

ABSTRACT

As the music technology development, it also needed a capable musical instruments into the digital era. Previously, the guitar is used a wooden tube that is used to create a resonant sound. It is developed into a guitar that uses electromagnetic to catch signals then it is called the electric guitar. The electric guitar is only able producing one type of sound. The sound converter has developed in previous student research in hardware based. The sound converter is hardware based and it is not flexibility so bigger placement needed, this is a background made its software simulator that easier to take wherever and has not bigger placement needed.

In this final project will be made guitar tone sound processor. Guitar tone processor is using a delay-based effects. Incoming signals on the system will have the form of normalization preprocessing and framing. After that, if it does not activate the guitar effect, it will be forward to the output. However, if the guitar is activated, the signal will be processed in accordance with the type of effects involved. Types of effects that include are chorus, echo, flanger, and vibrato. After processing will be directly forwarded to the output.

Output of the final project is expected to design an application program to process the guitar single note based on delay time with a success rate above 80% test.

Keywords: Tone, Guitar, normalization, *delay*, noise, vibrato, echo, chorus, flanger, framing, software simulator, cropping, hardware