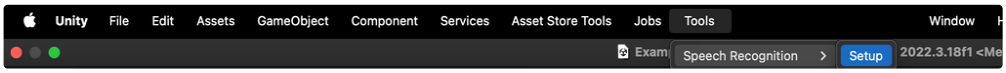
Speech Recognition for iOS

Allows your applications to recognize and interpret user speech by converting it to text.

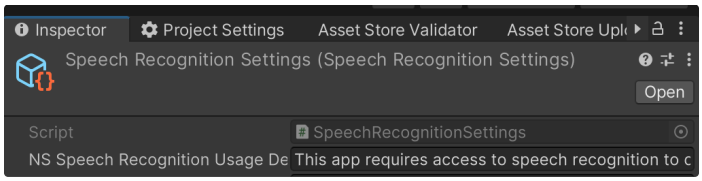
Setup

In any project that uses **Speech Recognition**, need to include the **NSSpeechRecognitionUsageDescription** and **NSMicrophoneUsageDescription** key in your app `Info.plist` file. Without this key, the system won't allow your app to use **Speech Recognition**. The value for this key is a string that the system presents to the user the first time your app attempts to use **Speech Recognition**. The string should clearly explain why your app needs access to this mechanism.

1. In the Speech Recognition plugin, **NSSpeechRecognitionUsageDescription** and **NSMicrophoneUsageDescription** is automatically added to Info.plist with your description. All you need to do is override the default description in **SpeechRecognitionSettings**.asset. You can select it by the top context menu **Tools → Speech Recognition → Setup**.

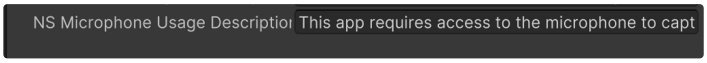


2. In field **NSSpeechRecognitionUsageDescription,** enter your reason to use **Speech Recognition**.



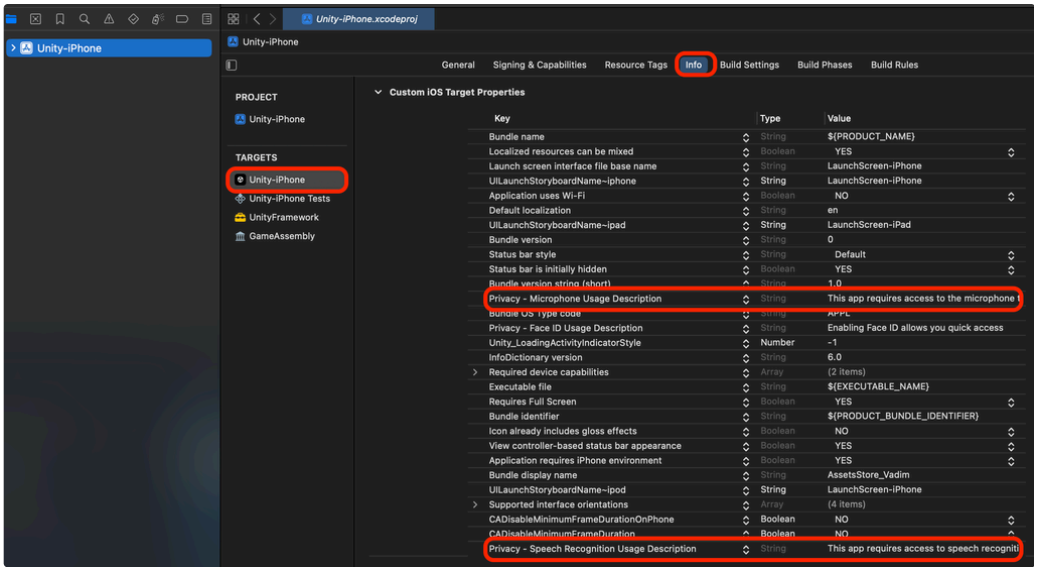
> ⚠ If you don't change **NSSpeechRecognitionUsageDescription**, the default reason will be used: "This app requires access to speech recognition to convert your spoken words into text.".

3. In field **NSMicrophoneUsageDescription,** enter your reason to use **microphone**.



> ⚠ If you don't change **NSMicrophoneUsageDescription**, the default reason will be used: "This app requires access to the microphone to capture audio for voice input and processing.".

After you build your project and open it in **Xcode**, you will see it in **Info.plist.**



Runtime

The **SpeechRecognition** class provides interface for managing speech recognition, including starting and stopping recognition, setting configurations, and handling permissions.

SpeechRecognition

Member	Description
bool IsRecognizing	Indicates whether the speech recognition process is currently active.
string DeviceLocale	Gets the current locale of the device (e.g., "**en_US**" for English)
bool IsPlatformSupported	Indicates whether the current platform supports speech recognition.
bool EnableLogging	Enables or disables logging for the speech recognition system.
PermissionStatus SpeechRecognitionPermissionStatus	Gets the current permission status for speech recognition
PermissionStatus MicrophonePermissionStatus	Gets the current permission status for microphone access.
event Action OnStart	Occurs when the speech recognition successfully setup and process started.
event Action OnResult	Occurs when a result is returned from the speech recognition process.
event Action OnError	Occurs when an error occurs during the speech recognition process.

event Action OnStop	Occurs when the speech recognition process stopped.
void Initialize()	**Initialize** speech recognition engine, change the **Unity** audio session category, there may be a slight freeze when called. Needs to be called again after calling the Release method. The best practice would be to call this method when loading a scene or displaying some kind of loader. So that the freeze when switching audio session category is not noticeable to the user.
void Start()	Enable microphone and starts the speech recognition process. Before starting, it checks and requests the necessary permissions. If **Initialize** method is not called before, it will be called automatically. Speech recognition will work until you call the Stop method. You can implement your own logic to automatically call Stop after a time interval if you don't get any results, or if you get the required keywords as a result.
void Stop()	Disable microphone and stops the speech recognition process.
void Release()	Reset the audio session category to the **Unity** state and release the speech recognition engine. Recognizing will be stopped. Use this when recognition is no longer needed or will not be needed for a long time.
void SetRecordingBufferSize(string size)	Sets the buffer size for audio recording during speech recognition. Quality and recognition delay depend on this parameter. Default is 1048 bytes.
void SetRequiresOnDeviceRecognition(bool enable)	Enables or disables on-device speech recognition. When true, the speech recognition process is performed on the device. When false, the speech recognition process is performed on the apple server, **internet connection is required.** **Available only on iOS 13.0 and later.** Default is false.

void SetShouldReportPartialResults(bool enable)	Configures whether the speech recognizer should report partial results. Default is false.
void SetLocale(string locale)	Sets the locale for speech recognition. Default is the device locale.
void RequestSpeechRecognitionPermission(Action<PermissionStatus> callback)	Requests permission for speech recognition and invokes the callback with the result manualy.
void RequestMicrophonePermission(Action<PermissionStatus> callback)	Requests permission for microphone access and invokes the callback with the result manualy.

PermissionStatus

Member	Description
NotDetermined	The permission status has not been determined yet. The user has not been asked for this permission
Denied	The user has explicitly denied this permission. The app cannot access the requested service
Restricted	The permission is restricted, typically due to parental controls or device policies. The app cannot access the requested service.
Authorized	The user has granted this permission. The app is authorized to access the requested service.