content Driven Breakpoints	• Typically, a small amount of breakpoints is needed. You still have the flexibility to add BPs when needed and stay true to your original master design as much as possible. • Breakpoints always fit the content. Move your design freely without thinking if the breakpoints fit your design or not. create BP when you need • Starting “clean” without breakpoints is A helpful extra step to avoid re-parenting issues further down the line • Not talking about devices (devices are kind of meaningless in responsive design)	• Not an easy starting point, can be confusing for beginners. Need to check when your design need a breakpoint. • Not good for design systems that need consistency across components (wix verticals for example) • Can accumulate breakpoints fast if not paying attention. more breakpoints generally means more problems because of editing complexity.
Device Driven Breakpoints	• Easy starting point, easier for complete beginners, no need to know your design for breakpoint creation • Works well for design systems that need consistency across components (wix verticals for example)	• Might use more or less than the needed breakpoints for your design • Breakpoints don’t always fit the content • Must design around existing breakpoints This might change your design in ways you don’t want • Starting “Dirty”, meaning, adding content only after we finish creating layouts for each breakpoint, can potentially cause re-parenting issues further down the line • Devices are kind of meaningless and can be very confusing and cause mistakes

Hide & Show

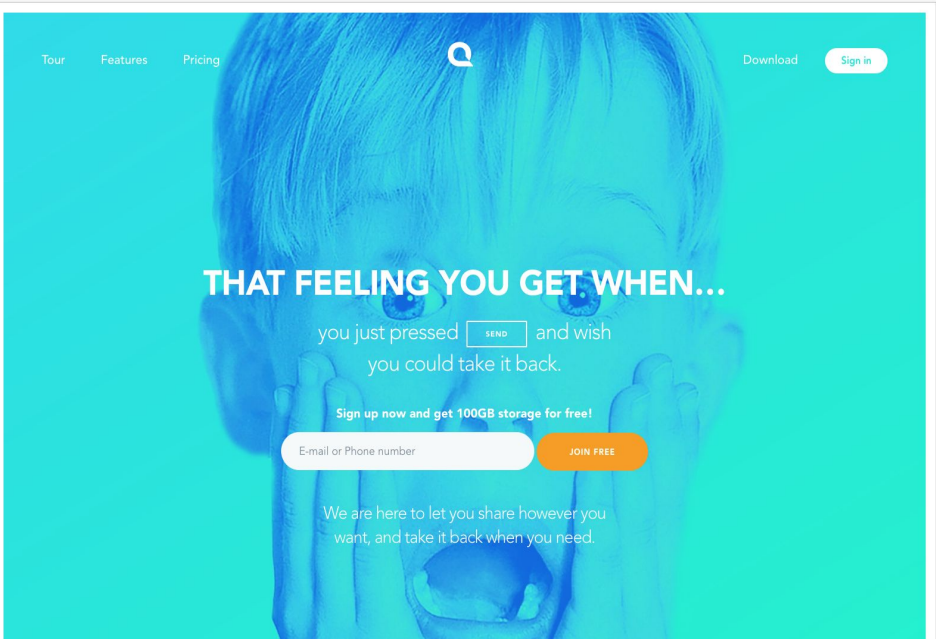
You might want to hide in smaller viewports things like banners, large images, some text or any content you regard as non essential

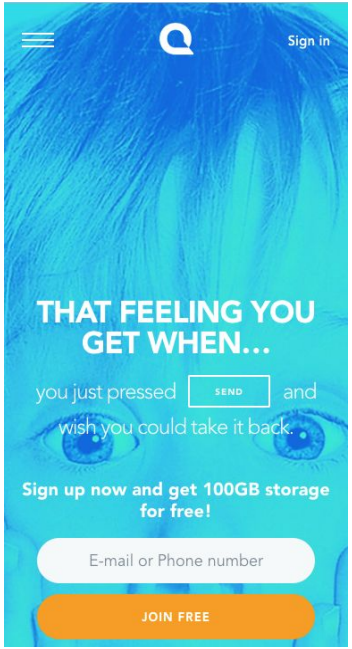


The image is hidden when not enough space is there to hold it.
The image is not important content wise.

Change Styling

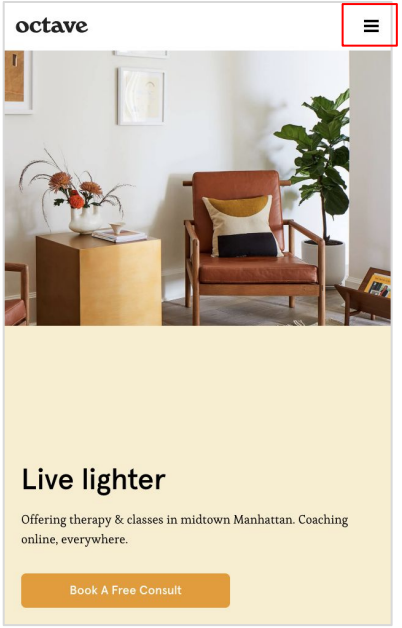
Notice the Sign In button background at the top right

