TBox: Tracking Box

Ferreira, Andre
Pires, Goncalo
Nunes, Ricardo

The ineffectiveness of the paramedics' means in critical emergency situations is frequently caused by the delay that exists between the request for help and the triggering of the means of emergency, as well as by the subjectivity with which the state of health of the victim is evaluated. TBox is a device that aims to improve the paramedics' response and the population's quality of life. It offers a variety of functions such as measuring vital signs, detection of possible emergencies, user's location and activation of the paramedics' action in case of need. The device is responsible for measuring the vital signs (heart rate, peripheral oxygen saturation, respiratory rate, temperature, sweat's level) , and stands out due to the measurement time, which is around 15 to 35 seconds. It then transmits the data to a cell phone, by Bluetooth, also showing the location of the person. All this can be seen in the specific application, created for the Android Operating System. The TBox device also triggers the paramedics' in case of prolonged movement inactivity (blackout, heart attack), since it possesses an accelerometer that measures acceleration variations. Database of all the features of the TBox were collected in order to optimize results and make real and concrete assessment of the values obtained. The analysis of these data allowed us to conclude that the device not only facilitates the evaluation of the victim but also allows the paramedics' response to be more effective.