

**Research Title:** A Digital Stethoscope for Recording and Analyzing the Heart Sound

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## ABSTRACT

This research project is to design and develop a digital stethoscope for recording and analyzing the heart sound. The stethoscope consists of a condenser microphone which is attached to a stethoscope, low pass filter and high pass filter for selecting frequency range of the heart sound, preamplifier, and power amplifier. The heart sound signal is sent to the next two parts. The first part is sent to a speaker. The second part is sent to a Raspberry pi via an analog to digital converter circuit. The Raspberry pi sends the signal to an android smart phone via Bluetooth communication. The heart sound is saved and plotted in the smart phone. From the experiments, the quality of the heart sound from the speaker is equal to the heart sound from the convention stethoscope.

**Keywords :** Digital Stethoscope, Audio Filter, Raspberry pi, Valvular Heart Disease