Customizing Your Notifications for iOS 12

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Agenda

- Notification Overview
- Demo App
- Authorization Options
- Grouped Notifications
- Dynamic Category Actions
- User Interaction in Notifications

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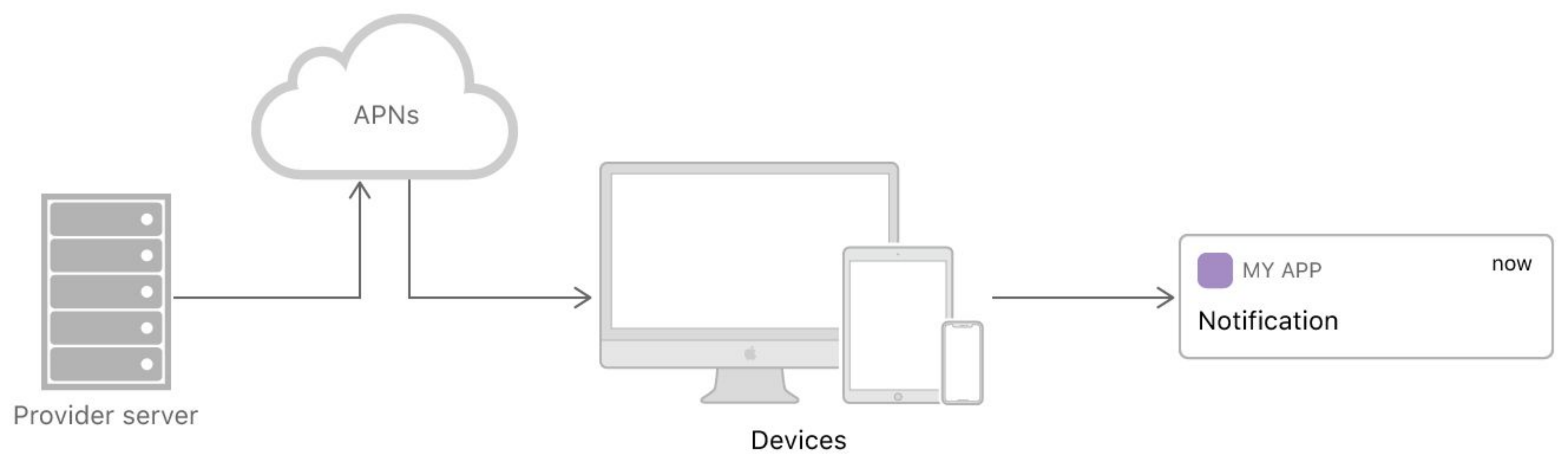
Remote Push Notifications



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Local Notifications

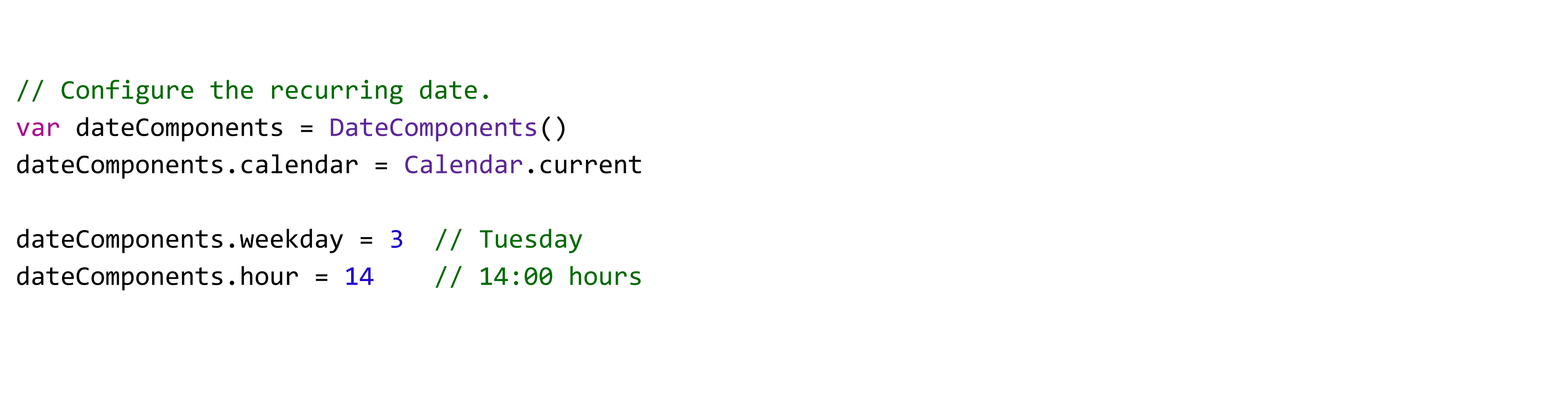
Create & schedule notifications directly from the app.

```swift
let content = UNMutableNotificationContent()
content.title = "Weekly Staff Meeting"
content.body = "Every Tuesday at 2pm"
```

Source: developer.apple.com

Local Notifications

Create & schedule notifications directly from the app.



```
// Configure the recurring date.
var dateComponents = DateComponents()
dateComponents.calendar = Calendar.current

dateComponents.weekday = 3  // Tuesday
dateComponents.hour = 14    // 14:00 hours
```

Source: developer.apple.com

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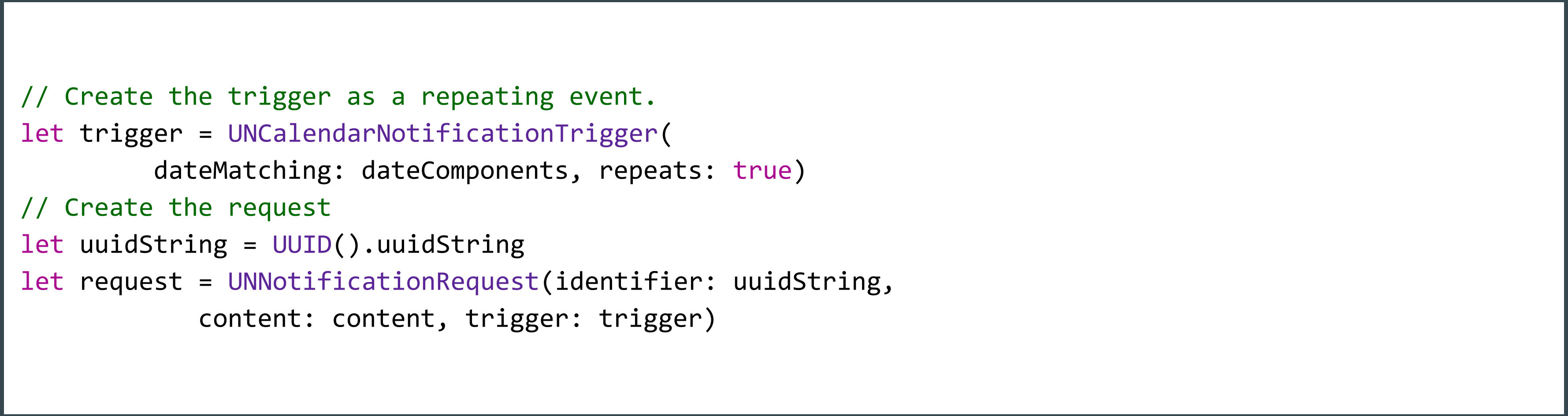
Local Notifications

