

# Learning SpriteKit

by Justin Shacklette

# What is SpriteKit?

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- 2D game framework from Apple

**sprites**

**animation**

**emitters**

**particles**

**physics**

**actions**

**audio**

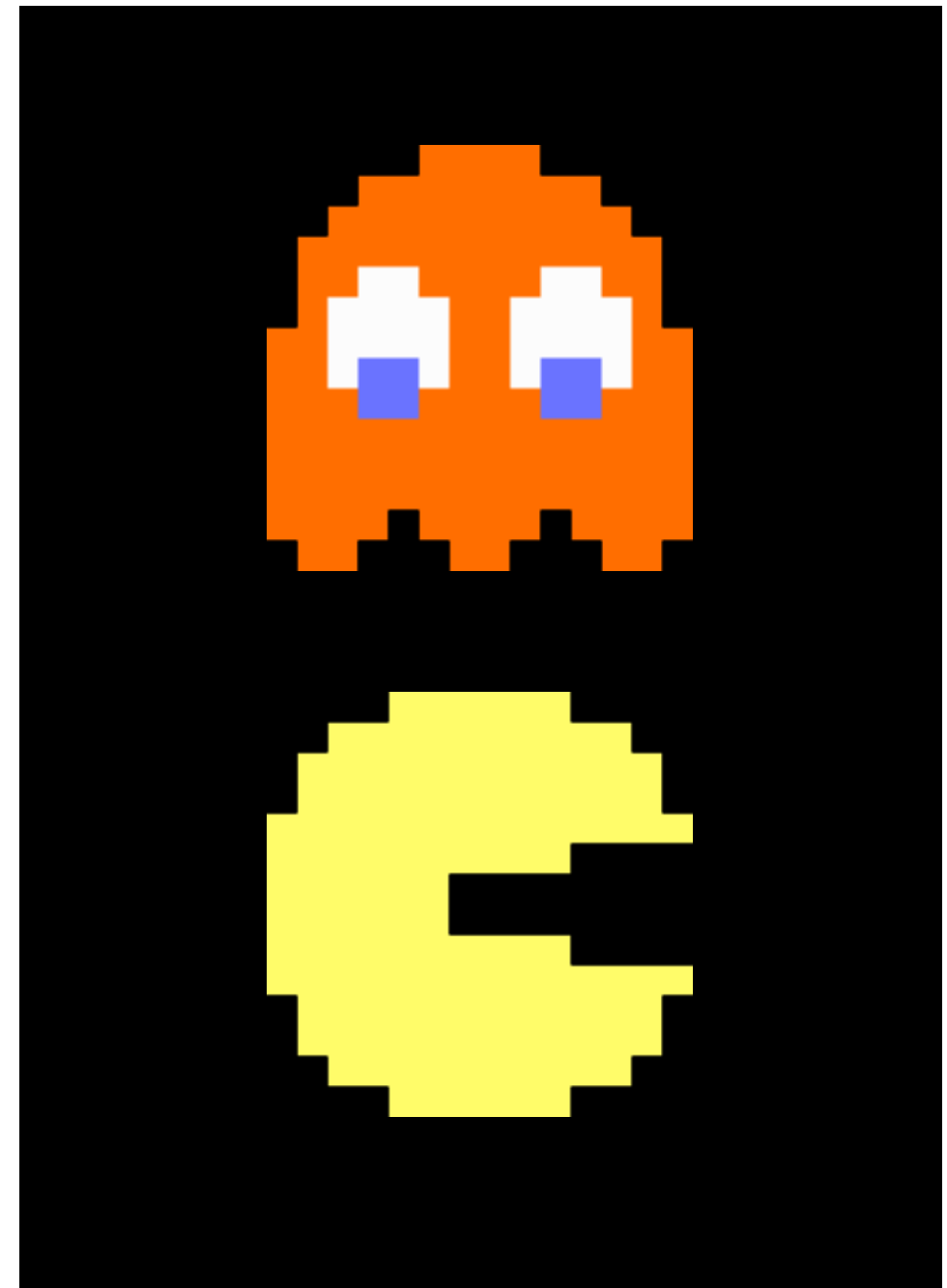
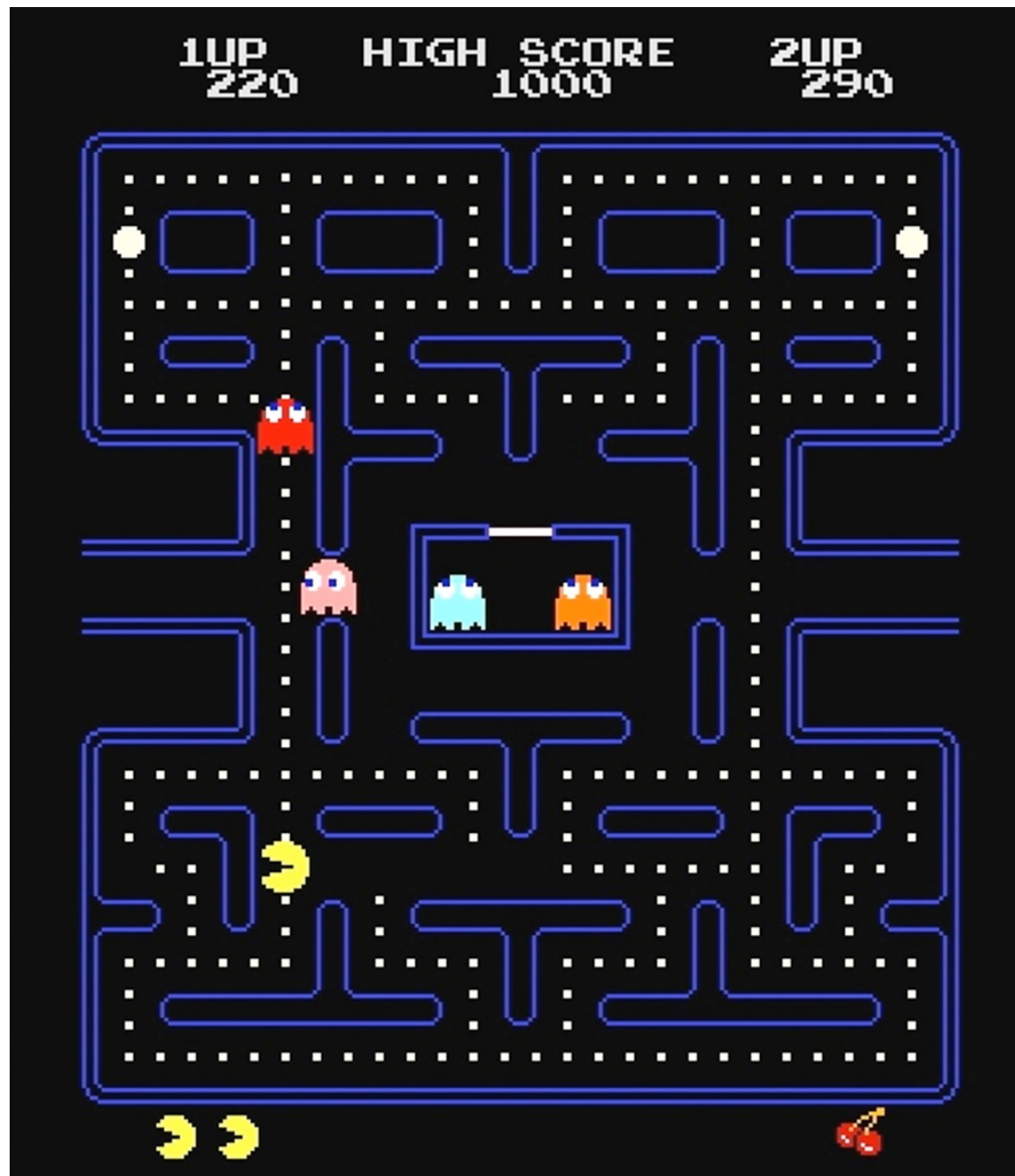
**events**

