

Close Copy Speech Synthesis for Linguistic Research

Jolanta Bachan

Adam Mickiewicz University, Institute of Linguistics

jolabachan@gmail.com

ABSTRACT

The aim of the present study is to develop a Close Copy Speech (CCS) synthesis system for applications in linguistic and phonetic research. CCS synthesis is a method in which it is the task of the synthesiser to "repeat utterances produced by a human speaker with a synthetic voice, while keeping the original prosody" [1]. The motivation for this research has derived from different areas. Firstly, CCS synthesis is a good method for creating speech stimuli for speech perception tests [2]. Additionally, CCS synthesis may be used in teaching phonetics and linguistics in the areas of speech sounds and speech production. Also, CCS synthesis is a valuable tool for the verification of time-aligned transcription-signal annotations. Finally, CCS synthesis is well-suited to experimentation with prosody (duration and pitch patterns).

The study reports on developing two techniques of CCS synthesis, namely Manual and Automatic CCS synthesis [3] for Polish. Manipulations of the synthetic speech with Parametric CCS synthesis are introduced, but not presented in detail. The CCS synthesisers are built on the MBROLA diphone synthesiser engine because the MBROLA linguistic-phonetic interface is clearly structured and allows easy modification of prosodic information.

Bibliography

- [1] Dutoit, Thierry, 1997. *An Introduction To Text-To-Speech Synthesis*. Dordrecht: Kluwer Academic Publishers.
- [2] Bachan, Jolanta, 2006. Verification of a Set of Speech Perception Tests for Children with a Cochlear Implant. In: *Proceedings of Speech Signal Annotation, Processing and Synthesis Symposium*. Poznań, Poland.
- [3] Bachan, Jolanta, 2007. Automatic Close Copy Speech Synthesis. In: *Speech and Language Technology*, vol. 9.