

Look Ma, No Hands: Speech Recognition & Digital Dictation for Everyday Use



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Look Ma, No Hands: Speech Recognition & Digital Dictation for Everyday Use

Explore the newest versions of speech recognition software with this informative session. Topics include: new stand-alone applications; custom commands; apps that are built into new operating systems; and speech recognition solutions for mobile devices. Find out what's new in the world of digital dictation and why tape is dead!

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2:35-3:40 PM

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Speech Recognition:
Hear, There and
Everywhere!
Friday April 5, 2013

Introduction

The ability to talk to your computer and have your voice converted into text is certainly something that's come a long way over the last little. Not that long ago demonstrations for an audience of earlier versions of Dragon for the PC resulted in a highly entertained audience due to all of the transcription errors made at the time. It was unclear if it was a presentation about technology or stand-up comedy at that point – with the computer getting most of the laughs.

Certainly though, speech recognition or voice recognition has made incredible strides over the last little while. This article, or at least most of it was done largely with the dictation built-in to Mac OS Mountain Lion and Dragon NaturallySpeaking 12.

Speech recognition and digital dictation has come a long way in the last 5 or so years. Back at the turn of the century (has it already been 13 years) speech recognition products required you to pause between each word in order for the program to recognize what you were saying. This was known as distinct speech recognition and it was unnatural to say the least. It seemed that trying to train the speech recognition technology of yesteryear was a challenge of herculean proportions. However, starting with version 8 of Dragon NaturallySpeaking for Windows, speech recognition for a Windows based computer really became a viable option for most folks. During this same time period, we also saw the transition away from analog tape-based transcription systems the digital-based systems.

Today, not only can you speak naturally to computer, you are no longer limited to only using a headset to do so. You can now use a variety of input methods including wireless headsets, USB desktop microphones and even smart devices like your iPhone or android device. You can also use your digital recorder to record and then transfer dictation for automatic transcription by your speech recognition software. These options allow an office to mix attorneys and staff who prefer the traditional method of dictating with transcription by a white person with those who would prefer to have the computer do this transcription for them.

What is the current state-of-the-art?

Digital transcription

When it comes to digital transcription, state-of-the-art hardware comes from 3 primary companies:

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Olympus DS-7000	Philips DPM8000	Grundig Digta 7
http://bit.ly/15U17Rt	http://bit.ly/15U1cEv	http://bit.ly/15U25gp
		

all of these companies offer recording and transcription equipment for use with digital transcription software. Each of these companies produce their own transcription software or you can buy transcription software from other third-party providers, including but not limited to:

- Quikscribe (www.quikscribe.com)
- BigHand (www.bighand.com)
- StartStop.com (www.startstop.com)
- Transcription Gear.com (www.transcriptiongear.com)
- NCH (www.nchsoftware.com)

There are differences between professional transcription products and those that you find in your local office supply store. Professional transcription products record in the DSS or DSS Pro file format, designed specifically to capture speech in extremely small file sizes. This makes it very easy to email or otherwise transfer digital dictation files across a network or the Internet. Professional digital recorders commonly incorporate a 4 in 1 slide switch control rather than pushbuttons. This standard feature of traditional transcription equipment it is more efficient when dictating. Finally, these professional digital recorders work the same way as an analog tape recorder: they allow you to rewind and record over any portion of your dictation quickly and easily - try doing that with a low-end digital recorder and you'll find that you can't. You can also insert your dictation at any point in a file without overwriting the existing speech. These are just a few of the things that differentiate professional digital transcription equipment from consumer level products not suitable for the law office.

For lawyers used to a wired microphone, major providers also produce wired and wireless microphones designed to stay in the office.

Speech recognition

The leader in voice recognition has certainly been Nuance. Nuance has continued to refine Dragon NaturallySpeaking (“Dragon”) to the point where it is now almost indistinguishable from magic. You can use it to not only dictate text but also to control applications, send documents to printers and much, much more. Dragon also has the ability to be trained, which is very useful for unusual names, words expressions and the like.

What’s even nicer about the latest versions of Dragon NaturallySpeaking is that you can now have different input devices associated with a single-user profile: this is how Dragon NaturallySpeaking recognizes you and saves all of your corrections and training. So now, if you want to use a digital recorder, a headset and a smart phone for speech recognition, you no longer have to have a separate user profile for each device.

Not to be outdone, Microsoft has built a speech recognition engine into Windows version 7 and higher. Similarly, Apple has built speech recognition into OS X Mountain Lion and higher.

Furthermore, you can get voice recognition on your iPad and Android tablet as well as on your smart phone.

Lastly, you can carry around a digital dictation device and do dictation on the road which then can be sent to your desktop or laptop for transcription purposes using Dragon as mentioned under digital transcription.

Platforms

PC Laptops and Desktops

In the movie Highlander, the tag line was *“There can be only one.”* When it comes to PC based fully functional speech recognition this is just as true: there is only one choice today and that is Dragon NaturallySpeaking. Nuance Communications who also produces PaperPort, OmniPage, PDFConverter and other software, produces Dragon NaturallySpeaking. The latest version of Dragon NaturallySpeaking (“DNS”) is version 12.5 which comes in a number of different editions for Windows:



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- Home - this is the least expensive and least functional of all the editions and you should avoid it.
- Premium – DNS Premium is a great choice to experiment with speech recognition on your PC without incurring the cost of the professional and higher editions. Premium gives you the same speech recognition engine and much of the functionality of the more expensive editions, e.g. Voice Commands, multiple device profiles, wireless dictation and using the Dragon dictation app on a smart device. However, you cannot save the speech file so that you can make changes after you close the document and you cannot create customized macros.
- Professional - DNS Professional provides all the functionality of DNS Premium as well as advanced custom commands, transcription and remote desktop connections in addition to other features.
- Legal – DNS Legal provides all the features of professional as well as a legal dictionary and the ability to use a foot pedal with DNS.

