

iOS Animation with Swift

Hands-On Challenges

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Challenge N: Animating in 3D space along more than one axis

In this simple challenge you will get your hands on creating a 3D rotation animation. You will flip the menu button around its diagonal as the user slides their finger to show the app menu.

Open **ContainerViewController.swift** and look up the `setToPercent(percent:)` method.

Add at the bottom of that method:

```
let centerVC = (centerViewController as
  UINavigationController).viewControllers.first as?
  CenterViewController
```

`CenterViewController` exposes the menu button as the `menuButton` property. What you need to do to animate it is to set its transform to a 3D rotation corresponding to the current percentage of revealing the menu. All in all the code boils down to:

```
if var button = centerVC!.menuButton? {
    var identity = CATransform3DIdentity
    identity.m34 = -1.0/1000
    button.imageView.layer.transform = CATransform3DRotate(identity,
    percent * CGFloat(M_PI), 1.0, 1.0, 0.0)
}
```

Just as for the menu you create a 3D rotation transform starting with an identity transform. Then you set it as the transform of the menu layer. To make the button flip around its diagonal you set the transform to rotate around the x and y axes at the same time.

