

Deliberate mispronunciation in EFL e-dictionaries: integrating PDI with TTS

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The Phonetic Difficulty Index (PDI) is a quantitative/qualitative measure of word pronouncing difficulty to L1 learners of a given L2. Specifically, in its current implementation (see <http://ifa.amu.edu.pl/~swlodek/public.htm> for bibliography), it assigns numerical (0-10 range) and difficulty (57 pronouncing problems) Polish-sensitive tags to an English word-list or text. The range of applications of the current version of PDI extends from evaluation of pedagogical materials, such as texts, word-lists, dictionaries, etc., in terms of phonetic difficulty, to generation of word-lists meeting user-specified phonetic criteria for teaching, learning, testing and materials preparation.

One application of PDI which has not so far been considered is in modeling learners' pronunciation of English lexical items through deliberately mispronouncing e-dictionary entries in ways characteristic of the given L1, in this case – Polish, or, more accurately, Polglish, i.e. the Polish-English interlanguage of Polish learners of English as a foreign language (EFL). The rationale of this project is as follows. EFL learners often have problems perceiving the phonetic difference between their 'accented' pronunciation of a given lexical item and the native speaker model. The modern techniques offered by contemporary e-dictionaries of allowing the learner to record his/her pronunciation to compare audially or visually with the recorded native model may not work in this situation. Demonstrating an actual Polglish mispronunciation of the word alongside the correct native version, spoken in the same voice and keeping all the other phonetic variables constant, might be more useful. This has not been feasible so far in e-dictionaries: no professional native English speaker could be expected to persuasively mimic Polglish mispronunciation, not to mention the cost of such a procedure. With PDI and Text-to-Speech synthesis (TTS) we have the two key technologies to make such believable mispronunciations possible. PDI identifies for each lexical entry in an e-dictionary expected Polglish mispronunciations, generates a mispronounced phonetic representation in the orthographic or transcriptional form, and passes it on to the TTS module for conversion into audio. The model and the mispronunciation can now be audially produced on the fly, with no need for prior recording with human speakers. The exact mispronunciation can be controlled down to minute phonetic detail to suit the proficiency level and phonetic idiosyncracies of the user (as constructed by the user-modeling component of the dictionary) or the pedagogical agenda of the learner/teacher (for example, the amount of final obstruent voicing in English can be exaggerated).

In my presentation at PLM I will not only discuss the theoretical rationale of this project but also demonstrate actual examples of selected Polglish lexical mispronunciations as generated by the PDI-TTS mechanism. This will be conducted in the context of current pedagogical electronic lexicography of English, which is gradually becoming more lapsologically and L1-sensitive than has so far been the case.