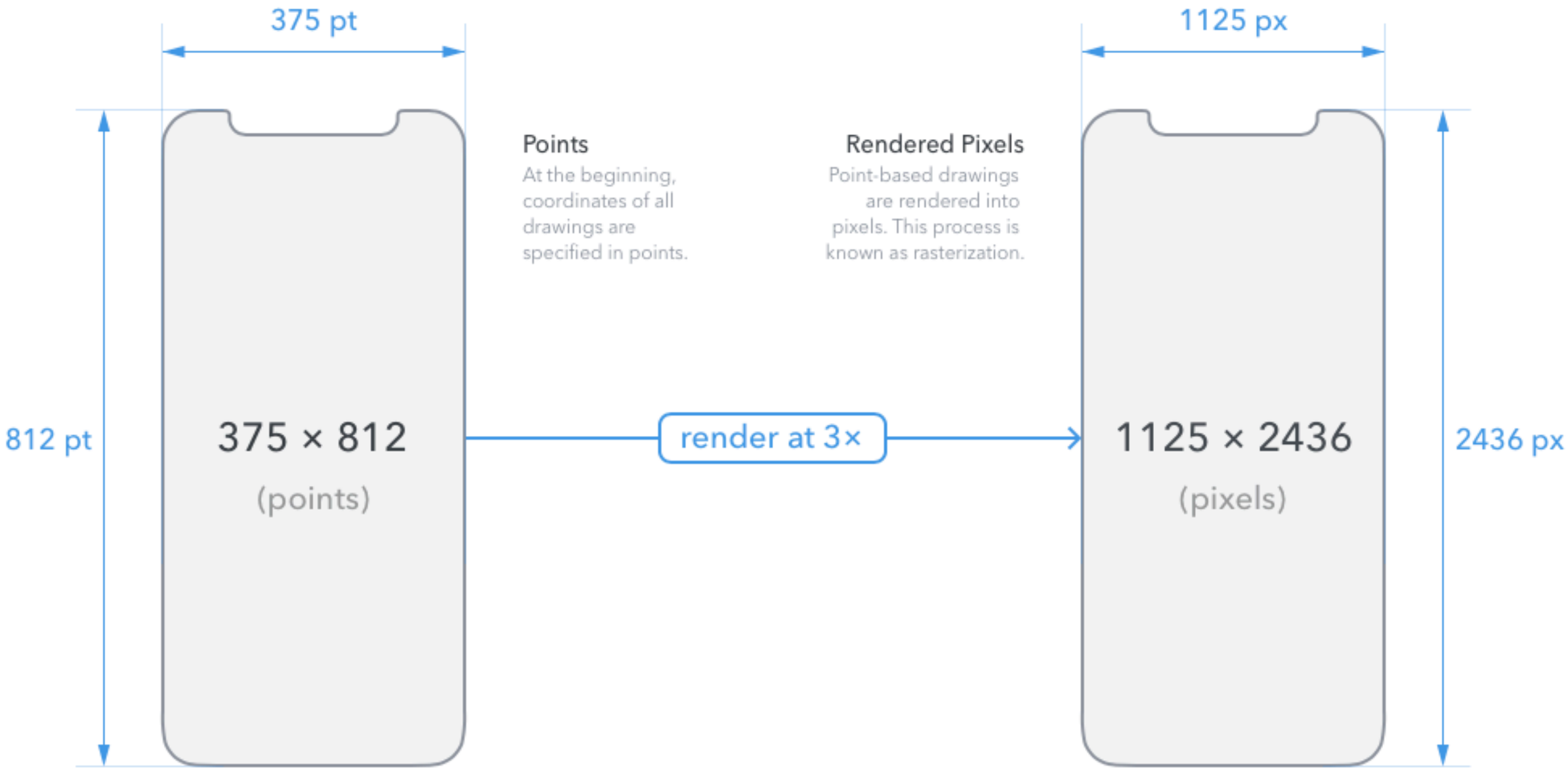
Fast campus

UI Guide

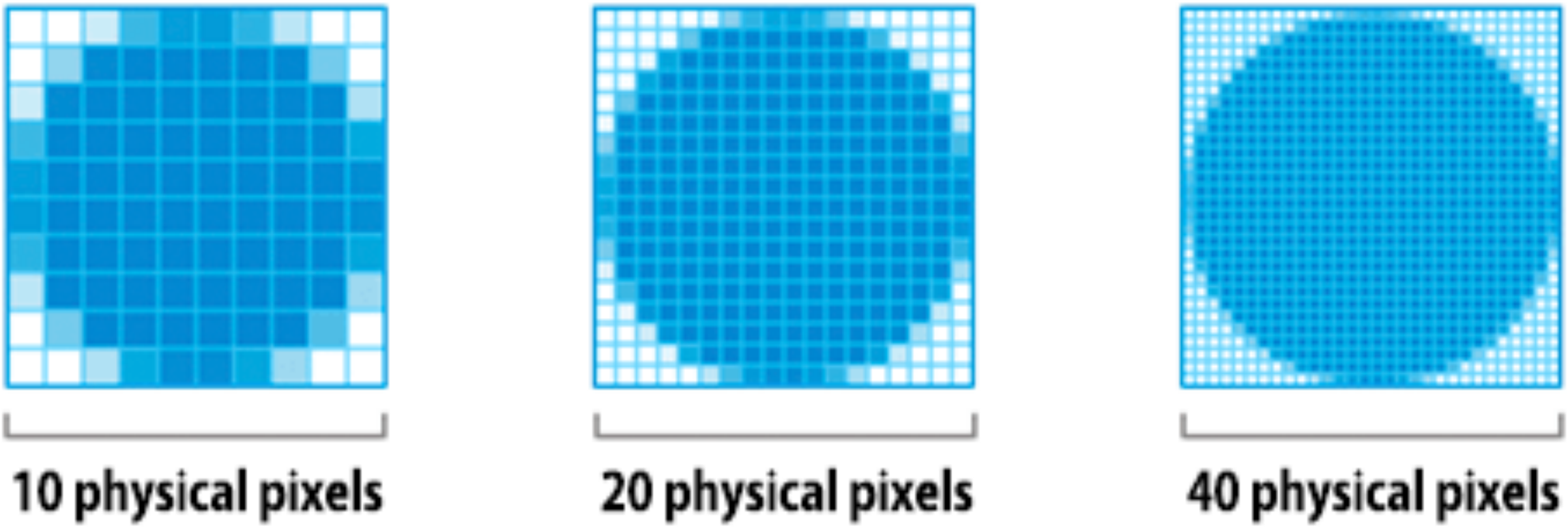
Giftbot

iPhone X Resolution

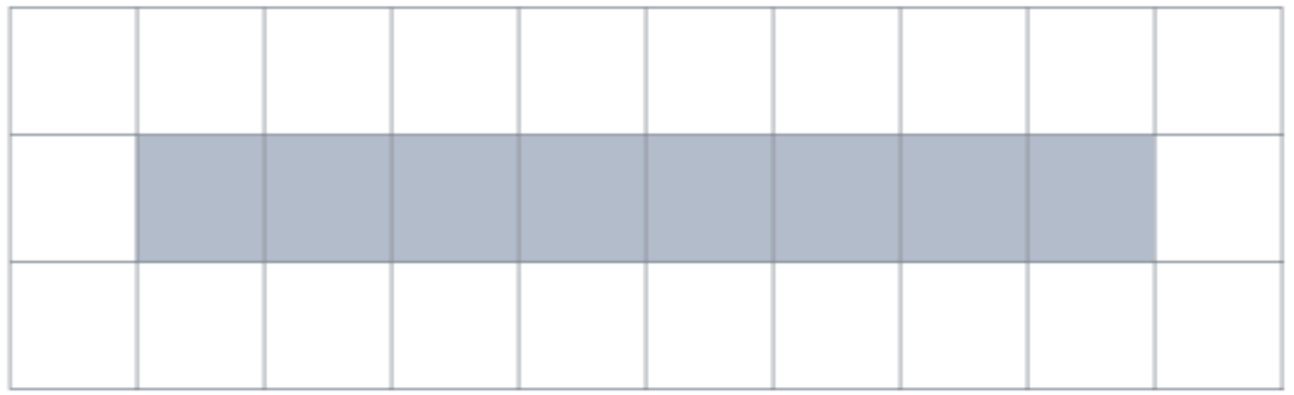


Device	Retina	Portrait (px)	Landscape (px)
iPhone XS Max		1242 x 2688	2688 x 1242
iPhone XR		828 x 1792	1792 x 828
iPhone X, XS		1125 x 2436	2436 x 1125
iPhone 6+, 6S+, 7+, 8+		1080 x 1920	1920 x 1080
iPhone 6, 6S, 7, 8		750 x 1334	1334 x 750
iPhone 5, 6SE 5, 5S, 5C, 6SE		640 x 1136	1136 x 640
iPhone 4 4, 4S		640 x 960	960 x 640
iPhone 1st, 2nd & 3rd Generation		320 x 480	480 x 320
iPad Air / Retina iPad 1st & 2nd Generation / 3rd & 4th		1536 x 2048	2048 x 1536
iPad Pro		2048 x 2732	2732 x 2048
iPad Mini 2nd, 3rd & 4th Generation		1536 x 2048	2048 x 1536
iPad Mini, 1st & 2nd Generation		768 x 1024	1024 x 768

