# Abstract

There are many patients of degenerative function of hands in nowadays society. Elderly person as an example, their chances of degenerative arthritis in 50 years old is 20~30 percent, and the probability of occurrence of over 70 years old is as high as 70 percent. Arthritic symptoms in the hand finger joint deformity, swelling most common, and it will influence sufferers' hand grip ability, thus causing inconvenience to daily life. This assist device is not only limited to the rehabilitation of the elderly, but also can more widely used in patients in all age groups of the required rehabilitation.

Many patients are unable to cope with the power to make or cannot understand how to make the force, so interactive rehabilitation aid for rehabilitation become indispensable role in terms of the patient. Therefore, we use Arduino bending sensor combined with a pressure sensor, a device on the analog instrument and covered with a towel, so that the user sensor output measured values. We use its value the horn beep sound to inform the user enough strength to wring the towel, and show its strength in the LED row, the greater the power of the discharge lamp lit LED on the more. At a time when data communication module Bluetooth will force users of the road transport to the mobile phone, making it easier for users to know when the rehabilitation of the force enough.

We introduce contents mainly divided into several parts. About Arduino's basic introduce, Arduino's characteristic , control board's summary, Arduino's

program development tools and development procedures introduction, Arduino's development and compiler environment, bend sensor, and pressure sensor. This assist device not only can help patients who have problem of hand joint, but also can help elderly people with limited mobility in terms of rehabilitation.