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ReadSpeaker® speechEngine SDK Embedded

ReadSpeaker speechEngine SDK Embedded gives developers the tools they need to create speech-enabled applications on small-footprint devices.

Product Description

ReadSpeaker speechEngine SDK Embedded is specifically designed to help app developers quickly and seamlessly integrate ReadSpeaker's voices into their mobile app or other application. The TTS engine is integrated into any kind of supported small-footprint device. It is suitable for all embedded applications, from mobile phones to medical equipment. A range of mobile operating systems is supported including iOS, Android, and Embedded Linux. Others can be supported on request.

The SDK consists of speech engine libraries, voice specific files, and documentation. It is shipped for the ordered platform. The use of ReadSpeaker speechEngine SDK Embedded is governed by a required separate License Agreement which determines the licensed platform and context.

Features

Leading synthetic speech for superior customer experience

ReadSpeaker's text-to-speech voices are extremely accurate, clear and natural, designed to deliver the highest quality sound and exceptional performance every time and are continually optimized.

100+ voices in 30+ languages available

New voices are being developed all the time. Presently, ReadSpeaker has TTS voices in 30+ languages and 100+ voices available. For a complete list of available languages go to our languages web page.

Modifiable speaking rate, pitch, and volume (DSP)

The speaking rate, pitch, and volume can be configured as desired.

Use SSML to tweak the audio output

SSML gives you more control over how the text is read. SSML can be used to adjust the prosody of the speech, insert pauses/breaks of a certain length, insert phonetic transcriptions, and switch voices and languages in the same text.

User dictionary, IPA supported

The voice specific files included in ReadSpeaker speechEngine SDK Embedded for each licensed language include a dictionary file, the user dictionary, in which the customer can customize the pronunciation of words or sequences of words in a specific way to increase the quality of the reading. The user can create multiple user dictionaries per language if required. The user dictionaries accept IPA input.

Voice/language switch

Switching to another language or to another speaking voice in the same language during the conversion from text to speech in response to SSML code in the input text is supported.

Technical Specifications

Supported Operating Systems

- Android
- Embedded Linux
- iOS
- other OSs can be supported on request

CPU

ARM 32/64 bit

- USS HQ: 400 MHz or higher
- DNN HQ Micro: 1.6 GHz or higher (64-bit only)
- DNN Micro, HMM: 800 MHz or higher

Voice footprint

- USS HQ, Unit Selection Synthesis technology, 80 ~ 600 MB per voice
- DNN HQ Micro, Deep Neural Networks technology, 7 ~ 32 MB per voice
- DNN Micro, Deep Neural Networks technology, 4 ~ 30 MB per voice
- HMM, Hidden Markov Models, 13 ~ 16 MB per voice

Runtime memory

- 35 ~ 90 MB (USS HQ)
- 5 ~ 10 MB (HMM, DNN Micro, DNN HQ MIcro)

Development languages

- C / C++ (WinCE/Embedded Linux)
- Objective-C (iOS)
- Cocoa Touch Framework (iOS)
- Java (Android)

Supported text input formats

- Plain text
- SSML

Supported character encoding for text input

- UTF8 (all voices)
- Multibyte code set (certain voices only)

Supported audio formats

- 16-bit linear PCM
- 16-bit linear PCM Wave
- 8-bit A-law PCM
- 8-bit A-law PCM Wave
- 8-bit μ-law PCM
- 8-bit μ-law PCM Wave
- 8-bit μ-law PCM SUN AU
- 8-bit unsigned linear PCM Wave
- 4-bit Dialogic ADPCM

Voice/language switch

Switching to another language or to another speaking voice in the same language can be realized through SSML commands.

Simple implementation

ReadSpeaker speechEngine SDK Embedded is easy to implement using the supplied documentation and sample code.

Installation and implementation support

ReadSpeaker speechEngine SDK Embedded includes implementation support by our Support Team, who will assist the customer wherever necessary in understanding the instructions to carry out the integration.

License file required

The use of ReadSpeaker speechEngine SDK Embedded is governed by a required separate license agreement. This license agreement determines which voices are licensed and the context within which the product may be used, usually the name and a description of the application/device that will be speech-enabled. It also specifies technical restrictions to the text-to-speech conversion, such as the synthesis speed rate. A license file is a part of the product and technically enforces elements of the license agreement. The agreement is based on trust that the customer will not exceed the specified use.

Product Components

ReadSpeaker TTS Engine

The ReadSpeaker TTS Engine includes the voice database and a pronunciation dictionary for each licensed language/voice. The voices database(s) contain audio fragments which are used by the TTS Engine for voice synthesis. The TTS engine is called upon by the application to convert text to voice.

User documentation

Includes the APIs needed and the implementation instructions..

Requirements and Limitations

Scope of use

ReadSpeaker Engine SDK may only be used within the context and with the restrictions described in the license agreement. These will include for which application the product was licensed and the intended use of that application.

Intended Use

Customers may only use ReadSpeaker speechEngine SDK Embedded in accordance with this product specification and the separate required license agreement.
Any other use of ReadSpeaker speechEngine SDK Embedded is not considered intended use.

Disclaimer

Features listed in this document are guaranteed only if ReadSpeaker speechEngine SDK Embedded has been implemented according to our implementation instructions. Specifications and features as described in this product specification can be changed by the manufacturer without prior notice.