

ABSTRACT

ECG signal (electrocardiogram) or the cardio's electrical signal is one signal of the body that are usually used to detect heart health condition of a person. But research on the ECG signal has covered a lot of things one of them is to recognize an emotions. Emotion is a mental condition that can be pushed to perform an action or expression that can be triggered from within or from outside himself. Emotion is also one important aspect of life because they can also affect our health. One of the benefits if we can recognize the emotion is able to do an action on the positive emotions or negative emotions.

In this final project is to design a system to detect emotions by using e-Health Shield V2.0 sensor. In this simulation of study conducted by two different conditions. The first condition is the condition of the subject in a relaxed state and the second condition is a condition when the subjects were taking the Pauli test. ECG signal of subjects will be measured using Einthoven triangle methode with an electrode that has been linked to the e-Health Shield V2.0 sensor and Arduino Uno R3. Signal captured by the electrodes will be processed by Arduino Uno R3 obtained ECG signals to be processed and can be displayed on the PC screen using the software Matlab.

After testing for emotion detection system that using cardio's electrical signal, showed that the system is running well. The test results obtained bits per minute the heart of the relaxed conditions until after taking the test, the average rose 6-12 bits from first state and the intensity of cardio's electrical activity increased from first state. From the system designed, the accuracy for detecting emotion from relaxed state until after taking the test reached 80%.

Key word : ECG signal, emotion, Matlab, e-Health