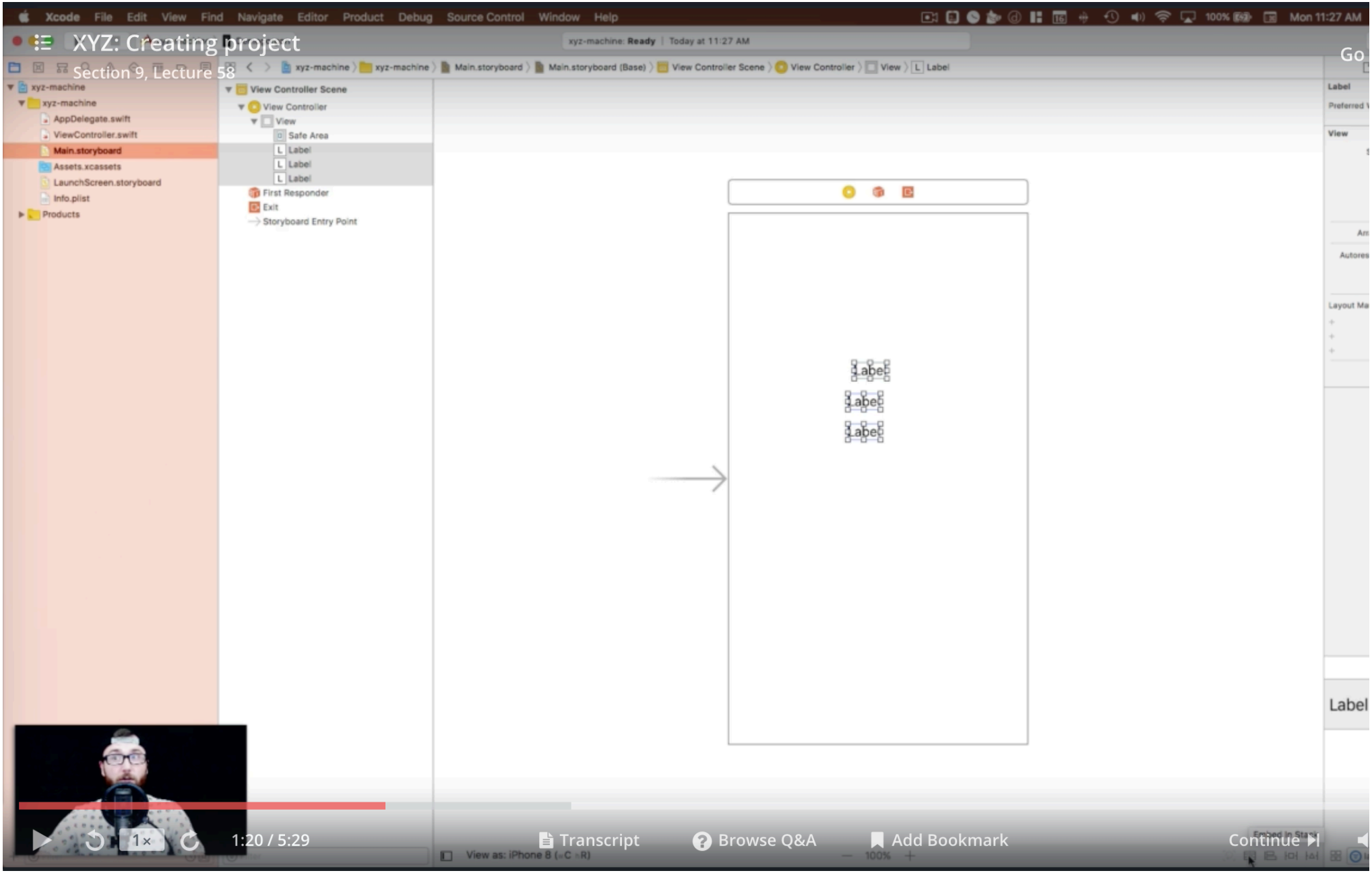
XYZ: Creating project
Section 9, Lecture 58
Go
1×
1:20 / 5:29
Transcript
Browse Q&A
