How to add new vocabulary to Talko, the easy way

Previously, I had described here: how to do compress sound using a venerable Windows 3.1 tool: Qbox Pro. The process what quite long to set up and does not always produce good results.

Today I discovered BlueWizard from this post.

BlueWizard runs on Mac and allows to tweak the process in real time to optimize the output! The author has been kind enough to make some small tweaking just for the Arduino and Talko!

Simply open your file (which has to be recorded at 8 kHz with 16-bit depth), click on the 2 tick boxes:
– "include hex prefix (0x)" to allow direct pasting into the Arduino IDE
(if you are using it for Emy's SD card do not tick this box)

- and "include explicit stop frame" to avoid the library producing gibberish noise a the end of the sound

then copy the resulting the data from the "Byte Stream" windows.



Open the Arduino IDE and paste the data stream into your code before uploading it to Talko.

Let's make a sound and process it:

say -v"alex" "We are charging our battery. And now we are full of energy. We are the robots." -r 100 -o roboter.wave

converting to 8 kHz with 16-bit depth using SoX

sox roboter.wave -r 8k -b16 roboter.wav

and the compressed version made with Talko :

the Arduino code:

```
// Talkie Adafruit library
// Copyright 2011 Peter Knight
// This code is released under GPLv2 license.

#include "talkie.h"

Talkie voice;

const uint8_t spROBOTS[]
={0xa6,0xd6,0x4a,0x67,0xd8,0xed,0xa8,0x9a,0x35,0x37,0xd5,0x8a,
0x1c,0x72,0xbf,0x84,0xcd,0x2a,0x4a,0xca,0x42,0x50,0x77,0xed,0x
6a,0x25,0xcb,0x1a,0xb3,0xa3,0xa3,0xa4,0x34,0x4b,0xb2,0xe9,0x0c
,0x9b,0xd2,0xc4,0xd9,0xa7,0xca,0x6c,0x49,0x8a,0x26,0x9d,0xaa,0
x28,0x2d,0xc9,0x96,0xad,0xbc,0xaa,0xb6,0x24,0x47,0xb5,0xd0,0x1
c,0xd3,0x92,0x9c,0xcd,0x43,0x7c,0x68,0x4b,0x72,0xd6,0x2c,0xf6,
0xa2,0x25,0xcd,0x9d,0xb3,0x4d,0xc6,0xa4,0xb4,0x4c,0x8a,0x32,0x
19,0x9d,0x92,0xb2,0xc8,0xd2,0x79,0x92,0x89,0xeb,0x14,0x36,0xd3
,0x26,0x04,0xd8,0x79,0x2c,0x01,0xbb,0x5e,0xb6,0x68,0x8e,0xed,0
x2e,0x8b,0xdd,0xea,0x51,0xd3,0xd3,0x35,0x4e,0xcb,0x73,0x74,0xf
3,0xd4,0x38,0xa3,0x4c,0xd9,0xdd,0xc3,0xed,0x96,0x2a,0x76,0xb5,
0x36,0x5d,0x9c,0xaa,0x38,0x4c,0xc7,0x75,0x52,0xaa,0xc3,0x14,0x
5b,0xb3,0x51,0xa1,0x0e,0xdd,0x64,0x92,0x4f,0x86,0x3a,0x54,0x89
,0x31,0x99,0x98,0xea,0x58,0x38,0x27,0x64,0x42,0xa8,0x73,0x81,0
x49,0x8b,0x91,0xa6,0x4e,0x19,0x36,0x22,0x4a,0x88,0x3a,0x25,0x9
8,0x0c,0x2b,0x69,0x9a,0xa4,0x49,0xbd,0xb2,0x56,0x69,0x46,0x55,
0x66,0xd5,0xb6,0xa5,0x19,0x95,0xd8,0x2c,0xda,0xb4,0xa6,0x5a,0x
52,0x8f,0xac,0x53,0x9a,0x62,0xd1,0xab,0x2a,0x72,0x68,0xb3,0xc1
,0xd8,0xcc,0xd0,0xae,0x8b,0x8a,0xe2,0xd2,0x4c,0xb9,0x4e,0x1b,0
xed,0x56,0xb7,0x62,0x3a,0x63,0xa4,0xdd,0xd3,0x4a,0xe8,0x8a,0xc
1,0x95,0x52,0x45,0xa9,0x2d,0x16,0x47,0xcb,0x94,0xb4,0xa6,0x65,
0x2a,0x8b,0x92,0xdb,0x9a,0x5a,0x25,0xd2,0x2a,0x6c,0xab,0x6b,0x
93,0x32,0x6f,0xab,0xa3,0xce,0xd5,0x32,0x2d,0xeb,0xb4,0x3a,0x55
,0xcb,0x32,0x7f,0x54,0xea,0xd8,0xac,0x5a,0xed,0x76,0xaa,0x63,0
xb7,0x18,0x93,0xcb,0xa1,0x8e,0x43,0x7d,0x54,0xae,0x84,0x3a,0x0
e,0x8e,0x15,0x99,0x93,0xea,0x58,0x38,0x43,0xbd,0x32,0xab,0x6d,
0xe2,0x0c,0xd7,0x21,0xa4,0x8a,0x5a,0xc2,0xc3,0x62,0x95,0xac,0x
24,0x71,0xf7,0xa8,0x55,0x8a,0xe4,0xb9,0xdd,0xcb,0x48,0x2b,0x72
```

