

Windows Text To Speech for Unity

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Before you buy!

Be advised that this asset will only work with Windows platform. It won't work with IOS or Android or Linux.

Here's why: * It uses Microsoft Speech API (SAPI) that it is only available on Windows devices. * It uses language packages installed locally on a Windows device.

Features

With this asset you will be able to:

- List all available text to speech voices installed on your Windows device.
- Set your preferred language/actor as speech voice.
- Set the speech speed.
- Add accessibility to your project.
- No internet or paid subscription services required.
- Speech any text!

Demo

Open the **Demo** scene file inside the **scenes** folder. When running the demo you will find a simple form to show how to use this asset, from listing the available voices, set its speed and to speech a single text.

Prerequisites

Make sure you have installed your preferred voice package on your Windows device. Go to settings -> Time & language -> Speech -> Manage voices.

You might need to restart your PC after installation.

Get Started

1. Add a new empty game object to your scene. Let's call it **text-to-speech**
2. Add a **Dispatcher** component to your **text-to-speech** game object.
3. Add a new script to your **text-to-speech** game object. Let's call this script **TTS.cs**
4. Open **TTS.cs** file, add the reference to **TextToSpeechApi**.

```
using TextToSpeechApi;
```

5. Inside the class **tts**, add a new **TextToSpeech** instance.

```
TextToSpeech textToSpeech = new();
```

6. Inside **Start()** function, add the initialization for **textToSpeech**.

```
void Start()
{
    textToSpeech.Init();
}
```

7. Add a **OnDestroy()** function, add the stop function for **textToSpeech**. This will allow to close the Text To Speech API properly.

```
private void OnDestroy()
{
    textToSpeech.Stop();
}
```

8. In order to speech a text, call the **SpeechText(string text)** function. This will return a promise with the audio data we need, it is basically a float array. Unity's **Audio Source** components can read this float array and play it as audio. Let's add it after the **init()** function.

```
private void Start()
{
    textToSpeech.Init();
    textToSpeech.SpeechText("Hello World").OnSuccess((audioData) =>
    {
        // audioData will be a float[]
    });
}
```

9. To play the audio, let's create a new game object with an `Audio Source` component attached to it and play it.

```
private void Start()
{
    textToSpeech.Init();
    textToSpeech.SpeechText("Hello World").OnSuccess((audioData) =>
    {
        // Create a new game object
        GameObject audioGameObject = new();
        audioGameObject.name = "My text to speech";
        // Create an Audio Source Component attached to the game object
        AudioSource audioSource = audioGameObject.AddComponent(typeof(AudioSource)) as AudioSource;
        // Create an audio clip with the audio data
        AudioClip audioClip = AudioClip.Create(audioGameObject.name, audioData.value.Length, 1, 44100, false);
        audioClip.SetData(audioData.value, 0);
        // Play The Audio!
        audioSource.clip = audioClip;
        audioSource.Play();
    });
}
```

10. Hit play on your Unity Editor and you should hear the text to speech
Hello World

API

Initialize

Before using Text To Speech make sure to create an instance of `TextToSpeech` and initialize it with `init()`. Normally you will like to execute it inside `Start()` function.

```
TextToSpeech textToSpeech = new();
void Start()
{
    textToSpeech.Init();
}
```

List available voices

You can list all available voices installed on your Windows device using `GetSpeechVoices()`. This will return an array of `VoiceToken`. A voice token has an `Id`, `Name`, `VoiceName`, `LanguageCode` and `Gender`.

- `Id` represents the path to your installed voice language registry. I.E. `HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Speech\Voices\Tokens\TTS_MS_EN-US_DAVID_11.0`
- `Name` represents the speech voice actor and language. I.E. Microsoft David Desktop - English (United States)

- `VoiceName` represents the voice actor. I.E. Microsoft David Desktop
- `LanguageCode` represents the language code identifier for Windows. Please refer here for more information. I.E. for English language, the code is 409
- `Gener` represents the voice actor's gender. I.E. Male

```
VoiceToken[] voices = textToSpeech.GetSpeechVoices();
for (int i = 0; i < voices.Length; i++)
{
    Debug.Log(voices[i].Id);
    Debug.Log(voices[i].Name);
    Debug.Log(voices[i].VoiceName);
    Debug.Log(voices[i].LanguageCode);
    Debug.Log(voices[i].Gender);
}
```

Set a speech voice

To change to a new speech voice, call `SetNewSpeechVoice(string id)` function. In order to change to another speech voice, first you will need to know the speech token id. Please refer to List available voices in order to get voices' ids.

```
textToSpeech.SetNewSpeechVoice("HKEY_LOCAL_MACHINE\\SOFTWARE\\Microsoft\\Speech\\Voices\\V
```

Set a speech speed

To change to a new speech speed, call `SetNewSpeechSpeed(int speed)` function. The speed range can be from -10 (slowest) to 10 (fastest). Set it to 0 for normal speed.

```
textToSpeech.SetNewSpeechSpeed(8);
```

Speech a text

Call `SpeechText(string text)` function in order to get a speech audio data. This will return a promise with the audio data generated from the text. Combine it with Unity's Audio Source component to play the audio.

```
// Speech "Hello Workd"
textToSpeech.SpeechText("Hello Workd").OnSuccess((audioData) =>
{
    // Once the Audio Data is ready, play it with Unity's Audio Source component
    GameObject audioGameObject = new();
    audioGameObject.name = "My text to speech";
    AudioSource audioSource = audioGameObject.AddComponent(typeof(AudioSource)) as AudioSource;
    AudioClip audioClip = AudioClip.Create(audioGameObject.name, audioData.value.Length, 1,
    audioClip.SetData(audioData.value, 0);
    audioSource.clip = audioClip;
    audioSource.Play();
});
```

Sample rate

The sample rate value needed for wav audio data is 22050. This is just a helper property for creating an audio clip.

```
Debug.Log(textToSpeech.samplerate) // Prints 22050
AudioClip audioClip = AudioClip.Create(audioGameObject.name, audioData.value.Length, 1, t
```

Stop text to speech

To properly close text to speech, call `Stop()` function. Normally you will like to execute it inside `OnDestroy()` function.

```
private void OnDestroy()
{
    textToSpeech.Stop();
}
```

Frequently Asked Questions

Will this work on Android?

No. ### Will this work on IOS? No. ### Will this work on Linux? No. ### I have installed some voices packages, why can't I see them on Unity? Some Voices packages are locked to be used by 3rd party software, however there are some workarounds to unlock them. Be advised that these workarounds require to edit registry files, please follow these instructions under your own risk
unlock all windows 10 tts voices