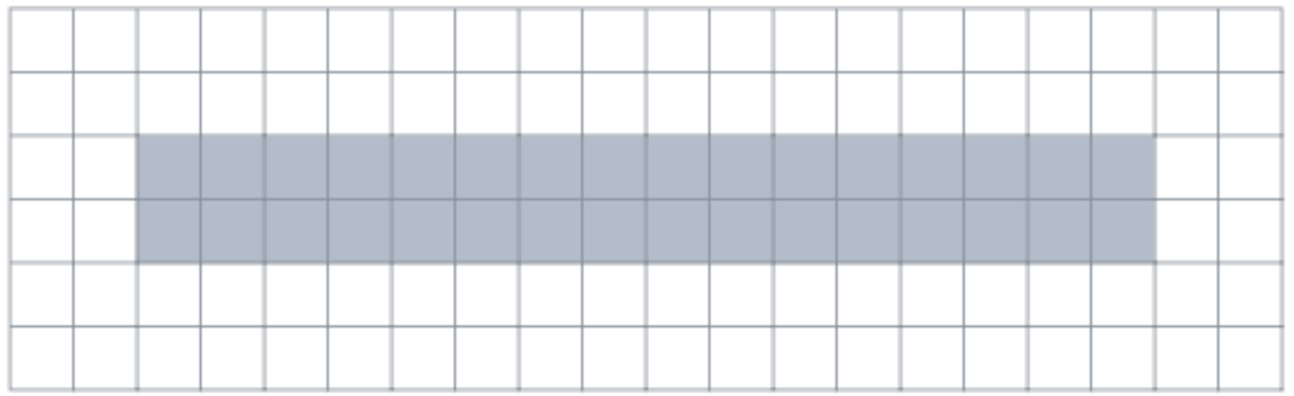
High Resolution



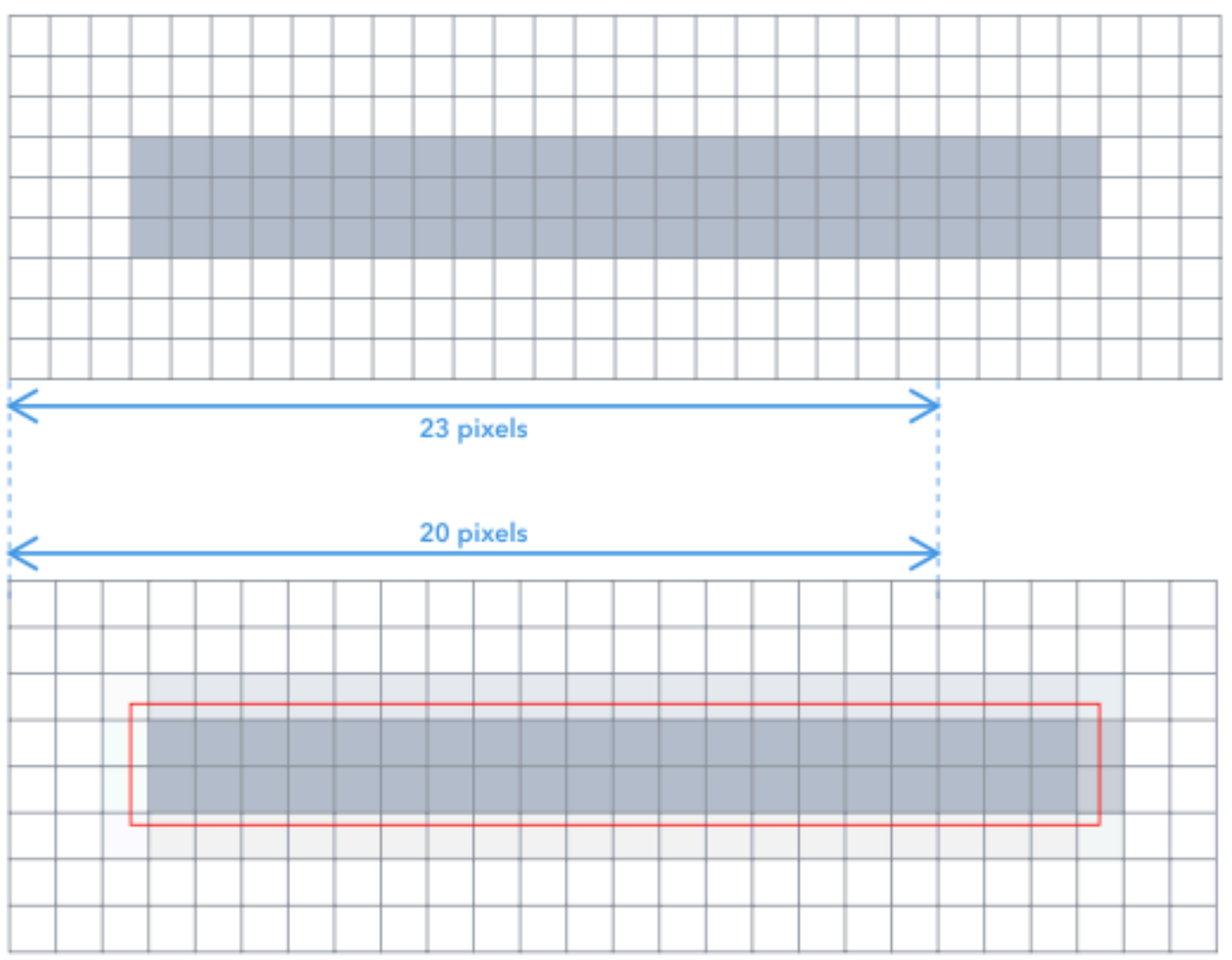
Original iPhone



iPhone 5



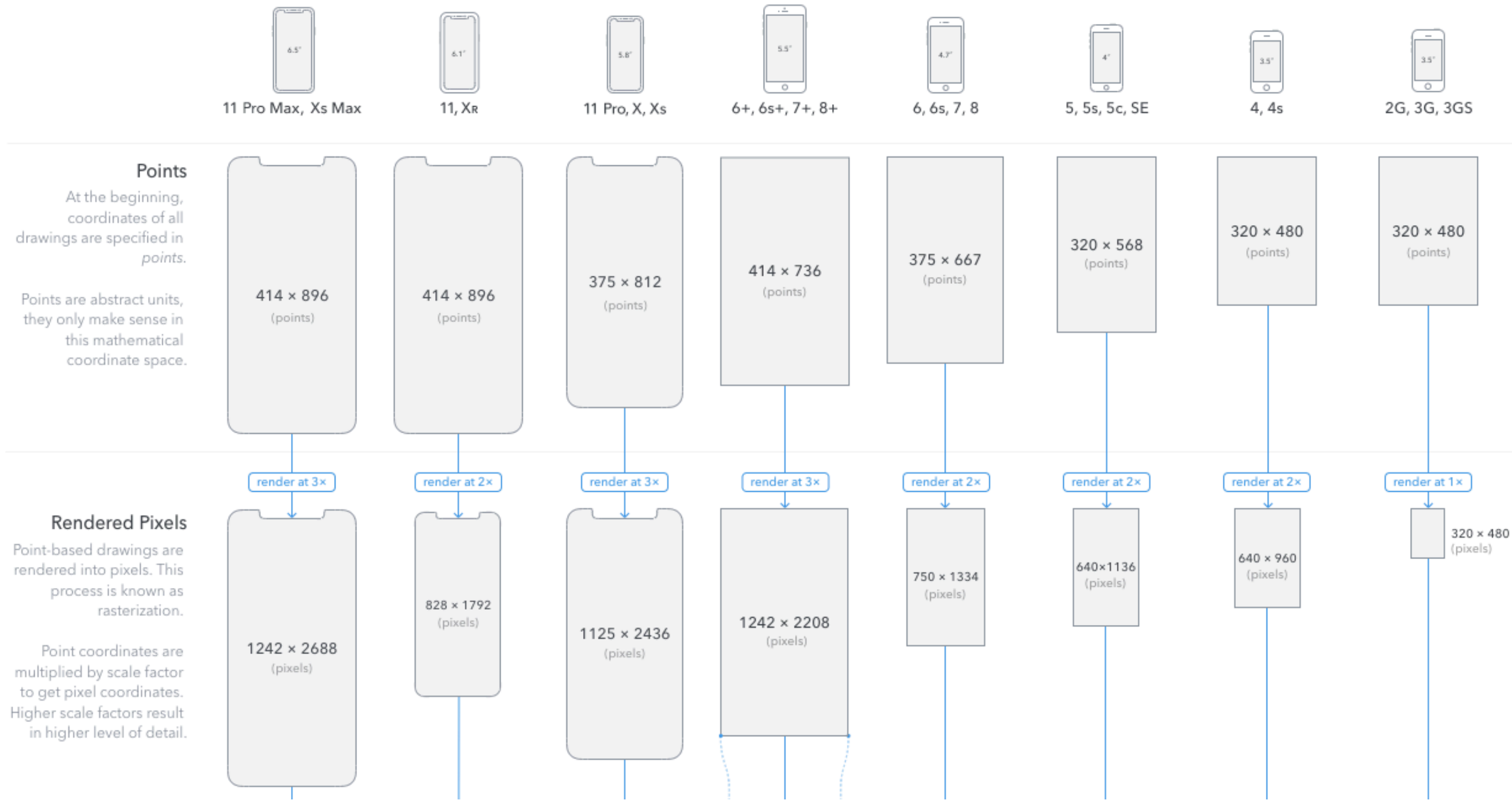
Hypothetical
Perfect 3× Display



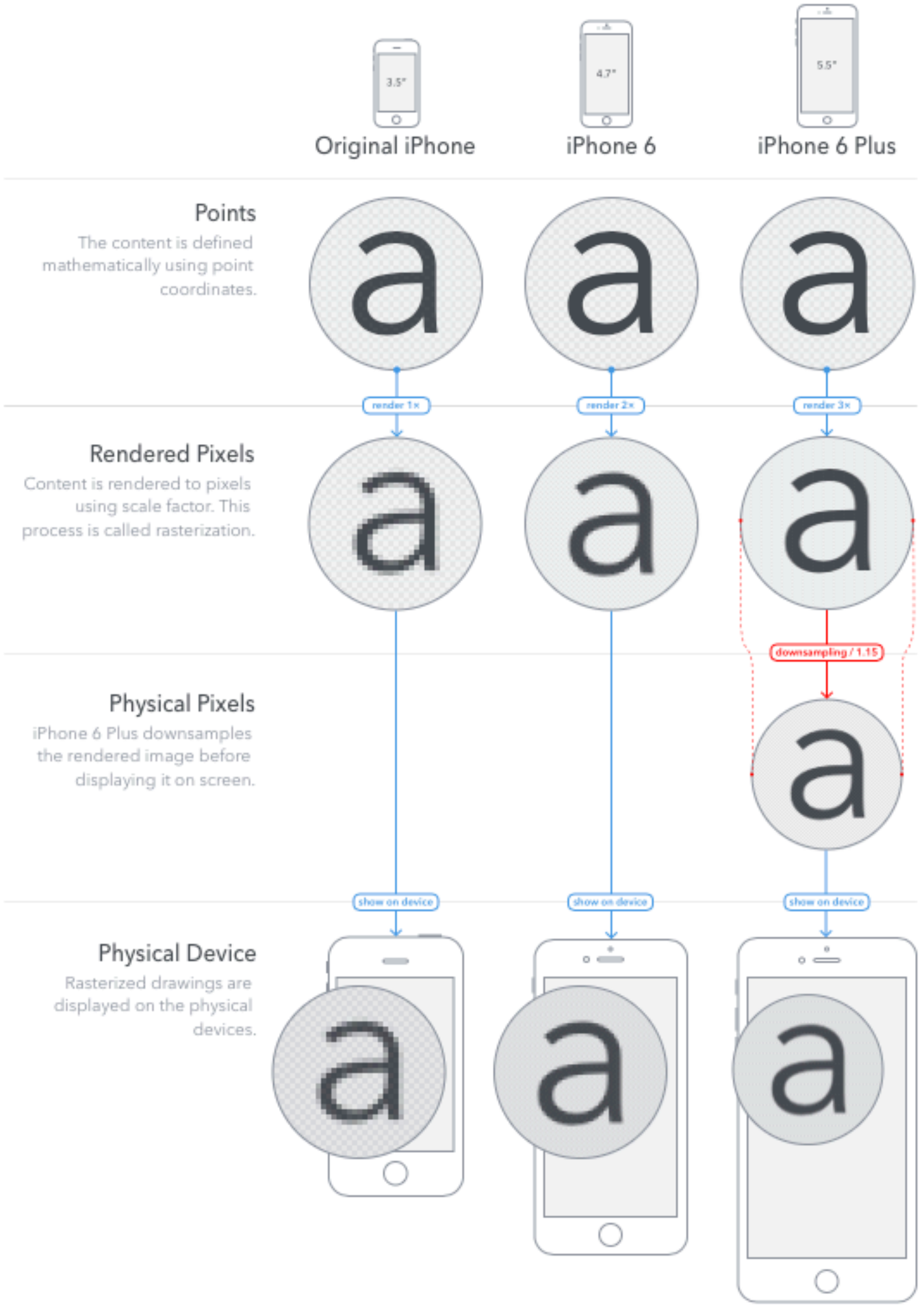
iPhone 6 Plus

Original iPhone	iPhone 4	iPhone 5	iPhone 8	iPhone 8 Plus	iPhone X
320 x 480 points	320 x 480 points	320 x 568 points	375 x 667 points	414 x 736 points	375 x 812 points
@1x	@2x	@2x	@2x	@3x	@3x
320 x 480 pixels	640 x 960 pixels	640 x 1136 pixels	750 x 1334 pixels	Downsampled (87%) 1080 x 1920 pixels 1242 x 2208 pixels	1125 x 2436 pixels

