

## ABSTRACT

*Music cannot be separated in everyday life. in which everyone can now be free to play music. Musical instruments that relatively easiest to use is the guitar. Apart from the ease to play, guitar also has a problem that the strings would be off-key even if we left the guitar alone. If this happens, we have to re-tune each string on the guitar. Steps to tune the guitar is quite difficult for beginners, because it is relying on hearing ability.*

*The easiest solution is to use an electronic guitar tuner, but they are quite expensive and less flexible to carry anywhere. In this final task, a guitar tuner in the form of Android application will be made using Fast Fourier Transform and Harmonic Product Spectrum method.*

*The success rate of the guitar tuner is carried out by measuring accuracy. The highest accuracy when standard frequency and the result compared is 99.95%. It means that the system is good and produce similar frequency to the reference. When the system is compared with electric tuner, the accuracy result is 90%, and if the system compared to similar application from playstore, the accuracy result is 91.667% which means that the algorithm is quite optimal.*

**Keywords:** *Guitar tuner, FFT, HPS, Pitch detection, Android*