**gestures**

# Sprites

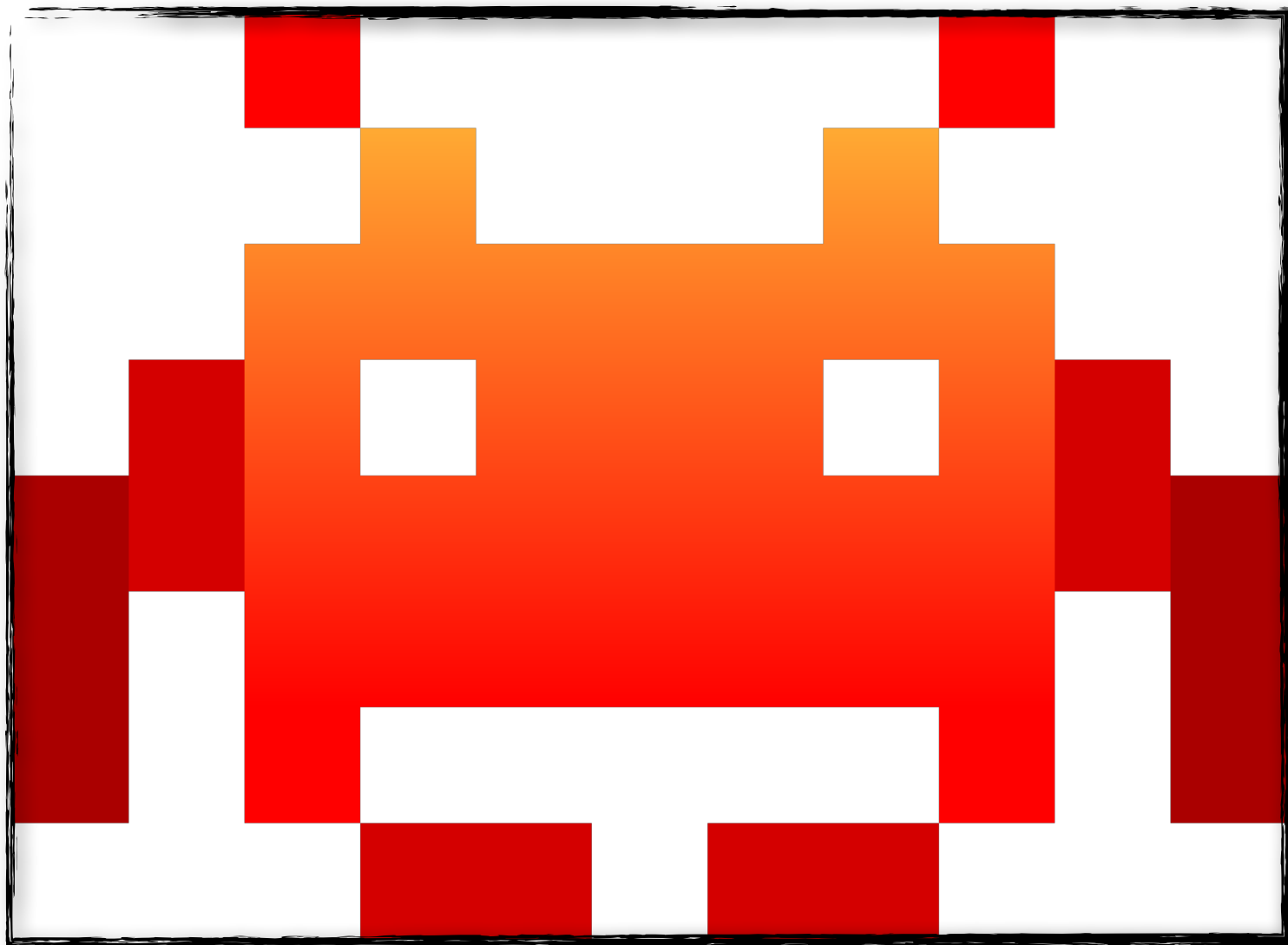
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- 2D bitmap images



# Sprite

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