Create & schedule notifications directly from the app.



```
// Create the trigger as a repeating event.
let trigger = UNCalendarNotificationTrigger(
         dateMatching: dateComponents, repeats: true)
// Create the request
let uuidString = UUID().uuidString
let request = UNNotificationRequest(identifier: uuidString,
            content: content, trigger: trigger)
```

Source: developer.apple.com

Local Notifications

Create & schedule notifications directly from the app.

```swift
// Schedule the request with the system.
let notificationCenter = UNUserNotificationCenter.current()
notificationCenter.add(request) { (error) in
   if error != nil {
      // Handle any errors.
   }
}
```

Source: developer.apple.com

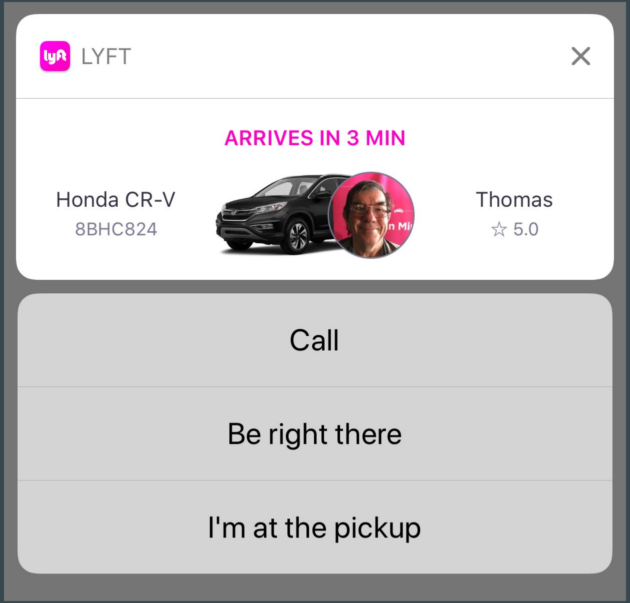
Notification Service Extension

A separate target from your main app that allows you to modify the content of an incoming notification. Useful if you want to:

- Decrypt any encrypted data within the payload.
- Download large attachments and store them temporarily on device.
- Modify or add anything to the notification content before it gets to device.

Notification Content Extension

An app extension that manages a view controller where you can customize the look and content of your notifications.



LYFT

ARRIVES IN 3 MIN

Honda CR-V
8BHC824

Thomas
☆ 5.0

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Agenda

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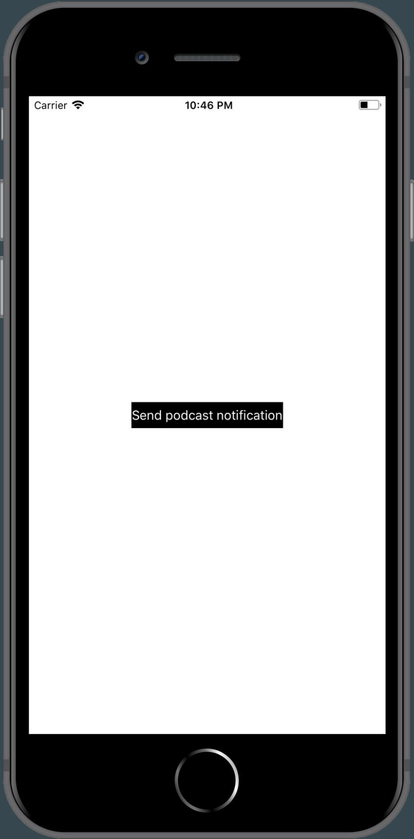
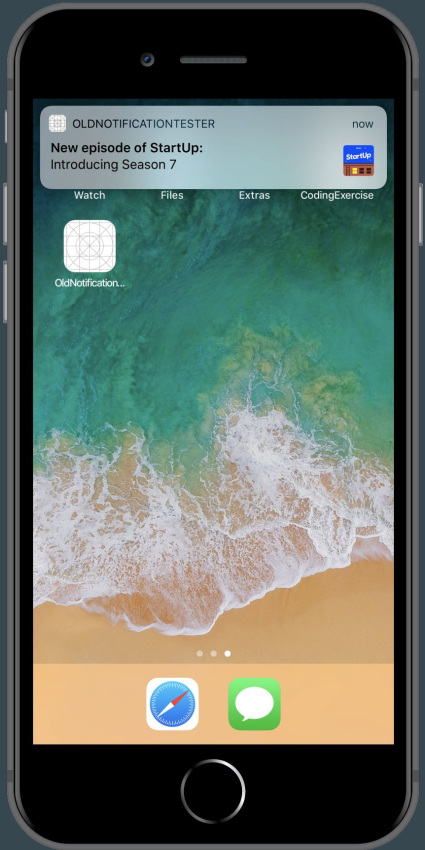
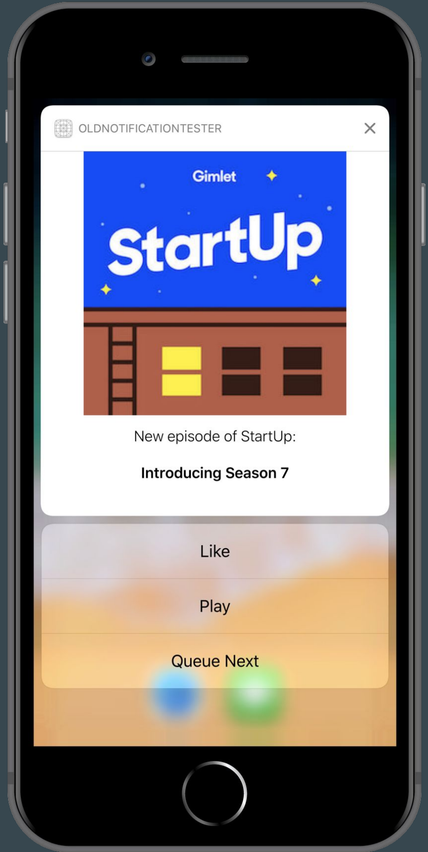
- ***Demo App***
- Authorization Options
- Grouped Notifications
- Dynamic Category Actions
- User Interaction in Notifications

Demo App




OLDNOTIFICATIONTESTER now

New episode of StartUp:
Introducing Season 7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So what's new in iOS 12?

