CSS专家带你剖析

Web终端适配主流方案

主讲：大漠

讲者简介

开课吧

大漠

- 手淘前端技术专家
- 10年+前端开发经验，W3cplus 创始人，CSS领域专家
- 目前主攻智能UI的研发，在HTML、CSS和A11Y 领域有较深的研究
- 著有《图解CSS3：核心技术与案例实战》

开课吧

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01

Web布局的发展史以及主流的布局方案

1992

Text Design

Web Design 1.0

1996

2000

Tables & Borders

Blog Design

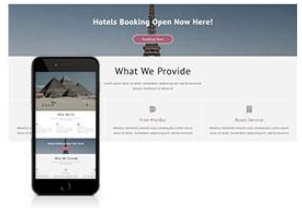
2008

2010

Web Design 2.0

Bootstrap Design

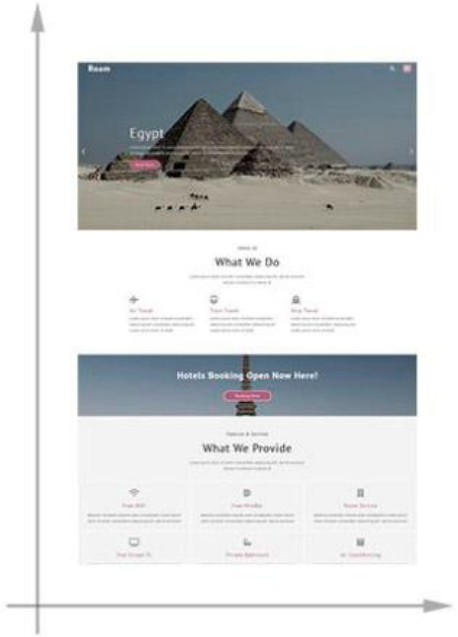
2015

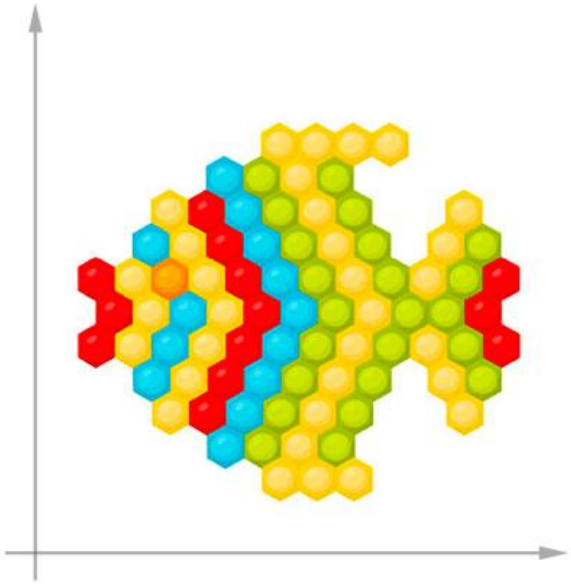


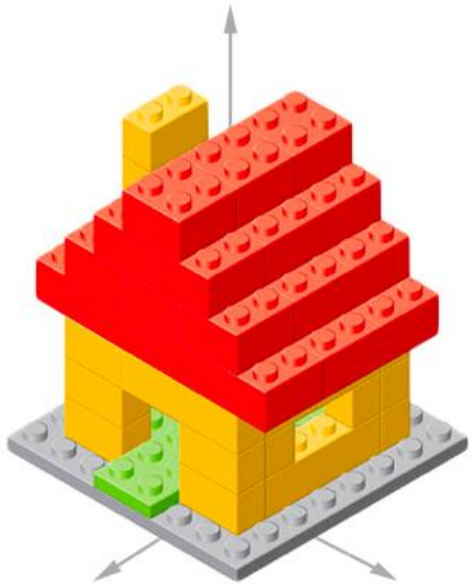
2019

Web Design 3.0

- Web Design 1.0
- Web Design 2.0
- Web Design 3.0







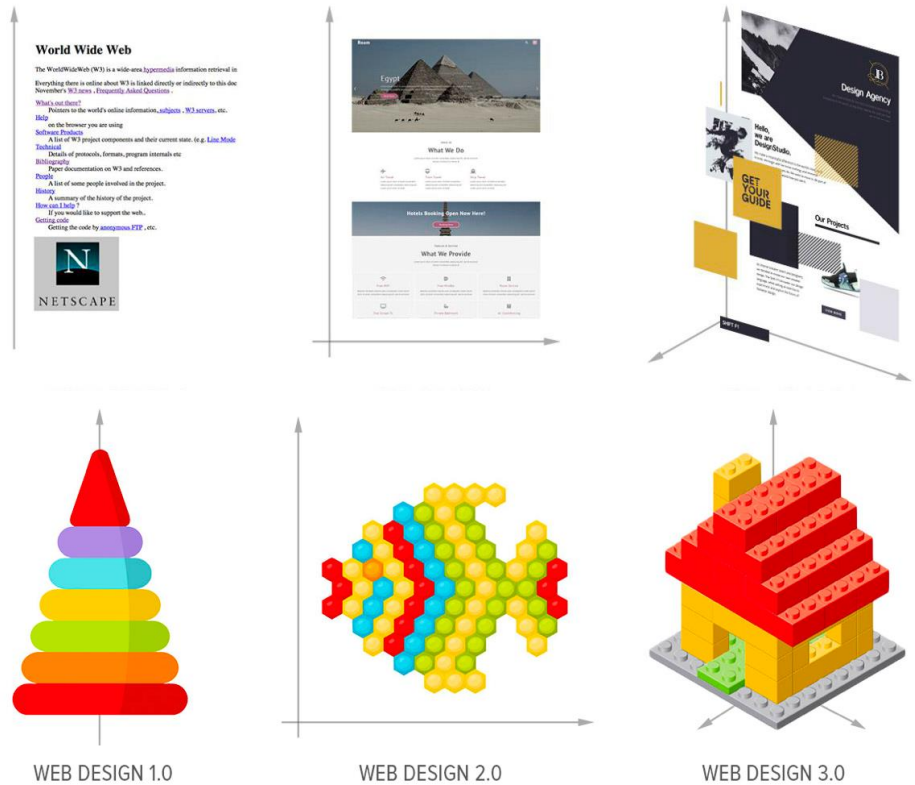
WEB DESIGN 1.0

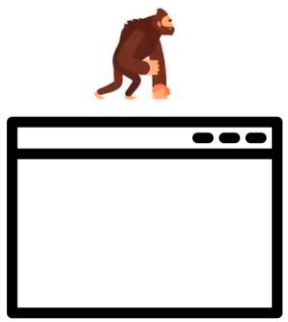
WEB DESIGN 2.0

WEB DESIGN 3.0

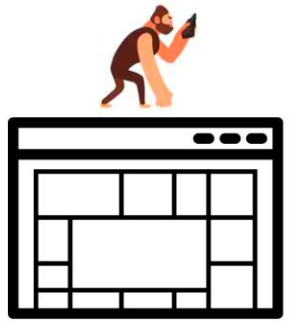
开课吧

- Web设计1.0是“一维的”：设计元素大多是按顺序排列的（按文档流的自然顺序排列）
- Web设计2.0是“二维的”：单元格中有放置元素的网格，具有更多的自由性
- Web设计3.0是一个“新的维度”：它可以像平面设计工具一样的自由地定位元素、重叠