**PNG** (44px × 32px)

# Sprite Anchor

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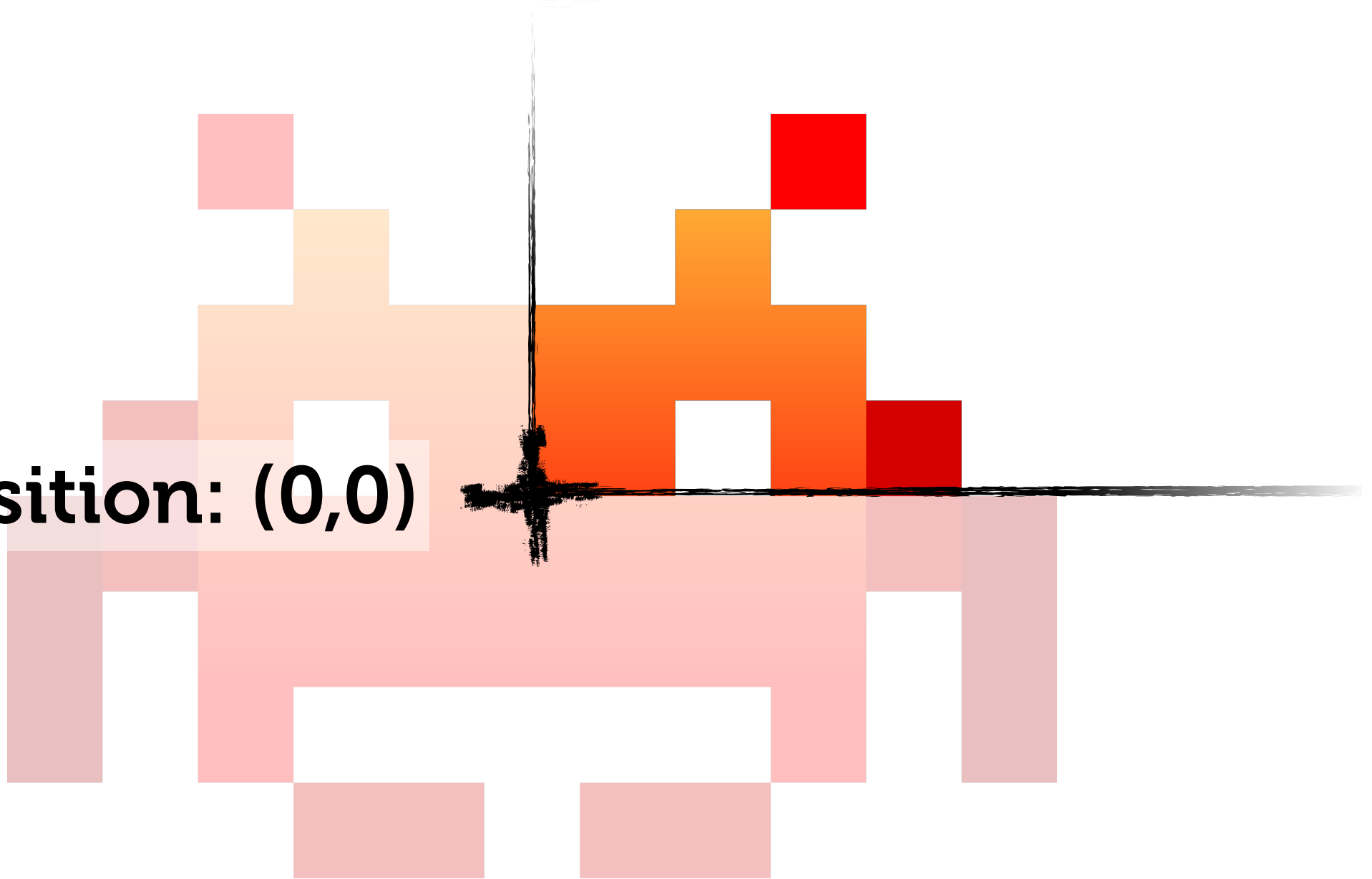
**anchor: (0.5,0.5)**