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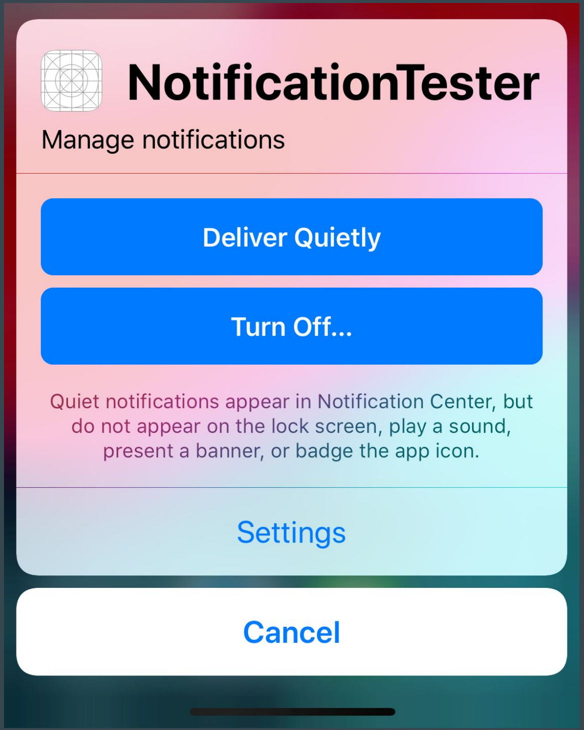
Deliver Quietly

New feature allows user to change notification settings directly from the lock screen or Notification Center to reduce noise.



Quiet notifications appear in Notification Center, but do not appear on the lock screen, play a sound, present a banner, or badge the app icon.

Provisional Authorization

If you don't mind your app's notifications being sent quietly, you do not need to ask for permission to send notifications.

Provisional Authorization

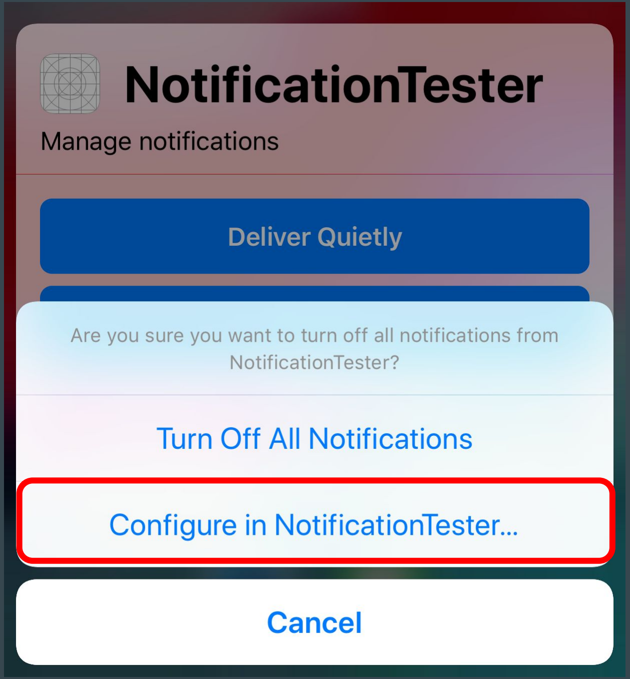
```
func application(_ application: UIApplication, didFinishLaunchingWithOptions
launchOptions: [UIApplication.LaunchOptionsKey: Any]?) -> Bool {

        UNUserNotificationCenter.current().requestAuthorization(options: [.alert,
.badge, .sound, .provisional]) { … }

        return true
}
```

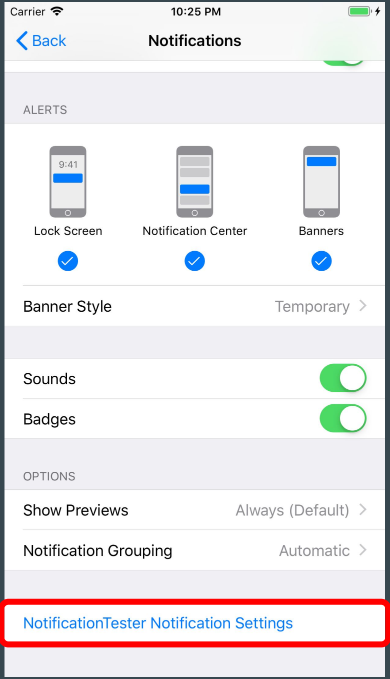
App Notification Settings

Users can turn off all notifications for your app directly from a notification, but you can also provide a deep link to your custom notification settings view.


NotificationTester
Manage notifications
Deliver Quietly

Are you sure you want to turn off all notifications from NotificationTester?

Turn Off All Notifications
Configure in NotificationTester...
Cancel



Lock Screen ✓ Notification Center ✓ Banners ✓

Banner Style: Temporary

Sounds: on

Badges: on

Show Previews: Always (Default)

Notification Grouping: Automatic

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App Notification Settings

```
func application(_ application: UIApplication, didFinishLaunchingWithOptions
launchOptions: [UIApplication.LaunchOptionsKey: Any]?) -> Bool {

        UNUserNotificationCenter.current().requestAuthorization(options: [.alert,
.badge, .sound, .providesAppNotificationSettings]) { … }

        return true
}
```

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App Notification Settings

```
func userNotificationCenter(_ center: UNUserNotificationCenter, openSettingsFor
notification: UNNotification?) {
       // check userInfo dictionary from notification

       // create deep link for notification settings page

       // send link to deep link handler to route user to correct view
}
```

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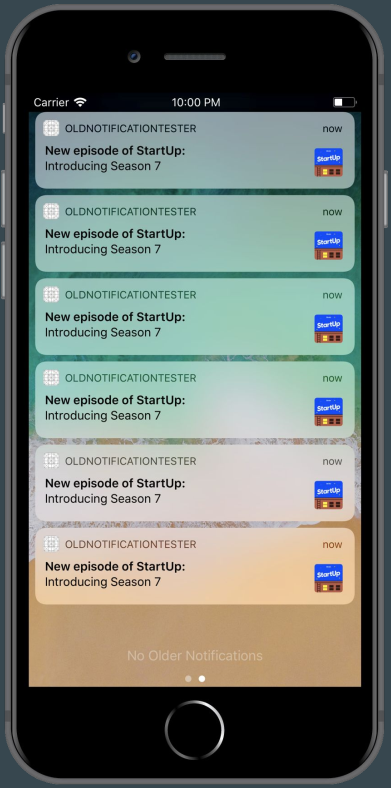
Grouped Notifications