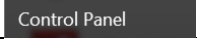


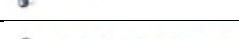


Nuance provides a feature comparison guide for the various additions at <http://bit.ly/14KNmHu>.

Windows Voice Recognition

Microsoft has added speech recognition to its Windows desktop operating system. While not as full-featured as DNS, it can still introduce you to the world of speech recognition for dictation and for controlling your computer.


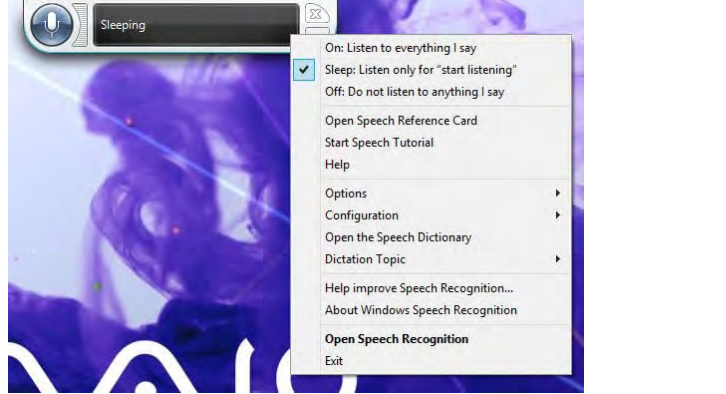
Microsoft included speech recognition beginning with Windows 7. While you can use a variety of input devices, Windows prefers a headset. This paragraph of the paper was dictated using Windows 7 speech recognition tools with a web cam microphone. While it works, it was not as easy as using Dragon NaturallySpeaking. However, it is a great way to learn about speech recognition and to control your computer for free.

Window 7: To activate speech recognition in Windows 7, do the following:

Click the Start button	
Click the Control Panel	
Click Speech Recognition	
Click Setup Microphone	
Click Take Speech Tutorial	
Click Start Speech Recognition	
Click Open the Speech Reference Card for commands	
Start talking	

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Windows 8: To activate speech recognition in Windows 8, do the following:

<p>From the Start Screen, type speech recognition , or</p>	
<p>Right mouse click on the speech recognition app to bring up the speech recognition menu.</p>	
<p>Click Start Speech Tutorial</p>	
<p>Say "Start Listening" to begin using speech recognition</p>	

With Windows speech recognition, you can control a number of Microsoft programs as well as a number of programs within Windows. For example, if you say "open excel" Windows opens Microsoft Excel. You can also open Google Chrome or Internet Explorer and navigate using your voice.

General Commands include:

"Start listening"

Tells WSR to start listening to your commands/dictation.

"Stop listening"

Tells WSR to stop listening for your Speech.

"How do i [TASK NAME]"

Allows you to ask a question to your computer. The task name is used to open the help window in Windows. For example, "How do I delete my internet cookies?".

"Open [APPLICATION NAME]"

"Start [APPLICATION NAME]"

Tells WSR to start any application installed on your computer using Speech. For example, "Open Internet Explorer"

"Show Speech Recognition Options"

"Show Speech options"

Opens the Speech Recognition context menu showing various settings for the application.

"Open Speech Recognition"

"Show Speech"

"Show Speech Recognition"

"Restore Speech"

"Restore Speech Recognition"

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"Maximize Speech"

"Maximize Speech Recognition"

Opens the Speech Recognition top level user interface if it's hidden or minimized.

"Hide Speech"

"Hide Speech Recognition"

"Minimize Speech"

"Minimize Speech Recognition"

Hides the Speech Recognition top level user interface.

"Move Speech Recognition to top"

"Move Speech Recognition to the top"

"Move Speech Recognition to bottom"

"Move Speech Recognition to the bottom"

"Move Speech Recognition"

Moves the Speech Recognition top level user interface to a specified location, or simply alternates between the top and the bottom positions.

"Show reference card"

"What can I say?"

Opens a window containing a list of commands you can say.

"Open Speech Dictionary"

"Launch Speech Dictionary"

Opens the Speech Dictionary where the user can add, remove, or block words for dictation.

For a more detailed list, you can open the Speech Recognition Reference card in Windows or visit Next Generation Technologies Windows Speech Recognition Command List page at <http://bit.ly/14KWuMc>.

Mac

There are two options for having speech or voice recognition on your Mac.

Apple's built-in voice recognition

- What you may not realize is that Apple comes with a built-in speech recognition utility in Mountain Lion.
- You don't have to install or download anything as it's already built into the operating system.
- When compared to Dragon Naturally Speaking for the PC, you will see that it certainly isn't the most full-featured of applications, but experience shows that the voice recognition quality is actually quite good! Surprisingly good actually!
- You enable it through systems preferences under "Dictation and Speech" (look for the icon with the microphone in the "System" row):

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From here you click on “Dictation & Speech” and then click dictation on.



- This portion of the paper was dictated using a USB microphone headset from Logitech. This requires that you may also need to go back into Systems Preferences and enable both input

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and output to the USB headset device. Fairly straightforward. Some folks claim to use only the built-in microphone on their Mac and receive quite satisfactory dictation results. However, a USB headset makes sense to use as it isolates out some ambient noise around you.

