Abstract

This dissertation aims to add an emotional filter to existing Malay Text-To-Speech (TTS) system, FASIH to produce emotional output thus contributing to the enhancement of naturalness to the existing system. This research focuses on four types of emotions; happiness, anger, sadness and fear. This research uses a new method to develop an emotion filter by adopting rule base approach to manipulate the pitch and duration of standard TTS output to produce the emotional output. To understand human emotions, this research obtained quality human emotions source, verified those sources, analyzed the variation of speech pattern and used these information to develop the emotions filter. The emotional speech output from the modified TTS synthesizer is tested for verification by conducting listening tests and acceptance tests. The results showed that the synthesized speech was emotionally identifiable with a favorable impression. The emotions filter developed worked successfully with FASIH to produce an emotional output. It is concluded that this emotions filter can work with any TTS system that uses prosody (pitch and duration) to synthesize the output for any type of emotions based on the rules provided for each emotions.

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1. **DSP: Digital Signal Processing**
2. **NLP: Natural Language Processing**
3. **TTS: Text-To-Speech System**
4. **NLP: Natural Language Processing**
5. **DSP: Digital speech processing**
6. **PAT: Parametric Artificial Talker**
7. **LPC: Linear Prediction Coding**
8. **HMM: Hidden Markov Models**
9. **HAMLET: Helpful Automated Machine for Language and Emotional Talk**
10. **CVC: Consonant Vowel Consonant**
11. **CV: Consonant Vowel**