# ABSTRACT

*Text to Speech* (TTS) is a text conversion system to translate text-based material into voice or speech. However, *Text to Speech* technology present several technical difficulties to overcome in order to provide better voice quality. Among the alternatives are the addition of more computer-recognized words and intonation-imbued sentences. In the end, the question is the matter of how to actually applied those alternatives.

The *Text to Speech* system is basically divided into two main subsystems: The NLP (*Natural Language Processing*) or *Text to Phoneme* and DSP (*Digital Signal Processing*) or *Phoneme to Speech*. The aim of this final assignment is to build the *Text to Phoneme* subsystem which will be equipped with a GUI (*Grafik User Interface*) and a custom made programming algorithm to recognize text, build custom dictionaries for specific words, and to calculate the production of the actual voice translation. For the *Phoneme to Speech* subsystem, MBROLA application will be use as a *speech synthesizer*.

During the research of this final assignment, a working prototype of a *Text to Speech* system in Indonesian Language was successfully created with MBROLA model dataset, which can also be used to determine a method to enhance voice quality for future researches.