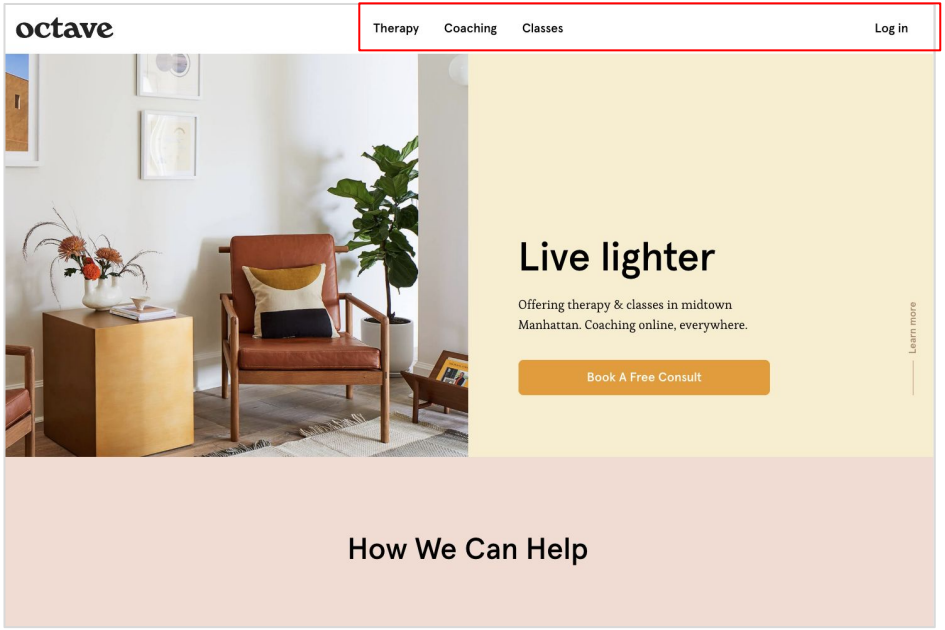




Change Component

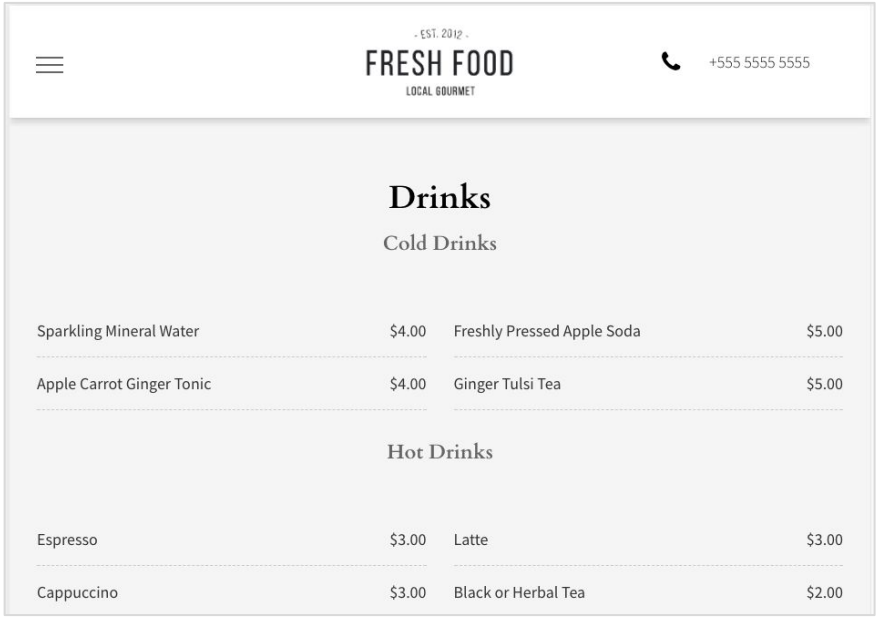
Menu is changing to a Hamburger Menu

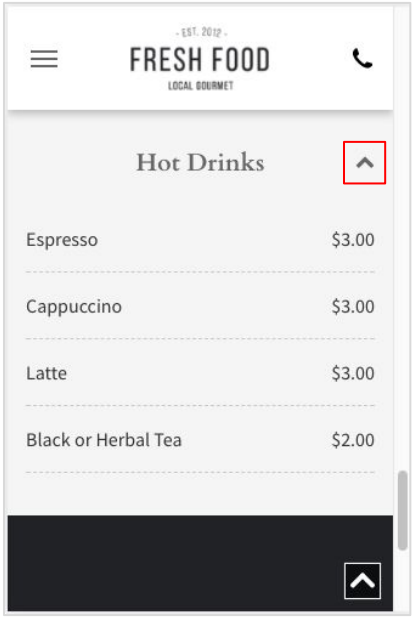




Change Component

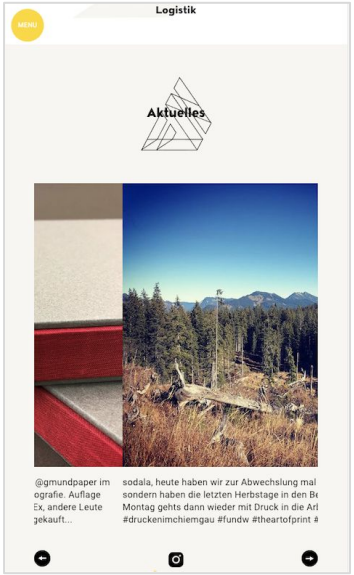
List is changing to a drop down.