- From there all you have to do is go to Word or some other application in which you wish to dictate and double-click the function key [fn]. That brings up a little dictation icon. You then start to dictate as much as you want and then click the function key one more time (you will hear a tiny beep) and the computer will then transcribe your text.



- If you were used to using Dragon on the PC, Dictation in Mountain Lion is a little bit different in that you don't see your words being transcribed as you speak. Rather, the transcription is performed after you click the function key to stop the dictation.

- There are a number of features such as dictation shortcuts:

- To help you get started using dictation in OS X Mountain Lion, Christina Karasiewicz { <http://www.christiankonline.com/dictation-shortcuts/> } compiled a list of **50+ dictation shortcuts** in Mountain Lion that you can use to manipulate text, insert symbols, and use just your voice to compose documents, emails, status updates and more in OS X Mountain Lion. Her tips are reproduced here:

- ?new line? moves your cursor to a new line
- ?new paragraph? inserts a new paragraph
- ?cap? capitalizes the next spoken word
- ?caps on/off? capitalizes the spoken section of text.
- ?all caps? makes the next spoken word all caps
- ?all caps on/off? makes the spoken section of text all caps. Ex: caps on/off test would result in TEST
- ?no caps? makes the next spoken word lower case
- ?no caps on/off? makes the spoken section of text lower case
- ?space bar? prevents a hyphen from appearing in a normally hyphenated word
- ?no space? prevents a space between words
- ?no space on/off? to prevent a section of text from having spaces between words
- "period? or ?full stop? places a period at the end of a sentence
- ?dot? places a period anywhere, including between words
- ?point? places a point between numbers, not between words
- ?ellipsis? or ?dot dot dot? places an ellipsis in your writing
- ?comma? places a comma

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- ?double comma? places a double comma (,,)
 - ?quote? or ?quotation mark? places a quote mark (")
 - ?quote ... end quote? places quotation marks around the text spoken between
 - ?apostrophe? places an apostrophe (')
 - ?exclamation point? places an exclamation point (!)
 - ?inverted exclamation point? places an inverted exclamation point (¡)
 - ?question mark? places a question mark (?)
 - ?inverted question mark? places an inverted question mark (¿)
 - ?ampersand? places an ampersand sign (&)
 - ?asterisk? places an asterisk (*)
 - ?open parenthesis? opens a set of parenthesis (())
 - ?close parenthesis? closes a set of parenthesis ())
 - ?open bracket? opens a set of brackets ([])
 - ?close bracket? closes a set of brackets (])
 - ?open brace? opens a set of braces ({})
 - ?close brace? closes a set of braces (})
 - ?dash? places a dash (-) with spaces before and after
 - ?hyphen? places a hyphen between words without a space
 - ?em dash? places an em dash (—)
 - ?underscore? places an underscore (_)
 - ?percent sign? places a percent sign (%)
 - ?copyright sign? places a copyright symbol (©)
 - ?registered sign? places a registered trademark symbol (®)
 - ?section sign? places a section sign (¶)
 - ?dollar sign? places a dollar sign (\$)
 - ?cent sign? place a cent sign (¢)
 - ?degree sign? places a degree symbol (°)
 - ?caret? places a caret (^)
 - ?at sign? places an at symbol (@)
 - ?pound sign? places a pound symbol (£)
 - ?greater than sign? places a greater than symbol (>)
 - ?less than sign? places a less than symbol (<)
 - ?forward slash? places a forward slash (/)
 - ?back slash? places a back slash (\)
 - ?vertical bar? places a pipe (|)
 - ?smiley? or ?smile face? places a :-)?
 - ?frowny? or ?frown face? places a :-)?
 - ?winky? or ?wink face? places a ;-)?
 - ?e g? places a ?e.g.?
 - ?i e? places a ?i.e.?
- As you can see this is a fairly long list of shortcuts that you can use for voice recognition.

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- What don't you get? Well, for one, you don't have the ability to use dictation for commands or to open applications. That means you can't say to "Open Outlook" for example.
- But in Outlook, you can use dictation to search for a contact in the Address Book and then dictate into the email.
- You can dictate a web address into Safari and a search into Google. Dictating into Evernote and Word was straightforward. In Excel, it will transcribe words correctly and numbers correctly. In TweetDeck, Dictation was quite straightforward.
- If dictation incorrectly recognizes a word, there isn't much you can do about it as there doesn't seem to be a training ability as there is with Dragon Naturally Speaking. Pity!

Dragon Naturally Speaking for the Mac version 3

According to Nuance's website, users of DragonDictate and MacSpeech on OS X 10.7 Lion or higher [Mountain Lion] may have to upgrade these programs to work properly. This is from Nuance's website:

Apple released its latest operating system, OS X 10.7 (Lion), in July 2011. Since many of our Dragon Dictate and MacSpeech Scribe users may choose to upgrade to this operating system, we feel it is important to let you know how this Mac OS update will affect your version of our software.