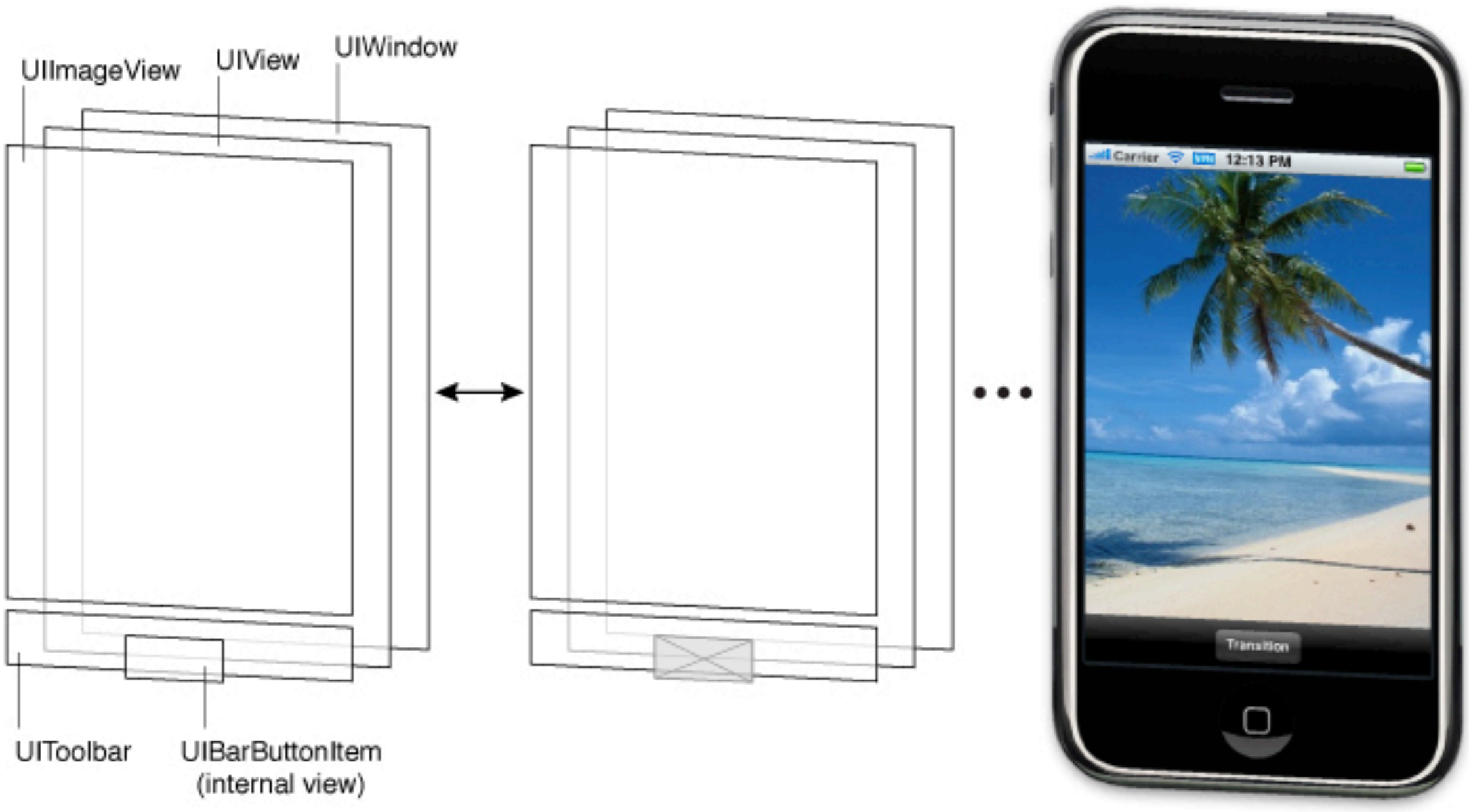
iPhone Resolutions



https://goo.gl/vwbzQY

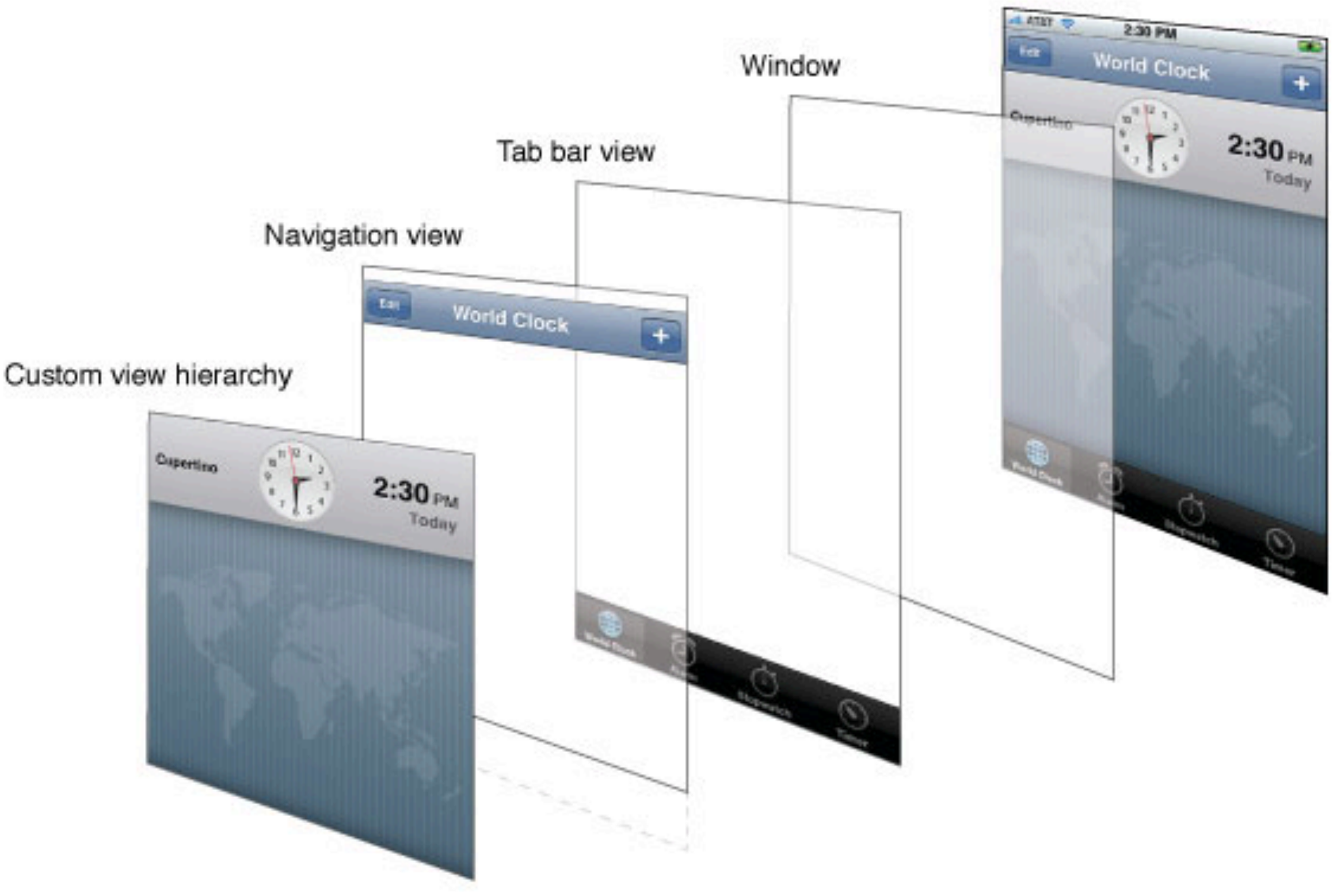

3.5"
4.7"
5.5"
Original iPhone
iPhone 6
iPhone 6 Plus
Points
The content is defined mathematically using point coordinates.
render 1×
render 2×
render 3×
Rendered Pixels
Content is rendered to pixels using scale factor. This process is called rasterization.
downsampling / 1.15
Physical Pixels
iPhone 6 Plus downsamples the rendered image before displaying it on screen.
show on device
show on device
show on device
Physical Device
Rasterized drawings are displayed on the physical devices.

