How To Make Your Mac Read To You

Release 1.0.0

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Contents

1 Introduction

> *It's late at night. Your eyes are blurry from hours of reading at your computer screen but you have pages more to go before tomorrow's deadline. Wouldn't it be nice if you could close your eyes and have your computer read those last few pages to you?*
>
> *You just finished that paper you had so much trouble writing. You don't have time to find someone to proofread it before tomorrow and you've been staring at it for so long you know you'll read right over any mistakes. Wouldn't it be nice if your computer could read it to you out loud, making those silly grammatical mistakes sound obvious?*

If you're using Apple's OS X, you can do both of those things easily. Apple was one of the early adopters of speech synthesis in 1984 and support for text to speech has been in their operating sys-

tems ever since. OS X has been shipped with all Macintosh computers since 2002. Unfortunately Apple is fond of moving the location of speech related menu items between versions, making users find them again. This document will teach you how to assign speech actions to a quick key combination in OS 10.6 “Snow Leopard” and how to use the command line tool “say” to create audio files of text to listen to at your leisure.

2 Universal Access

Many of OS X’s speech features are presented within the context of *Universal Access* which comprises extensions to the user interface that aid users with vision disabilities. The Universal Access tools are designed for users with disabilities, so they assume that if you want text on the screen spoken to you, you will want **all** of the text on the screen spoken to you all of the time. VoiceOver is a feature with Universal Access that narrates whatever you pass your mouse cursor over. Since we just want the computer to speak some specific things, we will not use VoiceOver or Universal Access but they are worth addressing because many sources that you may come across regarding Apple’s speech tools will direct you to Universal Access.

3 Speak Selected Text Shortcut

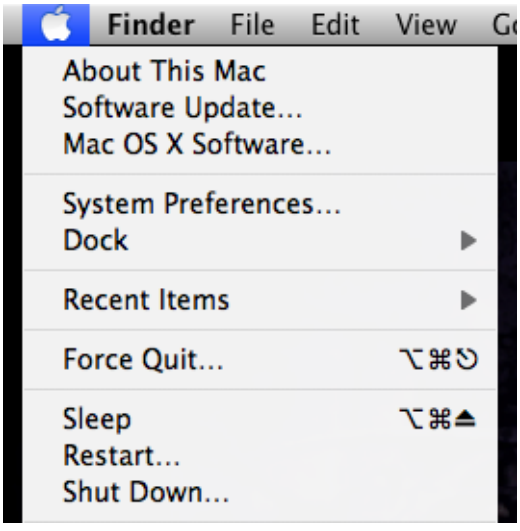

Figure 1: A screenshot of the apple menu showing the System Preferences menu option.

Next we will create a keyboard shortcut to speak highlighted text in any application. First, open the System Preferences. You can do this by opening the Apple menu at the top left of the screen and selecting “System Preferences...” (see *Figure 1*). Now select the “Speech” icon from the system preferences. You will now be confronted with the Speech preferences dialog. Check the third checkbox (see *Figure 2*) and press the “Set Key...” button directly to the right of the third checkbox. Finally, press a key combination that you would like to use for this action, preferably