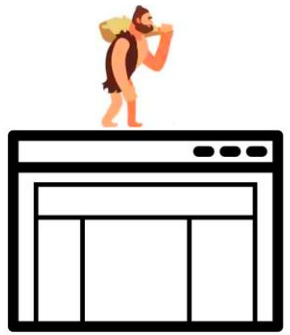




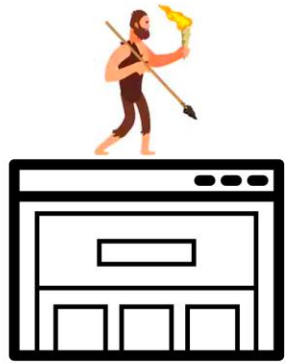
无布局形式



表格布局

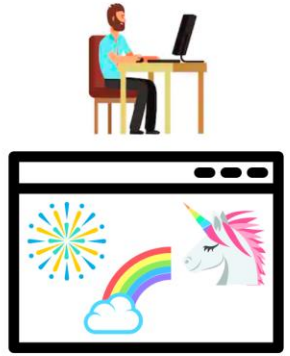


浮动／定位／inline-block

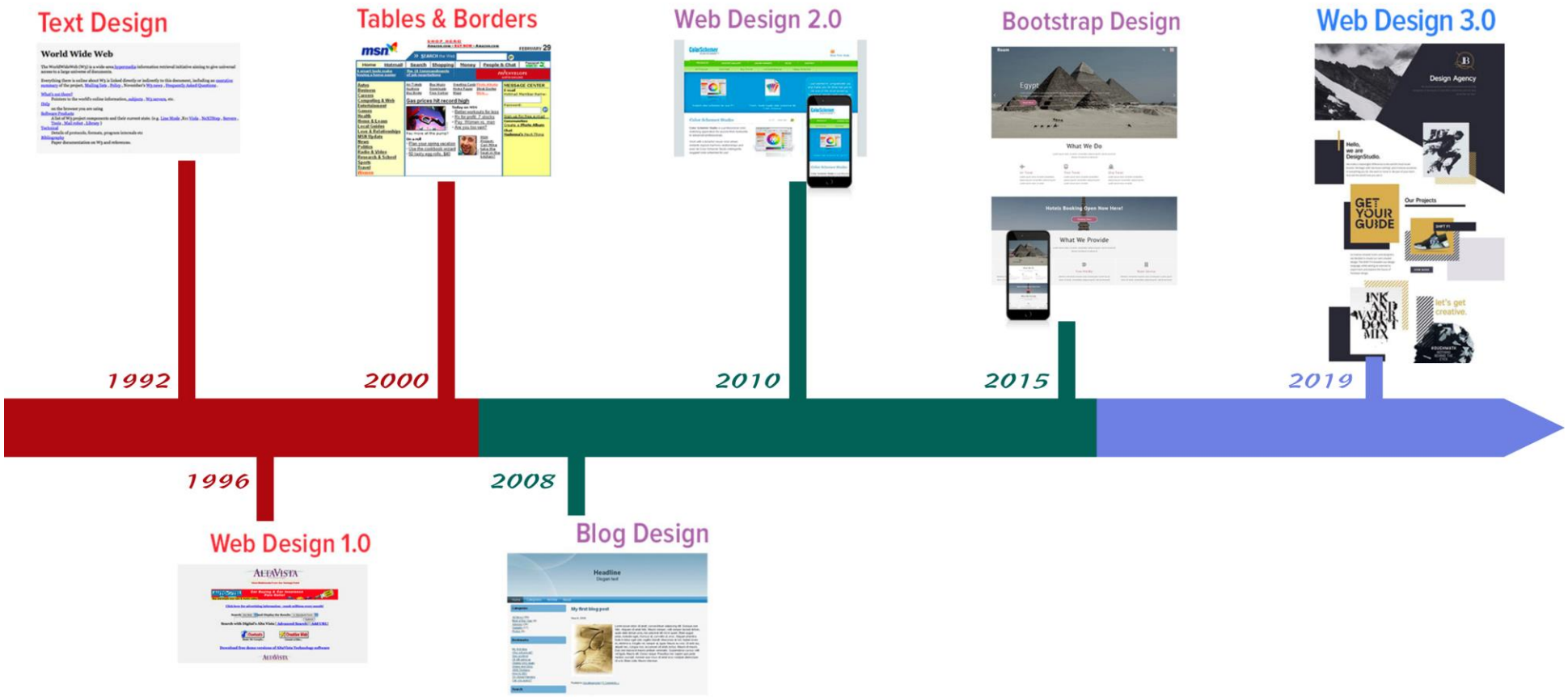


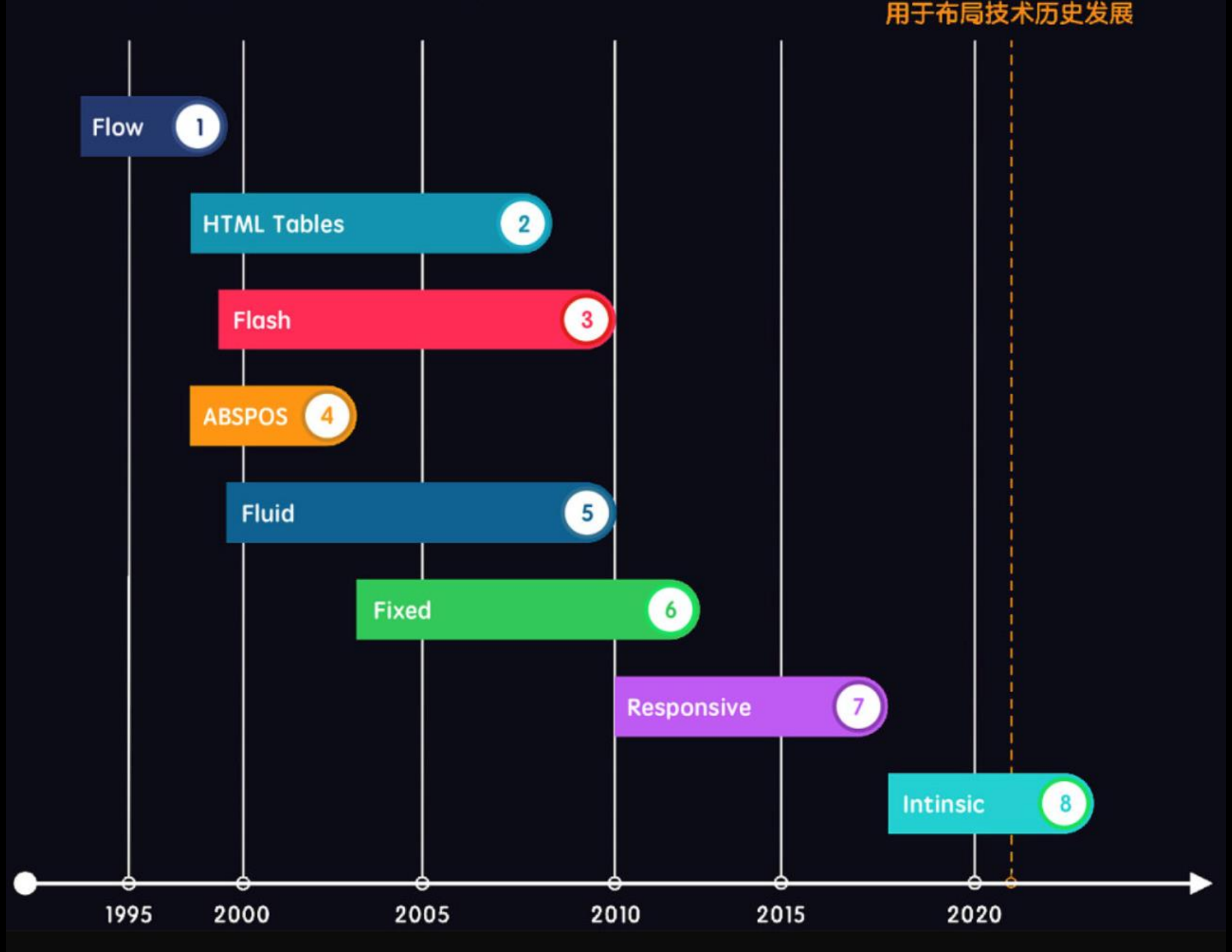
CSS框架布局

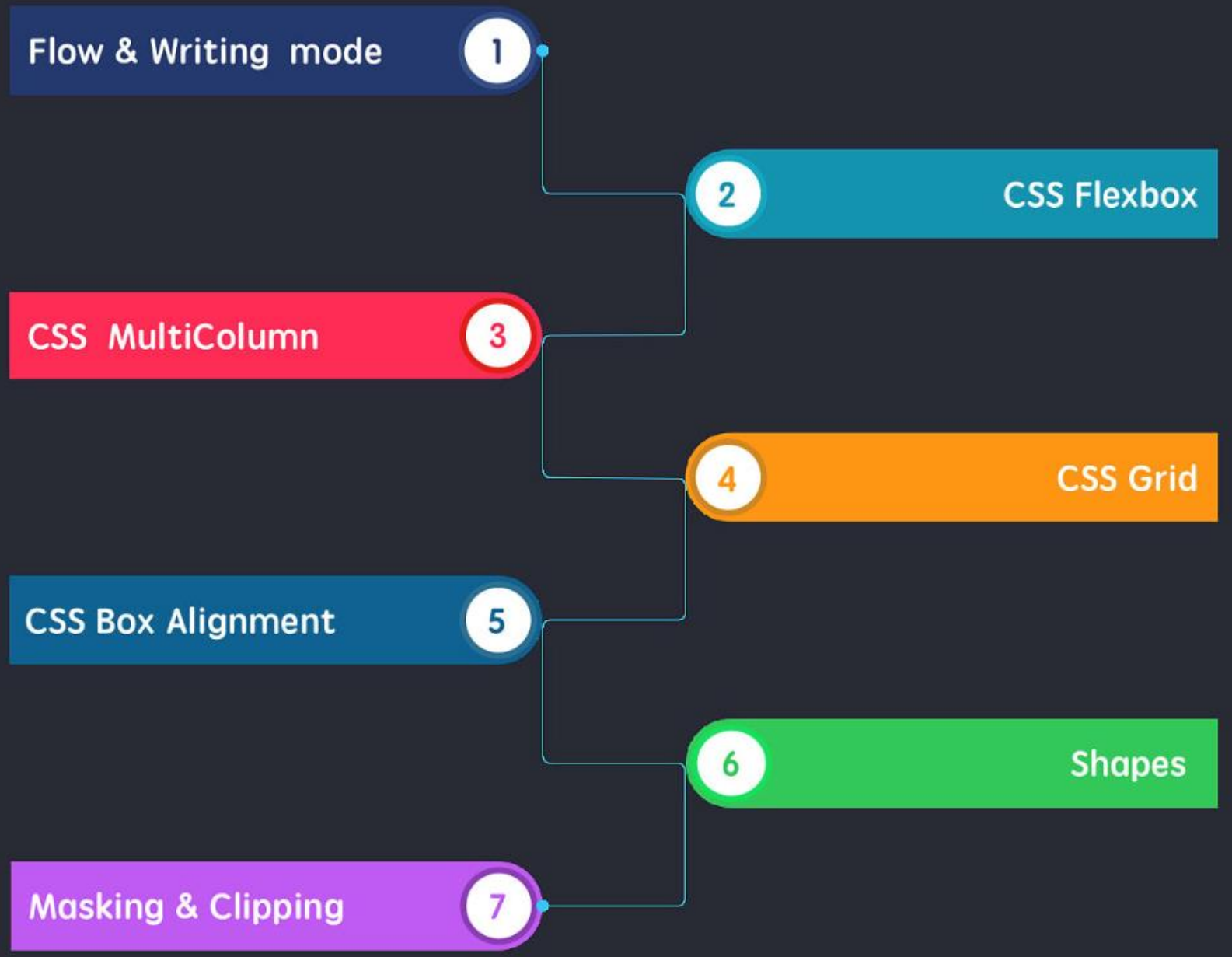
（如960gs）



Flexbox／Grid／多列

