

ABSTRACT

Speech conversion is a technology that allows user to alter a person's speech pattern into another pattern with different characteristics and provide a new identity, while maintaining the original content. This means changing the way something said without changing what is being said. Specific methods are needed to be able to implement this voice conversion technology. There have been many methods undertaken by other studies to develop this technology, the methods discussed in the final task is to pitch shifting with PSOLA algorithm. Pitch shifting algorithm is a method in voice conversion technology which depends on the detection of the source signal pitch (fundamental frequency) using the pitch marker and pitch change in accordance with the desired target using TD-PSOLA method.

This final project performs testing and analysis of the effects of implementing TD-PSOLA on speech conversion system. Input voice is from female and male speech who say “konversi suara”, then the database is processed to be converted into another speech data in accordance with the desired target, thereby producing a different sound output.

Testing to analyses system performance using Mean Opinion Score and cross correlation. For the Conversation Opinion Test MOS ratings obtained the best results of 4.2 for the conversion of female speech into low pitch when $\beta = 0.1$ and $\alpha = 1$, and the best result of 4.1667 for the conversion of male speech into high pitch when $\alpha = 3$ and $\beta = 1$. For the Listening Test MOS ratings obtained the best results of 4.133 for the conversion of female speech into low pitch when $\alpha = 1$ and $\beta = 1$. For the results calculation of cross correlation obtained the best results at 0 for the conversion of female speech into low pitch when $\beta = 0.25$ and $\alpha = 1$, and calculation of cross correlation obtained the best results at 0.09 for the conversion of female speech into high pitch when $\beta = 1$ and $\alpha = 1,25$.

Keywords: Speech Conversion, TD-PSOLA, MOS, cross correlation