# Sprite Position

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**position: (0,0)**

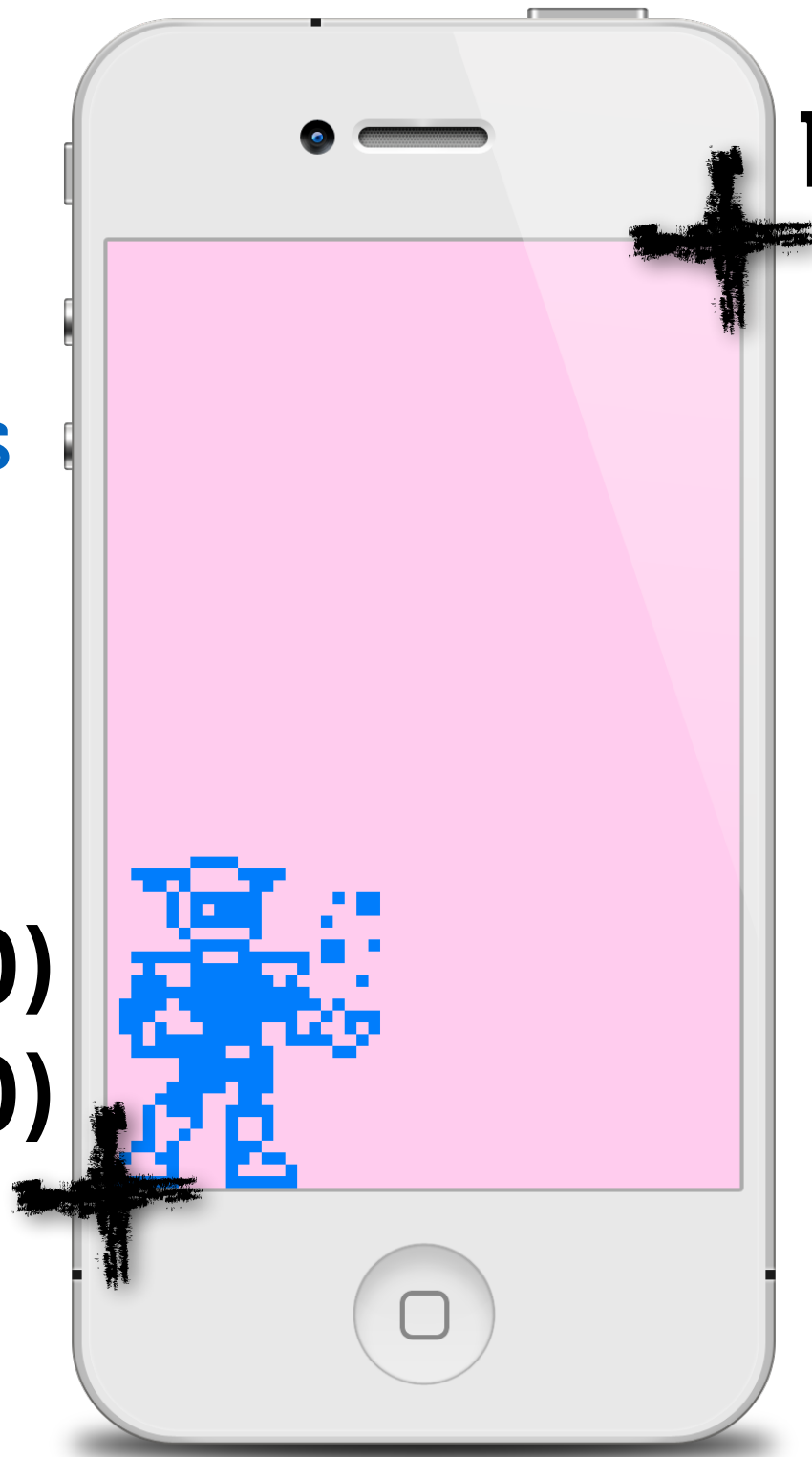


# Sprite Position

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Points, not pixels

**anchor: (0,0)**  
**position: (0,0)**



**position: (W,H)**

iPhone 4s  
320 × 480

iPhone 5s  
320 × 568

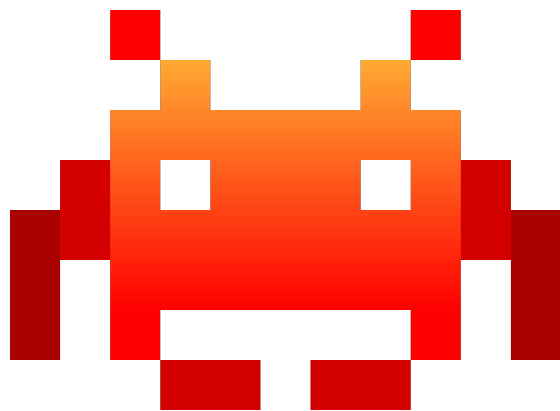