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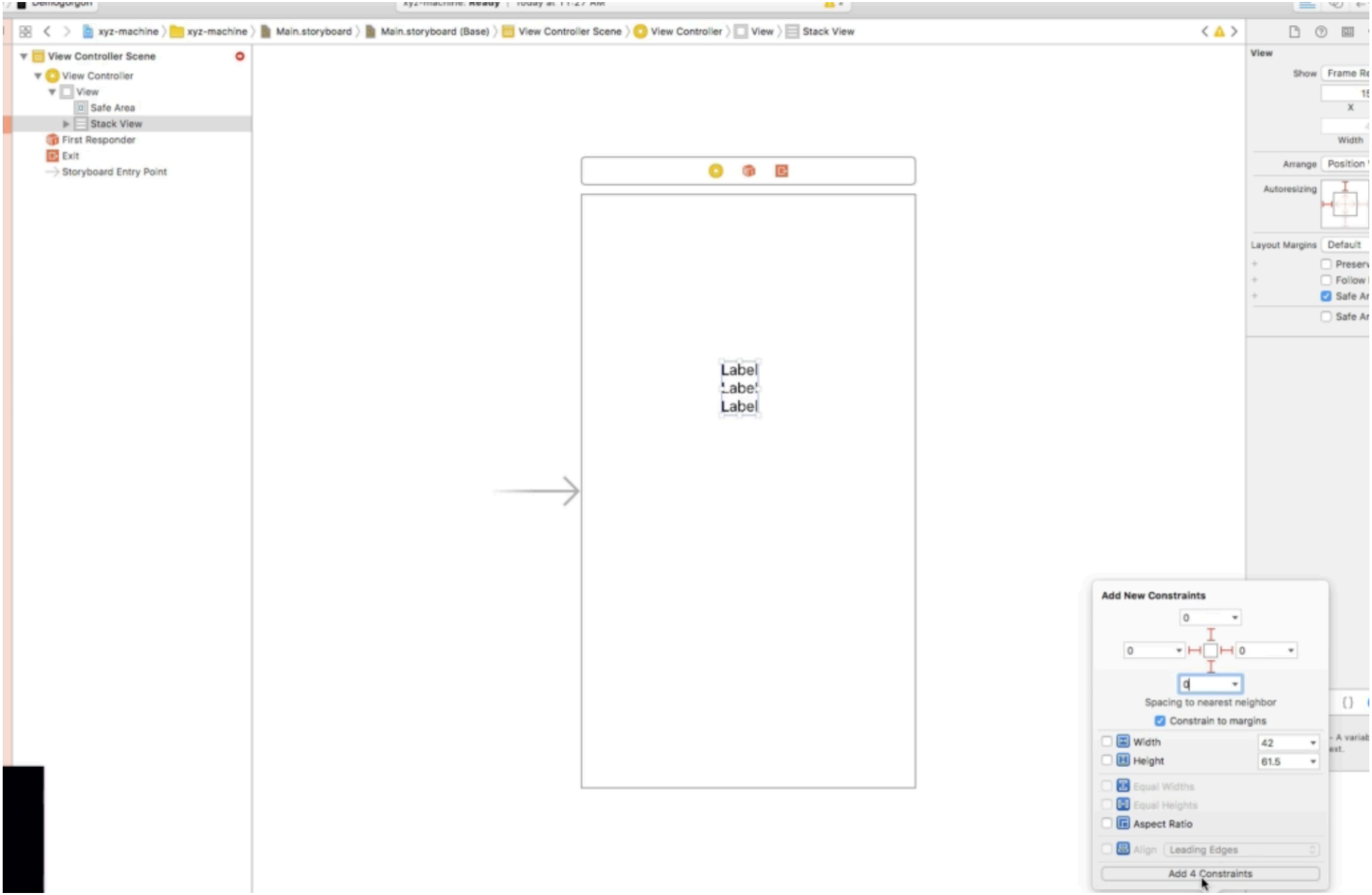
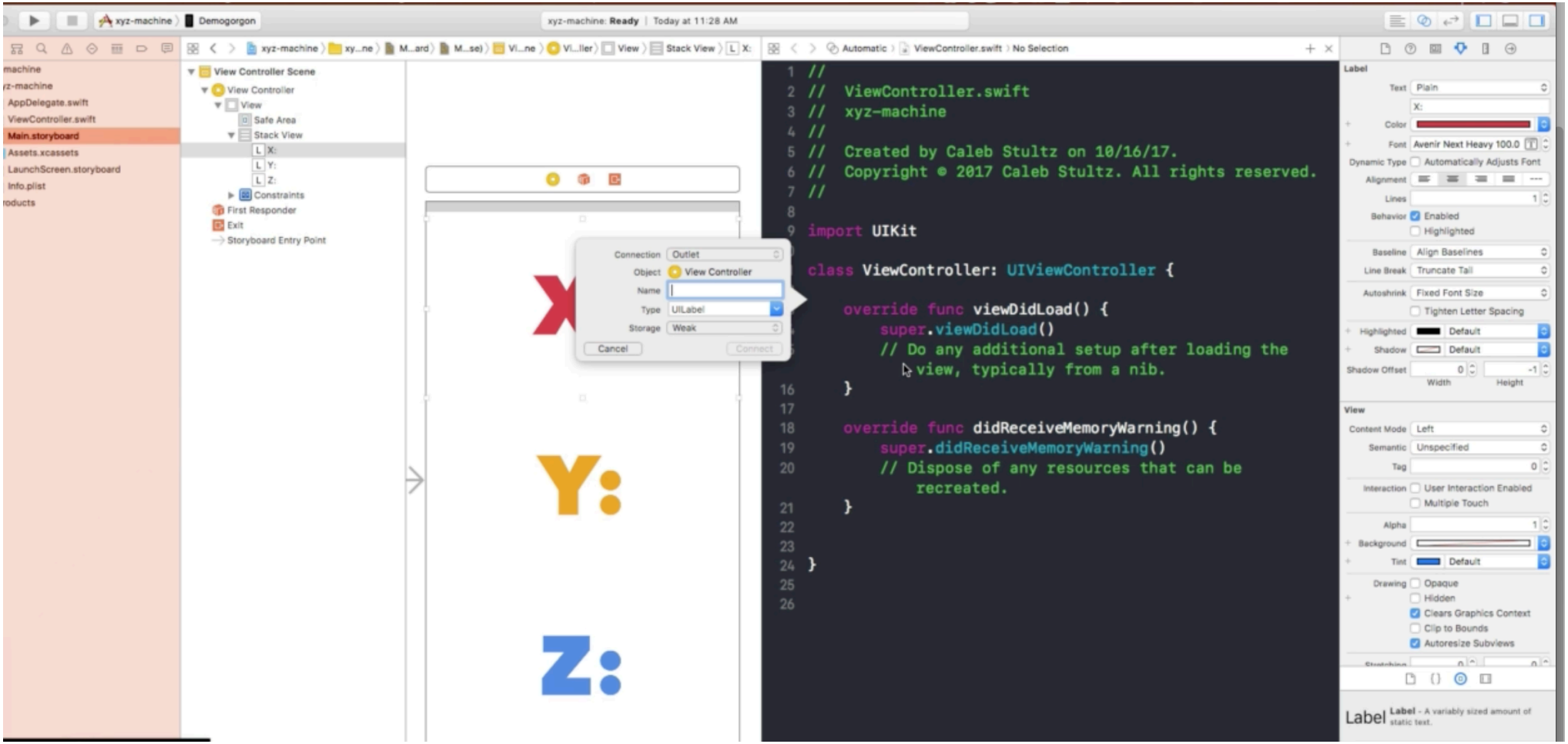
Continue