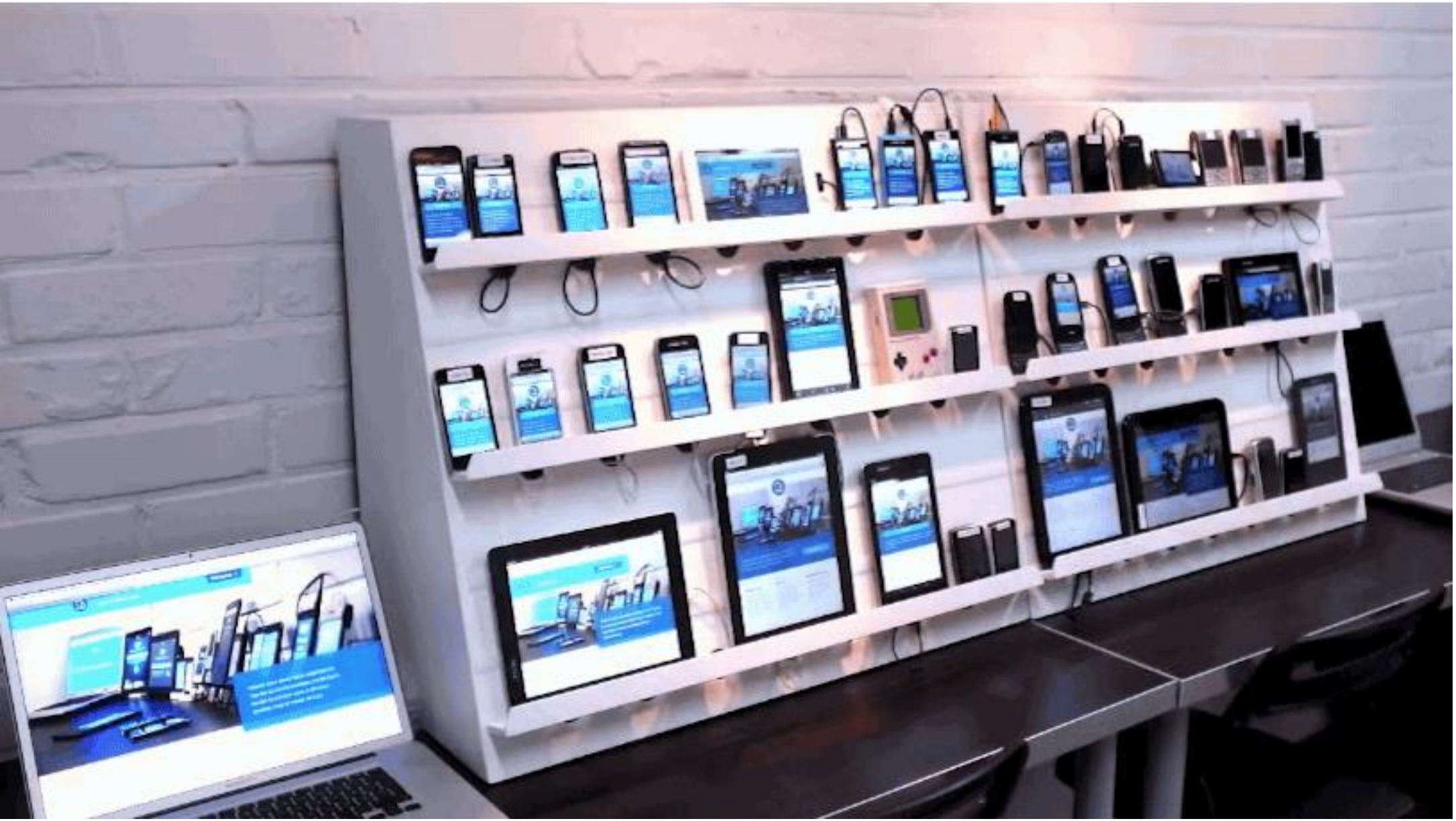



用于布局技术历史发展
Flow
1
HTML Tables
2
Flash
3
ABSPOS
4
Fluid
5
Fixed
6
Responsive
7
Intinsic
8
1995
2000
2005
2010
2015
2020

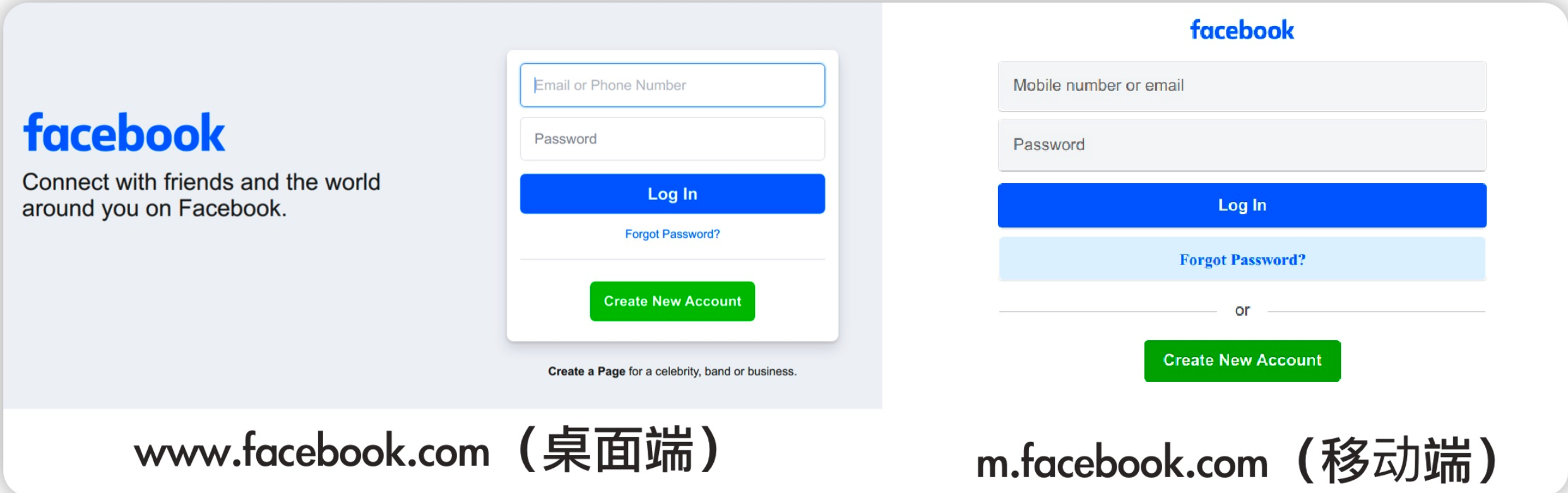

Flow & Writing mode
1
2
CSS Flexbox
CSS MultiColumn
3
4
CSS Grid
CSS Box Alignment
5
6
Shapes
Masking & Clipping
7

