Android Ultimate TTS

Chapter 3

Class Documentation

3.1 TextToSpeech Class Reference

Inheritance diagram for TextToSpeech:

```
┌─────────────────────────────┐
│ Singleton< TextToSpeech >   │
└─────────────────────────────┘
              ▲
              │
┌─────────────────────────────┐
│       TextToSpeech          │
└─────────────────────────────┘
```
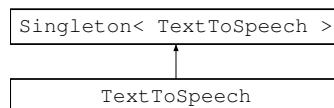
Public Types

- enum Locale {
  ENGLISH_US = 0, **ENGLISH_UK**, **GERMAN**, **FRENCH**,
  ITALIAN, **SPANISH**, **CHINESE**, **JAPANESE**,
  KOREAN, **SYSTEM_DEFAULT** }

  This enum represents some commonly used languages.
- enum ToastLength { **LENGTH_LONG** = 0, **LENGTH_SHORT** = 1 }

  This enum contains two members that can be used to dicate the length of time for which a toast message is shown.

Public Member Functions

- delegate void OnErrorCallbackHandler (string error)

  The delegate template for error callbacks.
- void Speak (string toSpeak, OnErrorCallbackHandler errorCallback)

  Performs speech synthesis on the text given. In case an error occurs the callback is called with the error description.
- void Speak (string toSpeak)

  Performs speech synthesis on the text given.This method doesn't provide you with error callback.
- string SetLanguage (Locale language)

  Set the language of the text to speech engine through the available Locales. The Locale enum contains some common languages. If you want to change a language that is not available in the Locale enum you can use the "SetLanguageFromCustomLocale()" method
- string SetLanguageFromCustomLocale (string languageAbbreviation, string countryAbbreviation)

  Set the language of the text to speech engine.

- bool IsLanguageAvailable (Locale locale)

  Is the given language represented by the locale available.

- bool IsCustomLanguageAvailable (string languageAbbreviation, string countryAbbreviation)

  Is the given custom language available.

- string GetDefaultEngine ()

  Gets the name of the default selected TTS Engine from android settings. If the TTS engine is not successfully initialized this will return "TTS ENGINE NOT INITIALIZED

- string[ ] GetInstalledEngines ()

  Gets the names of the installed TTS engines on this device. If any TTS engine is currently not initialized this will return null

- bool IsGoogleTTSInstalled ()

  Checks to see if google TTS engine is installed on the users' device or not.

- bool SetTTSEngineByName (string engineName, bool setToGoogleTTS)

  Change to a TTS engine by providing its name. The name should match exactly as the one shown in android settings. You can get the names of all installed TTS engines by calling GetInstalledEngines() method.

- string GetCurrentlySelectedEngine ()

  Get the engine currently being used by the plugin for speech synthesis.

- void SetSpeed (float speechRate)

  Set the speed with which the text to speech engine speaks.

- void SetPitch (float pitch)

  Set the pitch with which the text to speech engine speaks.

- void SetVolume (float volume)

  Set the volume of the text to speech engine. Please note that this changes the volume with which the text to speech engine speaks and doesn't change the android system volume.

- void StopSpeech ()

  Instantly stops the speech.

- bool IsSpeaking ()

  Returns true if the text to speech engine is currently busy speaking. Please note that this method doesn't return realtime results, for example if the TTS engine has just stopped speaking the method might return true for sometime and will return false after a few milli secs.

- bool SetVoice (string voice)

  Sets the text-to-speech voice. A TTS Engine can expose multiple voices for each locale, each with a different set of features for example male/female voices. Call GetVoices() function to get a list of available voices.

- void SetDefaultVoice ()

  Sets back the default voice of the currently selected TTS engine. This can be useful when you mess up with the voices and get strange sounds.

- string[ ] GetVoices ()

  Get a list of the installed voices on the selected TTS engine. A TTS Engine can expose multiple voices for each locale, each with a different set of features for example male/female voices. Call GetVoices() function to get a list of available voices.

