

MICROCONTROLLER BASED STRESS AND EMOTION COMFORTER

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ABSTRACT

The project title is Microcontroller Based Stress and Emotion Comforter. The aim of the project is to monitor the heart beat rate of user, and apply the user's favorite music when the heart beat rate is abnormal. The user will be able to record his/her favorite music.

The unit for heart beat rate is beat per minute (bpm). Normally, human being's heart beat rate will stay within a standard range during rest time. It is usually 60 to 100bpm for adults and is slightly faster for children. Physical activity or stress will lead to increase of heart beat rate, causing it more than normal rate.

When people is stressed, his/her body will respond as though are in danger. It produces hormones that accelerate the heart, making someone breathe faster and giving a burst of energy. This project will reduce the stress by playing user's favorite music when the heart beat rate is higher or lower than normal.

The project will work based on microcontroller (PIC16F877A). The heart beat will sensed by the heart beat circuit and acts as the input to the PIC16F877A, while LCD and music playback will be its output. LCD will show the heart beat rate and its status. ISD25120 will use for music record and playback circuit. When the heart beat rate is abnormal, PIC16F877A will be triggered to playback the recorded music.

Keywords: PIC Microcontroller, Heart Beat Sensor, ISD Chip, LCD display.