# Abstract

In this final project, the writer makes a wavetable synthesizer software as a substitute alternative for Microsoft GS Wavetable Synth to solve problem when MIDI processing in Cakewalk. Usually to process a MIDI file at Microsoft Windows is use Microsoft GS Wavetable Synth which is a driver that automatically included when we are installing Windows. Using Microsoft GS Wavetable Synth with that audio editor software usually create delay when MIDI processing and limited instrument voice choice alternatives. That feels disturbed in MIDI processing and mixing a song. This new synthesizer software is not a driver like Microsoft GS Wavetable Synth but as a Dxi plug-ins which is implemented in Cakewalk audio editor software. This application is build with C++ and implemented in Cakewalk Sonar 3.The Sony Sound Forge 8 and Fs Editor software supported for preprocessing (make an instrument sample). For analyze using Sony Sound Forge 8. From the test and analysis result, this synthesizer can reduce the delay, solve limited instrument problem, has a better quality in frequency length and less noise than Microsoft GS Wavetable Synth.

**Keywords**: Driver, Dxi Plug-ins, MIDI, audio editor, synthesizer, wavetable