

SCHOOL OF ENGINEERING

FINAL REPORT

DESIGN OF FINGER TIP OPTICAL BASED
HEARTBEAT MONITORING SYSTEM

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Abstract

This project is regarding the design of fingertip optical based heart beat monitoring system. A pair of infrared red receiver and infrared red emitter is used to detect the intensity of blood change in the fingertip that relatively to the heart beat. Therefore, the heart rate can be measured and monitored. Currently this system is used in most of the hospitals, the optical sensor is clipped on the finger then send the signal to the heartbeat-monitoring unit via a wire. Innovatively in this project, the optical sensor will send the signal to the heartbeat-monitoring unit wirelessly. In addition, heartbeat-monitoring unit which calculate the heart rate (beats per minute) can be interface with the nurse computer and store the heart rate data. The heart rate received by the nurse's computer can be sent through Internet to related doctor's computer.