Architecture of the views

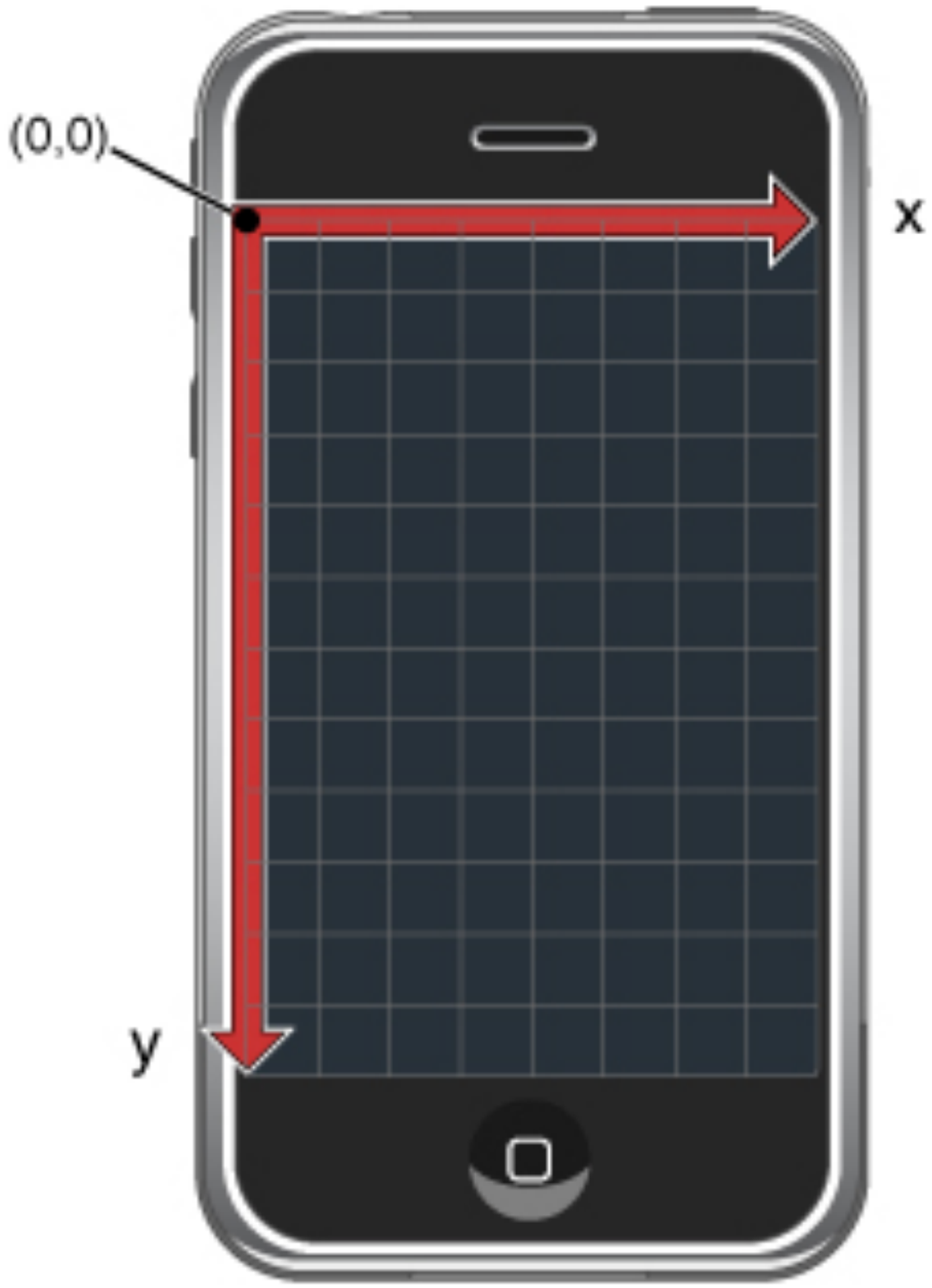


UIKit views **Core Animation layers**

Layered views

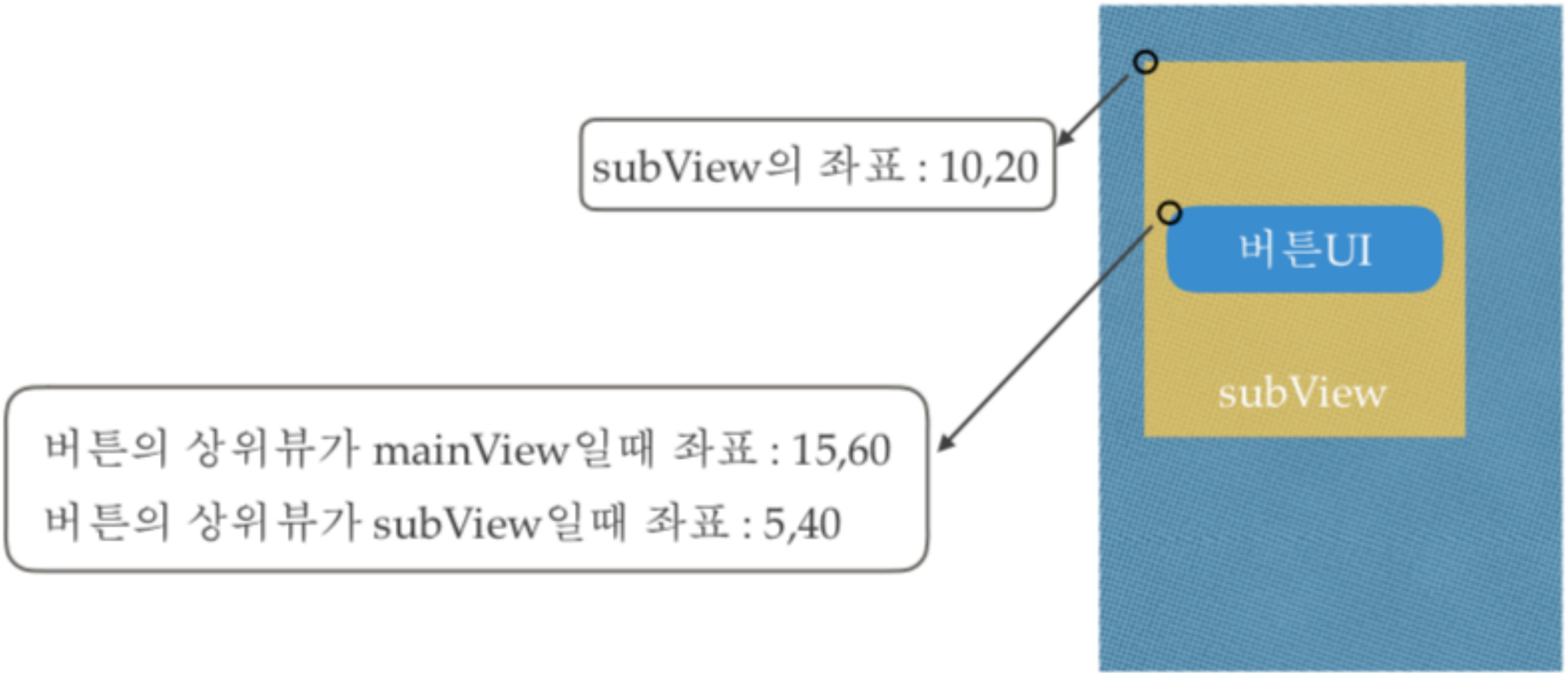


Coordinate system orientation

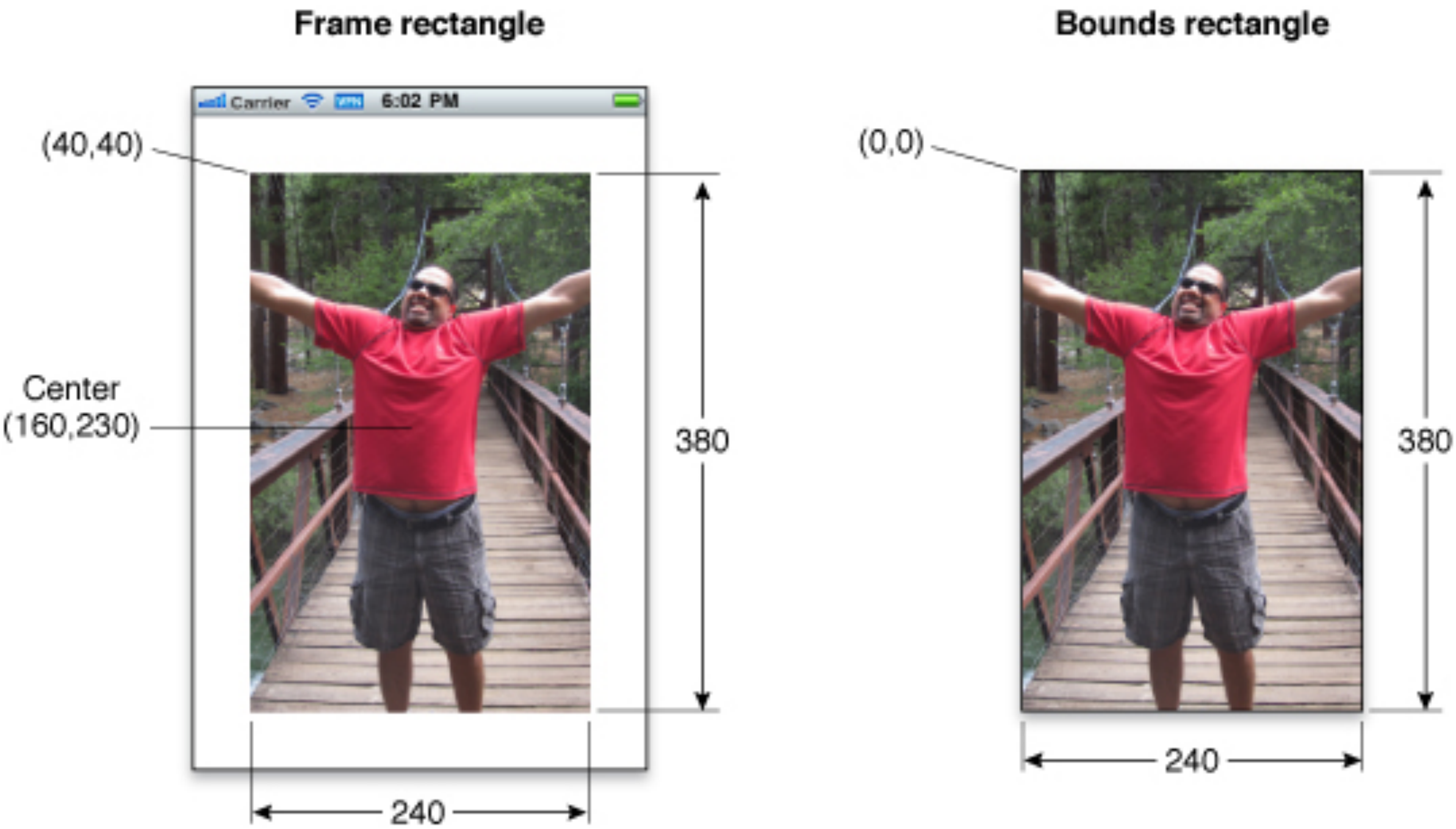


View Frame

View Frame 의 좌표는 상위뷰를 기준으로 결정



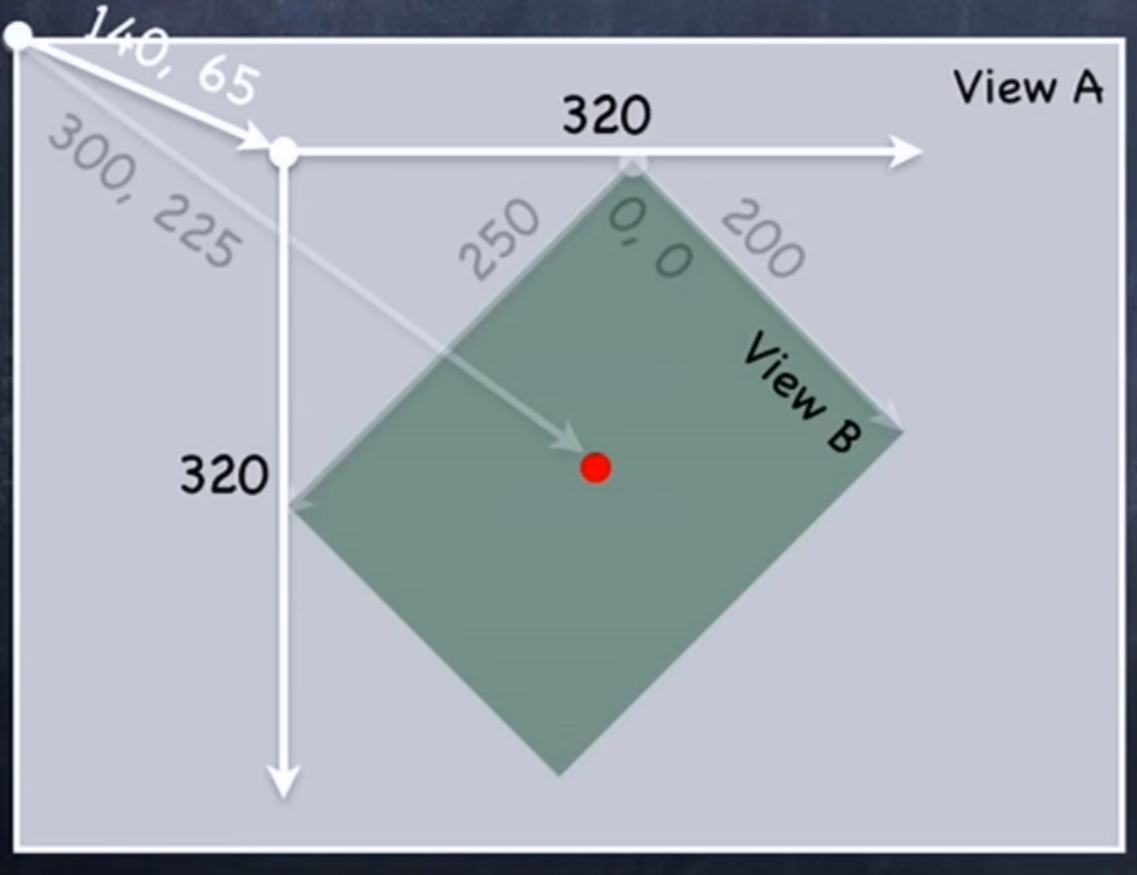
Frame and Bounds