- void SynthesizeToFile (string textToSynthesize, string fileName, Action< bool, string > Result, string path="")

  Synthesizes the given text to an audio file. The audio file is by default saved to "Application.persistentDataPath". If you're sure about the path then you can pass in the path as the last argument

- void RegisterUtteranceListeners (GameObject callbackObject, string onUtteranceStartedListener, string on←⏎ UtteranceErrorListener, string onUtteranceCompletedListener)

  Register callback methods for various events regarding speech synthesis. Please note that you can't register multiple methods to receive the same callback. Calling this function with new set of methods will cause previous registered methods to unregister against the callbacks.

- void Toast (string message, ToastLength length)

  Shows an android Toast message on the screen.

- void Initialize ()

  Initializes the TTS engine with default settings.

- void Initialize (Locale language, float speed, float pitch, float volume)

  Initializes the TTS engine with the given parameters.

Protected Member Functions

- override void **OnAwake** ()

Properties

- Locale language `[get]`

  The current language of the text to speech engine.
- float pitch `[get]`

  The current pitch of the text to speech engine.
- float speechRate `[get]`

  The current speed of the text to speech engine.
- float volume `[get]`

  The current volume of the text to speech engine.
- static TextToSpeech Instance `[get]`

  The instance of the TextToSpeech engine. This is the gateway through which all functionality of the TextToSpeech API can be accessed.

3.1.1 Member Enumeration Documentation

3.1.1.1 Locale

enum `TextToSpeech.Locale` `[strong]`

This enum represents some commonly used languages.

3.1.1.2 ToastLength

enum `TextToSpeech.ToastLength` `[strong]`

This enum contains two members that can be used to dicate the length of time for which a toast message is shown.

3.1.2 Member Function Documentation

3.1.2.1 GetCurrentlySelectedEngine()

string TextToSpeech.GetCurrentlySelectedEngine ( )

Get the engine currently being used by the plugin for speech synthesis.

Returns

The currently selected TTS engine.

3.1.2.2 GetDefaultEngine()

```
string TextToSpeech.GetDefaultEngine ( )
```

Gets the name of the default selected TTS Engine from android settings. If the TTS engine is not successfully initialized this will return "TTS ENGINE NOT INITIALIZED

Please note that this method doesn't return the TTS engine that the app has selected. This will only return the TTS engine selected as default in android settings

Returns

The name of the selected TTS engine in android settings.

3.1.2.3 GetInstalledEngines()

```
string [] TextToSpeech.GetInstalledEngines ( )
```

Gets the names of the installed TTS engines on this device. If any TTS engine is currently not initialized this will return null

Returns

An array constaining names of the installed TTS engines.

3.1.2.4 GetVoices()

```
string [] TextToSpeech.GetVoices ( )
```

Get a list of the installed voices on the selected TTS engine. A TTS Engine can expose multiple voices for each locale, each with a different set of features for example male/female voices. Call GetVoices() function to get a list of available voices.

Please note that the list of voices return are from all the TTS Engines installed on the device. There is no way to distinguish between which voice belongs to which TTS Engine.

Returns

A string array containing names of the installed voices or null on failure.

3.1.2.5 Initialize() [1/2]

```
void TextToSpeech.Initialize ( )
```

Initializes the TTS engine with default settings.

3.1.2.6 Initialize() [2/2]

```
void TextToSpeech.Initialize (
            Locale language,
            float speed,
            float pitch,
            float volume )
```

Initializes the TTS engine with the given parameters.

Parameters

language	The language with which the TTS engine initializes.
speed	The speed to be set for the TTS engine.
pitch	The pitch to be set for the TTS engine.
volume	The volume to be set for the TTS engine.

3.1.2.7 IsCustomLanguageAvailable()

```
bool TextToSpeech.IsCustomLanguageAvailable (
            string languageAbbreviation,
            string countryAbbreviation )
```

Is the given custom language available.

Parameters

languageAbbreviation	Provide a 2 letter or 3 letter language abbreviation. For example "spa" for spanish, "de" for German
countryAbbreviation	Provide a 2 letter or 3 letter country name abbreviation. For example "ES" for Spain, "DE" for Germany

Returns

> True if the language is available, false otherwise.

