A Cardio-Auxiliary Bracelet for the Monitoring of Arrhythmias

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Currently cardiovascular diseases are the leading cause of death in the world, for this reason it is essential that patients suffering from these diseases and asymptomatic ones, have an adequate control of their heart rate to detect arrthythmias and reduce the possibility of presenting a future risky situation that could cause death. It is important that patients have a record of their heart rate as recommended by doctors but in some cases they don't do it. The objective of this proposal was to create a prototype that shows user's heart rate in real time as well as keep a record of each pulse for the doctor's analysis. Furthermore, if the system detects signs of alterations in the user's frequency (arrhythmias), whether high or low (tachycardia, bradicardia), it sends an alert message via SMS to an additional person with location, date, time and cardiac status in real time. The components used for this prototype were: plate with microcontroller, bluetooth technology, pulse sensor and an interface for the visualization (all included in a bracelet). The results showed that the cardio-auxiliary bracelet can keep a record of the user's heart rate and sends an alert to a third party indicating the patient's condition. Having this information, the arrhythmia could be prevented from becoming more complicated and causing a dangerous situation or death.

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