

ABSTRACT

Health is a very important thing in people's lives. Heart as a vital organ in the human body has a significant role in supporting the health of the human body. Heart is one of the human organs that has a functions to pump the blood throughout the body. Heart has a pulse that cannot be controlled. Heart rate is a reflection of the mood and also our body fitness. From the heart rate can be known our heart works, the diagnosis and medical tracking and other abnormalities in the human body.

In this final project, designed a mobile application on the Android smartphone that can detect our heart rate. This application is designed by using Eclipse with digital image processing method of the fingers with and exploiting the color fluctuations due the changes in blood volume in the fingers that were captured by a camera of the Mobile Phone. This digital image color fluctuation of the fingers can be used as a representation of a person's heart rate.

Based on the test results, the application successfully showing the number of heart rate (Bpm) and has a error precentage 5.94%. Ideal time of measurement of this application is 20 seconds. With this application is expected to be beneficial for people who want constantly monitoring their condition whenever and wherever they want.

Keywords: digital image, Android, Eclipse, Java, heart.