Notifications will now be stacked in groups determined by the developer or defaulted to one group for the entire app.

iOS 11



Carrier 10:00 PM

OLDNOTIFICATIONTESTER now
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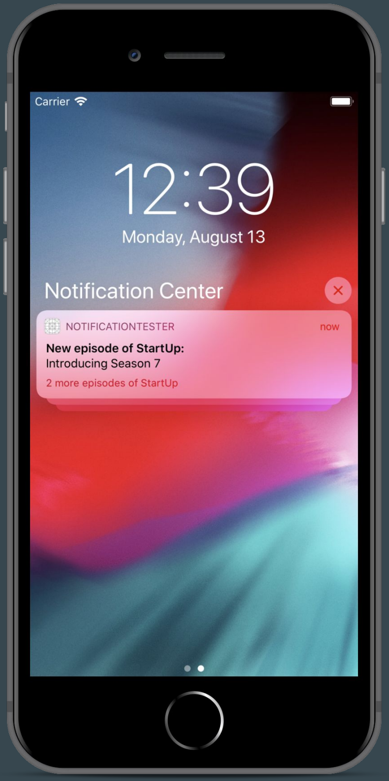
No Older Notifications

iOS 12



Carrier

12:39
Monday, August 13

Notification Center

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New episode of StartUp:
Introducing Season 7
2 more episodes of StartUp

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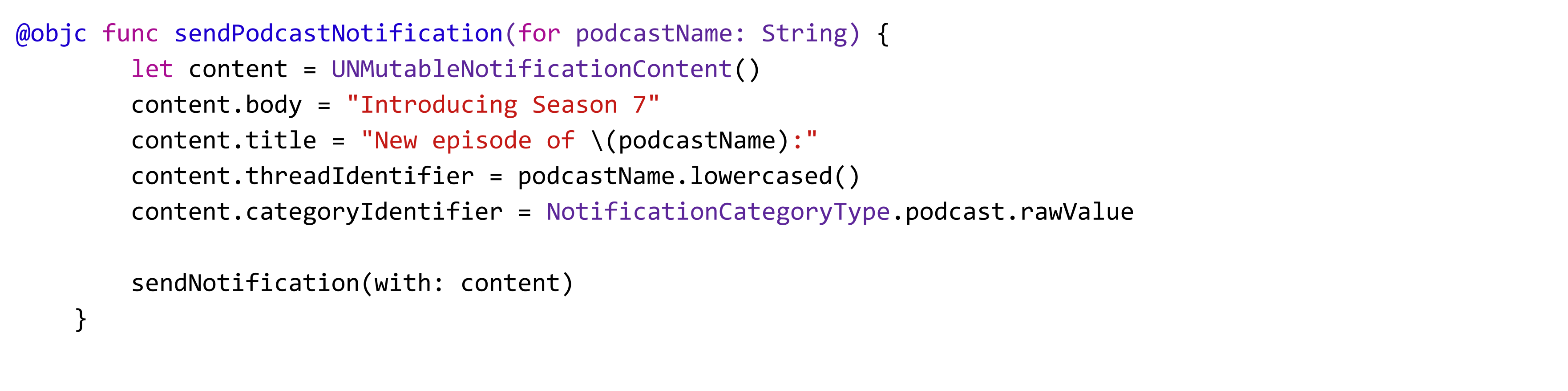
Thread Identifier

In order to customize the grouping of notifications for your app you need to set the thread identifier in the payload or on the local notification.



```
@objc func sendPodcastNotification(for podcastName: String) {
        let content = UNMutableNotificationContent()
        content.body = "Introducing Season 7"
        content.title = "New episode of \(podcastName):"
        content.threadIdentifier = podcastName.lowercased()
        content.categoryIdentifier = NotificationCategoryType.podcast.rawValue

        sendNotification(with: content)
    }
```

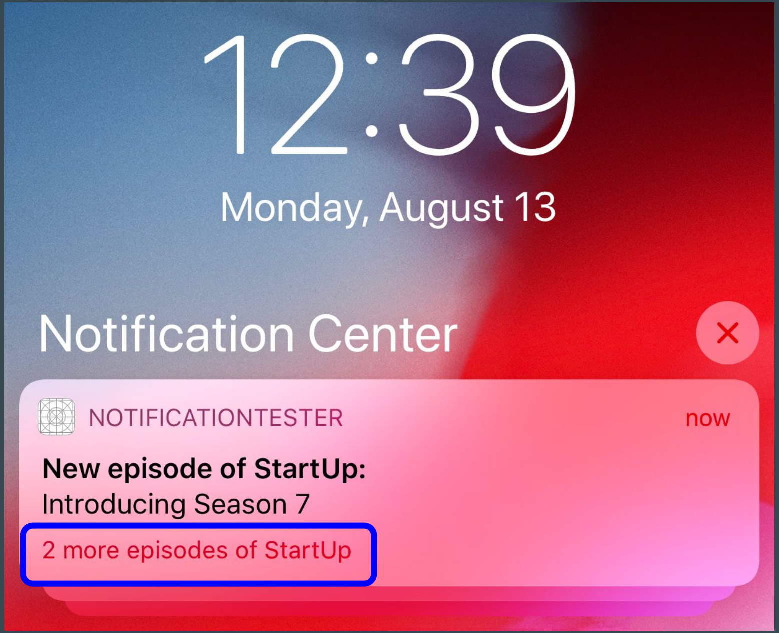
Thread Identifier

Example payload with thread identifier:

```
{
   "aps" : {
       "alert" : {
           "title" : "New Episode of Startup",
           "body" : "Introducing Season 7",
       },
       "thread-id": "startup",
       "badge" : 5
   }
}
```

Group Notification Summary

Grouped notifications also have a summary which defaults to **"more notifications"**. You can customize the summary text when you register your notification categories.