02

Rem 和 VW 适配方案的设计思路和利弊



开课吧



www.facebook.com（桌面端）

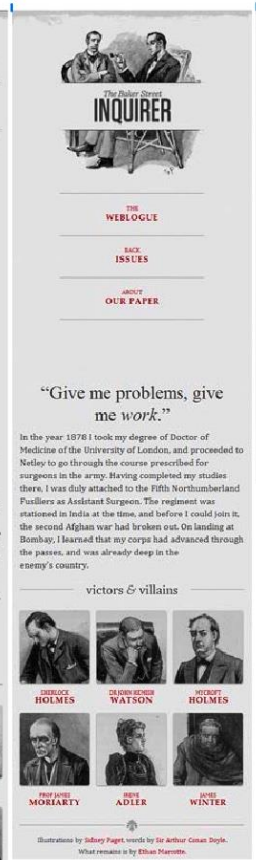
m.facebook.com（移动端）

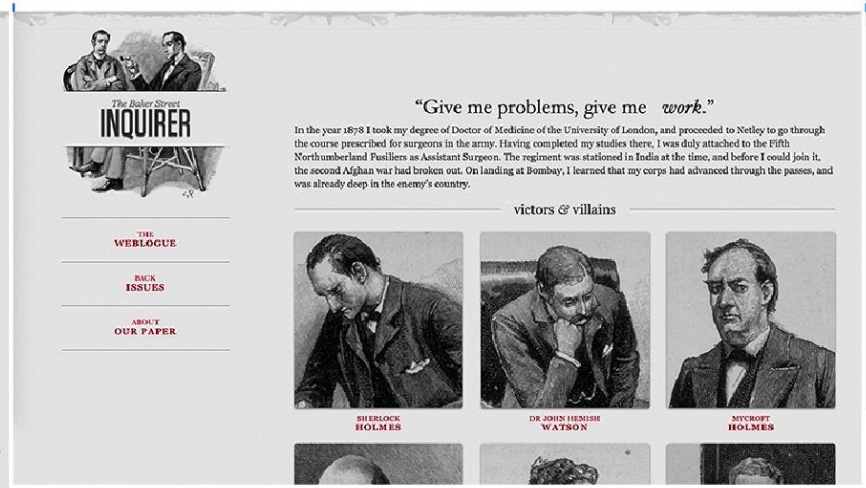
< 400px

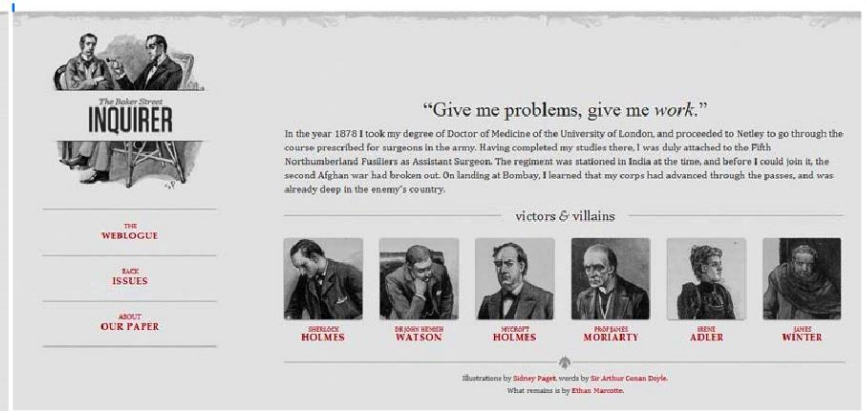
400px ~ 600px

600px ~ 1300px

>1300px





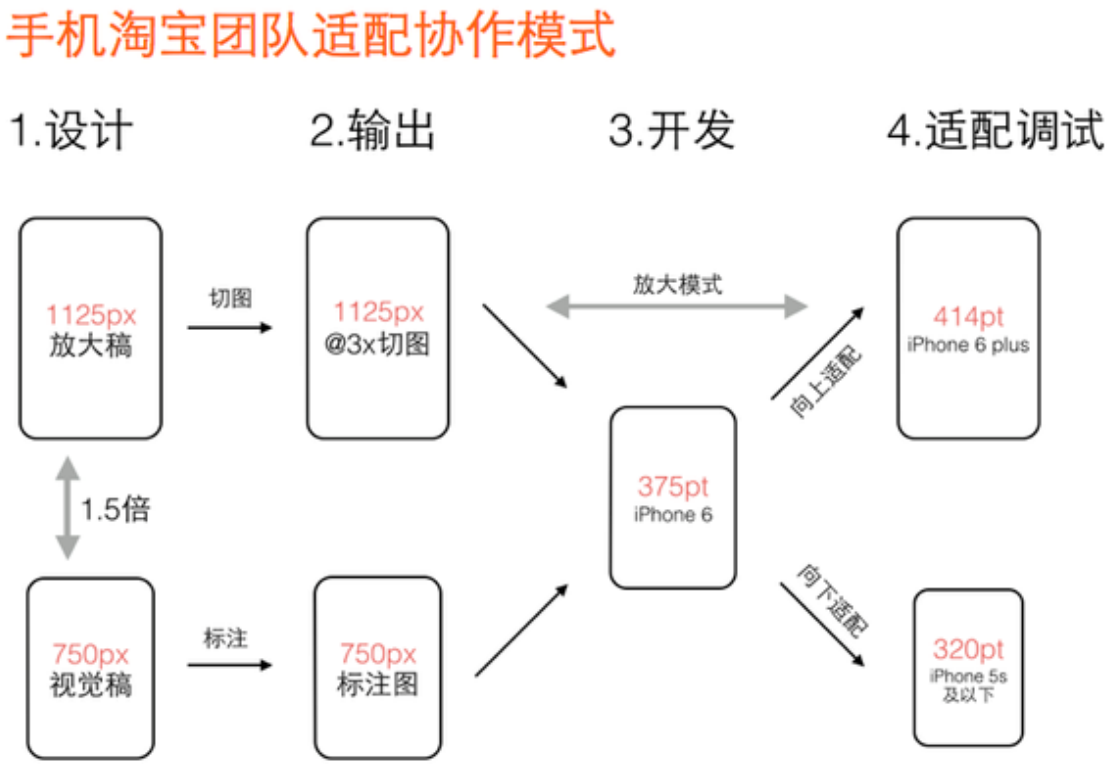


Device metrics

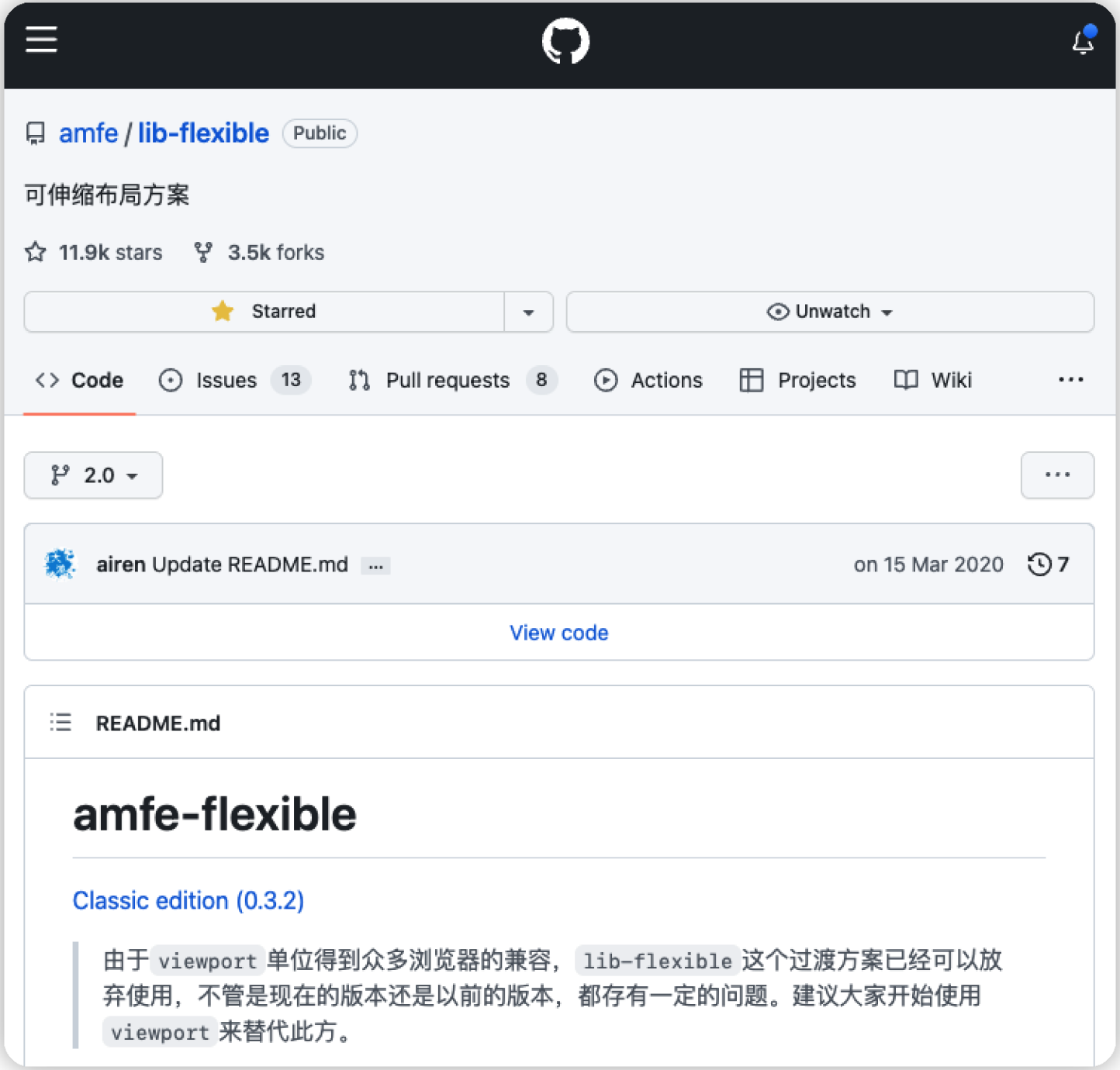
Type	Device	Platform	Screen dimensions in cm	Aspect Ratio	Width × Height dp	Width × Height px	Density
	iPad	iOS	9.7 in 5.8 × 7.8 in	4 : 3	768 × 1024 dp	768 × 1024 px	1.0 mdpi
	iPad Mini	iOS	7.9 in 4.7 × 6.3 in	4 : 3	768 × 1024 dp	768 × 1024 px	1.0 mdpi
	iPad Mini Retina	iOS	7.9 in 4.7 × 6.3 in	4 : 3	768 × 1024 dp	1536 × 2048 px	2.0 xhdpi
	iPad Pro	iOS	12.9 in 10.3 × 7.7 in	4 : 3	1366 × 1024 dp	2732 × 2048 px	2.0 xhdpi
	iPad Retina	iOS	9.7 in 5.8 × 7.8 in	4 : 3	768 × 1024 dp	1536 × 2048 px	2.0 xhdpi
	iPhone	iOS	3.5 in 1.9 × 2.9 in	3 : 2	320 × 480 dp	320 × 480 px	1.0 mdpi
	iPhone 4	iOS	3.5 in 2.0 × 2.9 in	3 : 2	320 × 480 dp	640 × 960 px	2.0 xhdpi
	iPhone 5	iOS	4.0 in 2.0 × 3.5 in	16 : 9	320 × 568 dp	640 × 1136 px	2.0 xhdpi
	iPhone 6	iOS	4.7 in 2.3 × 4.1 in	16 : 9	375 × 667 dp	750 × 1334 px	2.0 xhdpi
	iPhone 6 Plus	iOS	5.5 in 2.7 × 4.8 in	16 : 9	414 × 736 dp	1080 × 1920 px	3.0 xxhdpi
	iMac 27	OS X	27.0 in 23.5 × 13.2 in	16 : 9	2560 × 1440 dp	2560 × 1440 px	1.0 mdpi

