

ES043

PUSH-UP EXERCISE COUNTER

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Abstract

Push-ups are a physical exercise performed in a prone position by raising and lowering the body using the arms. It is a basic exercise commonly seen in military physical trainings and punishments.

Push-up counters are made in order to accurately record the number of push-ups done by a person and to help a person monitor the progress of his training.

Existing push-up counters use infrared technology or compression-based technology to count the number of push-ups done by the user. However, there are some flaws that exist in current push-up counting devices.

As such, this project aims to design and build a push-up counter, using Arduino, which would be wearable and have increased capabilities. This project improves on existing push-up counters by measuring the posture of the user doing the push-up. This is achieved through using a small device at the lower back of the user to measure the arc of their back.

Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino can sense the environment by receiving inputs from sensors, and respond accordingly, through sound or light signals. Arduino can be programmed to perform tasks through writing codes using the Arduino Integrated Design Environment.