

ABSTRACT

The heart sound produced in some cases of heart disease shows a certain pattern. The contribution in this study is being able to show certain patterns that can be diagnosed in heart sound signals and beats per minute values. So that the pattern can be recognized when there is a heart disease disorder, a wireless based electronic stethoscope will be made for heart auscultation with an android display, making it easier for users to diagnose heart disease. The heart sound is obtained from the mechanical activity of the heart which is tapped by condenser mic. The heart sound will be processed in pre-Amp circuit, then filter circuit used is High Pass Filter and Low Pass Filter with a cut off frequency 54-95 Hz. The output of filter circuit will enter the amplifier circuit. Then will be processed by the microcontroller. In processing data that will be displayed on the TFT and Smartphone, the author uses Arduino Mega and Bluetooth HC-05 module as a processor for sending data from the microcontroller to Android. The results of data collection on distance between tool modules to android at distance of 1-6 meters there is no delay in sending data to android but there is significant delay at distance of 7-10 meters that there is a loss of data to be sent. Based on results, it can be seen that largest error rate is $\pm 2.88\%$. The results of research that has been done can be implemented using a system that really supports needs.

Keyword: Stetoskop, Low Pass Filter, High Pass Filter, TFT, Smartphone, Speaker, HC-05.