开课吧

- 选择一种尺寸作为设计和开发的基准
- 定义一套适配规则，自动适配其他尺寸的设备
- 特殊适配效果给出设计效果



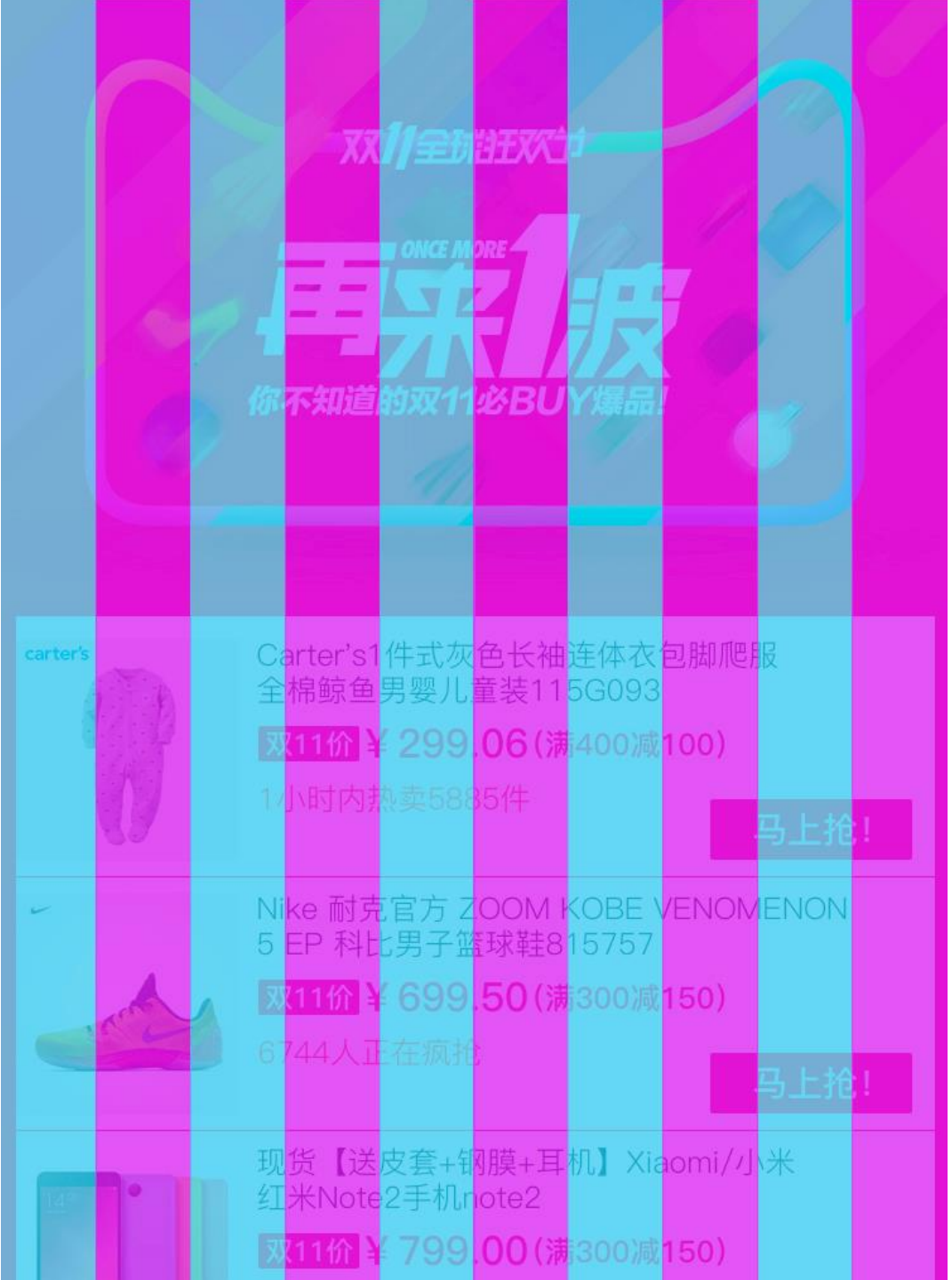
手淘设计师常选择iPhone6作为基准设计尺寸，交付给前端的设计尺寸是按 750px x 1334px 为准（高度会随着内容多少而改变）。前端开发人员通过一套适配规则自动适配到其他的尺寸。



