

# Web apps that talk - Introduction to the Speech Synthesis API



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The Web Speech API adds voice recognition (speech to text) and speech synthesis (text to speech) to JavaScript. The post briefly covers the latter, as the API recently landed in Chrome 33 (mobile and desktop). If you're interested in speech recognition, Glen Shires had a great writeup a while back on the voice recognition feature, "Voice Driven Web Apps: Introduction to the Web Speech API".

## Basics

The most basic use of the synthesis API is to pass the `speechSynthesis.speak()` and utterance:

```
var msg = new SpeechSynthesisUtterance('Hello World');
window.speechSynthesis.speak(msg);
```

However, you can also alter parameters to effect the volume, speech rate, pitch, voice, and language:

```
var msg = new SpeechSynthesisUtterance();
var voices = window.speechSynthesis.getVoices();
msg.voice = voices[10]; // Note: some voices don't support altering params
msg.voiceURI = 'native';
msg.volume = 1; // 0 to 1
msg.rate = 1; // 0.1 to 10
msg.pitch = 2; // 0 to 2
msg.text = 'Hello World';
msg.lang = 'en-US';

msg.onend = function(e) {
  console.log('Finished in ' + event.elapsedTime + ' seconds.');
```

```
speechSynthesis.speak(msg);
```

## Setting a voice

The API also allows you to get a list of voice the engine supports:

```
speechSynthesis.getVoices().forEach(function(voice) {  
  console.log(voice.name, voice.default ? voice.default : '');  
});
```

Then set a different voice, by setting `.voice` on the utterance object:

```
var msg = new SpeechSynthesisUtterance('I see dead people!');  
msg.voice = speechSynthesis.getVoices().filter(function(voice) { return voice.default; })[0];  
speechSynthesis.speak(msg);
```

**Note:** Depending on the platform, Chrome might have to be online for the speech synthesis to work. Examine the `localService` flag of the `voice` object to tell.

## Demo

In my Google I/O 2013 talk, "[More Awesome Web: features you've always wanted](http://www.moreawesomeweb.com)" ([www.moreawesomeweb.com](http://www.moreawesomeweb.com)), I showed a Google Now/Siri-like demo of using the Web Speech API's SpeechRecognition service with the Google Translate API to auto-translate microphone input into another language:

DEMO: [http://www.moreawesomeweb.com/demos/speech\\_translate.html](http://www.moreawesomeweb.com/demos/speech_translate.html)

Unfortunately, it used an undocumented (and unofficial API) to perform the speech synthesis. Well now we have the full Web Speech API to speak back the translation! I've updated the [demo](#) to use the synthesis API.

## Browser Support

Chrome 33 has full support for the Web Speech API, while Safari for iOS7 has partial support.

## Feature detection

Since browsers may support each portion of the Web Speech API separately (e.g. the case with Chromium), you may want to feature detect each feature separately:

```
if ('speechSynthesis' in window) {  
  // Synthesis support. Make your web apps talk!  
}  
  
if ('SpeechRecognition' in window) {  
  // Speech recognition support. Talk to your apps!  
}
```