xyz-machine
xyz-machine
Main.storyboard
Main.storyboard (Base)
View Controller Scene
View Controller
View
Stack View
View Controller Scene
View Controller
View
Safe Area
Stack View
First Responder
Exit
Storyboard Entry Point
Label
Label
Label
Add New Constraints
Spacing to nearest neighbor
Constrain to margins
Width
42
Height
61.5
Equal Widths
Equal Heights
Aspect Ratio
Align
Leading Edges
Add 4 Constraints


xyz-machine
Demogorgon
xyz-machine: Ready | Today at 11:28 AM
View Controller Scene
View Controller
View
Safe Area
Stack View
X:
Y:
Z:
Constraints
First Responder
Exit
Storyboard Entry Point
Connection Outlet
Object View Controller
Name
Type UILabel
Storage Weak
Cancel
Connect
X:
Y:
Z:
ViewController.swift
No Selection
//
// ViewController.swift
// xyz-machine
//
// Created by Caleb Stultz on 10/16/17.
// Copyright © 2017 Caleb Stultz. All rights reserved.
//
import UIKit
class ViewController: UIViewController {
override func viewDidLoad() {
super.viewDidLoad()
// Do any additional setup after loading the view, typically from a nib.
}
override func didReceiveMemoryWarning() {
super.didReceiveMemoryWarning()
// Dispose of any resources that can be recreated.
}
}
Label
Text Plain
Font Avenir Next Heavy 100.0
Dynamic Type Automatically Adjusts Font
Alignment
Lines
Behavior Enabled
Highlighted
Baseline Align Baselines
Line Break Truncate Tail
Autoshrink Fixed Font Size
Tighten Letter Spacing
Highlighted Default
Shadow Default
Shadow Offset
Width
Height
View
Content Mode Left
Semantic Unspecified
Tag
Interaction User Interaction Enabled
Multiple Touch
Alpha
Background
Tint Default
Drawing Opaque
Hidden
Clears Graphics Context
Clip to Bounds
Autoresize Subviews
Label
Label - A variably sized amount of static text.

