

## Tony: a tool for melody transcription - Bug #925

### Bounding box returned pitches are outside the range of drawn box

2014-04-09 12:18 AM - Rachel Bittner

<b>Status:</b>	New	<b>Start date:</b>	2014-04-09
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>		<b>% Done:</b>	50%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>			
<b>Description</b>			
When drawing a bounding box to get a pitch estimation, in many cases the frequency values returned are outside the selected range.			

#### History

---

##### #1 - 2014-04-09 12:54 AM - Matthias Mauch

Rachel Bittner wrote:

| *When drawing a bounding box to get a pitch estimation, in many cases the frequency values returned are outside the selected range.*

Vertically or horizontally? (I should really be in bed... goodnight!)

##### #2 - 2014-04-09 02:58 AM - Rachel Bittner

| *Vertically or horizontally? (I should really be in bed... goodnight!)*

Vertically. (Horizontally as well, but this is not as big of a deal in my opinion)

Goodnight!

##### #3 - 2014-04-10 06:25 PM - Matthias Mauch

- % Done changed from 0 to 50

Ok, I fixed the *horizontally* overlapping ones.

Next vertial...

##### #4 - 2014-04-10 07:05 PM - Matthias Mauch

Ok, I actually did vertical as well. It was mainly noticable in the bass frequencies, where the bin spacing is quite coarse.

The CHP plugin always uses the frequency bins that overlap the chosen frequency range. So there is always a danger of getting outside the box.

I changed it to only output frequencies that are in the chosen range, but I can't push the changes at the moment because I'm not a developer on the CHP project.

Chris, can you add me to that? My contribution, I hope would be benign (see patch, below).

```
diff -r e9b629578488 -r 5fb59edfab99 ConstrainedHarmonicPeak.cpp
--- a/ConstrainedHarmonicPeak.cpp    Mon Mar 10 14:51:09 2014 +0000
```

+++ b/ConstrainedHarmonicPeak.cpp Thu Apr 10 18:37:55 2014 +0100

@@ -317,16 +317,25 @@

```
double maxdb = -120.0;
int maxidx = 0;
for (int i = 0; i <= maxbin - minbin; ++i) {
- if (hps[i] > maxdb) {
-     maxdb = hps[i];
-     maxidx = i;
- }
+ if (hps[i] > maxdb) {
+     maxdb = hps[i];
+     maxidx = i;
+ }
+ }
+
+ if (maxidx == 0 || maxidx == maxbin - minbin) { // edge cases are useless
+     return fs;
+ }

double interpolated = findInterpolatedPeak(hps, maxidx, maxbin - minbin + 1);
+
interpolated = interpolated + minbin;

double freq = interpolated * m_inputSampleRate / m_fftSize;
+
+ if (freq < m_minFreq || freq > m_maxFreq) {
+     return fs;
+ }
```