Frame and Bounds

bounds vs frame

- Use `frame` and/or `center` to position a UIView
  - These are never used to draw inside a view's coordinate system
  - You might think `frame.size` is always equal to `bounds.size`, but you'd be wrong …

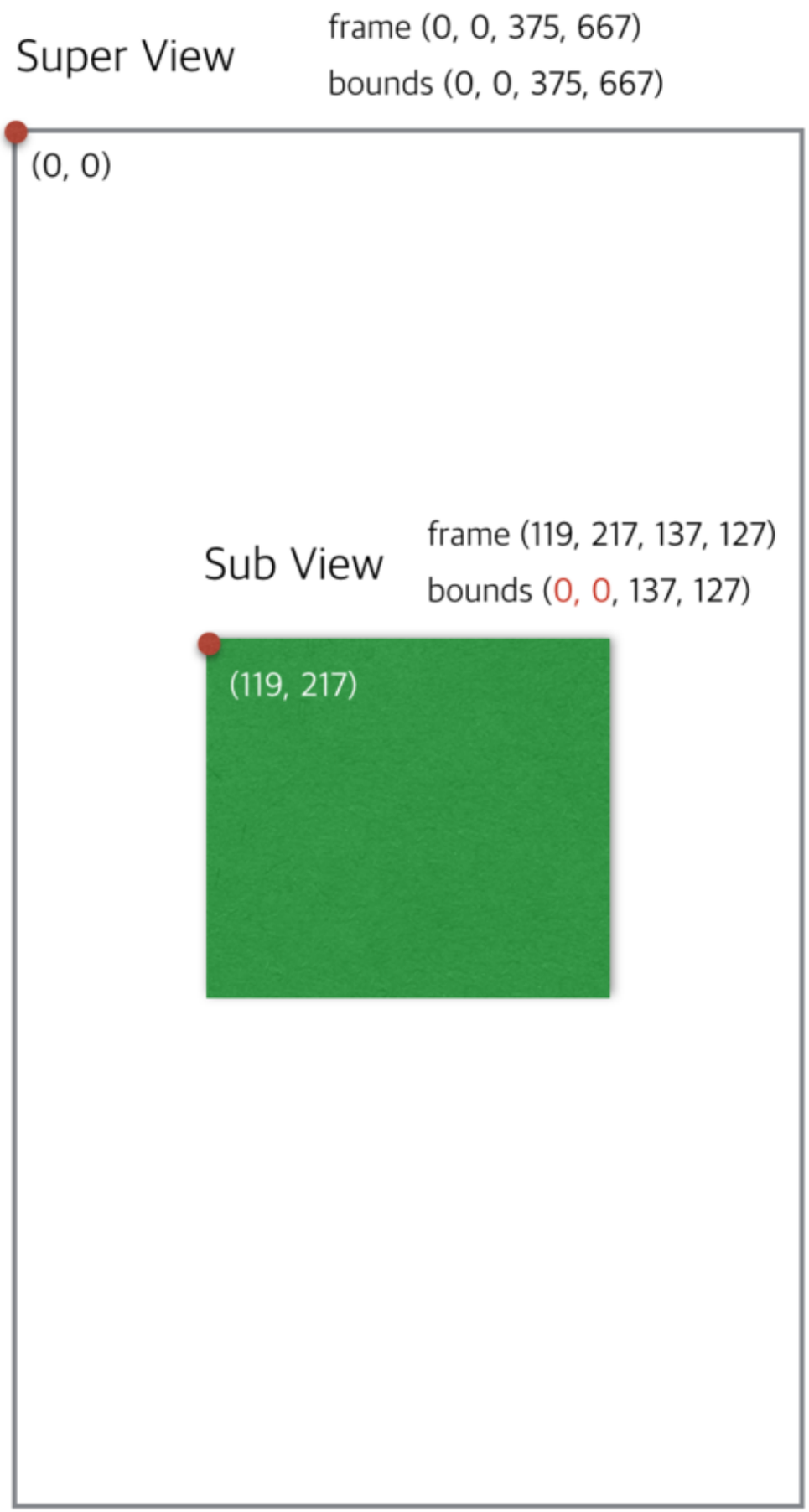


Views can be rotated (and scaled and translated)

