Treadmills Health Monitor System (WKT2-06)

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Nowadays, there are many fitness centers in Hong Kong. It is because more people are concerned about their health. They do exercises to keep fit and improve their health. Fitness centers provide different kinds of machines and support from professional trainers, so fitness centers have become a more common place to exercise. Running is one of the most popular exercises, and using a treadmill is also common in fitness centers. Many people want to know their health condition when they are using a treadmill. Professional trainers also want to know and depend on these health data to give professional comment to their clients. Thus a system is possible to be implemented to collect players’ health data.

The aim of this project is to produce a monitor device and a user interface program. Figure 1 and Figure 2 show the block diagram of the system. In the Figure 1, the hand-held device is used to measure the heartbeat rate, RR interval, step counts and running time of the user. Then health data can be transmitted from the above device through the Radio Frequency (RF) to the PC station, as shown in Figure 2. The received information (health data) is then recorded in the database system in the PC station. This information will help professional trainers to analyze the health condition of the user.
Member’s personal information and health record display

Heartbeat sensor with an error rate around 12%.
Step count has an error rate around 0 to 0.2%.
Reliable wireless transmission distance is within 1 meter.