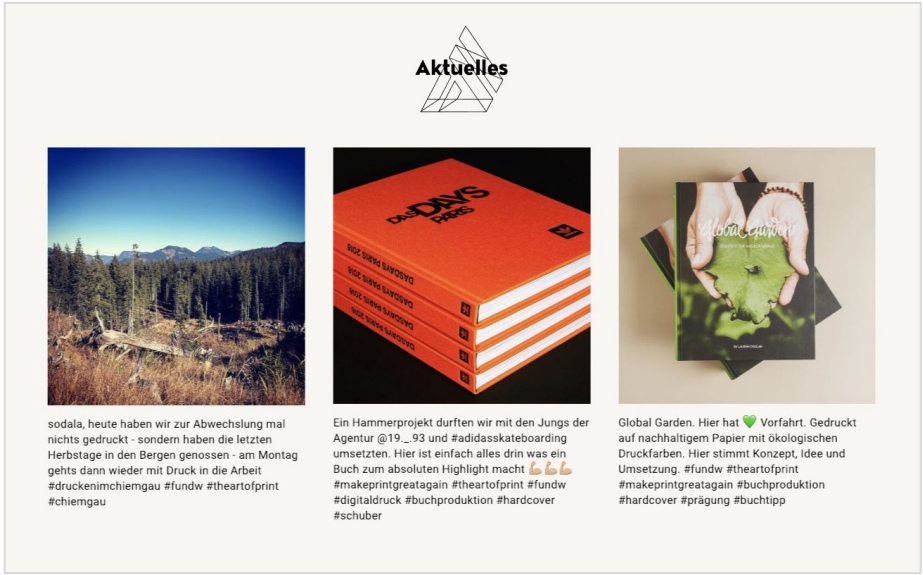




Change Component

Gallery or list changing to swipe
Mode in touch screen



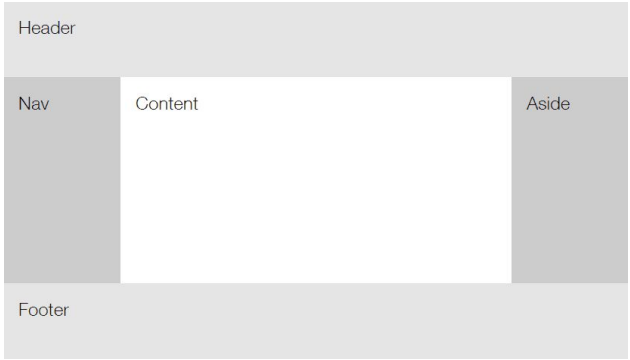


Responsive Layouts Components

Responsive Layout Components

List Layout

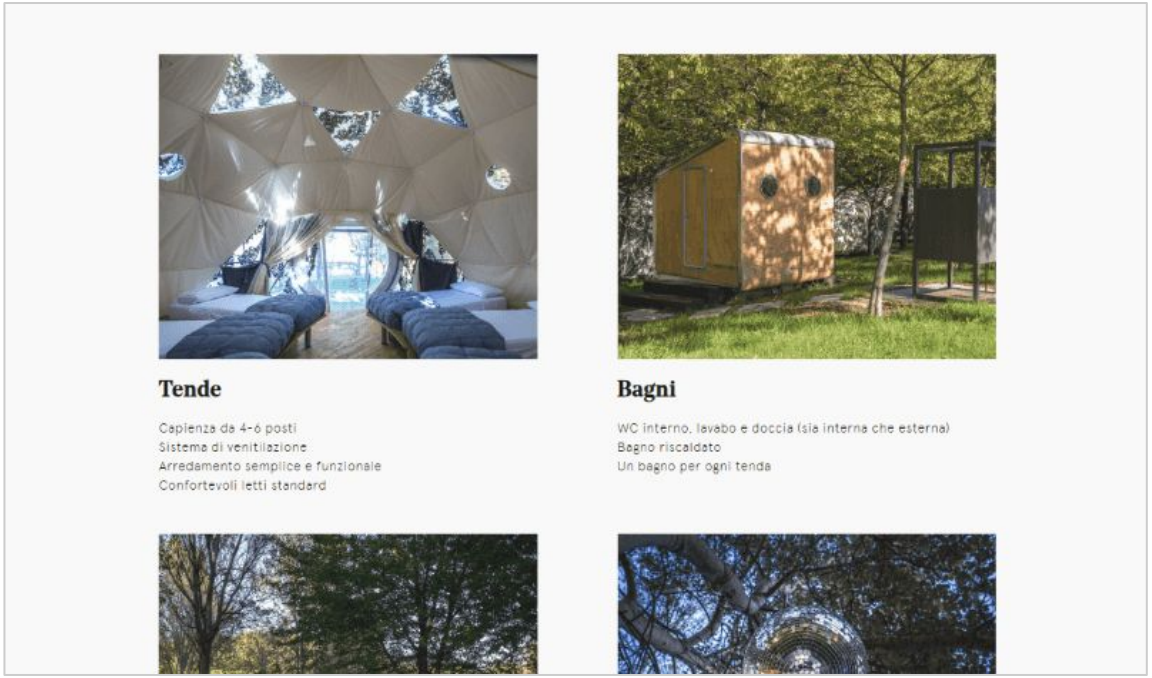
Grid Layout



