

The Polysemy Problem, an Important Issue in a Chinese to Taiwanese TTS System

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Abstract

This paper brings up an important issue, polysemy problems, in a Chinese to Taiwanese TTS (text-to-speech) system. Polysemy means there are words with more than one meaning or pronunciation, such as “我們” (we), “不” (no), “你” (you), “我” (I), and “要” (want). We first will show the importance of the polysemy problem in a Chinese to Taiwanese (C2T) TTS system. Then, we will propose some approaches to a difficult case of such problems by determining the pronunciation of “我們” (we) in a C2T TTS system. There are two pronunciations of the word “我們” (we) in Taiwanese, /*ghun*/ and /*lan*/. The corresponding Chinese words are “阮” (we_1) and “咱” (we_2). We propose two approaches and a combination of the two to solve the problem. The results show that we have a 93.1% precision in finding the correct pronunciation of the word “我們” (we). Compared to the results of the layered approach, which has been shown to work well in solving other polysemy problems, the results of the combined approach are an improvement.

Keywords: Polysemy, Taiwanese, Chinese to Taiwanese TTS System, Layered Approach

1. Introduction

Besides Mandarin, Taiwanese is the most widely spoken dialect in Taiwan. According to Liang *et al.* (2004), about 75% of the population in Taiwan speaks Taiwanese. Currently, it is government policy to encourage people to learn one's mother tongue in schools because local languages are a part of local culture.

Researchers (Bao *et al.*, 2002; Chen *et al.*, 1996; Lin *et al.*, 1998; Lu, 2002; Shih *et al.*, 1996; Wu *et al.*, 2007; Yu *et al.*, 2005) have had outstanding results in developing Mandarin

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