Dragon Dictate 3 Customers

Dragon Dictate for Mac 3 goes beyond simple speech-to-text, and gives you control in more applications so that you can simply speak to do more than ever before. Use Dragon Dictate in Mac OS X Lion or Mountain Lion with virtually any Mac application. Create and edit documents in Microsoft Word, TextEdit, Notepad and Pages, work with spreadsheets in Microsoft Excel and Numbers, create presentations in Microsoft PowerPoint and Keynote, manage email in Mail, search the Web or your Mac desktop, post to Facebook or Twitter, and more – all by voice. Dragon Dictate's new Express Editor lets you dictate into a text field in any application on the Mac for which it does not have Full Text Control. After you finish dictating, simply transfer the text from the Express Editor to the desired application quickly and easily by voice

Dragon Dictate 2.5 Customers

With the release of Dragon Dictate 2.5.1 in August, customers can effectively use the latest release of Dragon Dictate with OS X Lion. Some customers of version 2.5 may experience occasional crashes, so it's important to install Dictate 2.5.1 (a free update) for the best user experience. If you are not automatically prompted to download this update when opening Dictate, check for updates by going to the Dictate menu and choosing "Check for updates."

Dragon Dictate 2.0 Customers

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Our testing suggests that customers may experience irregular software crashes when opening or running the software on the new Mac OS X Lion. We encourage updating to Dragon Dictate 2.5.1 (a free update) to maintain the best user experience.

MacSpeech Dictate 1.5 Customers Our testing suggests that customers may experience irregular software crashes when opening or running the software on the new Mac OS X Lion. We encourage MacSpeech Dictate customers to upgrade to the latest version of the software.

MacSpeech Scribe Customers MacSpeech Scribe 1.1.1, released in September, installs and runs on OS X 10.7 (Lion). Scribe 1.1.1 is a free update for existing Scribe customers. If you are not automatically prompted to download this update when opening Scribe, check for updates by going to the Scribe menu and choosing "Check for updates."

Notwithstanding what Nuance stated above, Dragon 2.5.2 *would not work* with Mountain Lion 10.8.2. It needed to be upgraded to version 3. And the upgrade price is the same as just acquiring the software for the first time. Not the way to reward existing customers.

Using Dragon Dictate for the Mac

- Dragon Dictate on the Mac offers a fuller range of features than you get using Dictation in OS X. It is also different from the Windows version of Dragon.
- What are the improvements in version 3?
 - As expected the voice recognition engine has been improved.
 - There is a new interactive tutorial for new users and
 - You now have transcription ability from recorded audio files. For example you can use your iPhone, iPad or iPod touch (4th gen) or your compatible Android device as a wireless microphone over Wi-Fi as a wireless microphone (or use a digital voice recorder) and capture your dictation that way for transcription on Dragon version 3.
 - Or you can use the Dragon recorder app on your iPhone, iPad or iPod touch (4th gen) or your compatible Android device to capture your dictation that way on your Mac once you are reconnected.
 - Dragon's new Express Editor lets you dictate into a text field in any application on the Mac where it does not have Full Text Control. After you finish dictating, you transfer the text from the Express Editor to the desired application by voice.
- What are the drawbacks in version 3?
 - For one the transcription ability doesn't support MP3 files.
 - As expected there are editing and correction quirks particularly if you were accustomed to using Dragon NaturallySpeaking on the PC. The two products operate very differently!!
 - At \$199 for version 3 (\$129 student/teacher discount if you qualify) it is an expensive upgrade!!
- Nuance lists approved microphones for the Mac on their website [www.nuance.com] but a good USB headset not on the list seems to work just fine as does the built-in microphone in the MacBook.

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- Having a Bluetooth microphone would allow you to be wireless of course.

What can you do in version 3?

- As expected, you can dictate into either Word or another text based application [TextEdit, Notepad and Pages], spreadsheets [such as Microsoft Excel or Numbers], presentation applications [such as Microsoft PowerPoint or Keynote], email programs [such as Microsoft Outlook or Mail], or posting into Facebook or Twitter or other social media sites.
- In addition, you can use Dragon to open applications or folders, select from among menu items, move the mouse, press keys, switch from one application to another and even create custom voice commands.
- Experience shows that it is very useful to train Dragon to recognize peoples names, as that seems to be one of the most common recognition errors.
- One of the differences between Dragon on the Mac and the PC is the training that you undergo on the Mac. On the PC, you would read a political address or some humor from Dave Berry to train your voice (which is great fun but doesn't really extend your knowledge of anything but Dave Berry). On the Mac you do not get a choice in what training you use. However the training that you go through is an explanation of how voice recognition works, so when training your voice you're actually learning about how the application will work for you.
- You can also have Dragon read the files on your computer or in email and learn from those files. As a result, it will learn proper names and other unusual words would not otherwise have been in its vocabulary.
- You can also select your accent from a given range of choices such as American, South American, British, Indian, Latino and others. For our readers from north of the border, there is no Canadian English accent available!
- One nice thing about Dragon for the Mac is the display of choices that it presents to you on screen. When you're in dictation mode, you can see a list of editing commands that you can use in this mode. If you switch to "command" mode, then you see a list of the things you can do to control your computer such as launching applications and the like.
- The "Dragon Dictate for Mac" Command Cheat Sheet can be found at:
http://www.nuance.com/ucmprod/groups/dragon/@web-enus/documents/webasset/nc_017362.pdf

Considerations

- If all you're going to do is to use Dragon for simple voice recognition inside of Word or another word processing application, then before you shell out the \$199, you owe it to yourself to try out Dictation that is already built into the Mac OS (or wait for the periodic sales that Nuance has every so often that reduces the sticker price for the software).

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- However, if you're going to be using unusual names or an unusual vocabulary and accordingly spending a great deal of time training it to be a sophisticated tool, then Dragon for the Mac is definitely worth the investment.
- Similarly, if you want to use Dragon to control applications on your Mac, then you should try the Speech Recognition command feature that is also built into OS X before purchasing Dragon for the Mac.
- However, if you want all of this rolled together in an application that will learn your voice, and continually improve in terms of its recognition, then there is no alternative but to acquire Dragon for the Mac.