Framework

Core Motion

Process accelerometer, gyroscope, pedometer, and environment-related events.

SDKs

iOS 4.0+

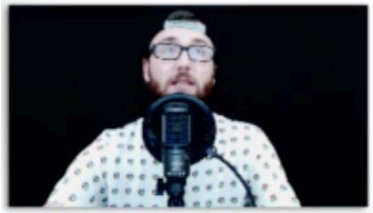
watchOS 2.0+

On This Page

Overview

Core Motion reports motion- and environment-related data from the onboard hardware of iOS devices, including from the accelerometers, gyroscopes, pedometers, magnetometers, and barometers. You use this framework to access hardware-generated data so that you can use it in your app. For example, a game might use accelerometer and gyroscope data to control onscreen game behavior.

Many services of this framework let you access both the raw values recorded by the hardware and a processed version of those values. Processed values do not include forms of bias that might adversely affect how you use that data. For example, a processed accelerometer value reflects only the acceleration caused by the user and not the acceleration caused by gravity.



Important

An iOS app linked on or after iOS 10.0 must include usage description keys in its `Info.plist` file for the types of data it needs. Failure to include these keys will cause the app to

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Core Motion | Apple Developer Documentation

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Documentation › Core Motion › CMMotionManager Language: Swift API Char

Class

CMMotionManager

The object for starting and managing motion services.

