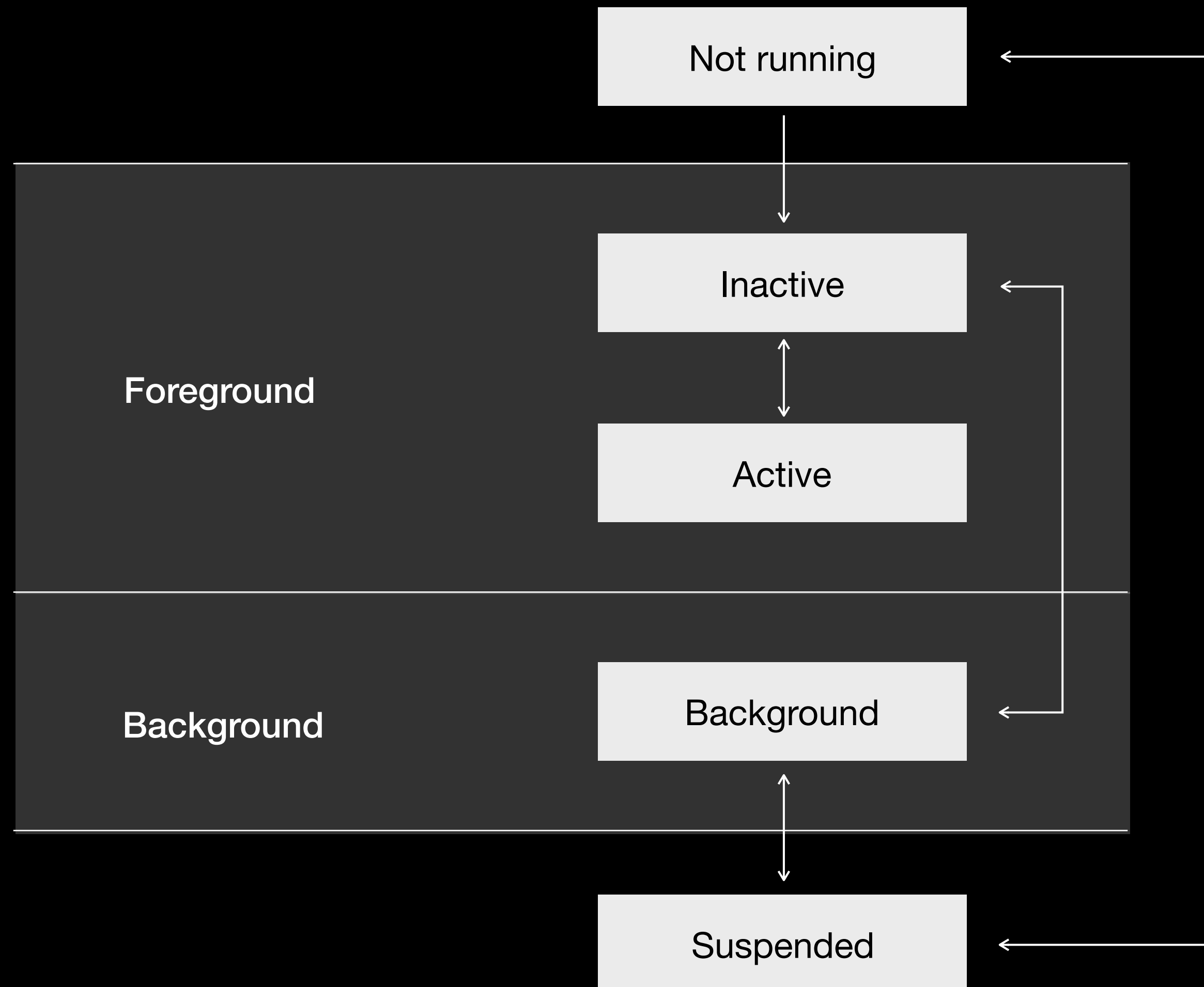


Unit 4—Lesson 2:

App Anatomy and Life Cycle

App life cycle



Break down the delegate

Did Finish Launching

Will Resign Active

Did Enter Background

Will Enter Foreground

Did Become Active

Will Terminate

UIApplicationDelegate protocol methods

Did Finish Launching

App has finished launching

```
func application(_ application: UIApplication, didFinishLaunchingWithOptions launchOptions:
    [UIApplicationLaunchOptionsKey: Any]?) -> Bool {
    return true
}
```

Override point for customization after app launch

UIApplicationDelegate protocol methods

Will Resign Active

App is about to move from active to inactive state

```
func applicationWillResignActive(_ application: UIApplication) {  
}
```

Can occur for certain types of temporary interruptions (such as an incoming phone call or SMS message)

Can occur when the user quits the app and it begins the transition to the background state

Use to pause ongoing tasks, disable timers, and invalidate graphics rendering callbacks

UIApplicationDelegate protocol methods

Did Enter Background

App is about to move from active to inactive state

```
func applicationDidEnterBackground(_ application: UIApplication) {  
}
```

Use to release shared resources, save user data, invalidate timers, and store enough application state information to restore your application to its current state in case it's terminated later

If your application supports background execution, this method is called instead of `applicationWillTerminate`: when the user quits

UIApplicationDelegate protocol methods

Will Enter Foreground

Called immediately before the `applicationDidBecomeActive` function

```
func applicationWillEnterForeground(_ application: UIApplication) {  
}
```

Called as part of transition from the background to the active state

Can be used to undo many of the changes made on entering the background

UIApplicationDelegate protocol methods

Did Become Active

App was launched by the user or system

```
func applicationDidBecomeActive(_ application: UIApplication) {  
}
```

Restart any tasks that were paused (or not yet started) while the app was inactive

If the app was previously in the background, optionally refresh the user interface

UIApplicationDelegate protocol methods

Will Terminate

App is about to be terminated

```
func applicationWillTerminate(_ application: UIApplication) {  
}
```

Save data if appropriate

See also `applicationDidEnterBackground:`

Which methods should I use?

Start with the methods that will run when launching, reopening, or closing your app

```
applicationDidFinishLaunchingWithOptions
```

```
applicationWillResignActive
```

```
applicationDidBecomeActive
```

Take advantage of the other three delegate methods as you become more experienced

Unit 4—Lesson 2

App Anatomy and Life Cycle



Learn more about the different life cycle states and the delegate hooks for executing logic as the app moves through each state.

Unit 4—Lesson 2

Lab: App Event Count



Create an app that provides a visual representation of the app life cycle.

Your app will update labels on the view when different delegate methods are called.