Tablets

- Today's tablets either come with voice recognition built-in (such as the iPad) or you can download apps and install them to achieve voice recognition.

3rd or 4th Generation iPads

- In order to use voice recognition on the 3rd or 4th Gen iPad, you need a valid Internet connection (unfortunately it isn't built into the earlier iPads). That is because the recognition is not actually done on the iPad but rather is beamed to a central server that performs the recognition and then sends the text back to your iPad.
- It is similar to dictation on the Mac in that you dictate first and then see the words appear on the screen afterwards.
- To start using voice dictation on the iPad tap the microphone button on the iPad's on screen keyboard. To finish, you tap the button again and you see the text appear on the iPad shortly thereafter.
- Because voice dictation is available anytime your onscreen keyboard is displaying, that means you don't have to hunt for in order to use it. This basically means it's very fast and convenient.
- Here's a list of the keywords that you can use in voice recognition on the iPad:
 - **"Period"**. The "." is the standard way to end a sentence. It includes a space after the period, so you are ready for your next sentence.
 - **"Question Mark"**. The "?" also includes a trailing space.
 - **"New Paragraph"**. This keyword phrase starts a new paragraph. Remember to end the previous sentence before beginning the new paragraph.
 - **"Exclamation Point"**. The "!" includes a trailing space.
 - **"Comma"**. The "," includes a trailing space.
 - **"Colon"**. The ";" includes a trailing space.
 - **"Semi-Colon"**. The ":" includes a trailing space.
 - **"Elipsis"**. The "..." includes a trailing space.

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- **"Quote" and "Unquote"**. The " produced by saying "quote" does not produce a trailing space. The " produced by saying "unquote" *does* include a trailing space.
- **"Slash"**. The "/" symbol.
- **"Asterisk"**. The "*" symbol.
- **"Ampersand"**. The "&" symbol.
- **"At Sign"**. The "@" symbol.

Dragon Dictate App

- For those of us with second generation or earlier iPads, unfortunately the built in iPad 3rd Gen voice dictation is unavailable.
- This means that you have to download the free Dragon dictation for iPad app from the iTunes store.
- In order for Dragon to work on the iPad, you do need a valid Internet connection as the transcription is not done on the iPad itself but rather is beamed to Nuance's servers. These servers then perform the transcription and then send the text back to your iPad. The app displays "No Internet Connection" and is greyed out if you are in a dead zone.
- On opening the App for the first time you will need to agree to the licensing agreement and grant access to your address book (that is if you want Dragon to be able to add the names to its vocabulary).
- Once enabled and connected, you will see a red button with the words "Tap and Dictate" and an arrow suggesting that you speak towards the iPad's microphone.
- Tapping the dictate button starts the recording and tapping it again stops it (unless you fill up the buffer in which case it stops recording in order that it can do the transcription. It helps to learn to put in small breaks when you dictate allowing the app to catch up with your dictation).
- Your words appear after you stop the recording. Once your words appear, you can tap and dictate again, and again..and again.
- Unlike Dragon on the PC or Mac (which, at times can guess your punctuation from the way you speak), the iPad app requires you to dictate your punctuation such as "comma", "caps" and "period".
- You can't correct your dictation by speech. You have to get out the on-screen keyboard to make your corrections.
- You can keep your transcribed notes in the Dragon application (tapping "Notes" – upper left corner of the app) opens a drop-down menu that displays all your recorded transcriptions.
- Or you can copy and paste them into Pages or other application such as email or into Facebook.
- How's the recognition quality? It ranged from awesome to terrible, depending perhaps on all sorts of variables such as ambient noise, how close you are to the microphone, whether you have a cold or growly throat etc. However, considering the app is free, one can hardly complain!

PaperPort Notes App

- Nuance, the same people who do Dragon NaturallySpeaking for the PC, Dragon Dictate for the Mac and the Dragon Dictate App for the iPad, also offers the free PaperPort Notes app for the iPad that incorporates speech recognition (as well as an audio recording ability).
- Tapping on a note in PaperPort brings up the on-screen keyboard that now also displays a “Tap & Speak” button. Tapping on this starts the voice recognition within PaperPort.
- You don’t see your words appear until you tap the “Tap & Speak” button a second time (unless you have filled up the buffer in which case the app stops recording and starts processing your dictation).
- It does synch well with Dropbox and Box.net, allowing you to move your notes back and forth with ease.
- Some people like Evernote and some like PaperPort for taking the notes. Evernote, however, lacks the speech recognition capabilities of Paperport.

Android

- Android started to include speech recognition capabilities beginning with version 2.2. Version 4.1 Jelly Bean and higher now includes native speech recognition in the form of Google search and Google Now.
- While generally you need to have an active data connection to use speech recognition on Android, you can select off-line mode for the Google search tool.
- Google Now is similar to Apple’s Siri in that it can understand questions and provide responses based on those questions. There are a number of comparison videos on YouTube that you can find by searching Siri v. Android to see how the two services stack up.
- There are also a number of third-party tools including the new Dragon Go, Utter and Vlingo to name some of the more popular tools. You can also use Android speech recognition in Evernote and ListNote Speech/Text pad.
- If you are using these tools to dictate text, you need to insert punctuation by saying it e.g. to insert a “,” you would need to say the word “comma.” The same holds true to insert other punctuation such as periods, exclamation points, semicolons, etc.
- Evernote for Android now allows you to dictate directly into an Evernote note using Text to Speech feature. However, you must have an active data connection for this to work.
- The reason you need the active data connection on the Apple and Android OS devices are due to their limited processing power.

