HQSYN16 - Task #4251

Task # 3678 (New): RA3c - Continuity of prosodic patterns

Task # 4237 (New): Continuity of F0 pattern

Task # 4250 (New): F0 join cost

Propose F0 weighting for F0 continuity in phones

21.09.2017 08:51 - Matoušek Jindřich

Status:	Closed	**Start date:**	21.09.2017
Priority:	Normal	**Due date:**	01.12.2017
Assignee:	Tihelka Dan	**% Done:**	100%
Category:		**Estimated time:**	0.00 hour
Target version:	RA3: Phonetically justified parameters for speech synthesis		

Description

Propose F0 weighting F0 continuity in phones.

The idea:
F0 continuity is important only when vowels (or also other sonorants?) are concatenated. For other phones, F0 continuity is not so important or even can be ignored.

Propose a phone-level weighting scheme (the bigger the weight, the more important the F0 continuity is).

History

#1 - 22.09.2017 21:32 - Skarnitzl Radek

- Status changed from New to Assigned

#2 - 06.11.2017 19:32 - Skarnitzl Radek

- Due date changed from 31.10.2017 to 01.12.2017

- % Done changed from 0 to 20

We are preparing stimuli for a controlled experiment. VCV pseudowords have been monotonized in terms of their F0 and, subsequently, F0 is being step-wise modified in the middle of the target consonant to emulate a sudden F0 shift in the point of concatenation.

#3 - 15.10.2018 09:04 - Skarnitzl Radek

- File f0.png added

- Status changed from Assigned to Resolved

- % Done changed from 20 to 100

The results of the perceptual experiment clearly show that the current practice of including F0 in all voiced sounds as a criterion in calculating the concatenation cost is not necessary. The study is prepared for submission into a journal (and should still be published this year); the results are summarized as follows:

1) The **direction of F0 change needs to be taken into account**; in the attached figure, the discontinuity in the two F0 courses is objectively the same, but the first one will not be audible, while the second will be disruptive.

2) F0 can be ignored within obstruent consonants (i.e., plosives, fricatives, affricates); only calculate F0 when concatenating diphones pertaining to **sonorants** (nasals, approximants).

3) F0 discontinuities (in sonorants) of **1 semitone or less** may be ignored; in the test, we had discontinuities of 1 or 5 ST, the former were never perceived as disruptive. Future experiments may focus on where between 1 and 5 ST the boundary lies.

#4 - 17.01.2019 15:58 - Matoušek Jindřich

- Assignee changed from Skarnitzl Radek to Tihelka Dan

#5 - 20.09.2021 21:48 - Tihelka Dan

- Status changed from Resolved to Closed

Outdated...

Files

f0.png	64.6 KB	15.10.2018	Skarnitzl Radek