

ABSTRACT

Everyone is already familiar with a device called the earphones . Since a tool music player no longer need a large space (like a tape recorder) and also no longer requires a ration of electricity , then this earphone becomes the target of many music enthusiasts in the world . However , without realizing there is a bad effect on the health of the ear , which is carried by an earphone when used to hear a piece of music , when it passed the limits of the standards set by the medical world . Although established by the medical world , it is still less ignored by the users earphones . This resulted after using these earphones in the wrong way , no less than they had a health problem in the ear . And even worse , the users earphones can cause permanent hearing loss , if the mistake is done continuously. Therefore , we need a technique to be able to handle such problems . One way to handle this is to limit the time to play the music with the deadline set by the previous medical world . In this final assignment, used a way to limit the time to detect any sound signal generated by the music being played by the FFT method . By changing from the time domain to the frequency domain , it can be done readings every level of incoming sound signals in units of dB.

In this final assignment has been designed with a sound signal processing embedded into an application to platform Android . So users of Android devices can directly use this application after installing into it . By displaying a long description of the rest of the time to hear it , it will be easier for the user to monitor the length of time to listen music. .

From the results of research and testing, this application has an accuracy rate of detection of the sound levels produced by 93%, when compared to other research references. Meanwhile, in order to determine the maximum time limit listening, this application has a 100% accuracy rate. But when seen from the test directly to the correspondent, then this application to get the value of 4.09 of 5 points

Keyword : earphone, decibel, FFT, Android