

ABSTRACT

SPEECH SYNTHESIS

A speech synthesis system comprises a phonological converter 10, a word parser 11, a syllable parser 12, 5 temporal and parametric interpreters 13, 14, a file 15 and a synthesizer 16. The word parser 11 and syllable parser 10 receive an input text which includes words in a defined word class. The word parser 11 parses each word to determine whether it belongs to the defined class of words. The parser 10 11 includes a knowledge base containing the individual morphemes utilized in the defined word class, each morpheme being a root or an affix, the binding properties of each root and each affix, the binding properties for each affix also defining the binding properties of the combination of the 15 affix and another affix or another root, and a set of rules defining the manner in which the roots and affixes may be combined to form words. The syllable parser 10 determines the phonological features of the constituents of each syllable of the input text. The metrical parser 12 20 determines the stress pattern of the syllables of each word. The temporal and parametric interpreters 13, 14 interpret the phonological features together with the stress pattern to produce a series of sets of parametric values for driving the synthesizer 16. The synthesizer 16 produces a speech 25 waveform. If desired, the parameter values may be stored in the file 15 for later use.

