



Motion tracking Gesture recognizers

UIInterpolatingMotionEffect

As the user moves the device, the motion effect object translates the fixed offset values returned by the system

home screen

```
let motionEffect = UIInterpolatingMotionEffect(keyPath: "center.x",  
type: .tiltAlongHorizontalAxis)  
motionEffect.maximumRelativeValue = 10  
motionEffect.minimumRelativeValue = -10  
view.addMotionEffect(motionEffect)
```

MCMotionManager

```
@import CoreMotion;
```

Accelerometer
Gyroscope
Magnetometer
Device motion

DeviceMotion

```
let manager = CMMotionManager()
let updatesHandlingQueue = OperationQueue()

if manager.isDeviceMotionAvailable {
    manager.accelerometerUpdateInterval = 1
    manager.startDeviceMotionUpdates(to: updatesHandlingQueue) {
        (motion: CMDeviceMotion?, error: Error?) in
    }
}
```

var **attitude**: CMAcceleration

The attitude of the device.

var **rotationRate**: CMRotationRate

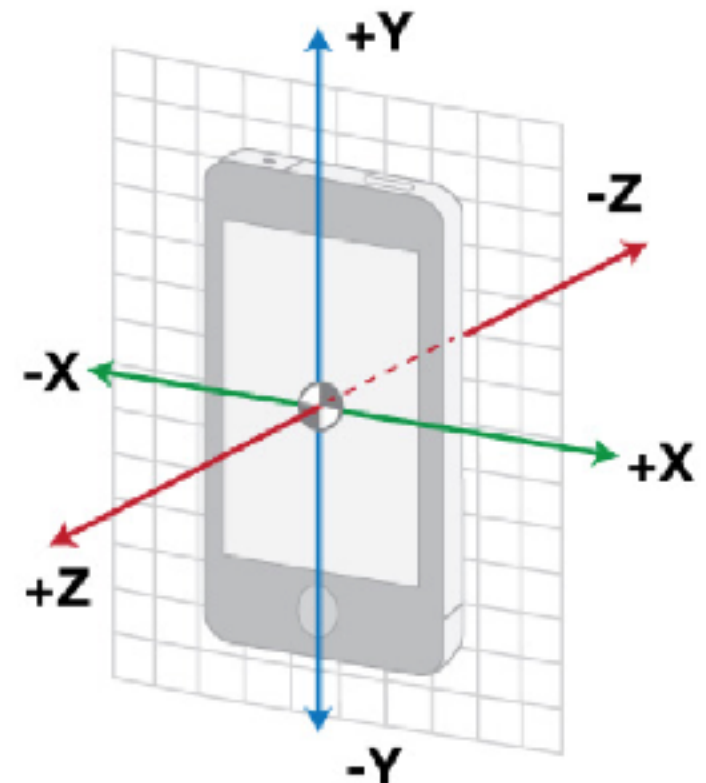
The rotation rate of the device.

var **gravity**: CMAcceleration

The gravity acceleration vector expressed in the device's reference frame.

var **userAcceleration**: CMAcceleration

The acceleration that the user is giving to the device.



Gesture recognizers

- can be added to UIView
- handle target-action event (like UIButton)
- let state: UIGestureRecognizerState