3.1.2.8 IsGoogleTTSInstalled()

```
bool TextToSpeech.IsGoogleTTSInstalled ( )
```

Checks to see if google TTS engine is installed on the users' device or not.

Returns

> A boolean value that tells whether Google TTS engine is installed or not.

3.1.2.9 IsLanguageAvailable()

```
bool TextToSpeech.IsLanguageAvailable (
            Locale locale )
```

Is the given language represented by the locale available.

Parameters

locale	The locale enum representing the language.

Returns

True if the language is available, false otherwise.

3.1.2.10 IsSpeaking()

```
bool TextToSpeech.IsSpeaking ( )
```

Returns true if the text to speech engine is currently busy speaking. Please note that this method doesn't return realtime results, for example if the TTS engine has just stopped speaking the method might return true for sometime and will return false after a few milli secs.

3.1.2.11 OnErrorCallbackHandler()

```
delegate void TextToSpeech.OnErrorCallbackHandler (
            string error )
```

The delegate template for error callbacks.

3.1.2.12 RegisterUtteranceListeners()

```
void TextToSpeech.RegisterUtteranceListeners (
            GameObject callbackObject,
            string onUtteranceStartedListener,
            string onUtteranceErrorListener,
            string onUtteranceCompletedListener )
```

Register callback methods for various events regarding speech synthesis. Please note that you can't register multiple methods to receive the same callback. Calling this function with new set of methods will cause previous registered methods to unregister against the callbacks.

Parameters

callbackObject	The gameObject with the script containing the callback methods.
onUtteranceStartedListener	This method will be called when the TTS engine has started speaking. The method must not take any parameter.
onUtteranceErrorListener	This method will be called when the TTS engine has got an error on speaking. The method must not take any parameter.
onUtteranceCompletedListener	This method will be called whenever the TTS engine has stopped speaking. The method must not take any parameter.

3.1.2.13 SetDefaultVoice()

```
void TextToSpeech.SetDefaultVoice ( )
```

Sets back the default voice of the currently selected TTS engine. This can be useful when you mess up with the voices and get strange sounds.

3.1.2.14 SetLanguage()

```
string TextToSpeech.SetLanguage (
            Locale language )
```

Set the language of the text to speech engine through the available Locales. The Locale enum contains some common languages. If you want to change a language that is not available in the Locale enum you can use the "SetLanguageFromCustomLocale()" method

Parameters

language	The language you want to set.

Returns

A short constant that shows the result of setting the language.

3.1.2.15 SetLanguageFromCustomLocale()

```
string TextToSpeech.SetLanguageFromCustomLocale (
            string languageAbbreviation,
            string countryAbbreviation )
```

Set the language of the text to speech engine.

Parameters

languageAbbreviation	Provide an ISO 639 alpha-2 or alpha-3 language code.When a language has both an alpha-2 code and an alpha-3 code, the alpha-2 code must be used. You can find a full list of valid language codes in the IANA Language Subtag Registry (search for "Type: language"). For example "spa" is for spanish, "de" is for German
countryAbbreviation	Provide an ISO 3166 alpha-2 country code or UN M.49 numeric-3 area code. You can find a full list of valid country and region codes in the IANA Language Subtag Registry (search for "Type: region"). For example "ES" for Spain, "DE" for Germany

Returns

3.1.2.16 SetPitch()

```
void TextToSpeech.SetPitch (
            float pitch )
```

Set the pitch with which the text to speech engine speaks.

Parameters

pitch	Speech pitch. 1.0 is the normal pitch, lower values lower the tone of the synthesized voice, greater values increase it.

3.1.2.17 SetSpeed()

```
void TextToSpeech.SetSpeed (
            float speechRate )
```

Set the speed with which the text to speech engine speaks.

Parameters

speechRate	Speech rate. 1.0 is the normal speech rate, lower values slow down the speech (0.5 is half the normal speech rate), greater values accelerate it(2.0 is twice the normal speech rate).

3.1.2.18 SetTTSEngineByName()

```
bool TextToSpeech.SetTTSEngineByName (
            string engineName,
            bool setToGoogleTTS )
```

Change to a TTS engine by providing its name. The name should match exactly as the one shown in android settings. You can get the names of all installed TTS engines by calling GetInstalledEngines() method.