,0xb0,0x68,0xcb,0x30,0x23,0xcf,0x49,0xa3,0x3c,0x43,0xb7,0x34,0
x17,0xad,0xb4,0x32,0xd3,0xd2,0xd2,0xa4,0xdd,0xdb,0x6c,0x4b,0x7
3,0x93,0xb6,0x28,0xa9,0x25,0xcd,0x4d,0xda,0x23,0xa5,0x96,0x3c,
0x16,0x1b,0x8b,0xb0,0x9a,0xca,0x50,0xbc,0x2c,0xdd,0x6a,0xa8,0x
93,0xd7,0x96,0xb2,0xb0,0xae,0x2d,0x51,0x92,0xd3,0x2b,0x87,0x3e
,0x17,0x0e,0x6d,0x19,0xeb,0x86,0x34,0xb1,0x35,0xb4,0xaa,0x19,0
xe2,0x80,0xd1,0xf4,0xaa,0x66,0x88,0x1d,0x46,0x23,0xa3,0xba,0x2
1,0x35,0x1c,0x89,0x8e,0x1a,0x86,0x92,0xa1,0x3c,0xb2,0x6c,0x18,
0xb3,0x61,0xad,0xb1,0xd8,0x61,0x2c,0x86,0xa4,0x26,0xa2,0x84,0x
a9,0x28,0xd2,0x9a,0x8c,0x1d,0xa6,0x66,0x88,0x63,0x2a,0x4e,0x98
,0xba,0x61,0xf2,0x99,0xd0,0xee,0x1f,0x0a,0xc5,0x2b,0xad,0x88,0
x7f,0x6a,0x50,0x6f,0xb5,0x03,0x00,0x00,0x00,0x00,0x00,0x00,0x0
0,0x00,0x00,0x00,0x00,0xee,0xad,0x49,0x32,0x2b,0xa3,0xb6,0xa2,
0x46,0x75,0xcf,0x2c,0xdd,0x8a,0xe2,0x34,0x33,0xd2,0x4c,0x2b,0x
8a,0x93,0xb2,0x0e,0x29,0xad,0x2c,0x5e,0xd2,0xab,0x24,0x97,0x32
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x84,0xd1,0xd3,0x66,0x47,0xa6,0x92,0x5a,0xcf,0x5a,0x1c,0x9b,0x8
a,0x5b,0x5b,0x0b,0x75,0xa2,0x2a,0x18,0xe3,0x3c,0x4c,0x89,0xa8,
0x40,0x8e,0x75,0x37,0x39,0xa9,0xf4,0x5a,0x2b,0xad,0xe8,0xb4,0x
3c,0x59,0x2b,0xcf,0xa0,0xd2,0xb2,0x9c,0x24,0x3d,0x53,0xca,0x48
,0x4a,0xd5,0xb4,0x48,0x39,0x2d,0x2e,0x55,0x4b,0x33,0xe4,0xb4,0
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8,0x52,0x8d,0x0c,0xab,0xc8,0x2d,0x4d,0xa5,0x22,0x34,0xcb,0x94,
0x2c,0xb6,0x76,0xb7,0x1c,0x53,0xf2,0xd0,0x2a,0x4d,0xb3,0x4a,0x
2a,0x43,0xef,0x10,0xcb,0xc9,0xae,0xb4,0x7d,0x9c,0xd5,0xeb,0xa8
,0x5a,0x95,0x4d,0x62,0xab,0x6d,0x1a,0x95,0x37,0xc8,0xad,0x74,0
x68,0x54,0x4a,0x37,0xcf,0x2a,0xa1,0x75,0xd6,0x2a,0xa3,0xc2,0xa
4,0x2e,0x69,0xf6,0xae,0x2a,0x5d,0xba,0x62,0x48,0x33,0x6b,0x72,
0x69,0x5b,0x24,0xb1,0xaa,0x29,0xad,0xed,0x99,0xd9,0xc2,0xa7,0x
b4,0xa6,0x7a,0x55,0x77,0x9d,0xd3,0x9a,0xe2,0xdd,0xc3,0x65,0x76
,0xab,0x73,0xc8,0x28,0xa7,0x45,0xad,0x4e,0x39,0xb3,0x9c,0x96,0
x94,0x2a,0xf5,0x88,0x50,0x9d,0xe2,0xaa,0xf8,0xb0,0x8a,0xbc,0x9
1,0xa9,0xe2,0xa1,0x68,0xd2,0xc6,0xae,0xce,0x2e,0xc3,0xcd,0x2c,
0xbb,0x75,0xf8,0x8e,0x0c,0xb3,0xad,0x80,0xe5,0xba,0x14,0x30,0x
43,0x87,0x02,0x56,0xac,0x48,0xe7,0x70,0x61,0x61,0x96,0x34,0xc5
,0xc9,0x54,0x44,0xa8,0xe3,0x54,0xf8,0x56,0xaa,0xee,0x4d,0x52,0
xe9,0xcb,0x18,0x5b,0x2c,0x4a,0x65,0x08,0x93,0x2c,0xf6,0x28,0x9
4,0xbe,0x8e,0x52,0xe4,0xa4,0x50,0xfa,0xb0,0x41,0x16,0x97,0x5c,
0x69,0xd2,0x39,0x5b,0x4e,0x09,0x65,0xf0,0x93,0x42,0x35,0x25,0x
95,0x21,0xb4,0x99,0x76,0xb9,0x52,0x46,0x57,0x16,0xb2,0x61,0x5b
,0x99,0x5c,0x9a,0x59,0x47,0x29,0x65,0x92,0x63,0x62,0x55,0xb6,0