iPhone 6  
375 × 667

iPhone 6 Plus  
414 × 736

iPad  
768 × 1024

# Sprite xScale, yScale

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**1.0**

44px × 32px



**2.0**

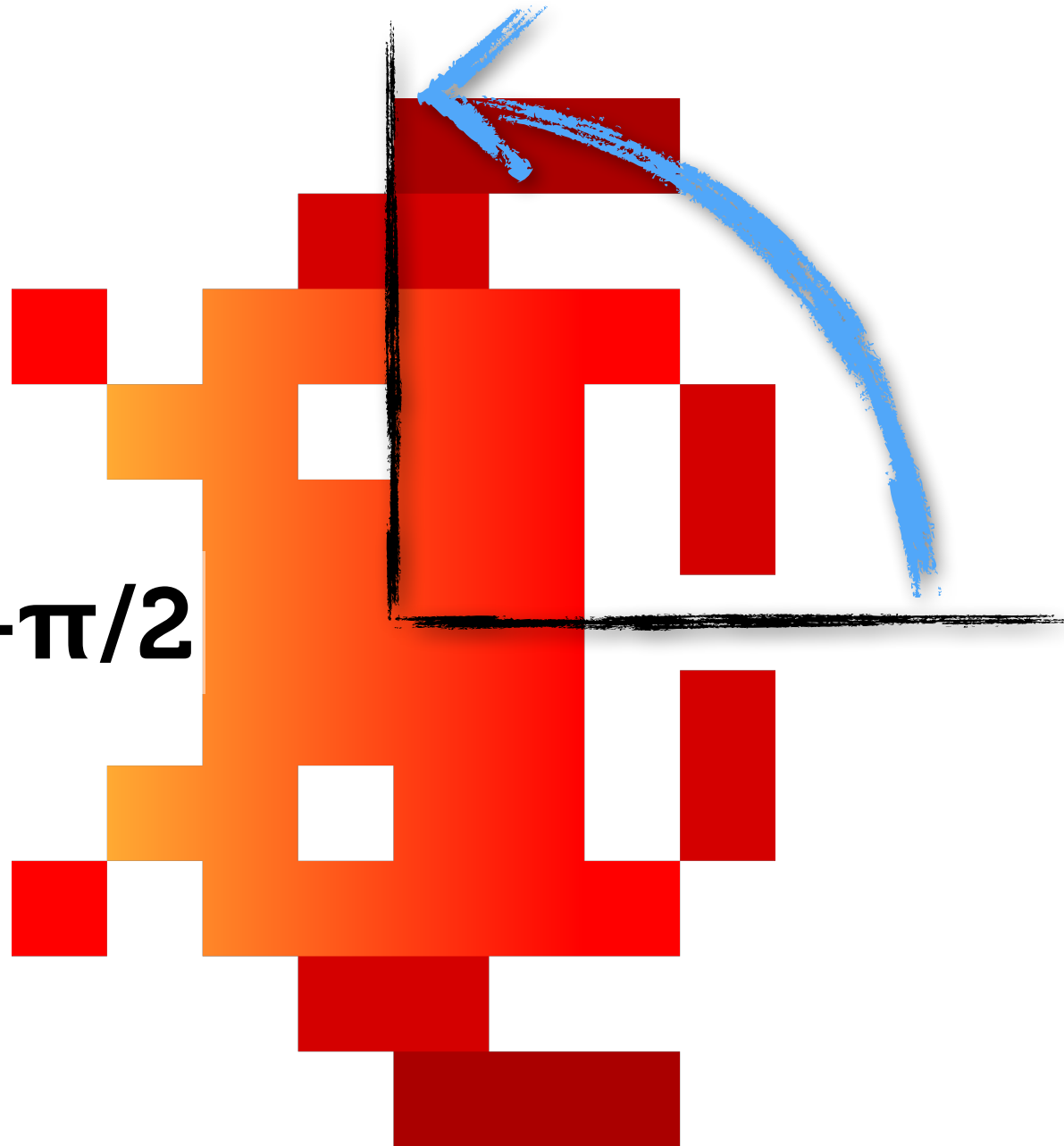
88px × 64px



# Sprite zRotation

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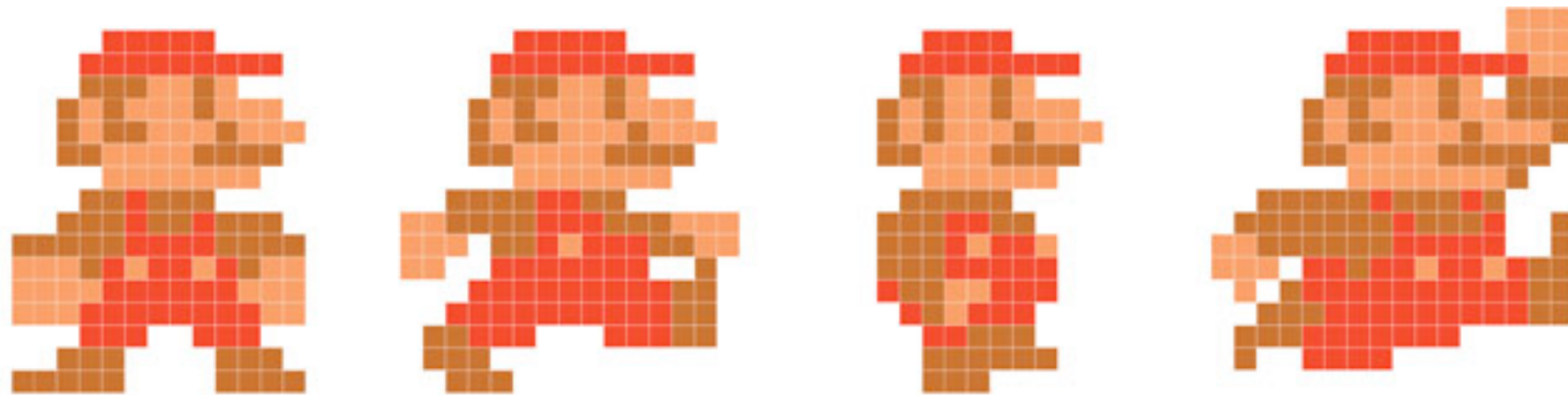
**zRotation:  $+\pi/2$**