Please note that this method doesn't immediately set the engine, the engine will be set when the next call to Speak method is made. Also this method doesn't change the default TTS engine in android settings.

Take note that the plugin works fully with the Google TTS engine. Changing to some other engine cannot guarantee that all the functionality stays intact.

Parameters

engineName	The engine name to set
setToGoogleTTS	If true then it will set to google TTS engine if available.

Returns

True if the engine with the name exists, false if it doesn't. In case if "setToGoogleTTS" is true then if google TTS is not installed then false will be returned.

3.1.2.19 SetVoice()

```
bool TextToSpeech.SetVoice (
            string voice )
```

Sets the text-to-speech voice. A TTS Engine can expose multiple voices for each locale, each with a different set of features for example male/female voices. Call GetVoices() function to get a list of available voices.

Please note that you should only set a voice which is amongst the installed voices of the currently selected TTS engine. Setting a voice which is not installed by the currently selected TTS engine might result in speech failure.

Parameters

voice	The name of the voice to set. You can call GetVoices() function to get a list of available voices.

Returns

True if the voice was successfully set otherwise false.

3.1.2.20 SetVolume()

```
void TextToSpeech.SetVolume (
            float volume )
```

Set the volume of the text to speech engine. Please note that this changes the volume with which the text to speech engine speaks and doesn't change the android system volume.

Parameters

volume	Speech volume. 1.0 is the highest volume, 0.5 represents half the highest volume.Lower values lower the volume of the spoken voice, greater values increase it.

3.1.2.21 Speak() `[1/2]`

```
void TextToSpeech.Speak (
            string toSpeak )
```

Performs speech synthesis on the text given.This method doesn't provide you with error callback.

Parameters

toSpeak	The text to speak.

3.1.2.22 Speak() `[2/2]`

```
void TextToSpeech.Speak (
            string toSpeak,
            OnErrorCallbackHandler errorCallback )
```

Performs speech synthesis on the text given. In case an error occurs the callback is called with the error description.

Parameters

toSpeak	The text to speak.
errorCallback	The method that will be called when an error occurs. The method will be passed a string argument which will contain the error description.

3.1.2.23 StopSpeech()

```
void TextToSpeech.StopSpeech ( )
```

Instantly stops the speech.

3.1.2.24 SynthesizeToFile()

```
void TextToSpeech.SynthesizeToFile (
            string textToSynthesize,
            string fileName,
            Action< bool, string > Result,
            string path = "" )
```

Synthesizes the given text to an audio file. The audio file is by default saved to "Application.persistentDataPath". If you're sure about the path then you can pass in the path as the last argument

Parameters

textToSynthesize	The text that will be synthesized to the audio file.
fileName	The name of the generated audio file. THe file name should be without nay extension.
Result	This method will be called with two parameters, the first one denotes whether the operation was successfull and the second one is the fully qualified path where the audio file was saved (or failed to save).
path	The path where the generated audio file will be saved. If this argument is not passed then the file will be saved in the path given by "Application.persistentDataPath".

3.1.2.25 Toast()

```
void TextToSpeech.Toast (
            string message,
            ToastLength length )
```

Shows an android Toast message on the screen.

Parameters

message	The message to be shown.
length	The length for which the message appears.

3.1.3 Property Documentation

3.1.3.1 Instance

```
TextToSpeech TextToSpeech.Instance  [static], [get]
```

The instance of the TextToSpeech engine. This is the gateway through which all functionality of the TextToSpeech API can be accessed.

3.1.3.2 language

```
Locale TextToSpeech.language  [get]
```

The current language of the text to speech engine.

3.1.3.3 pitch

```
float TextToSpeech.pitch  [get]
```

The current pitch of the text to speech engine.

3.1.3.4 speechRate

```
float TextToSpeech.speechRate  [get]
```

The current speed of the text to speech engine.

3.1.3.5 volume

```
float TextToSpeech.volume  [get]
```

The current volume of the text to speech engine.

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