Windows Tablets

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- Windows 8 Tablets which run the full version of Windows 8 rather than Windows RT, are able to use Dragon NaturallySpeaking as these tablets run a notebook class processor and have enough memory to do so.
- Since they are running full Windows 8, they also have the same native speech recognition capabilities that a Windows 8 desktop or notebook have.
- No active data connection is required unlike with an iOS or Android tablet or smartphone.
- It has been reported that the Windows RT tablets do not have any speech recognition capabilities. As neither Dave nor I have a Surface RT or other RT based tablet, we can only go by the information available online.

RIM (BlackBerry)

- There is little information available on the new BlackBerry 10 OS and devices as at the time of writing, none of these devices were available on the open market.
- Various technology articles state that BlackBerry 10 includes voice commands (<http://www.engadget.com/2012/07/20/blackberry-10-gets-voice-commands/>). They also report that SayIt is available for BlackBerry 10 (<http://crackberry.com/sayit-blackberry-10>).
- Older versions of Blackberry devices (smartphones and tablets) had apps such as Vlingo and SayIt for speech recognition.

Smartphones

iPhone

Siri

- A lot of people have made fun of Apple's voice-commanded assistant, but ultimately many think the last laugh will be Apple's.
- Siri is your voice-commanded assistant. She can remind you to get toothpaste on the way home, tell you the score of the hockey game (and provide you with the upcoming schedule) and give you directions while driving. She can keep track of your buddies, help you choose a movie and plan your wardrobe around the weather.
- How about "What time is the sunrise in Rome?"
- Considering the immensity in understanding what we are requesting (possibly being mumbled or distorted by wind or background noise), processing it and understanding our words enough to delivery a meaningful and helpful result, Siri is a remarkable achievement.
- Most believe that Siri will continue to evolve and will be one of the best ways to interact with our technology – all through the power of our voice.

Android

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- See the previous information on Android Tablets. It is the same for Android smartphones as well.

Input Options

You have a number of options for getting your speech into the speech recognition software and are not limited to just a wired headset. Let's take a brief look at some of the various options that you have today.

Smart devices

- Nuance has created apps for iPhone and Android that allow you to use your smart device as a microphone.
 - Dragon Remote Microphone App for Android. <http://bit.ly/VLnWs0> and for iOS <http://bit.ly/VLoPAK> "Dragon Remote Microphone App for Android lets you turn your Android device into a wireless microphone for use with Dragon NaturallySpeaking version 12 over a WiFi network."
 - Dragon Recorder for iOS. Allows you to dictate and save your file to transfer to Dragon NaturallySpeaking (Premium or higher editions required) or Dragon Dictate 3 for Mac.
 - Dragon NaturallySpeaking and Dragon Dictate 3 for Mac both will work with a number of wired and wireless products. For listings of those tested by Nuance for compatibility see:
 - Dragon NaturallySpeaking <http://bit.ly/VLp660>
 - Dragon Dictate 3 for Mac <http://bit.ly/VLphix>
 - Products do not have to be on these lists of tested hardware for them to work with Dragon. Several examples of input devices that are not on the hardware compatibility list but that work with Dragon NaturallySpeaking



- Samson Go Mic <http://amzn.to/VLpx0K>

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- Jabra 9400 series Bluetooth headset <http://amzn.to/VLq3fc>



- Philips SpeechMike Air <http://www.startstop.com/speechmikeair.asp>



- Olympus DS 7000 <http://bit.ly/VJfR1y>
Philips DPM 9600



Using Voice Commands

- Perhaps the coolest use of voice or speech recognition is the ability to control your computer by voice.
- Dragon's products whether for the PC or the Mac appear to have the edge here, although the Mac does have the Speech Recognition command feature that is built into OS X.
- Windows also includes speech commands to navigate the desktop as well.
- Addendum A of this paper is a Dragon NaturallySpeaking Command Cheat Sheet from Nuance or you can download it directly at <http://bit.ly/VJhIDv>. The Command Cheat Sheet for Dragon Dictate 3 for the Mac is included as Addendum B or you can download it directly from <http://bit.ly/15U7zaS>

Tips

- Speak naturally. The applications have learned to adjust to our way of speaking and in most cases, this actually aids the recognition.
- Get the hardware!!! No a Windows 98 machine will not cut it anymore! You need to upgrade to a current processor, lots of RAM and a good USB headset to make all this work!
- Don't try to run other memory and processor intensive apps while running voice recognition. You are only going to overload your machine with predictable results.
- Get a good quality USB microphone. Remember the adage: Garbage in, Garbage out? It is as true in Speech Recognition as anywhere else.
- Think about the environment. No we are not talking going green – we are talking about ambient noise. The better you are able to isolate yourself the better your results will be.
- Correct as you go: the more you correct mistakes, the more the software will learn your speech characteristics and thereby improve its accuracy.
- Spend some time going over the video tutorials and user training guides.
- Don't try to learn how to do everything all at once – you'll quickly become frustrated

Conclusions and “Where is all this heading anyway?”

For those that are still more comfortable with transcription, tape is dead! Good luck trying to find replacement recorders and transcription units for your tape based systems. The reality is that once you make the switch to digital transcription you will ask yourself why you waited so long.