12:39

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Notification Center

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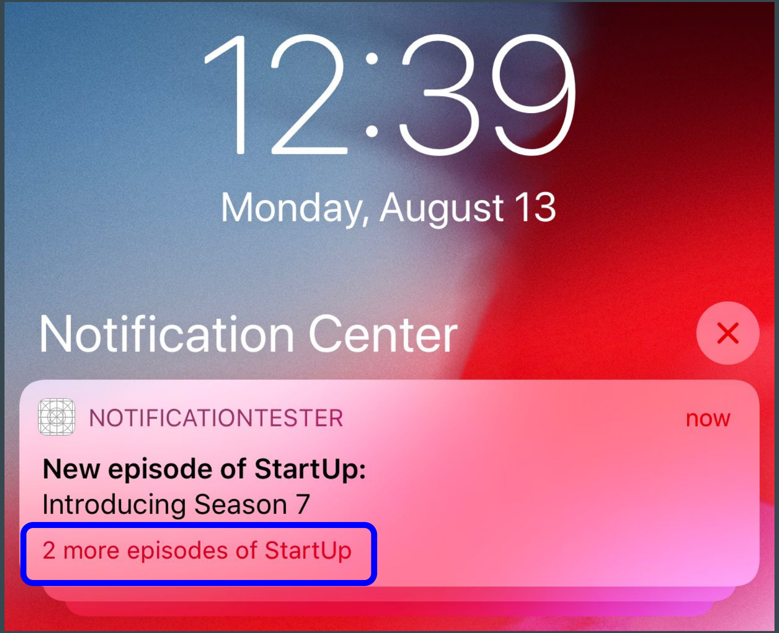
Summary Format for Group Notifications

```
let summaryFormat = "%u more episodes of %@"
```



12:39

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Notification Center

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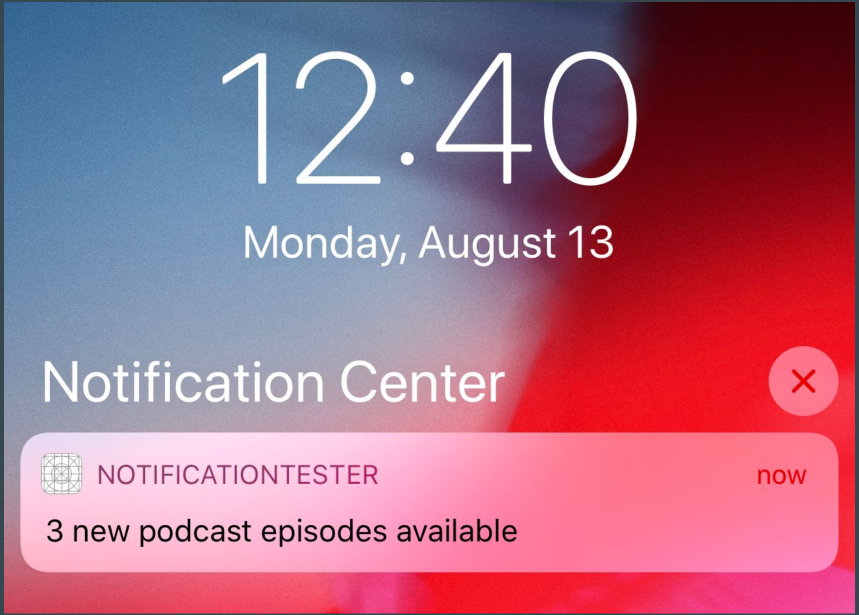
Summary Format for Hidden Previews

```swift
let hiddenPreviewsPlaceholder = "%u new podcast episodes available"
```

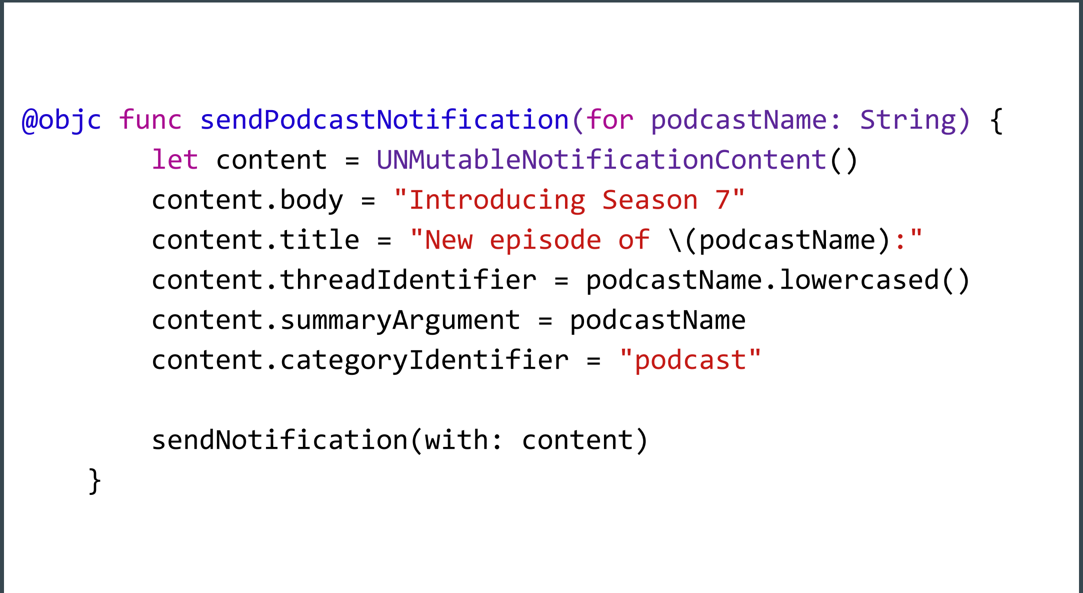


3 new podcast episodes available

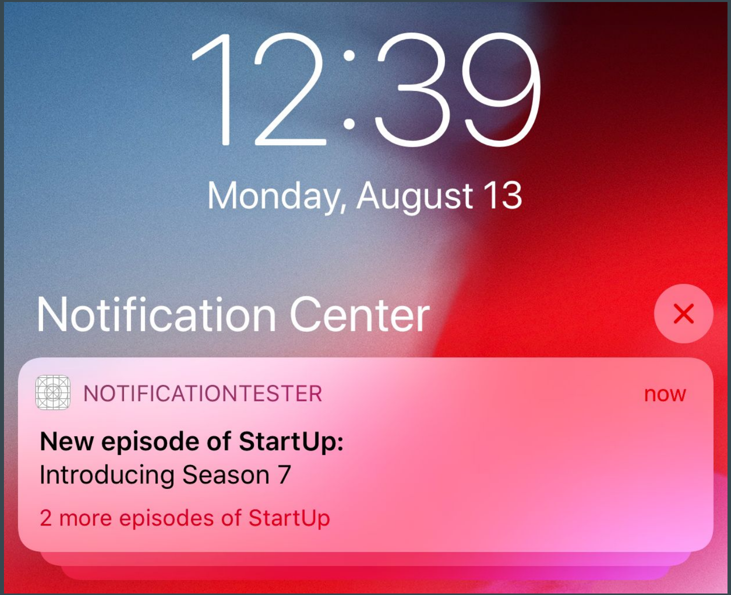
Implementing Summary Format

```swift
      let hiddenPreviewsPlaceholder = "%u new podcast episodes available"
      let summaryFormat = "%u more episodes of %@"
      let podcastCategory = UNNotificationCategory(identifier: "podcast", actions: [], intentIdentifiers: [], hiddenPreviewsBodyPlaceholder: hiddenPreviewsPlaceholder, categorySummaryFormat: summaryFormat, options: [])

      UNUserNotificationCenter.current().setNotificationCategories([podcastCategory])
```

