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### **introduction;¬Introduction**

This is a text to speech system produced by integrating various pieces of code and tables of data, which are all (I believe) in the public domain.

The bulk of the integration was done by Nick Ing-Simmons. See the file README for more info.

The port to the NeXT was done by Ben Stuyts. (ben@stuyts.nl --

NeXT Mail Welcome.) I have only tested this on black hardware with NEXTSTEP 3.2.

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## **gettingstarted;¬Getting started**

Make sure you have the GNU dbm library installed. I have tested it with gdbm-v1.7.3.

Then type:

```
rm -f hplay.c
ln -s play/NeXTplay.c hplay.c
make -f makefile.next
```

Test the result by typing:

```
./say Welcome to the NeXT world
```

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## **asummary;¬A summary**

Command line options:

-v	verbose
-r #	set the sampling rate in Hz. Default is 8

	KHz.
-q	turns off warnings
-l	Impulsive source (default is "NATURAL")
-c num-cascade	Switches to CASCADE_PARALLEL with number of cascaded formants
-F number	f0_flutter value
-f mSec-per-frame	Sets frame length
-t number	voicing spectral tilt in dB, 0 to 24
-x freq	voicing fundamental frequency
-p file	file to save holmes parameters to.
-S number	speed, default =1, larger means slower
-K number	umm...

say "words words and more words".

say "[phonemes]".

say < file

say

type words from stdin. A dot end a sentence and starts the conversion.

Don't expect too much speed: on my 25 MHz cube the generation of 8 KHz speech takes as long as the speech itself. The bottleneck seems to be in nsynth.c, where most of the computation is done in floating

point.

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## **dictionary;¬Dictionary**

You can get an optional pronunciation dictionary. See file README;README;;¬, section "Dictionaries" for details.

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## **services;¬Services**

Here's a Tickle-service you can use to say any text.:

```
# Begin TickleServices Version 1.01 Data
"Menu Item" = "Tickle Services/Say";
"Send Type" = "NXAsciiPboardType";
" Tcl" = "\
# Speak the selection

exec say << [pasteboard read]
";
# End TickleServices Data
```

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## **knownbugs;¬Known bugs**

- A fixed size buffer is used (in hplay.c) as a sound buffer. It is 1 MB, so you probably won't notice it. It might dump core on you though: This happens if you give it a very long sentence, and/or a high sample rate.
- It doesn't compile straight away on NEXTSTEP 3.0 systems. The compiler gives errors like:
 

```
cc -O2 -finline-functions -Wall -c holmes.c
holmes.c: In function `filter':
holmes.c:47: argument `v' doesn't match function prototype
holmes.c:47: a formal parameter type that promotes to `double'
           can match only `double' in the prototype
```

To circumvent this, change the affected functions from:

```
static float
filter(p, v)
filter_ptr p;
float v;
```

To:

```
static float
filter(filter_ptr p, float v)
```

## history; ↗ History

22-feb-94	Ben Stuyts	Initial port to NeXT.
05-mar-94	Ben Stuyts	Added 3.0 fix to known bugs section.

06-mar-94	Ben Stuyts	Fixed byte-ordering problem for Intel systems. Thanks to ugubser@avalon.unizh.ch for finding this out.
20-sep-94	Ben Stuyts	Updates for rsynth 1.0 release.