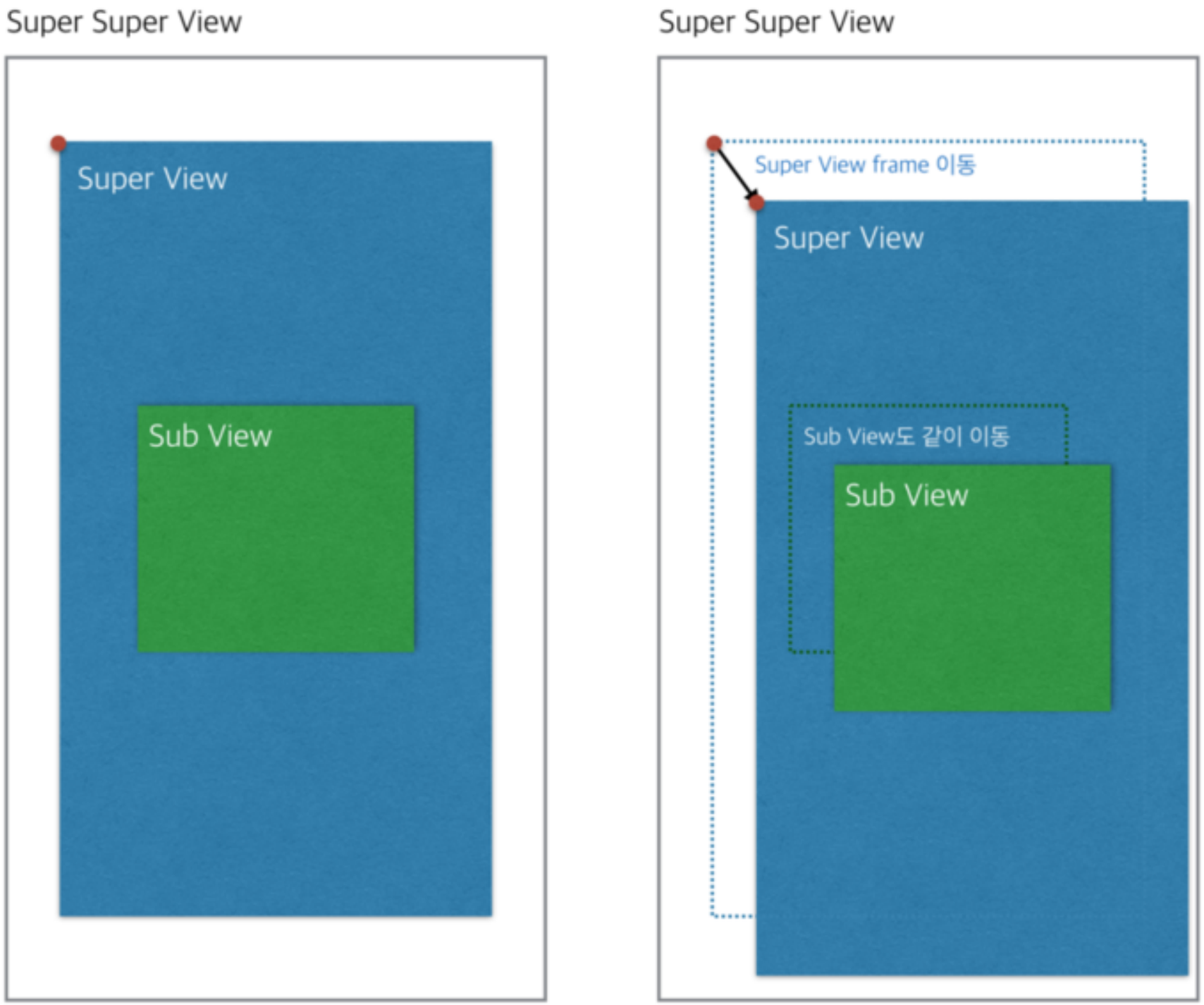
View B's `bounds` = ((0,0),(200,250))
View B's `frame` = ((140,65),(320,320))
View B's `center` = (300,225)

View B's middle in its own coordinates is …
(`bounds.midX`, `bounds.midY`) = (100, 125)

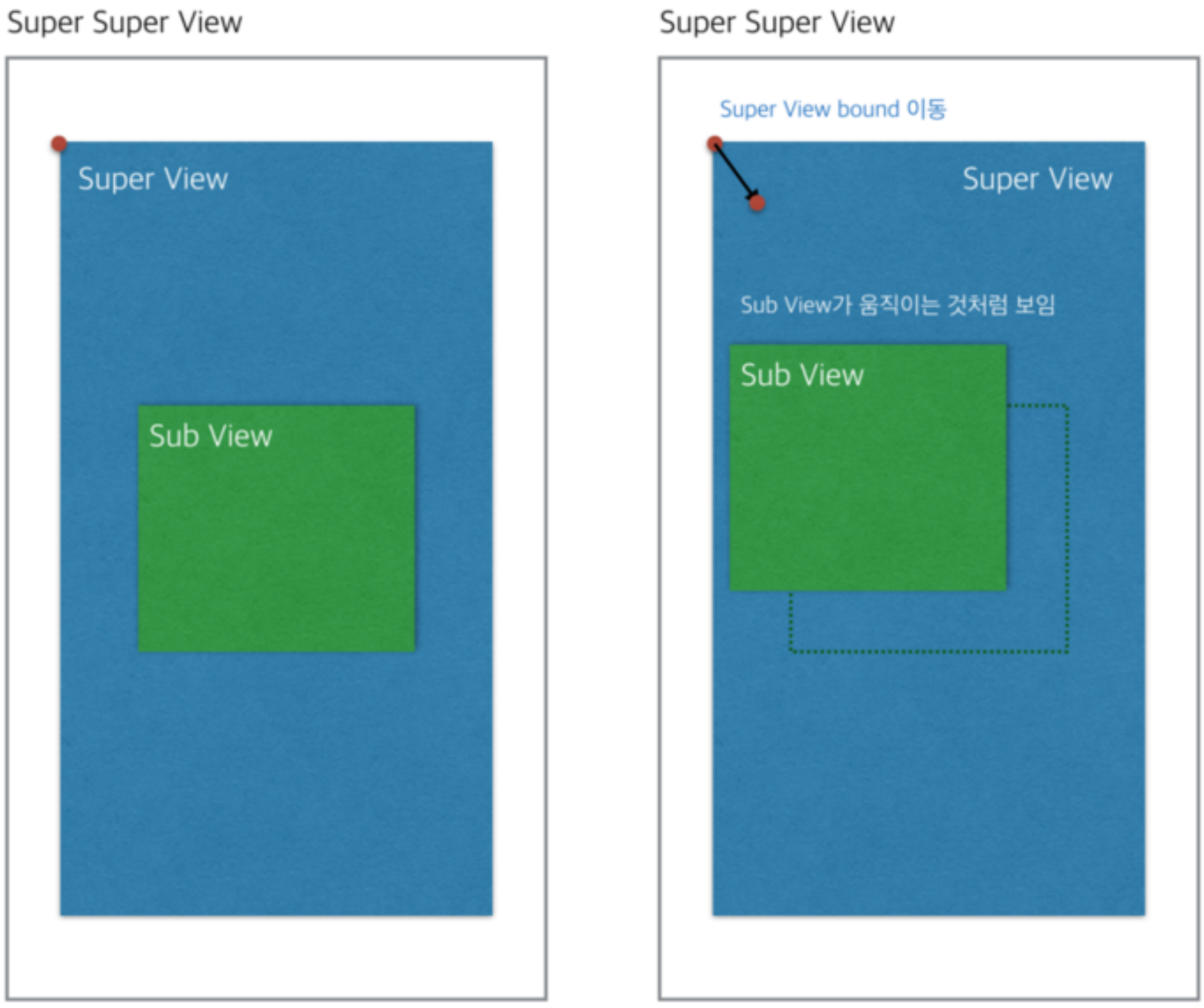
Views are rarely rotated, but don't misuse `frame` or `center` anyway by assuming that.


Super View
frame (0, 0, 375, 667)
bounds (0, 0, 375, 667)
(0, 0)
Sub View
frame (119, 217, 137, 127)
bounds (0, 0, 137, 127)
(119, 217)

Frame


Super Super View
Super View
Sub View
Super Super View
Super View frame 이동
Super View
Sub View도 같이 이동
Sub View