Using Summary Argument



```
@objc func sendPodcastNotification(for podcastName: String) {
        let content = UNMutableNotificationContent()
        content.body = "Introducing Season 7"
        content.title = "New episode of \(podcastName):"
        content.threadIdentifier = podcastName.lowercased()
        content.summaryArgument = podcastName
        content.categoryIdentifier = "podcast"

        sendNotification(with: content)
    }
```



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Notification Center

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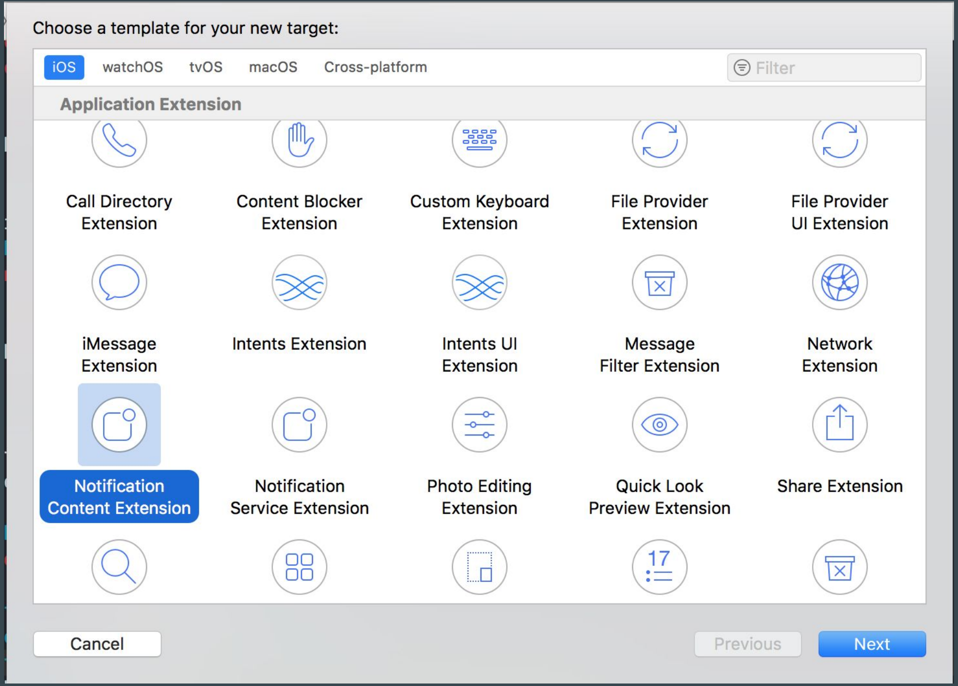
Add Notification Content Extension to Your App

Xcode menu bar: File > New > Target



Choose a template for your new target:

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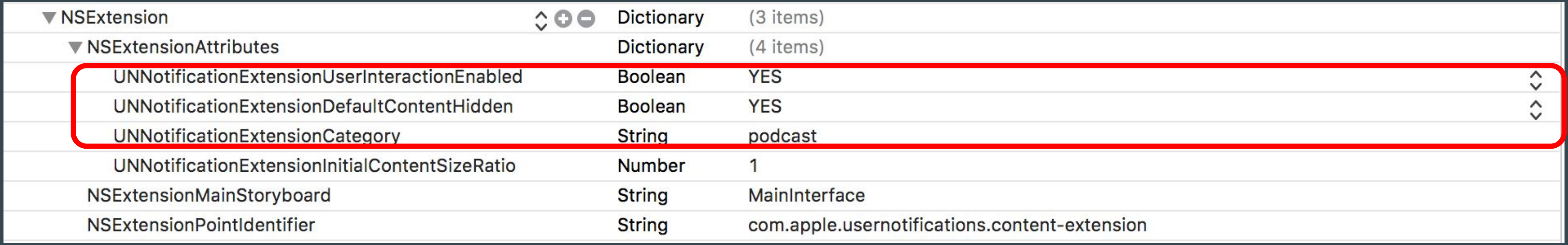
Add Notification Content to Your App

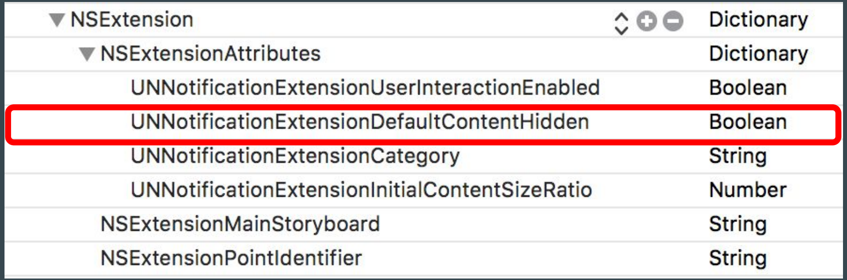
Edit the plist file to include the notification categories you want to customize.



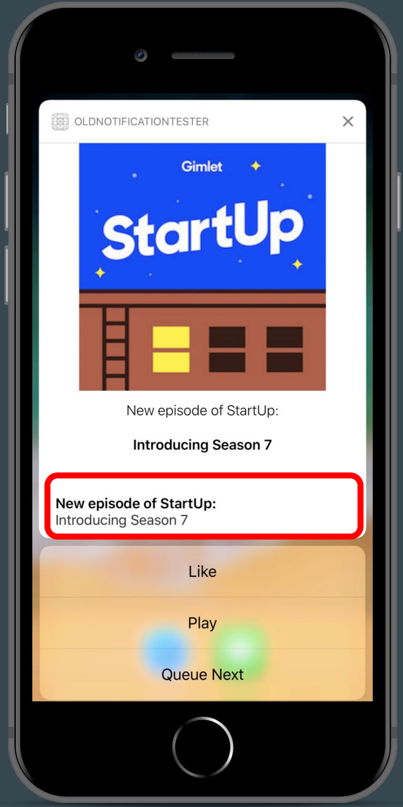
▼ NSExtension	Dictionary	(3 items)
▼ NSExtensionAttributes	Dictionary	(4 items)
UNNotificationExtensionUserInteractionEnabled	Boolean	YES
UNNotificationExtensionDefaultContentHidden	Boolean	YES
UNNotificationExtensionCategory	String	podcast
UNNotificationExtensionInitialContentSizeRatio	Number	1
NSExtensionMainStoryboard	String	MainInterface
NSExtensionPointIdentifier	String	com.apple.usernotifications.content-extension