Speech recognition is a technology that has made its way from the desktop to mobile devices. With the advent of Siri from Apple and similar apps from Android and others, speech recognition is now front and center to users. Desktop software continues to improve and is useable for converting speech to text and to navigate your computer. Setup and initial training in Dragon

Look Ma, No Hands: Speech Recognition & Digital Dictation for Everyday Use.

NaturallySpeaking and Dragoon Dictate 3 for Mac has become simpler and quicker. If you haven't already used speech recognition, you will soon.

Resources

Dragon NaturallySpeaking 12 End User Workbook:

<http://bit.ly/VJi5Oq>

Dragon Dictate 2.5 User Workbook:

<http://bit.ly/WUi6CL>

KnowBrainer

<http://knowbrainer.com/>

Next Generation Technologies Windows Speech Recognition Command List page

<http://bit.ly/14KWuMc>

How to Use Windows 7 Speech Recognition

<http://bit.ly/WUfl4b>

Use Speech Recognition to operate windows and programs

<http://bit.ly/WUfncq>

Setting Up Speech Recognition in Mac OS X Lion

<http://bit.ly/WUfzIz>

How to Use Speech Recognition to Control Your Mac

<http://bit.ly/WUg2dO>

Android Voice Recognition Tutorial

<http://bit.ly/WUguZB>

Siri User Guide

<http://www.siriuserguide.com/>

Addendum A Dragon NaturallySpeaking Command Cheat Sheet

PRINCIPLES

- To click a button or other interface item, say its name preceded by "click" (see the Commands tab of the Options dialog).
- Pause before and after commands but not within them.

CONTROL THE MICROPHONE

Go to sleep | Stop listening
Wake up
Microphone off

GET HELP

Give me help
What can I say
Dragon Sidebar Help
Search Dragon Help for...

SEARCH THE COMPUTER

(requires a desktop search engine)
Search the computer for...
Search documents for...
Search email for...

EMAIL AND HOTMAIL

Open top site for Gmail | Hotmail
Show site commands
Click hide commands
Click Inbox | Drafts...
Compose new email
Go to Subject | Body | To

SURF IN INTERNET EXPLORER AND FIREFOX

Go to address. Press alt d
Go there. Press Enter
Refresh page. Press F5
Open new tabs. Press control t
Find on this page. Press control f
Open top site for Nuance Communications

SELECT TEXT

Select all
Select <xyz>
Select next <n> words
Select <start> through <end>
Select previous paragraph
Select document
Unselect that

CORRECT DRAGON'S ERRORS

Correct <xyz>
Correct that

EDIT TEXT

Resume with <xyz>
Delete line
Delete last <n> words
Scratch that <n> times
Backspace <n>
Undo that
Cut that
Paste that
Quote that
Show Dictation Box

SPELL OUT

Spell that
Spell <cap b a hyphen S>
Spell <space Charlie alpha papa>
Switch to Spell mode

MOVE THE INSERTION POINT

Insert before <xyz>
Go back
Go to top | bottom
Move down <n> lines
Go to end of line
Move left <n> characters
Page up | down

ADD LINES AND SPACES

New line
New paragraph
Press Enter
Press Tab key
Tab <n> times

MOVE IN A LIST

Move down <n>
Go to bottom | top
Press Enter
Press right arrow

FORMAT

Bullet selection. Unbullet that
Bold the previous line
Underline <xyz>. Capitalize <xyz>
Make this uppercase. Uncap that
All caps on | off

WORK WITH WINDOWS

Switch to <window name>
Minimize window
Show Desktop
Restore windows
List all windows
List windows for <program>

START AND CLOSE ITEMS (see the options for Start menu and Desktop)

Click Start
Start DragonPad
Start <item name>
Start Microsoft Word
Start Mail
Start Internet Explorer
Open Control Panel
Close window. Press alt F4

MOVE THE MOUSE

Move mouse up
Move mouse right
Move mouse down slower
Stop

POSITION THE MOUSE

MouseGrid
MouseGrid window
MouseGrid <1 to 9> <1 to 9>
Cancel

CLICK THE MOUSE

Mouse click
Mouse double click
Mouse right click

DRAG THE MOUSE

Drag mouse down faster
Mouse drag lower right very fast
Mouse drag up very fast



COMMAND TYPE	SAMPLE WORDING	WHAT HAPPENS
Search the Web (default search engine)	"Search the Web for Italian restaurants in Boston."	Your default Web browser displays the results of the default search engine for the given keywords.
Search specific Web sites	"Search eBay for maternity clothes."	Your default Web browser displays the results of searching eBay for the given keyword(s). Dragon 12 supports this feature for many Web sites, including the following: <ul style="list-style-type: none"> • About.com • Amazon • eBay • MSN • Twitter • Wikipedia
Open the top Web site from Google's "I'm feeling lucky" for given keyword(s)	"Open top site for local weather forecast."	Your default Web browser opens and displays Google's top-ranked page for the given keyword(s).
Search the Web with a specific search engine	"Search Google for 53 divided by 12."	Your default Web browser opens and displays search results for the given keywords. Dragon 12 supports this feature for the following search engines: <ul style="list-style-type: none"> • AOL • Bing • Google • Yahoo!
Search the Web for a specific type of information	"Search video for JFK inaugural address."	Your default Web browser opens and displays the results of a search for the given keywords in your default search engine's video category. Valid categories are: <ul style="list-style-type: none"> • Search (news events) for... • Search (products shops) for... • Search (maps places) for... • Search (video movies) for... • Search (images pictures photos) for...
**Post to Facebook	Post to Facebook "Looking forward to a fun night with friends"	Dragon presents a box. You can also dictate first and then say "Post that to Facebook."
**Post to Twitter	Post to Twitter "Is anyone looking for Red Sox tickets to tonight's game (question mark)?"	Dragon presents a box. You can also dictate first and then say "Post that to Twitter."

