FOLLOWING YOUR HEART(BEAT)

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ABSTRACT
Over the course of a month, we researched, designed, and fabricated a heart rate monitoring system using arduinos.

PULSE OXIMETRY
[3] A noninvasive procedure that measures oxygen saturation of one's blood through the use of red and infrared lights. [4] Through a method called photoplethysmography, one can utilize two sensors on either side of a small body part to monitor the fluctuating blood volume from pulses of the heart.

RESEARCH
[1] Dr. Takuo Aoyagi, an electrical engineer, created the modern pulse oximeter in the late 1970s. He built off of previous models of oximeters that utilized the findings of German physicist August Beer, which proved that the amount of light transmitted through a solution varies based on the concentration of solute. Before this breakthrough, medical professionals had relied on a test called an Arterial Blood Gas (ABG) test. This procedure used uncomfortable, invasive methods of sampling blood directly from a patient’s artery to measure the amounts of oxygen saturation in their blood.

METHODOLOGY

STEP 1. familiarize with circuitry

STEP 2. design and fabricate circuit for final product

STEP 3. apply previous experience to construct final product

RESULTS
1. Learn basic circuitry
2. Utilize basic programming skills
3. Build a functional Heart Rate Monitor