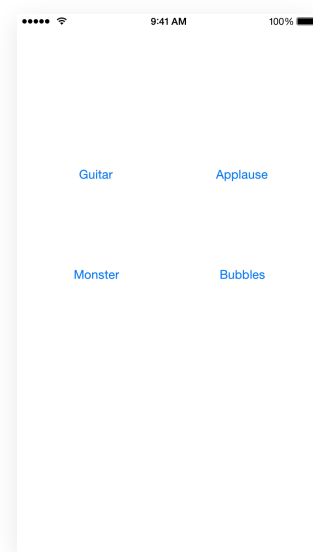# NoiseMaker
Lesson 2

Description

Add an `AVAudioPlayer` property to the view controller, and import the AV Foundation framework.

Learning Outcomes

- Practice using the Xcode Documentation and API Reference for technical documentation.
- Discover the `AVAudioPlayer` class for playing sounds.
- Discover how errors may arise without importing framework dependencies.

Vocabulary

Xcode Documentation and API Reference	AVAudioPlayer	property
optional	var	framework
AV Foundation	import	

Materials

- **NoiseMaker Lesson 2** Xcode project

Opening

Now that we have sound files, what API do we use to play them within our app?

Agenda

- Discuss how we might explore the Xcode Documentation and API Reference to learn how to "play a sound."

- Using the Xcode Documentation and API Reference (⇧⌘0), enter **play sound** in the search bar, and notice the results shown in the **API Reference**, **SDK Guides** and **Sample Code** sections.

- Using the Xcode Documentation and API Reference (⇧⌘0), explore the `AVAudioPlayer` class reference.

- Add a controller property for an `AVAudioPlayer` that is responsible for playing the guitar sound.

```
var player: AVAudioPlayer?
```

- Discuss declaring the `AVAudioPlayer` optional type, since the `ViewController` initializer will not initialize the property with a value.

- Build the project (⌘B), and observe the Xcode error notice.

- Discuss how, in addition to the error, Xcode does not auto-complete nor highlight the `AVAudioPlayer` class name.

- Using the Xcode Documentation and API Reference (⇧⌘0), review the `AVAudioPlayer` class reference and notice that it resides in the AV Foundation framework.

- At the top of the `ViewController` class, add an import statement for the `AVFoundation` framework.

```
import AVFoundation
```

- Observe that the Xcode editor error notices disappear.

- Run the app (⌘R), and observe that Xcode builds and runs the app successfully.

Closing

What are the other frameworks that are an essential part of every iOS app?

Modifications And Extensions

- Investigate the other multimedia frameworks, and describe what are they for. Identify what multimedia features one can incorporate into an iOS app.

- Investigate static and dynamic linking, describe the difference between them, and determine what kind of linking iOS uses for frameworks.

Resources

Start Developing iOS Apps Today: Finding Information https://developer.apple.com/library/ios/referencelibrary/GettingStarted/RoadMapiOS/FindingInformation.html

Searching Developer Documentation http://developer.apple.com/library/ios/recipes/xcode_help-documentation_organizer/SearchingDocumentation/SearchingDocumentation.html

The Swift Programming Language: Properties https://developer.apple.com/library/ios/documentation/Swift/Conceptual/Swift_Programming_Language/Properties.html

Multimedia Programming Guide: Using Audio https://developer.apple.com/library/ios/documentation/AudioVideo/Conceptual/MultimediaPG/UsingAudio/UsingAudio.html

AV Foundation Programming Guide http://developer.apple.com/library/ios/documentation/AudioVideo/Conceptual/AVFoundationPG/Articles/00_Introduction.html

AVAudioPlayer Class Reference https://developer.apple.com/library/ios/documentation/AVFoundation/Reference/AVAudioPlayerClassReference/index.html