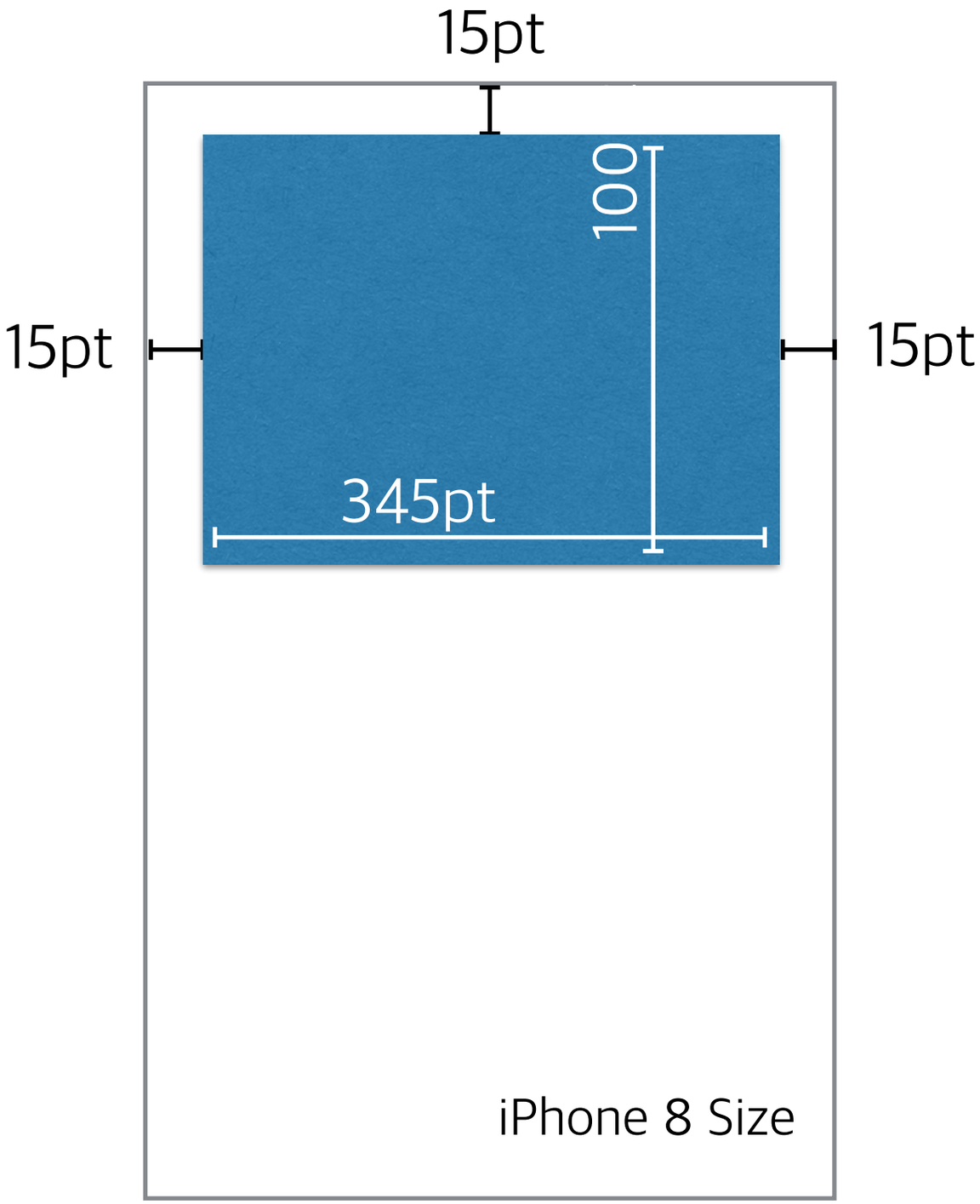
Bounds

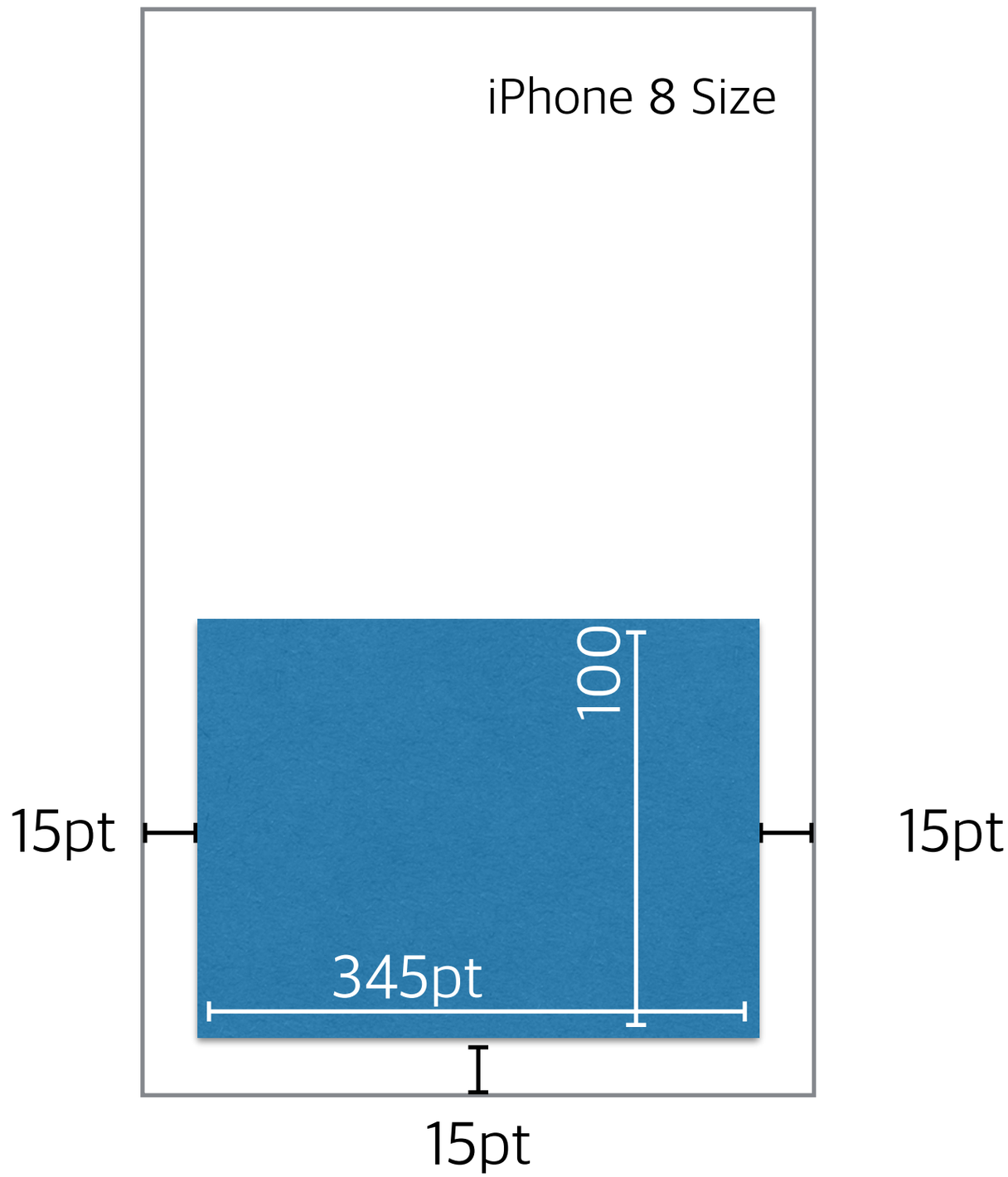

Super Super View
Super View
Sub View
Super Super View
Super View bound 이동
Super View
Sub View가 움직이는 것처럼 보임
Sub View

실습

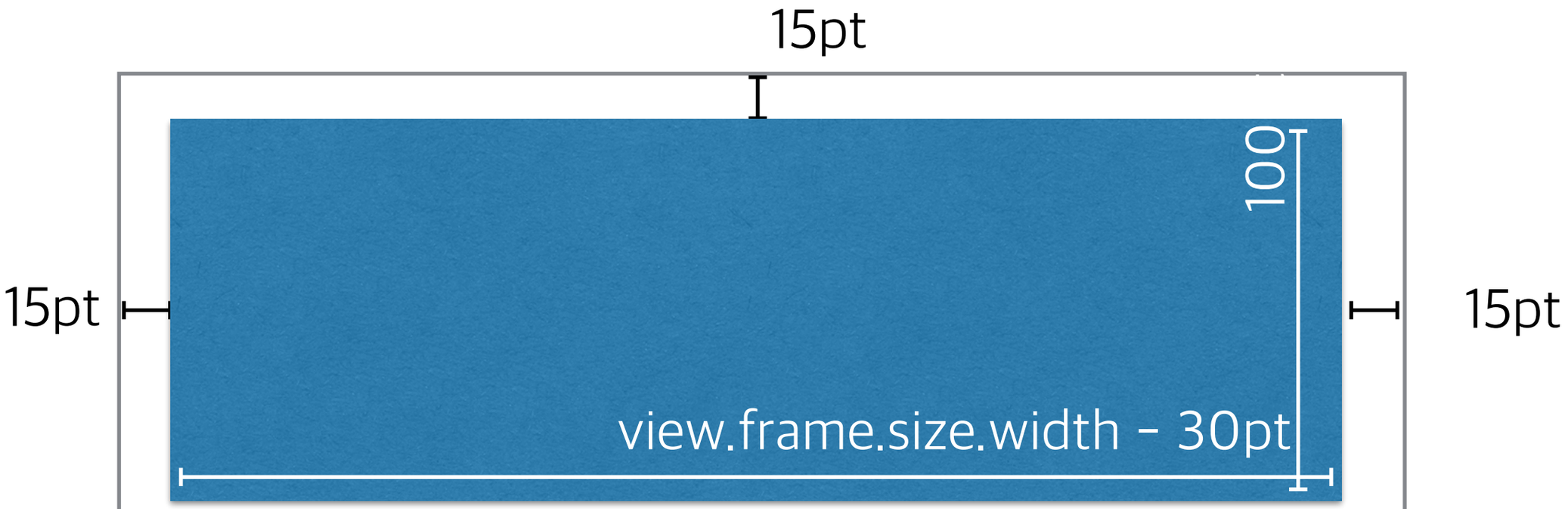
Giftbot

Practice


15pt
15pt
15pt
100
345pt
iPhone 8 Size


iPhone 8 Size
15pt
15pt
100
345pt
15pt

Practice



- SuperView의 size를 참조해서 view의 size를 정한다.
- view의 가로 사이즈가 기기 사이즈에 따라 유동적으로 변한다.

Practice

- 서로 다른 배경색을 가지는 View 3개 생성
- 각 View의 상하좌우 여백은 30
- Frame, Bounds 의 차이에 대해 확인해보기