开课吧

lib-flexible

https://github.com/amfe/lib-flexible



Flexible会将视觉稿分成 100 等份，每一等份被称为一个单位 a 。同时 1rem 单位被认定为 10个a。

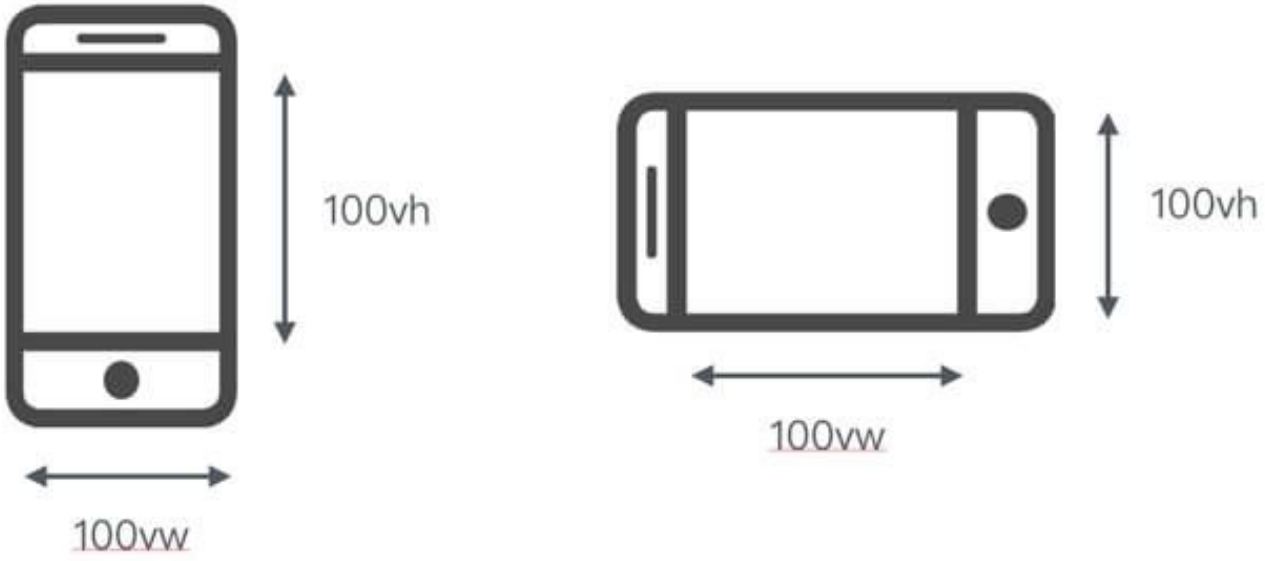
1a = 7.5px
1rem = 75px

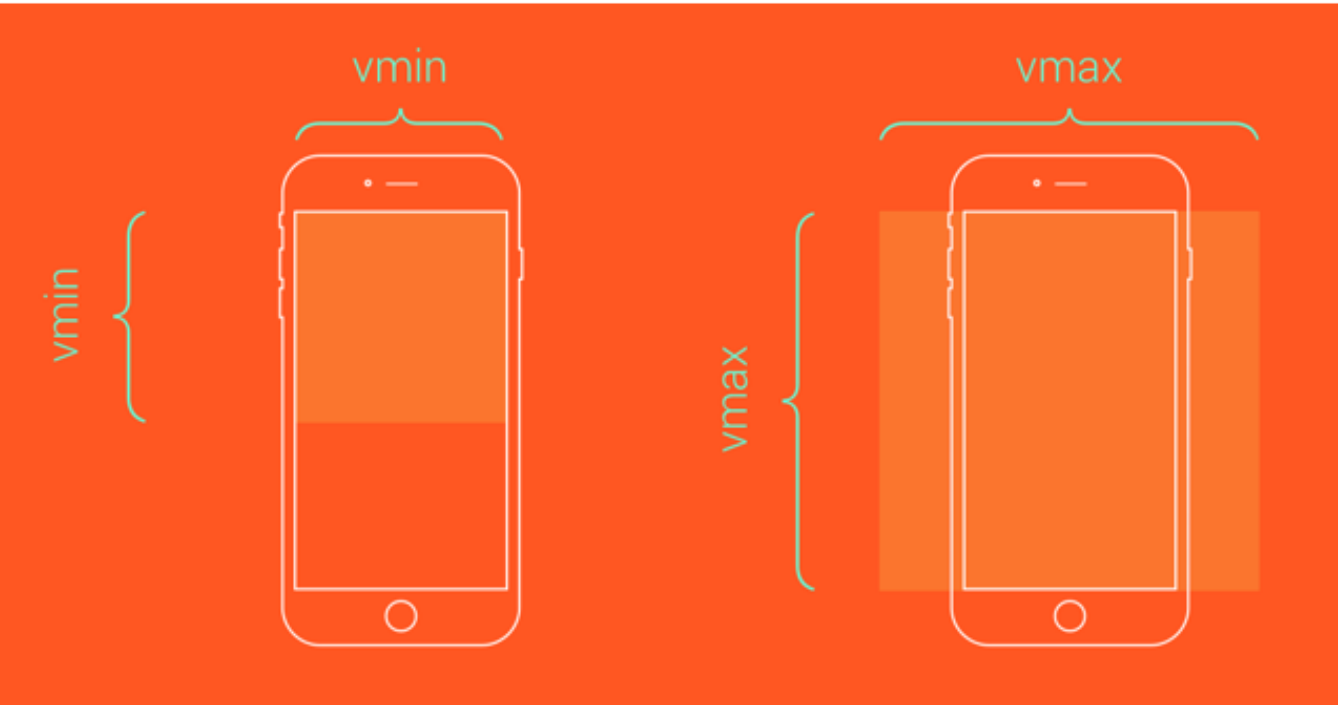
750px ==> 10rem

<html> 元素设置的 font-size 为 75px

https://www.w3cplus.com/mobile/lib-flexible-for-html5-layout.html

https://git.kaikeba.com/damo/clear-cart/blob/adapter-rem/postcss.config.js





100vw = 750px

1vw = 7.5px

https://www.w3cplus.com/css/vw-for-layout.html

```
"postcss-px-to-viewport": {
    // 视窗的宽度，对应的是我们设计稿的宽度，一般是750
    viewportWidth: 750,
    // 视窗的高度，根据750设备的宽度来指定，一般指定
1334，也可以不配置
    viewportHeight: 1334,
    // 指定`px`转换为视窗单位值的小数位数（很多时候无法整
除）
    unitPrecision: 3,
    // 指定需要转换成的视窗单位，建议使用vw
    viewportUnit: 'vw',
    // 指定不转换为视窗单位的类，可以自定义，可以无限添加，
建议定义一至两个通用的类名
    selectorBlackList: ['.ignore', '.hairlines'],
     // 小于或等于`1px`不转换为视窗单位，你也可以设置为你
想要的值
    minPixelValue: 1,
    // 允许在媒体查询中转换`px`
    mediaQuery: false
}
```

开课吧

https://git.kaikeba.com/damo/clear-cart/blob/create-components/postcss.config.js

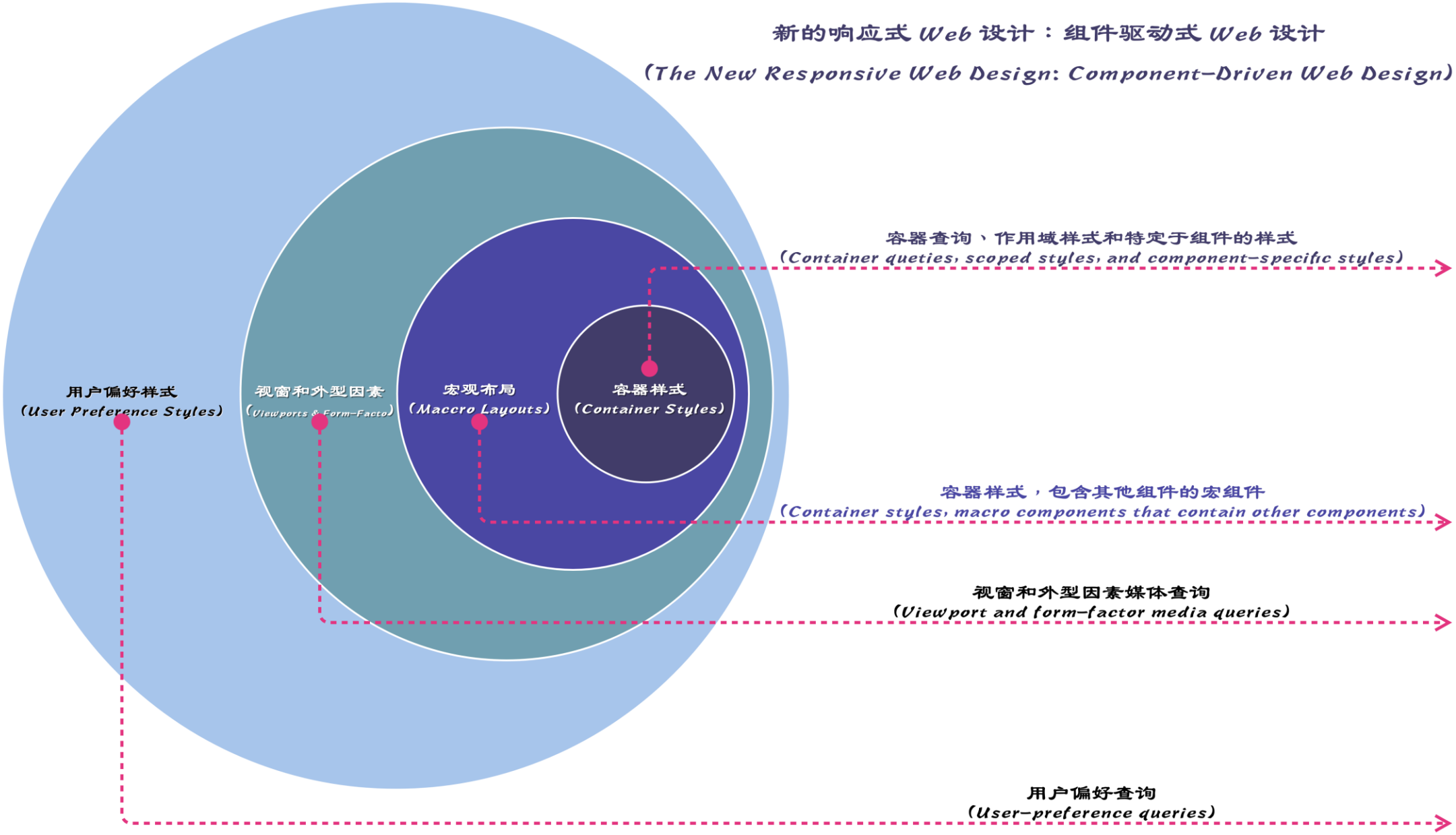
https://www.w3cplus.com/css/vw-for-layout.html