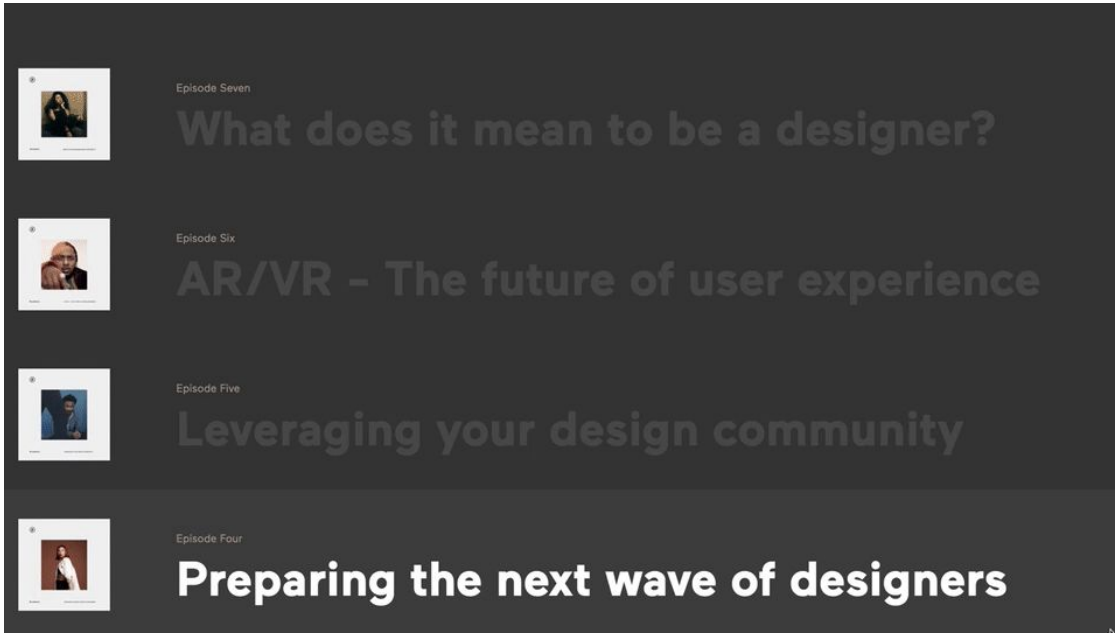
Lists

List Component

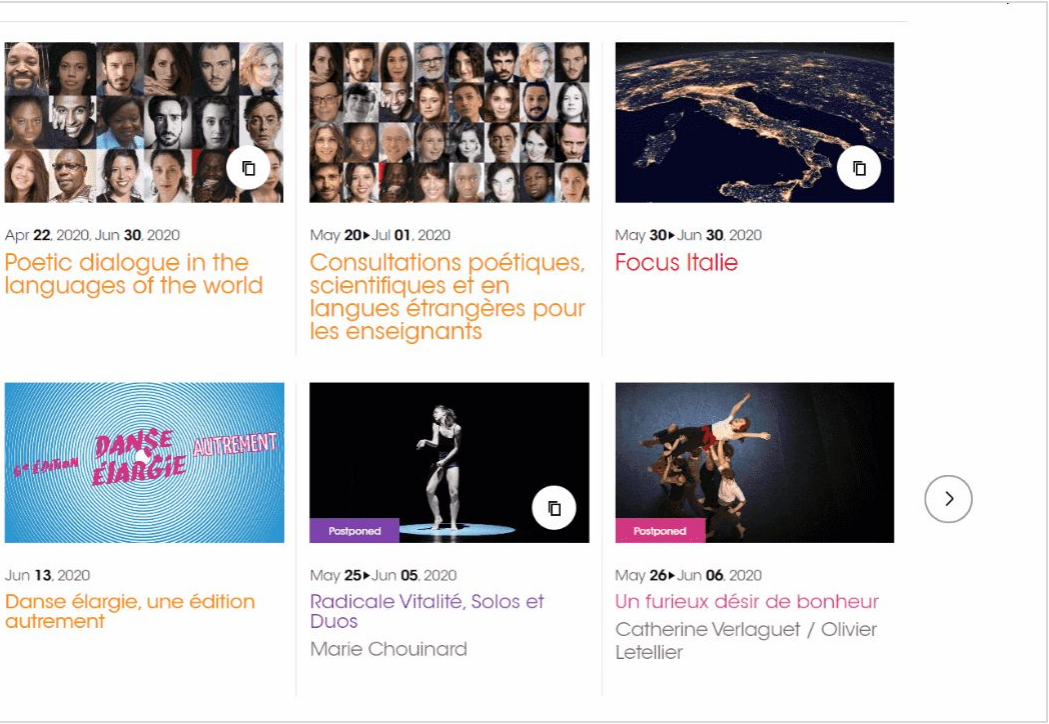
A list component or a flexbox is usually a series of containers inside a main (flex) container, that can change the layout automatically without the need for breakpoints, hence the name flexbox.