TO ...	SAY ...
**Delete the specified text or a range of text.	Delete <text> Delete from <text> to <text> Delete <text> through <text>
**Cut the specified text or a range of text.	Cut <text> Cut from <text> to <text> Cut <text> through <text>
**Copy the specified text or a range of text.	Copy <text> Copy from <text> to <text> Copy <text> through <text>
NOTE: Similar commands exist for "bold," "italicize," "underline" and "capitalize."	
Add quotes or brackets.	Quote that Empty Quotes Bracket that Empty Brackets

**Can be disabled on the Commands tab of the Options dialog.



NUANCE

1 Wayside Road • Burlington, MA 01803 • www.nuance.com/dragon

Addendum B Dragon Dictate 3 for Mac Command Cheat Sheet

HOW TO ISSUE COMMANDS

When issuing voice commands, be sure to pause before and after the full text of the command, but do not pause in the middle of the command. Do not include additional words within your command.

CONTROLLING THE MICROPHONE

Go to sleep
Wake up/Turn the microphone on
Microphone off

SELECTING TEXT

Select "text" [through/to "text"]
Select next/previous
Select all
Unselect that

EDITING AND FORMATING

Cut selection
Copy selection
Paste from clipboard
Bold/underline/italicize "text"

UNDOING AND DELETING

Scratch that
Undo last action / Redo last action

CORRECTING TEXT

Correct "text" [through/to "text"]
Show/hide Recognition window
Read document / Read the selection

INSERTING LINES AND SPACES

New line
New paragraph
Press the Enter key/Press OK
Tab key/Press the key Tab

CAPITALIZING

Capitalize "text" [through/to "text"]
Caps on/Caps off
All caps on/All caps off
Uppercase "text" [through/to "text"]
Lowercase "text" [through/to "text"]

MOVING AROUND IN DOCUMENTS

Move forward/backward [number] words
Move left/right [number] words
Go to beginning; Go to end
Move to beginning of document
Move to end of document
Insert before [text]; insert after [text]

CONTROLLING THE DESKTOP

Activate [application name]
Open [application name]
Launch [application name]
Quit [application name]
Kill [application name]
Hide this/the application
Minimize window
Zoom window
Close this window
Switch to next/previous application
Search Mac for [text]
Search Spotlight for [text]

PUNCTUATION

Period
Comma
Question mark
Exclamation point or exclamation mark
Colon
Semi-colon
Open quote/close quote
Open parenthesis/close parenthesis
Ellipsis
Ampersand
Dash
Hyphen
Put brackets around [text]
Put parentheses around [text]
Put quotes around [text]

DRAGON DICTATE WINDOW COMMANDS

Show/hide Status Window	The Status window is the primary user interface for Dragon. This "control center" for the application includes a microphone icon, a sound input level, a mode button, a "bring to front" button, and a Recognition Window to correct errors. The bottom area of the Status window indicates the dictation target window (e.g., which application Dragon will place your text into).
Show/hide Available Commands window	The Available Commands Window serves as a "cheat sheet" on your desktop to remind you about the voice commands that you can use to control your computer.
Show/hide Recognition window	The Recognition window is used to correct misrecognized text, "teaching" Dragon so that it will be less likely to make the same mistake moving forward.
Bring Dictate to the front	Brings Dragon Dictate to the front so that you can access the Status window and menu bar options.

BUTTON/KEYBOARD COMMANDS

Press Cancel/Don't Save/OK	Selects and clicks a specific button within a dialog box.
Press the key [key name]	Enters the key name as though the key had been pressed on the keyboard. Key names are alphabet keys, numbers, function keys, or other named keys.
Press the key [modifiers] [key name] [key name]	Enters the key combination as though the keys had been pressed on the keyboard. Modifiers are Control, Shift, Command, Option, Function, and Caps Lock.

WORKING ON THE WEB

Search Google/Bing/Yahoo for "text"	Select from Google, Bing or Yahoo to find your specific search criteria on the Web. For example, "Search Google for Boston Celtics schedule." These commands work regardless of what application is currently open on your screen.
Jump to [site address]	Web 100 Commands take you in your browser to any of 100 commonly used Web sites just by saying the name of the site. For example, you can say "Jump to CNN" to open the CNN web page no matter what application is currently active on your screen.
Access open location window	In Safari, this command moves your cursor to the address bar. Dictate the site address just as you would say it to a friend. When you have dictated the complete address, say "Press the key Enter."
Scroll up/down	Navigate the content of a web page by voice.
Post to Facebook	Issue this command and then dictate your text or paste the text you want to post to Facebook. You can also dictate your post first, and then say "Post that to Facebook," where "that" is the last utterance Dragon just heard.
Post to Twitter [text]	The command "tweet [text]" also allows users to post text to Twitter. Or select text (via mouse or voice command), and say "Post that to Twitter."

MANAGING EMAIL

Send email to [name]	Consult your Address Book in Mail. Dragon Dictate allows you to say the name of any person or group having an email address in your Address Book. "Name" is the primary addressee of your message. You can specify multiple recipients by appending and [Name] to your command. After you've dictated your text, say Send message to send your mail.
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