03 未来值得期待的布局或适配方案

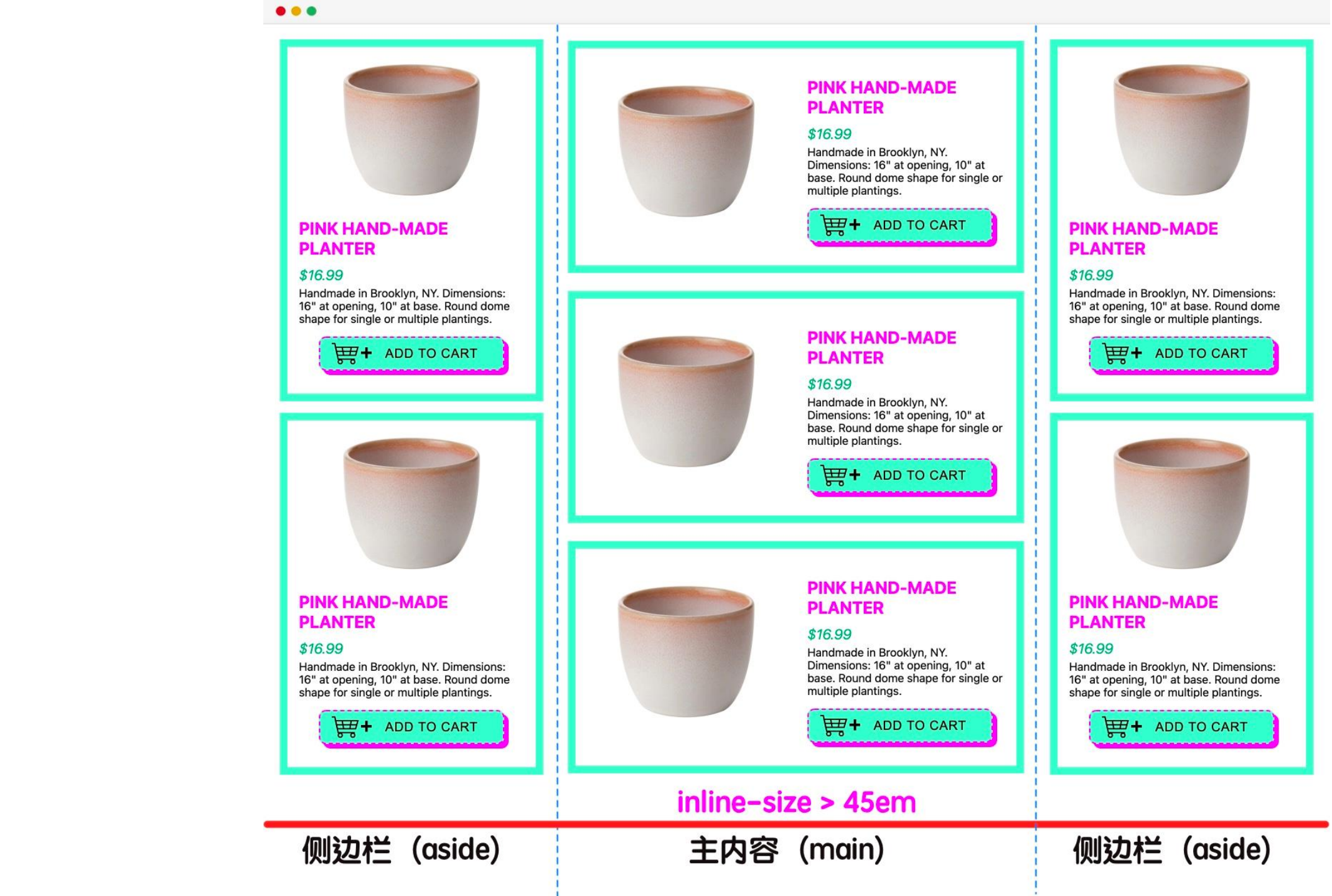
新的响应式 Web 设计：组件驱动式 Web 设计

(The New Responsive Web Design: Component-Driven Web Design)

开课吧



https://www.w3cplus.com/css/the-new-responsive-web-design-component-driven-web-design.html


PINK HAND-MADE PLANTER
$16.99
Handmade in Brooklyn, NY. Dimensions: 16" at opening, 10" at base. Round dome shape for single or multiple plantings.
ADD TO CART
PINK HAND-MADE PLANTER
$16.99
Handmade in Brooklyn, NY. Dimensions: 16" at opening, 10" at base. Round dome shape for single or multiple plantings.
ADD TO CART
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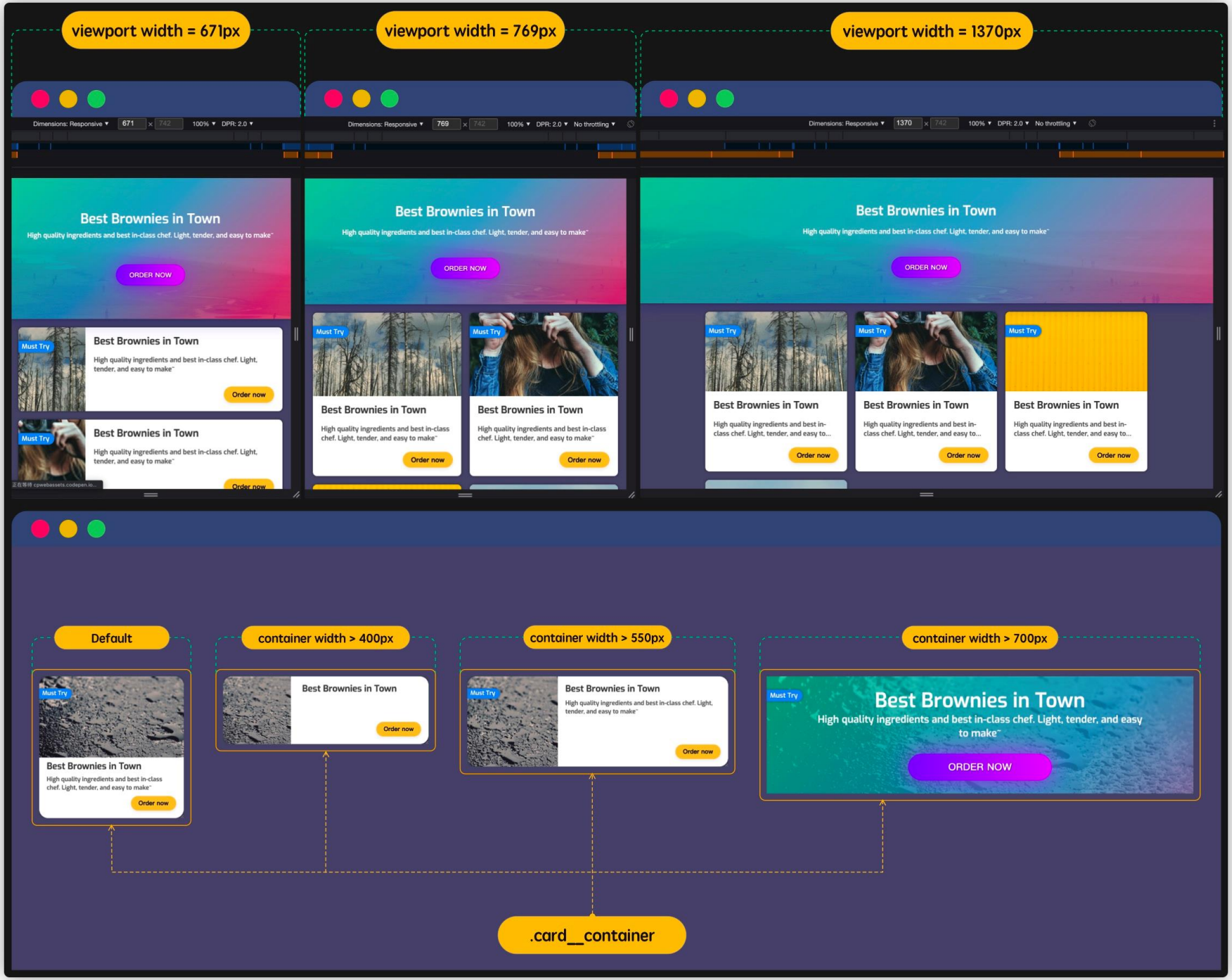
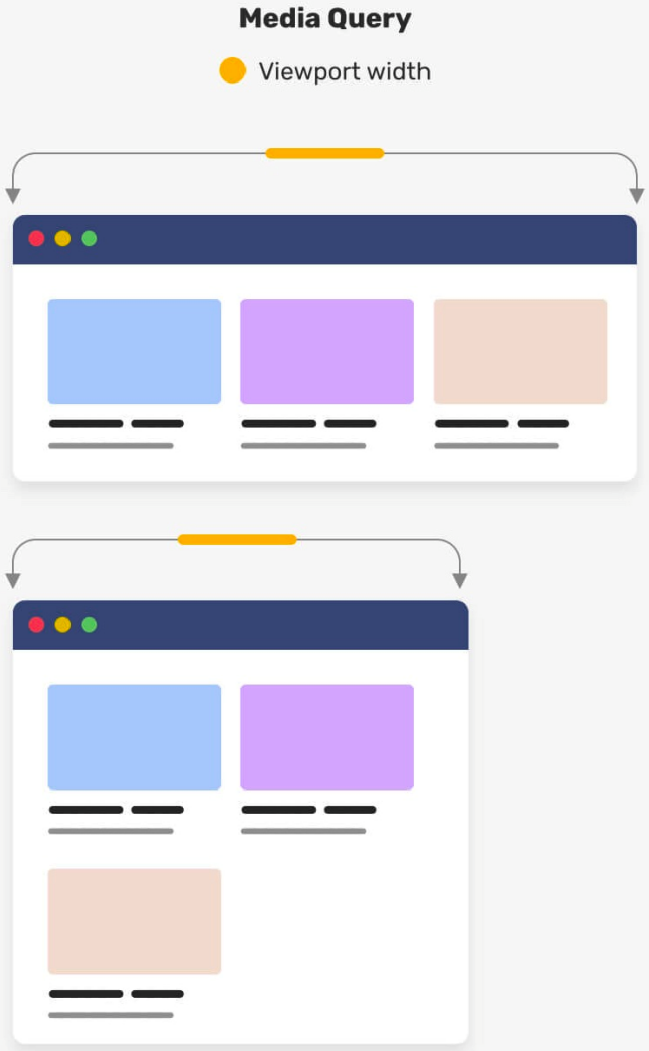
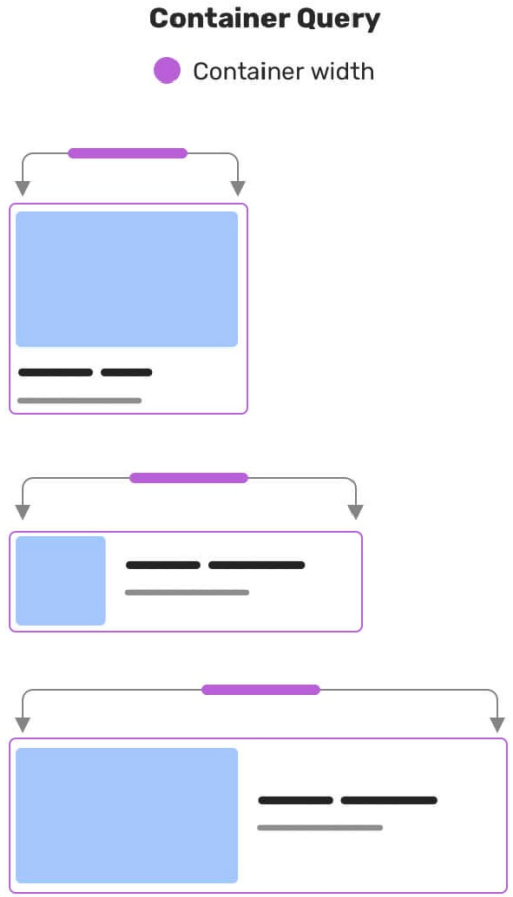
Handmade in Brooklyn, NY. Dimensions: 16" at opening, 10" at base. Round dome shape for single or multiple plantings.
ADD TO CART
PINK HAND-MADE PLANTER
$16.99
Handmade in Brooklyn, NY. Dimensions: 16" at opening, 10" at base. Round dome shape for single or multiple plantings.
ADD TO CART
inline-size > 45em
侧边栏 (aside)
主内容 (main)
侧边栏 (aside)