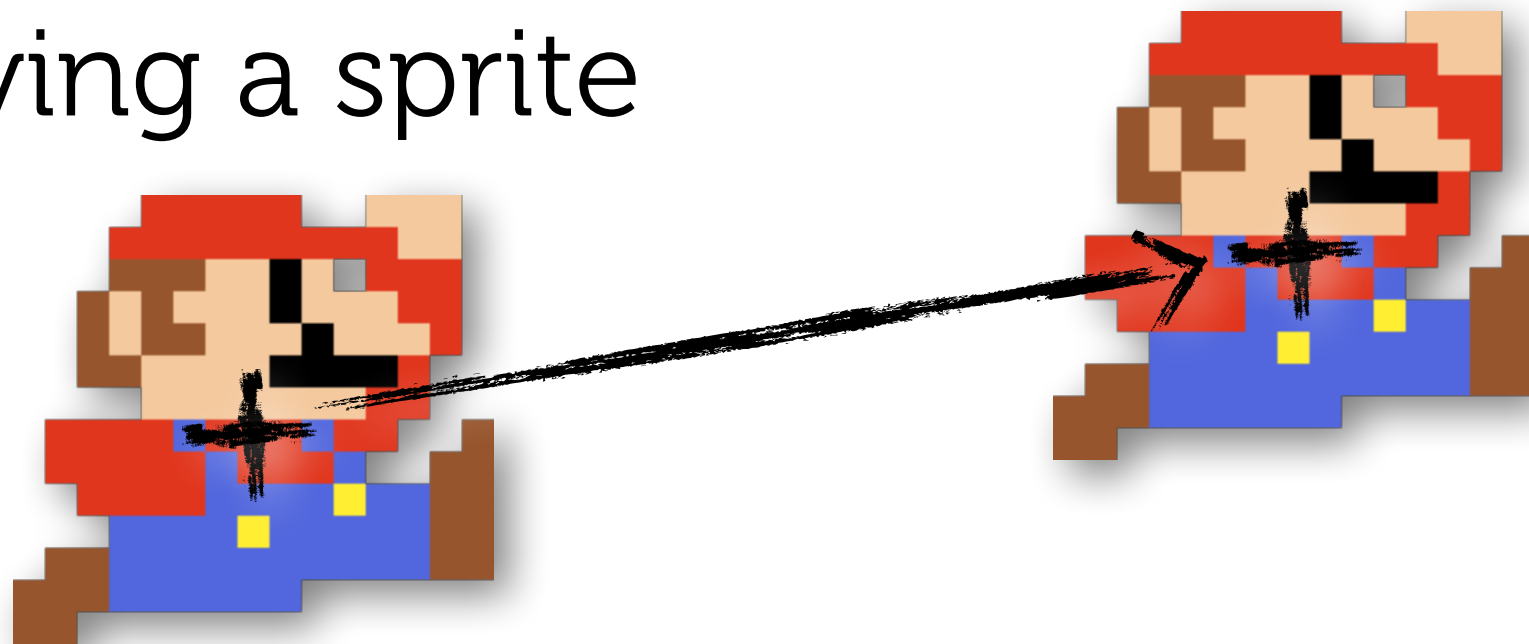
# Animation

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- Animating a sprite

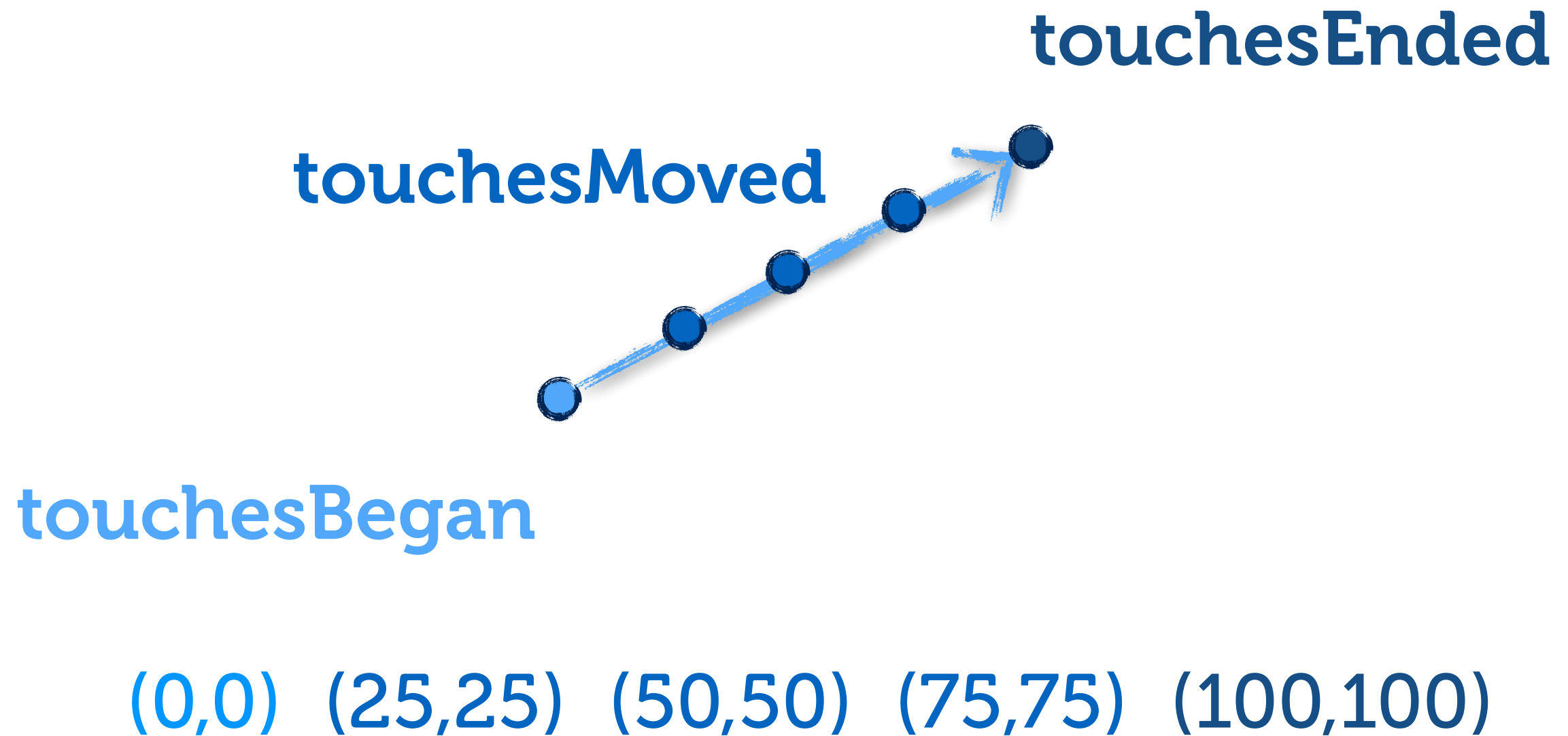


- Moving a sprite



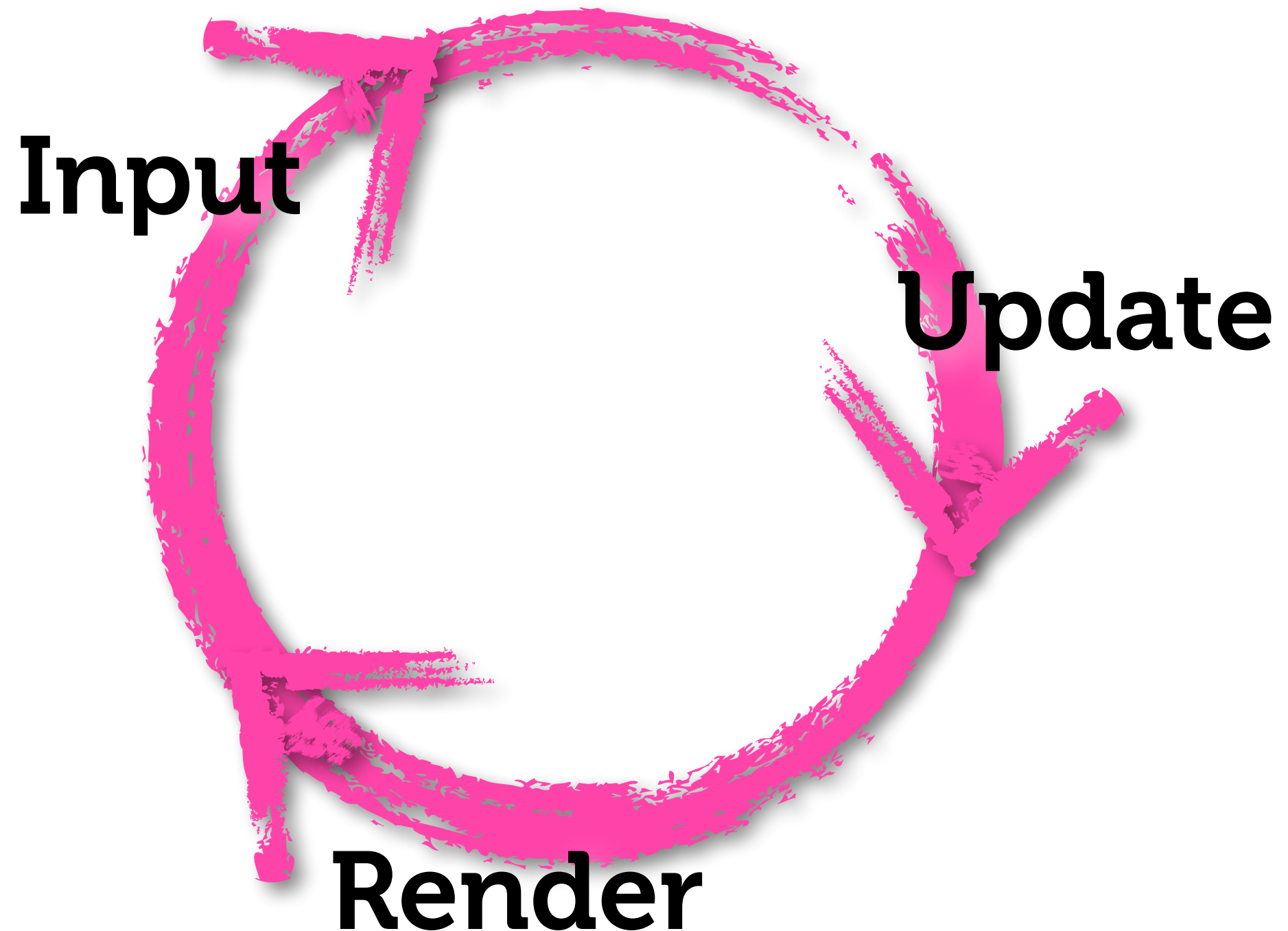
# Touch Events

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# The Game Loop

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# Actions

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- Implicit - built-in actions

  - fade, move, rotate, tint, ...

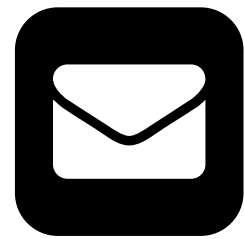
```
SKAction.moveByX(25.0, y: 75.0, duration: 0.5)
```

```
SKAction.fadeOutWithDuration(0.5)
```

- Explicit - change property every frame

```
self.alien.position = CGPoint(x: 100.0, y: 100.0)
```

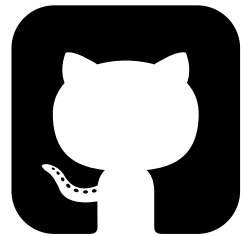
```
self.alien.alpha -= 0.002
```



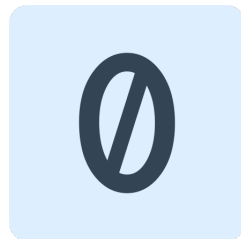
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