Haptic and LED feedback for heart rate monitoring system in sport application

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Abstract:

According to US First Lady Michelle Obama "One in three American children is overweight." In today's world, kids are spending most of their time playing video games and becoming less active. These activities have different effects on kid's health.

The purpose of this project is to develop an APP and a bracelet based on Arduino which is used to help and educate children how to monitor and rate their exercise intensity. The APP calculates the target heart rate for an individual, allow them to rate exercise intensity on the fly. Bluetooth technology is used to interact with the bracelet.

Testing was done to measure the effect of two different types of activates on the heart rate, and amount of sweat. The activities used were Biking and Hula-hoop. By using the App and the bracelet, kids can do different activities and see which activity is more effective and help reach the target heart rate faster for a healthy life. That will lead to less obesity among kids.