List Component



List Component



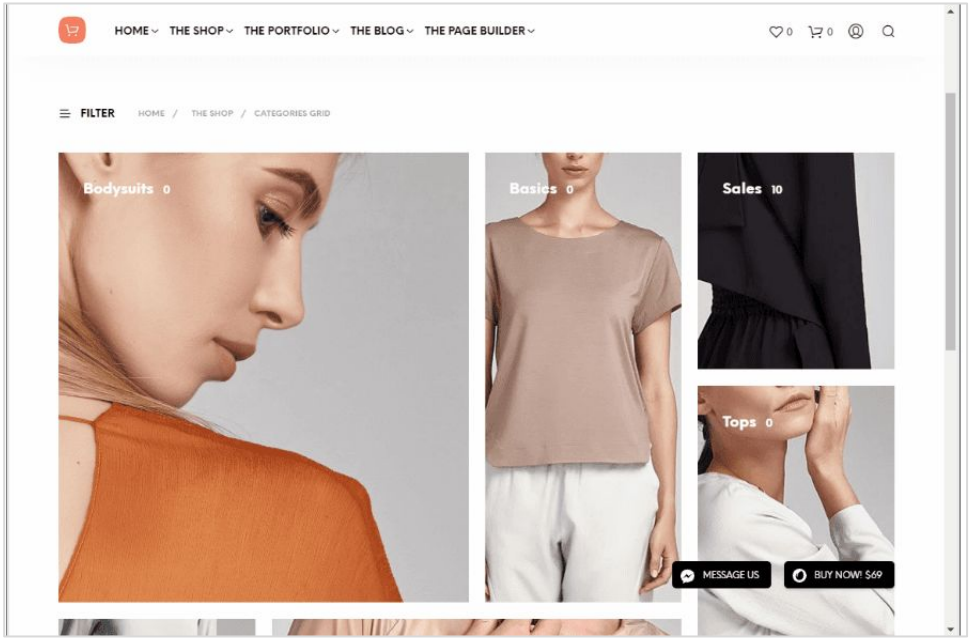
Grids

Grid Component

A grid is a series of intersecting vertical and horizontal lines creating cells.
In a grid we change the number of columns and rows manually in different breakpoints.