SDKs

iOS 4.0+

watchOS 2.0+

Framework

Core Motion

On This Page

Overview

Topics

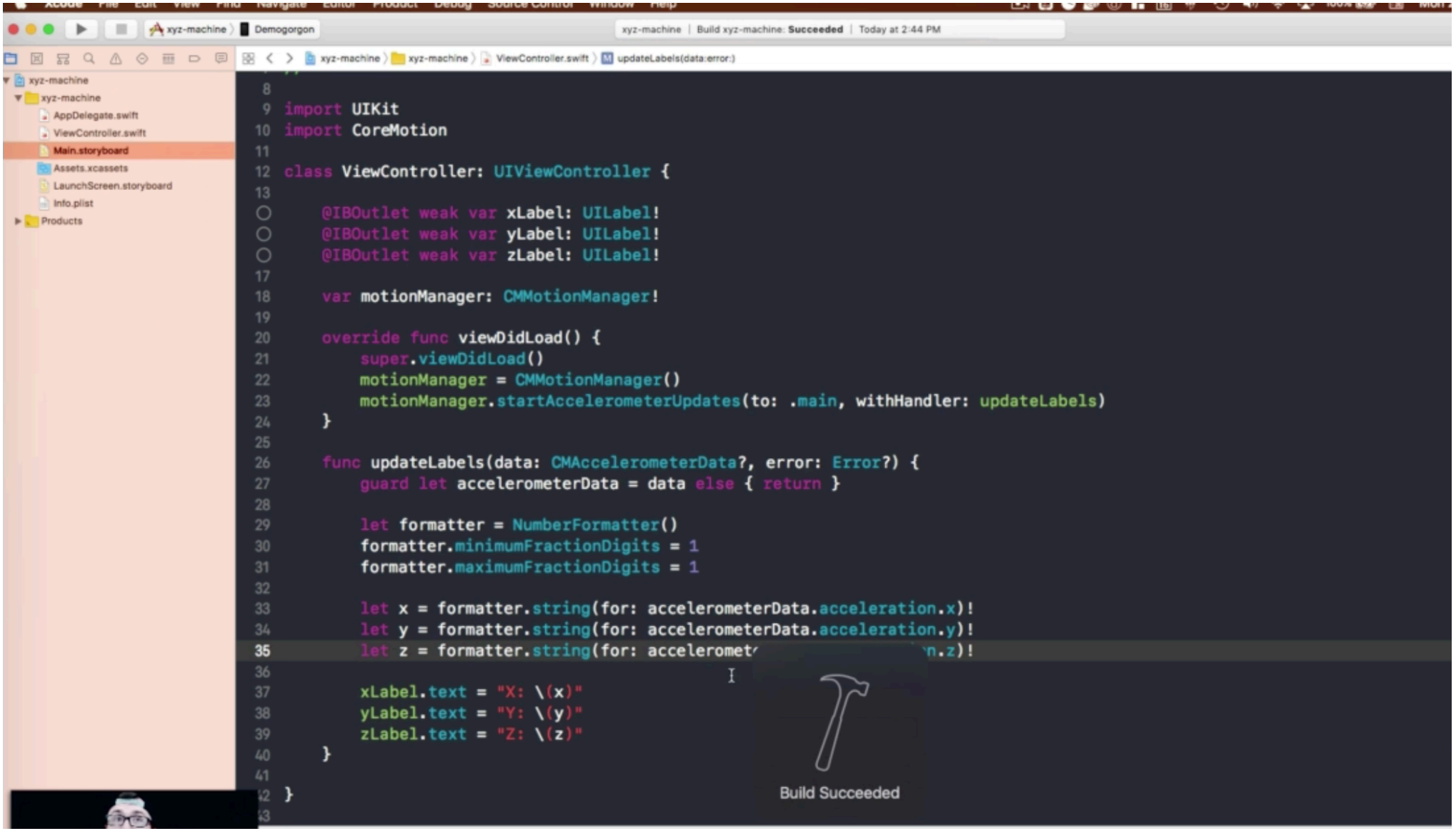
Relationships

See Also

Overview

> **Note**
>
> Methods, properties, and data types for processing magnetometer data were introduced in iOS 5.0.

You use a `CMMotionManager` object to access accelerometer data, rotation-rate data, magnetometer data, and other device-motion data. These types of data originate with a device's accelerometers and (on some models) its magnetometer and gyroscope.After creating an instance of `CMMotionManager`, an app can use it to receive four types of motion: raw accelerometer data, raw gyroscope data, raw magnetometer data, and processed device-motion data (which includes accelerometer, rotation-rate, and attitude measurements). The processed device-motion data provided by Core Motion's sensor fusion algorithms gives the device's attitude, rotation rate, calibrated magnetic fields, the direction of gravity, and the acceleration the user is imparting to the device.


xyz-machine
Demogorgon
xyz-machine | Build xyz-machine: Succeeded | Today at 2:44 PM
xyz-machine
xyz-machine
AppDelegate.swift
ViewController.swift
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
Products
xyz-machine
xyz-machine
ViewController.swift
updateLabels(data:error:)
8
9 import UIKit
10 import CoreMotion
11
12 class ViewController: UIViewController {
13
@IBOutlet weak var xLabel: UILabel!
@IBOutlet weak var yLabel: UILabel!
@IBOutlet weak var zLabel: UILabel!
17
18 var motionManager: CMMotionManager!
19
20 override func viewDidLoad() {
21 super.viewDidLoad()
22 motionManager = CMMotionManager()
23 motionManager.startAccelerometerUpdates(to: .main, withHandler: updateLabels)
24 }
25
26 func updateLabels(data: CMAccelerometerData?, error: Error?) {
27 guard let accelerometerData = data else { return }
28
29 let formatter = NumberFormatter()
30 formatter.minimumFractionDigits = 1
31 formatter.maximumFractionDigits = 1
32
33 let x = formatter.string(for: accelerometerData.acceleration.x)!
34 let y = formatter.string(for: accelerometerData.acceleration.y)!
35 let z = formatter.string(for: accelerometer
n.z)!
36
37 xLabel.text = "X: \(x)"
38 yLabel.text = "Y: \(y)"
39 zLabel.text = "Z: \(z)"
40 }
41
42 }
43
Build Succeeded