viewport width = 671px
viewport width = 769px
viewport width = 1370px
Best Brownies in Town
High quality ingredients and best in-class chef. Light, tender, and easy to make"
ORDER NOW
Must Try
Order now
Default
container width > 400px
container width > 550px
container width > 700px
.card__container





宏观布局（Macro Layout）

服务于整个页面布局

微观布局（Micro Layout）

服务于组件布局或样式调整

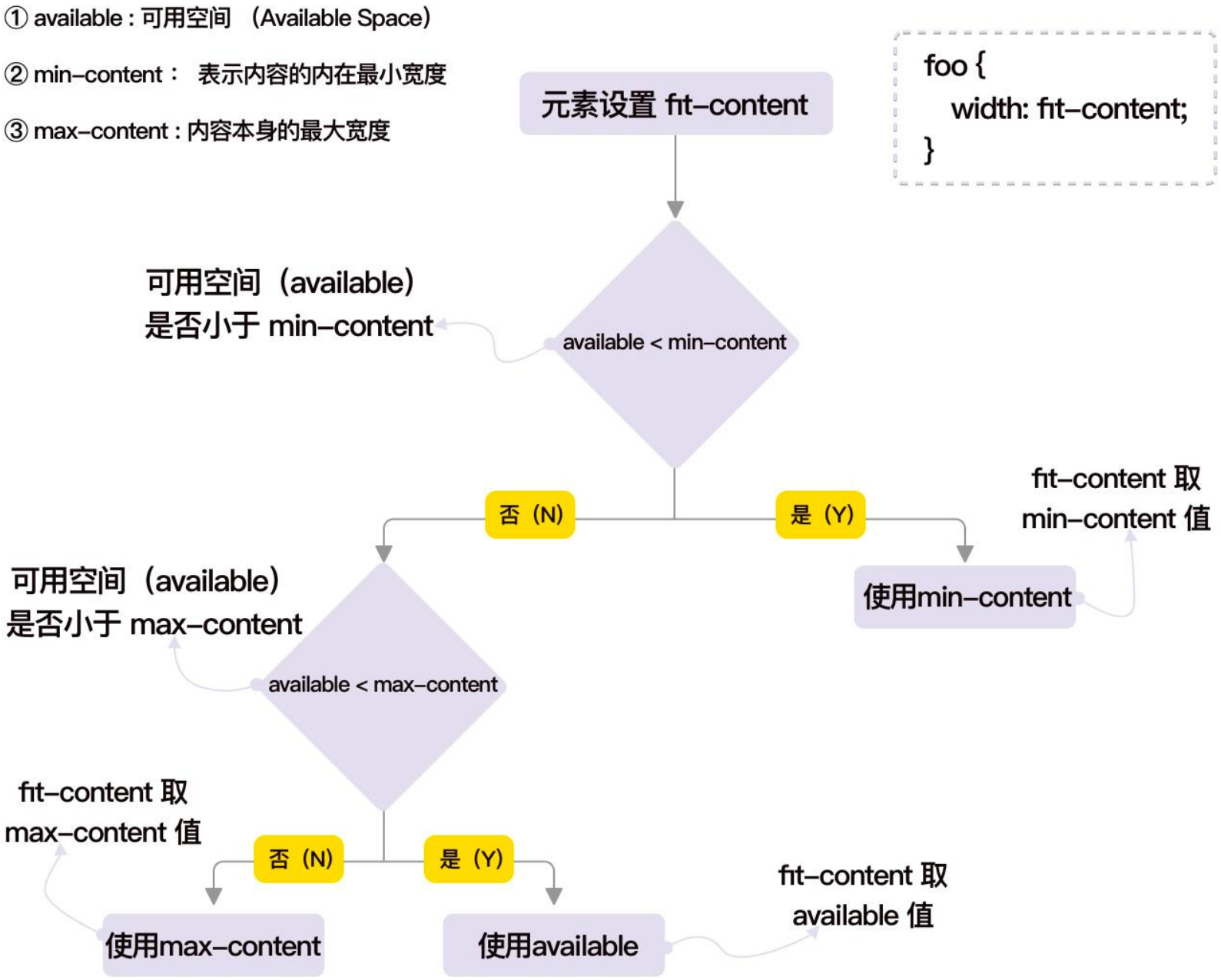
开课吧

① available : 可用空间 （Available Space）

② min-content： 表示内容的内在最小宽度

③ max-content : 内容本身的最大宽度

```
foo {
  width: fit-content;
}
```



https://noti.st/airenliao/MXTHfl#sfawHn5

https://codepen.io/airen/pen/dyPJdWJ

https://www.w3cplus.com/css/practical-uses-of-css-math-functions-calc-clamp-min-max.html

https://www.w3cplus.com/css/how-to-get-a-pixel-perfect-and-linearly-scaled-ui.html

https://codepen.io/airen/pen/oNWwdoZ

Q&A 环节

THANKS

数字化人才在线教育平台

www.kaikeba.com