

## ABSTRACT

We know that the organ - a vital organ in the human body is very important as the lungs (the organ that functions in respiration). By knowing the state of the vital organs we can maintain and even improve health. However, the equipment used is still less practical.

To solve this problem we need a tool that is more practical to use. The tools are designed in this final project using a condenser microphone and a microcontroller. The first pair (paste) a condenser microphone on nose to detect the process of respiration. Condenser microphone will send a signal in the form of electric waves will be processed in the microcontroller, after the process is done will produce output how the results of the respiratory cycle is done.

In testing tool results were obtained in accordance with the planning. Respiratory cycle counting process can be done automatically. The process can be performed at a distance of 0 to 6 centimeters, and a microcontroller can classify *RR (RESPIRATION RATE)* and displayed on the LCD .. With a percentage accuracy of approximately 90 %

**Keywords:** *Microcontroller, Microphone condenser, respiration rate, biomedical application, Respiration Rate*