x54,0x99,0x8d,0xa9,0xc7,0x98,0x54,0x47,0x55,0xe6,0x16,0x93,0x5
d,0x9b,0x65,0xa8,0xa9,0x57,0x71,0x6d,0xd2,0xec,0x69,0x56,0xba,
0x35,0xc5,0xa9,0x85,0xe4,0xe8,0xd1,0x14,0x6f,0x9e,0x56,0xa3,0x
46,0x53,0xbd,0x79,0x6a,0x97,0x2e,0x75,0x4e,0x12,0x19,0x2d,0x26
,0xd4,0x29,0x70,0xf2,0x98,0xe5,0x50,0x25,0xcb,0xc5,0x6b,0xa1,0
x53,0x9d,0x03,0xb5,0x96,0x06,0x0d,0x75,0x4e,0xd8,0x56,0x56,0xd
4,0x35,0xb9,0x60,0x45,0xe8,0x50,0xd7,0xe6,0x0a,0x99,0xa5,0x47,
0x5c,0x57,0x2a,0x78,0x94,0xce,0x12,0x43,0x0a,0x50,0x5e,0x51,0x
29,0x8c,0xa3,0xa6,0x10,0x6a,0xb2,0x04,0xcc,0xd1,0x5e,0x86,0x99
,0x94,0x59,0xbd,0x53,0x1a,0xab,0x61,0xf1,0xea,0x44,0x69,0xcc,0
x86,0x2c,0x36,0x23,0xa7,0x31,0x5b,0xd6,0xb8,0x88,0x55,0xc6,0xe
6,0x58,0x64,0x72,0x4e,0x19,0xbb,0x67,0x91,0xca,0xc5,0x65,0x1c,
0x81,0x45,0x22,0xe6,0xa4,0xb1,0x7b,0x66,0xa9,0x9c,0x92,0xa6,0x
ae,0x59,0xac,0xb3,0x76,0x9a,0xba,0x66,0xf6,0x89,0xc8,0x61,0xee
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0x21,0x3a,0xc9,0xc3,0xa8,0x9e,0xf9,0xe8,0x06,0x8f,0x6c,0x3a,0x
51,0xcc,0x55,0x7a,0x74,0x68,0xad,0xd7,0x4c,0xaf,0x22,0xa9,0x2b
,0x06,0xb5,0x3b,0xca,0x86,0xae,0x1a,0xd4,0xea,0x2a,0x1c,0xba,0
xac,0x51,0xab,0xa3,0x4c,0xe9,0xb2,0x12,0xe9,0x72,0xdb,0xad,0xa
b,0x8e,0xa5,0x23,0xa2,0xb4,0xb6,0x04,0x89,0xd4,0x0a,0x9b,0xda,
0x54,0xa5,0x3c,0xd2,0x58,0x6a,0xe2,0xd0,0x72,0xf5,0xb2,0xa9,0x
49,0x5d,0xab,0x45,0xc7,0x86,0x26,0x0f,0xee,0x61,0x1b,0x1a,0x9a
,0x34,0xa4,0x8b,0x6d,0x68,0x68,0xd2,0xe0,0x4e,0xf6,0xa1,0xa9,0
xc9,0x8d,0xda,0xd5,0xcb,0xa6,0x36,0x25,0x8e,0xf0,0x8c,0x5c,0xd
a,0xec,0x55,0xd2,0x33,0xb6,0x69,0x83,0x51,0xa9,0x28,0xcb,0xa9,
0x09,0x26,0xad,0xbc,0x8b,0xa4,0x36,0x3a,0xf7,0xb2,0x2a,0x13,0x
ba,0x10,0xb9,0x3c,0xa3,0x96,0xe9,0x7c,0xa6,0x8a,0xb4,0x46,0xa6
,0x33,0x49,0x2d,0x4a,0x5c,0xbb,0xce,0x14,0x33,0x2d,0x63,0x1b,0
x1a,0xdf,0xc4,0x22,0xcc,0x6d,0xa8,0xfc,0xa4,0x8c,0xb0,0xd4,0xa
5,0x0c,0x39,0x5d,0xc2,0x6a,0xb5,0x3c,0xa4,0x76,0x35,0x9f,0x53,
0xb2,0x10,0x26,0x54,0xfd,0x61,0xc9,0x82,0xdb,0x54,0xd5,0x87,0x
29,0xf7,0x71,0x43,0xc4,0x6f,0x86,0xc2,0x87,0x75,0x72,0x9f,0xa8
,0x1a,0x95,0xdb,0xc4,0x7c,0x32,0x19,0x69,0x2a,0x13,0xf5,0x38,0
xa9,0x0b,0xa1,0xd2,0x45,0xa7,0xa4,0x3e,0x94,0x56,0x77,0x1f,0x1
3,0xc6,0xd0,0x4b,0xc3,0xb3,0x4c,0x1a,0x63,0x1d,0x09,0x8f,0x32,
0x65,0x4a,0xa9,0x23,0x38,0xcb,0xa6,0x39,0xa5,0xf6,0x10,0xaf,0x
92,0xe6,0xd4,0x32,0x4c,0xdb,0x4a,0x59,0x52,0xce,0x48,0xe9,0xb0
,0x69,0xc9,0xd9,0xcb,0x74,0xa4,0xb9,0x25,0x45,0x2d,0xf3,0x14,0
xa3,0xd6,0x62,0xc3,0x5d,0xdd,0x34,0x59,0xba,0x74,0xcf,0x08,0x4

```
b,0x08,0x58,0xa9,0xc3,0x30,0xc3,0x65,0x84,0x7b,0x1c,0x0,0x0,0x
0,0xf0,0xff,0xff};

void setup() {
}
void loop() {

     voice.say(spROBOTS);
}
```