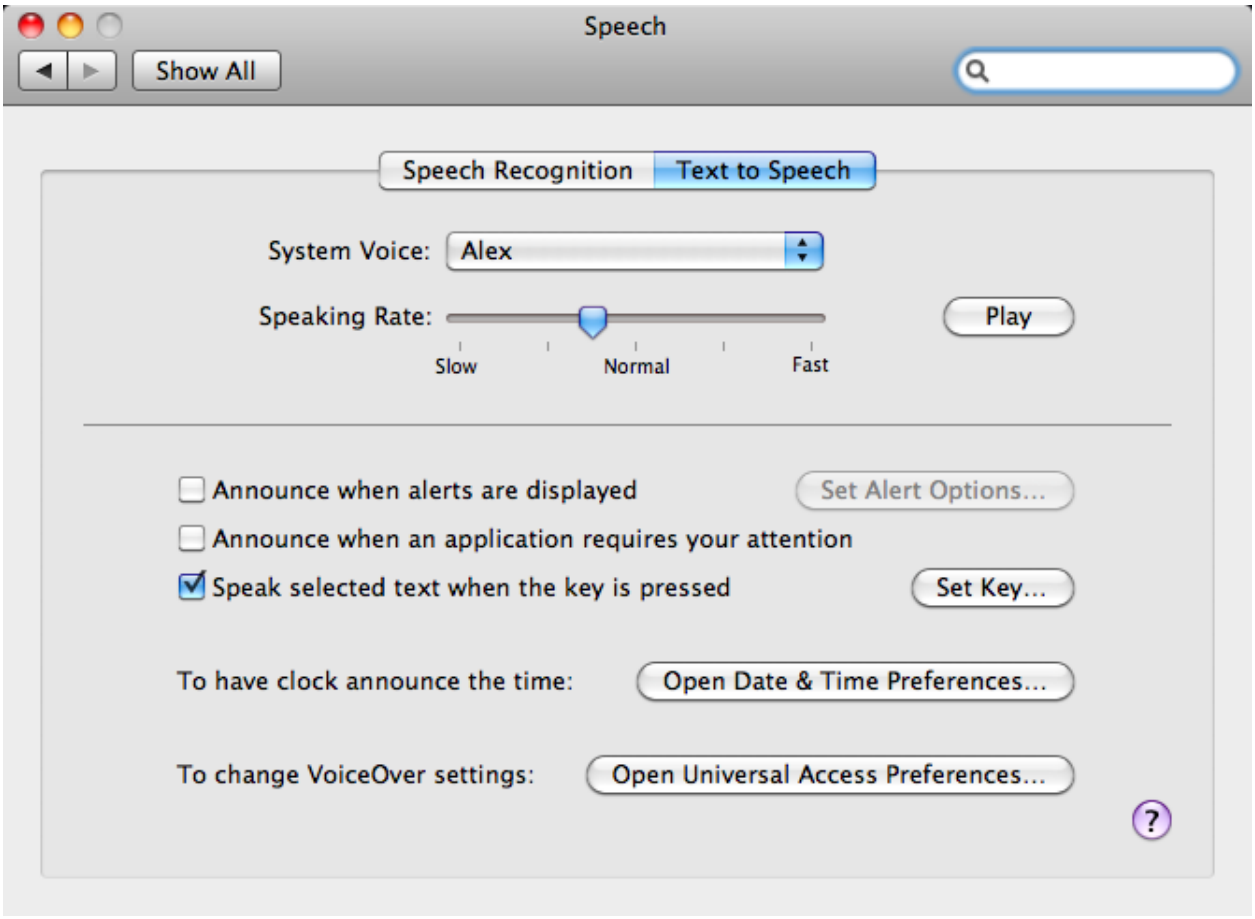

Figure 2: The Speech Preferences dialog. See the third checkbox labeled "Speak selected text when the key is pressed."

one that is not used by any other common action. Control-S is a simple choice that is not commonly used elsewhere (not to be confused with Command-S which is very commonly used).

You now have a keyboard shortcut to speak any text you like. If you are reading this document on your computer try it by highlighting this sentence and pressing your chosen keyboard shortcut. Here's a fun sentence to try: "I am a computer. Boop beep boop be doop beep!" If you want to stop the computer in the middle of speaking press the shortcut again.

4 Advanced Tools

4.1 An Introduction to Say

Now that we've covered the basics, there are some more advanced tools that can be useful. The program "say" is included with OS X. It is designed to be run at the command line and can convert text you type directly or the entire contents of a text file to speech that is either immediately played or saved to a file. To use a command line tool you will need to use a program called Terminal. To find it go to the Applications folder, then the Utilities folder, then double click on Terminal. Or go to the spotlight search bar on the top right of the screen and type Terminal. When the Terminal app appears on the search list, press enter.

Once we have a terminal window open we can play with say. Try typing:

```
say "I can make you say whatever I want."
```

You should hear the computer speak the text in quotes. The default mode, as you just heard, is to speak the text directly through your speakers (or your selected sound device if you have changed it). Lets say we want to make an audio file to listen to later, or to send to someone else, or perhaps because we'd like to be able to pause and resume the speech. We can do that using the following command:

```
say "I can make you say whatever I want." -o speech.wav.
```

The text in quotes will be spoken into a file called speech.wav. You can also use Apple's AAC compression file format by using the extension m4a rather than wav. The output audio file is saved in the folder that you executed "say" in. If you are not sure where that is, type:

```
pwd
```

This will print out Terminal's *working directory*, the address of the folder that Terminal is currently in. The address is a list of all the folders leading to the working directory separated by slashes, much like what you see in web addresses after the .com (or .org, or .net).

4.2 'Say' an Entire Document

Making your computer speak a short sentence that you have to type at the command line is not much of a convenience. However, you can tell "say" to create an audio file of an entire text file.

This is much more useful as you can convert the entire document and sit back and listen. If you have to get up you can pause it, if you miss something you can rewind a bit and hear it again. The one snag is that "say" can only handle simple text files. It will not work on pdf or Microsoft Word documents. If you have a pdf or Word document that you want to have spoken to you, you can open the document and copy the text into TextEdit (in the Applications folder). You may need to clean up the pasted text as many pdf documents have headers and/or footers that will get pasted in the middle of the text of your document. Having a sentence interrupted to hear that you're on page three of seven can be quite distracting. You can manually scan and delete unwanted sections in TextEdit and save the cleaned up file.

This next part may be a bit unfamiliar to those who do not often use the command line. You will have to change Terminal's working directory to the folder where you have saved the document you want to "say". To do this, you can use the "cd" (change directory) command to move to the desired folder. You can enter the entire path at once such as:

```
cd Documents/SayStuff
```

or you can move incrementally with the commands:

```
cd Documents
```

```
cd SayStuff
```

Both of these sequences will bring you to the same directory. Once you are in the folder with your text document, use "say" like this:

```
say -f MyDocument.rtf -o MyDocument.m4a
```

The file name after -f is the name of your text document (the extension may be other than rtf). The file name after -o is the name that the audio output file will be given. The output file name does not need to be similar to the input text document's name. For long documents "say" may take a while to process.

5 Conclusion

OS X has an array of text to speech tools that are useful even to those without vision impairments. Those tools are not always easy to locate and many users are unaware of their existence. Now that you know how to speak highlighted text and create audio files of documents it's time to give your eyes a rest and let your ears do the walking.