User Preset Support for Audio Units

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Presets

Provide a fine-tuned set of parameter values

Capture a snapshot of the state of the Audio Unit’s parameters

Loading a preset restores the Audio Unit to the same state
User Presets for Audio Unit Extensions

We already support factory presets:

```swift
open var factoryPresets: [AUAudioUnitPreset]? { get }
```
User Presets for Audio Unit Extensions

We already support factory presets:

```swift
open var factoryPresets: [AUAudioUnitPreset]? { get }
```

Provided by the Audio Unit Developer

Immutable, built into the Audio Unit
open var userPresets: [AUAudioUnitPreset]? { get }
User Presets for Audio Unit Extensions

```swift
open var userPresets: [AUAudioUnitPreset]? { get }
```

Created and managed by the user

Mutable
open var supportsUserPresets: Bool { get }
New API

```swift
open var supportsUserPresets: Bool { get }
```

Set by the Audio Unit to opt-in

Checked by the host to verify support
New API

open func saveUserPreset(_ userPreset: AUAudioUnitPreset) throws
open func deleteUserPreset(_ userPreset: AUAudioUnitPreset) throws
New API

Have default implementations in `AUAudioUnit`

Can be overridden to implement custom logic

```swift
open func saveUserPreset(_ userPreset: AUAudioUnitPreset) throws
open func deleteUserPreset(_ userPreset: AUAudioUnitPreset) throws
```
New API

```swift
open func presetState(for userPreset: AUAudioUnitPreset) throws -> [String : Any]
```
New API

```swift
open func presetState(for userPreset: AUAudioUnitPreset) throws -> [String : Any]
```

Implemented in the superclass, but can be overridden

Returns the contents of a user preset

Can be assigned to `fullStateForDocument`
open var isLoadedInProcess: Bool { get }
New API

```swift
open var isLoadedInProcess: Bool { get }
```

Returns true if the audio unit is loaded in-process

Loading in process is only available on macOS
Demo
Summary

We now support user presets for Audio Units in addition to factoryPresets

The Audio Unit has to opt in

The methods have default implementations in the super class, but can be overridden
More Information

developer.apple.com/wwdc19/509