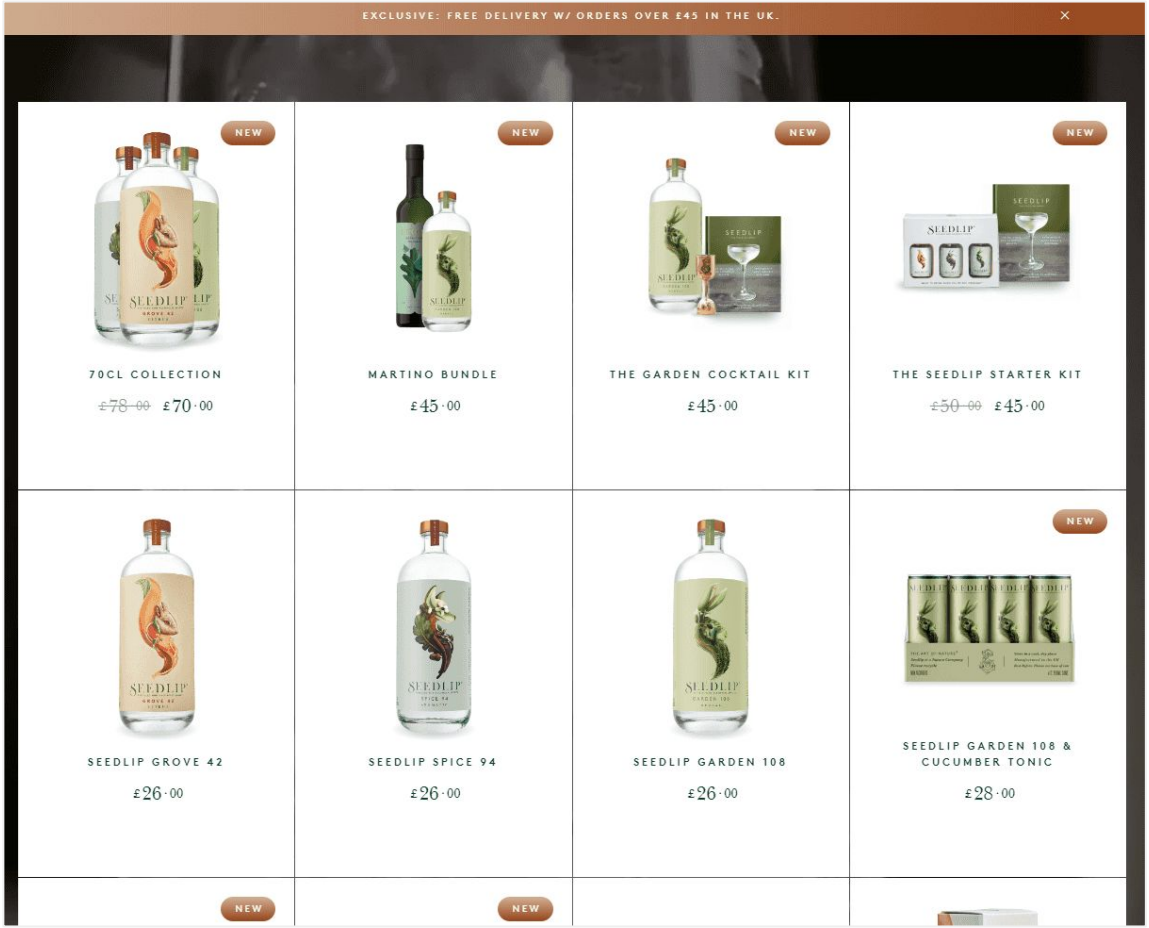
A grid can also behave like a flexbox
In that it will stack its cells without breakpoints.

A Cell is the inner container of a CSS grid. A CSS grid is always made of one or more cells.

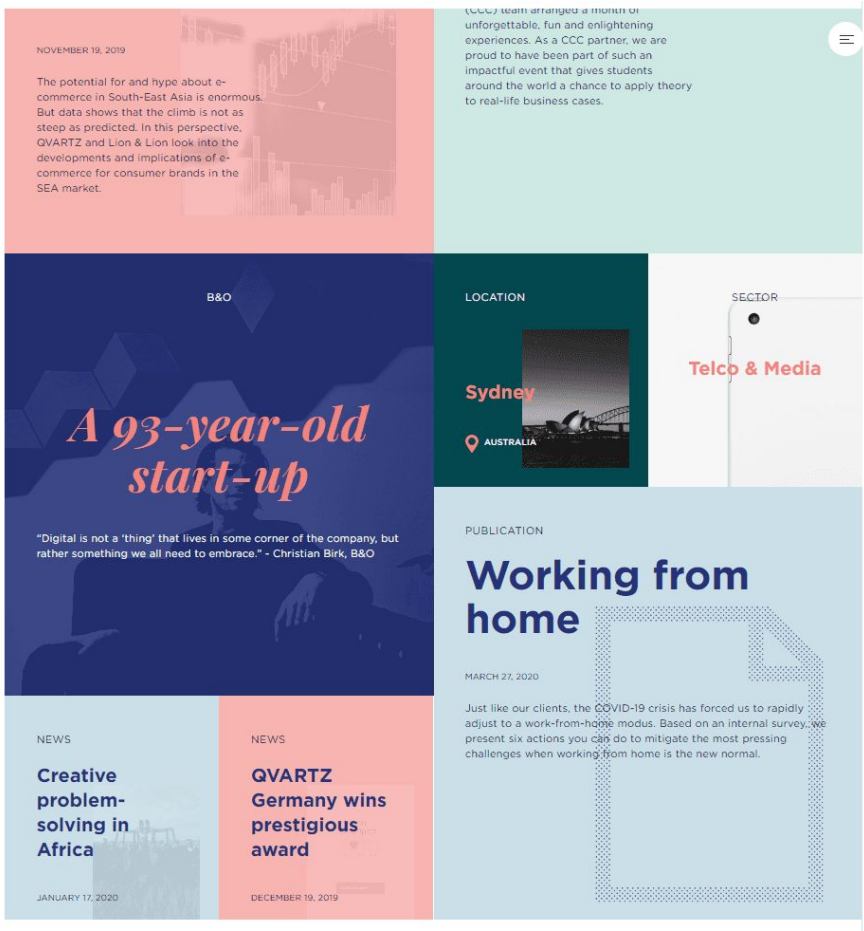


A Grid layout - Note the order of the images between the desktop and mobile layouts. They are not the same!