Talko 1.2 now available

Talko 1.2 are now in stock, both as kits and as assembled modules.

What’s new in version 1.2

- Rotary encoder for smoother Bank change
- Encoder’s button can be pressed to simulate the gate signal going HIGH and make the module speak.
- Mode selection via a 3 positions switch : Speech – Repeat – VCO
- Growling mode in VCO (turn the Bend pot fully CCW)

My first patches

Beyond having it to speak and bending it in (the obvious) Speech mode, I would recommend testing the Repeat mode by feeding some rhythmic pattern into the Gate entry and particularly playing with the Gate length.

Another fun one is to set it to Bank 0, VCO mode, turn the Bend pot fully CCW for growling mode and then play with the Sound, Pitch and Speed pots.

Try also to press the rotary button while the Sound entry is being sequenced in VCO mode to hold notes on and manually alter the sequence.
Do you have a nice patch to recommend ?
Thanks in advance for sharing

Talko 1.2 is coming soon

Talko is an open source Arduino based LPC speech synthesizer. It’s firmware can be updated via the onboard USB port, using the standard Arduino IDE.

In **Speech** mode, the speech starts with a gate signal and complete before waiting for a new gate signal. The speech has the priority.

In **Repeat** mode, the speech starts and stops with the gate signal going high or low. The gate has the priority and the speech repeats while the gate is high. This mode is very useful to create crazy rhythms.

In **VCO** mode, the LPC engine loops while the gate is high, producing steady notes.

The VCO mode can also produce sounds using white noise instead of tones, making strange throat like sounds.

The sound synthesis can be is driven via CV signals or knobs to choose sounds and alter pitch, speed & bending.



flyer1.2.pdf