ABSTRACT

In this study, the design and realization of electronic stethoscopes based on Android application is made because there are still some differences of opinion on the sound of heartbeat that is influenced by environmental noise, ear sensitivity, and sound patterns are almost the same. By using the application on Android it can record the sound of heartbeat obtained through auscultation process. Similarly can know how the sound of a normal heartbeat or not that can be processed further for the purposes of the field of medicine.

This electronic stethoscope system consists of 2 (two) devices namely hardware and software. The hardware of this system consists of acoustic stethoscope chest piece parts, electret condensor microphone, audio amplifier, signal filter, audio jack, and application on Android to be able to record, play, and store sounds heartbeat. This system software is realized by using programming language on Android. The way the system works begins with an acoustic stethoscope receives the sound of a heartbeat, then the sound is captured by a electret condensor microphone and amplified by an audio amplifier. After that, the sound is filtered according to user needs before it is displayed on the Android application that is connected to the audio jack.

From the results of experiments, the overall system produces a success value of 68.34%. However, this system can not be said good enough because the result of the similarity of sound experiments has a success value of 56.67%.

Keywords : *Heartbeat Sound, Stethoscope, Android.*