Grid Component



Grid Component



CSS Grid Example

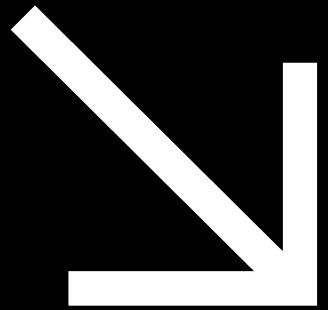
https://labs.jensimmons.com/

CSS Grid Example

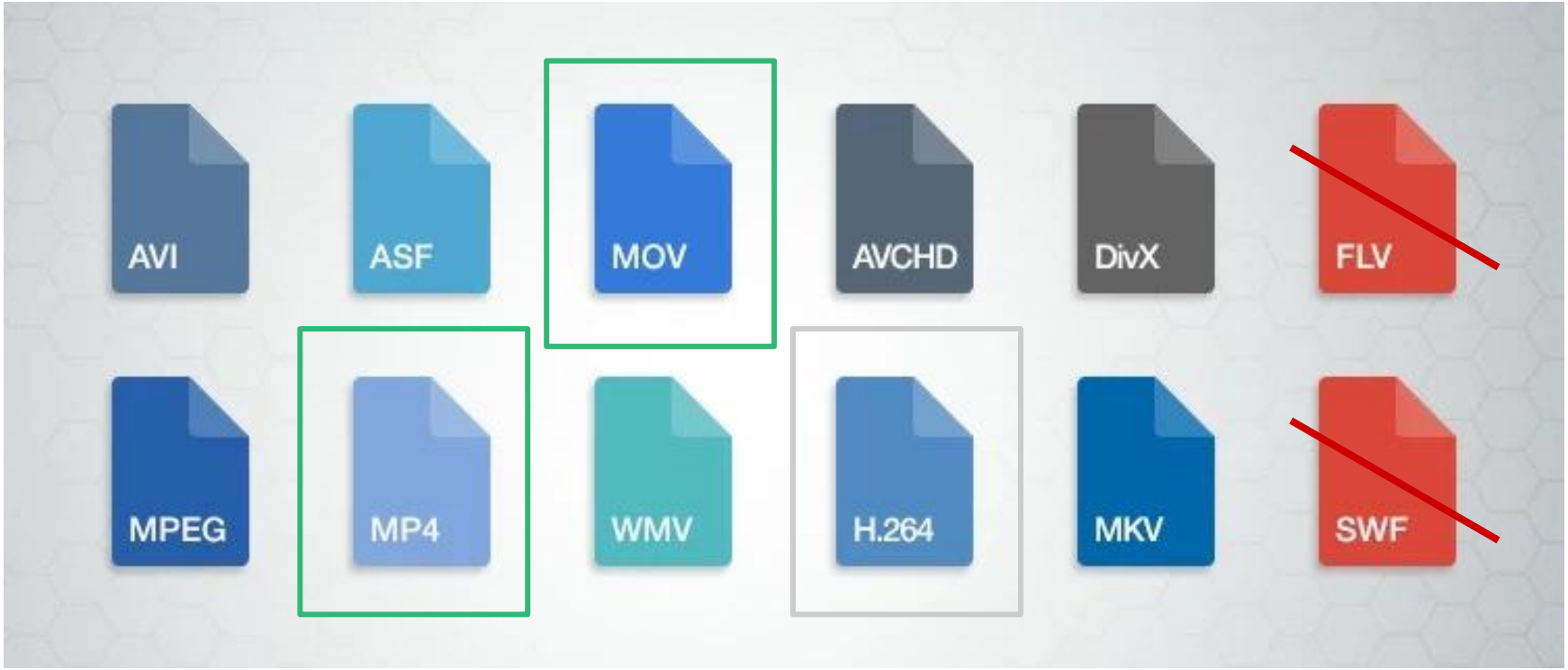
https://labs.jensimmons.com/

Thank you &
Good Luck

Video Formats

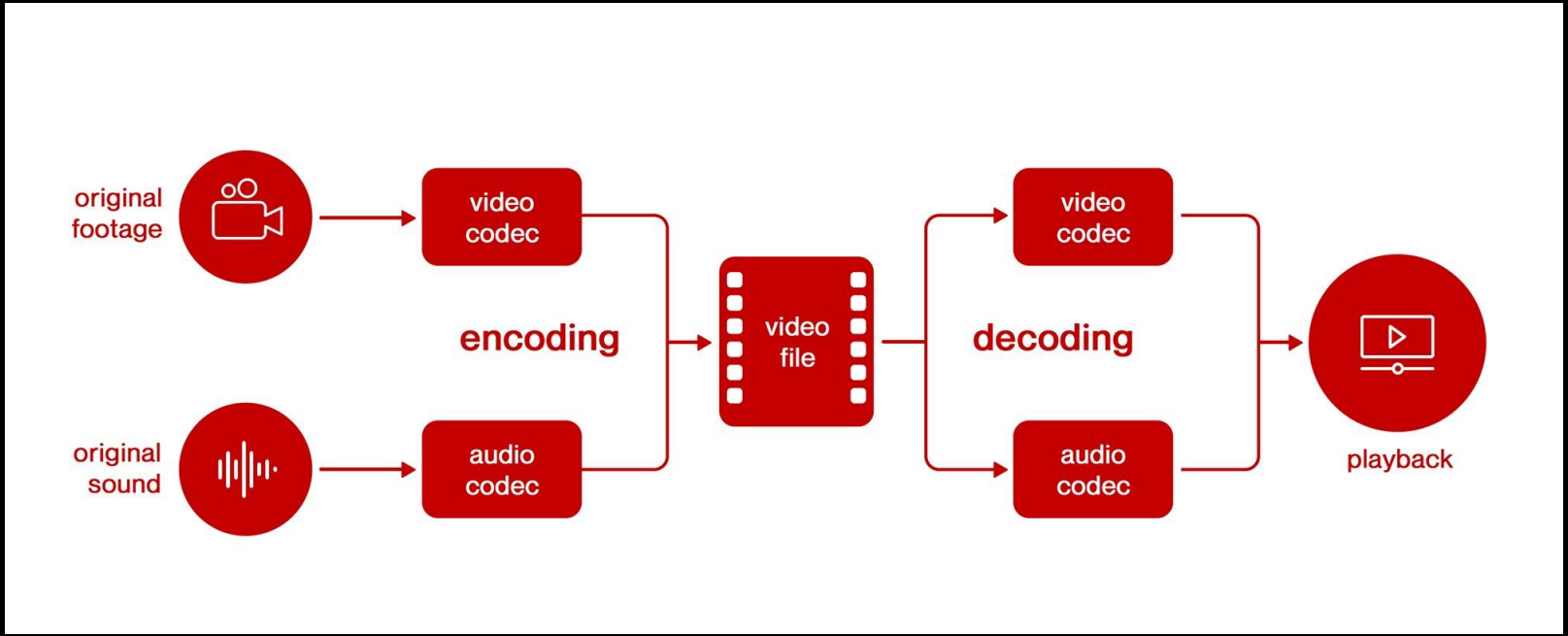


VIDEO FORMAT


AVI
ASF
MOV
AVCHD
DivX
FLV
MPEG
MP4
WMV
H.264
MKV
SWF

MP4

Video Formats (containers) vs. codecs



Video Formats (containers) vs. codecs

Video codec:	Audio codec:
H.264, VC-1, Theora, Dirac 2.1, H.263, etc.	AAC, WMA, Vorbis, PCM, etc.

Formats VS Codecs

ANY QUESTIONS?

Homework Review

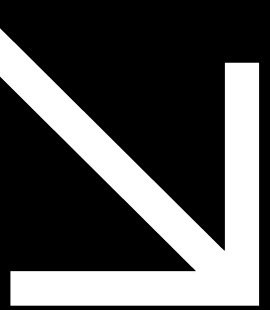
Homework from last week:

Turn your posters into digital pieces

Choose: **Website, App, Motion Design, GIF, Game?**