Hidden Default Content

If you don't set default content to hidden, you'll get the following behavior:



▼ NSExtension	Dictionary
▼ NSExtensionAttributes	Dictionary
UNNotificationExtensionUserInteractionEnabled	Boolean
UNNotificationExtensionDefaultContentHidden	Boolean
UNNotificationExtensionCategory	String
UNNotificationExtensionInitialContentSizeRatio	Number
NSExtensionMainStoryboard	String
NSExtensionPointIdentifier	String



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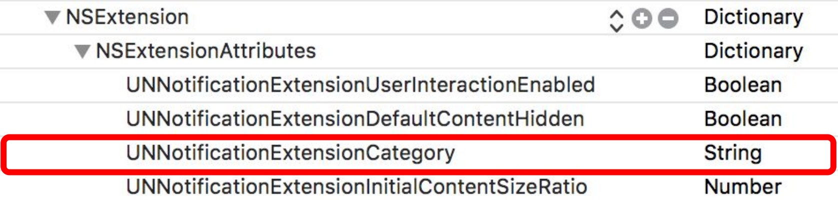
Introducing Season 7

Registering Notification Categories



▼ NSExtension	Dictionary
▼ NSExtensionAttributes	Dictionary
UNNotificationExtensionUserInteractionEnabled	Boolean
UNNotificationExtensionDefaultContentHidden	Boolean
UNNotificationExtensionCategory	String
UNNotificationExtensionInitialContentSizeRatio	Number

```
        let hiddenPreviewsPlaceholder = "%u new podcast episodes available"
        let summaryFormat = "%u more episodes of %@"

        let playAction = UNNotificationAction(identifier: "play-action", title: "Play", options: [])
        let queueAction = UNNotificationAction(identifier: "queue-action", title: "Queue Next", options: [])

        let podcastCategory = UNNotificationCategory(identifier: "podcast", actions: [playAction,
queueAction], intentIdentifiers: [], hiddenPreviewsBodyPlaceholder: hiddenPreviewsPlaceholder,
categorySummaryFormat: summaryFormat, options: [])

      UNUserNotificationCenter.current().setNotificationCategories([podcastCategory])
```

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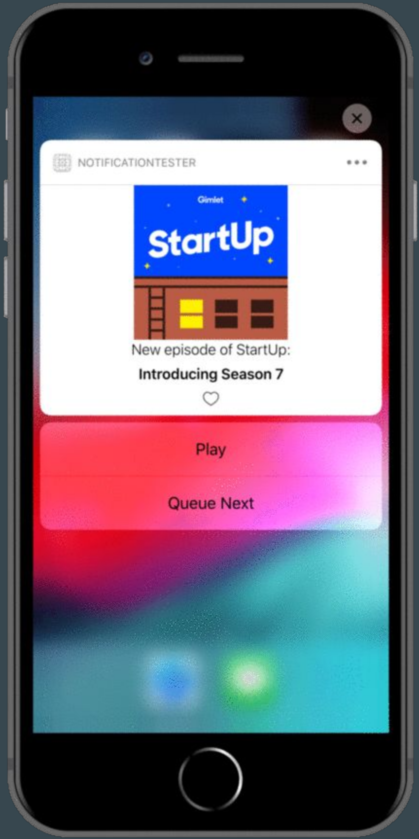
Handling Category Action Responses

Handling each case for all four actions allows us to cycle between them. For a production app, you might want to forward the actions or store the user response in the keychain or user defaults.



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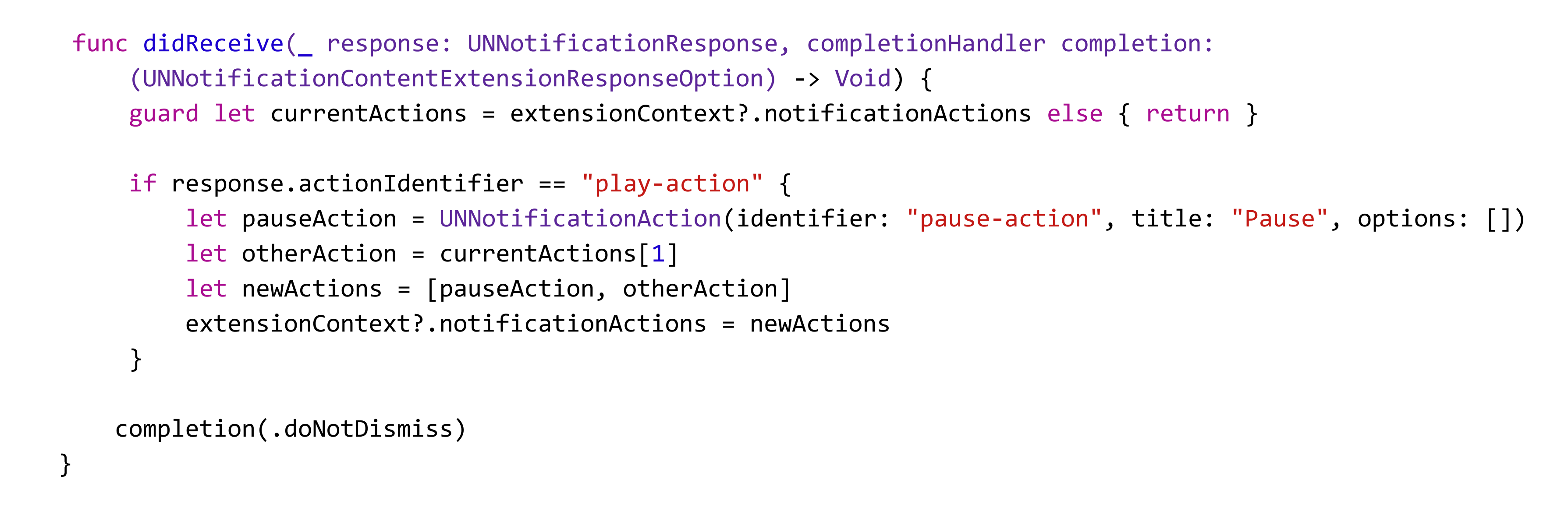
Handling Category Action Responses

