

HQSYN16 - Task #4214

Task # 3679 (New): RA3d - Revision of positional parameters and weighting

Task # 4159 (New): Revision of continuous positional parameters

Redefine cost computation scheme in a language independent way

02.06.2017 12:02 - Tihelka Dan

Status:	New	Start date:	02.06.2017
Priority:	Normal	Due date:	
Assignee:		% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:			
Description			
<p>Although the experiments described on positional features experiments display significant improvement of the last syllable placement, they are still related <i>only</i> to the position in the last syllable, which was designed with Czech in mind.</p> <p>The aim of this task is to design a new, language independent scheme which could be used for all ARTIC voices and languages.</p> <p>The key idea is to define a set of <i>significant positions</i> in a prosodic word (or any other rhythm unit). The position cost is then related to those significant positions. They may be stress or a last syllable nucleus in Czech, but any other feature in other languages. The position may also vary for individual prosodic words (e.g. where stress moves).</p> <p>The proposed scheme is as follows:</p> <ul style="list-style-type: none">• each candidate unit defines its relative position within the prosodic word $p(u)$• each target unit defines its relative position within the prosodic word $p(t)$• there is set of n significant point positions for the given prosodic word in target $s(t,1), s(t,2), \dots, s(t,n)$, each assigned with a weight $w(1), w(2), \dots, w(n)$• also, each unit has its relation to the significant points in their corresponding prosodic word $s(u,1), s(u,2), \dots, s(u,n)$ <p>the cost for i-th significant points is the given by a difference in distances from the point:</p> <ul style="list-style-type: none">• $vt(i) = \text{abs}(p(t) - s(t,i))$• $vc(i) = \text{abs}(p(u) - s(u,i))$• $\text{cost}(i) = \text{abs}(vt(i) - vc(i)) / \min(vt(i), vc(i)) + 1$• and the total position cost is the sum through all the i significant points <p><i>Note:</i> thinking about it, the position features do not have to be shared across all the languages, i.e. each language/voice can have its own computation scheme. It just requires a more complex code handling the individual cases.</p>			

History

#1 - 02.06.2017 12:04 - Tihelka Dan

- Description updated