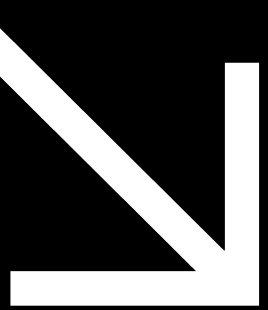
Continue with:

1. **Choose your digital product: Website / App / Motion Design / Gif / Game**
2. **Quickly draft your product**
3. **Look for inspirations**
4. **Don’t design just yet!**
5. **Document & Write everything!**



Present next class for feedback

Homework
For next week!



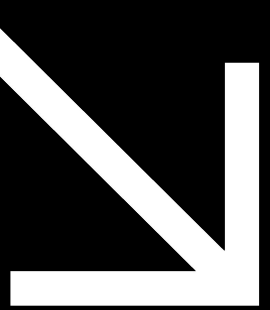
Homework

Design your digital posters!

Continue with:

1. **Continue with your plan and move to design**
2. **Develop your concepts**
3. **Design your frame/frames/screens?**

Present next class for feedback



*Field Trip **NEXT WEEK!**:*

Cotton

October 30th
9:30 am

@Cotton Design in Manhattan.

Address: 291 Broadway Suite 702, NYC

Dress code: Black & White (optional*)

THANK YOU!