DESIGN OF ARDUINO-BASED UKULELE SETTINGS

ANGGAR NEGARAWAN PASARIBU
Electrical Engineering Study Program, Faculty of Science and Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : ***anggarnp@gmail.com***

ABSTRACT

Ukulele is a stringed instrument that is played by picking. In general, the ukulele has four strings that produce different note frequencies. In everyday life, it is common to find people who are good at playing the ukulele, but not everyone who plays the ukulele can tune their guitar accurately, and some even continue to play the ukulele even though the ukulele tuning does not match the standard tone. Ukulele tuning cannot be said to be easy, because to get a tone that matches the standard tone requires a strong instinctual sensitivity to know the sound of the resulting tone. Based on data in the field, the ukulele tuner that is often found only has a function as a frequency reader but has not been equipped with a string tuner, so based on this function it is felt necessary to have a tuning system that functions in addition to reading string frequency information as well as being able to tune the strings automatically with a servo motor. , so that based on the description above, "Design and build arduino-based ukulele tuning tuning" where this system besides tuning the strings on the ukulele also automatically adjusts the strings according to a predetermined set point. The test results state that the level of accuracy of the system in reading and tuning the ukulele strings on each string is as follows, the success accuracy of the G string is 98.20% with an error rate of 1.80%, the success accuracy of the C string is 85.30% with error rate of 14.70%, success accuracy of the E string is 96.40% with an error rate of 3.60%, success accuracy of the A string is 94.40% with an error rate of 5.60%.

Keywords*: Ukulele, Tuning, Arduino, Servo tuning.*