Notification quick actions are now dynamic, you can update your list of actions in response to user selecting an action.



```
 func didReceive(_ response: UNNotificationResponse, completionHandler completion:
     (UNNotificationContentExtensionResponseOption) -> Void) {
     guard let currentActions = extensionContext?.notificationActions else { return }

     if response.actionIdentifier == "play-action" {
         let pauseAction = UNNotificationAction(identifier: "pause-action", title: "Pause", options: [])
         let otherAction = currentActions[1]
         let newActions = [pauseAction, otherAction]
         extensionContext?.notificationActions = newActions
     }

    completion(.doNotDismiss)
}
```

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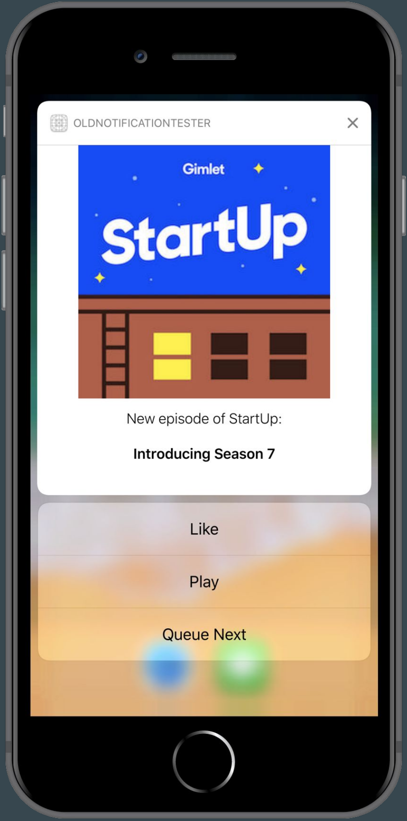
User Interaction in a Notification

In iOS 12 Apple is allowing developers to handle user interaction within a notification. There are endless possibilities!

iOS 11



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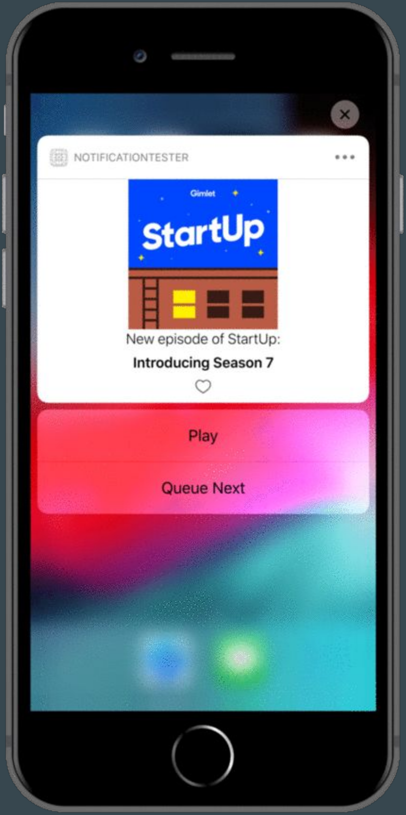
iOS 12



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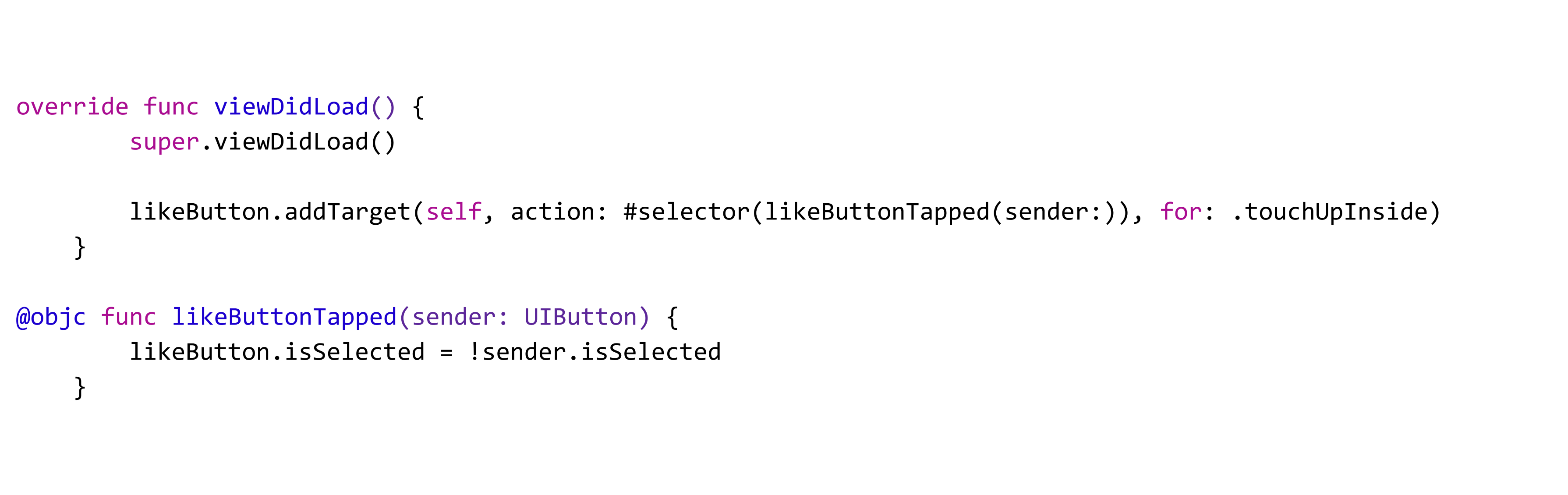
User Interaction in a Notification

This simple example handles the visuals of the user interaction. The view is set up in the content extension's storyboard.



```
override func viewDidLoad() {
        super.viewDidLoad()

        likeButton.addTarget(self, action: #selector(likeButtonTapped(sender:)), for: .touchUpInside)
    }

@objc func likeButtonTapped(sender: UIButton) {
        likeButton.isSelected = !sender.isSelected
    }
```

Summary

Authorization Options

- Determine whether or not provisional authorization is appropriate for your app.
- Add the app notification settings option and implement the callback if you have a custom notification settings view.

Summary

Grouped Notifications

- If you want customized grouping, add thread identifier to your payload or local notification content.
- When registering your notification categories add a category summary and hidden previews placeholder.

Summary

Dynamic Actions & User Interaction Using the Notification Content Extension

- If you want either of these features for your notification, add the notification content extension to your app.
- Handle action responses directly in the didReceive method.
- Handle any UI element interactions with target selectors or IB actions.

Thank you!

Demo app:
https://github.com/kmt901/Notifications-iOS12

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