

Healthy Living

Your daily dose of health

Smartphone detects vital body signs alongwith blood oxygen saturation

Mark Lyall · Sunday, October 16th, 2011



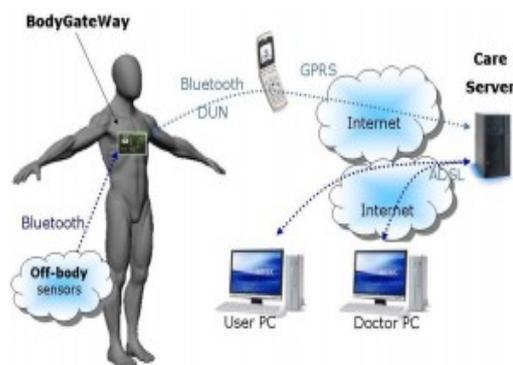
Vital signs are measures of various physiological statistics, often taken by health professionals, in order to assess the most basic body functions. The act of taking vital signs normally includes recording body temperature, pulse rate (or heart rate), blood pressure and respiratory rate, but may also include other measurements. Smartphones are becoming popular devices for to capture these vital signs.

One more vital parameter to be measured and monitored is the oxygen saturation of a patient's blood i.e. patient's oxygenation. A blood-oxygen monitor, **pulse oximeter** displays the percentage of arterial hemoglobin in the oxyhemoglobin configuration.

Physiological parameter monitoring with a smart phone

A researcher from Worcester Polytechnic Institute has developed a smart phone app

that measures not only heart rate, but also heart rhythm, respiration rate and blood oxygen saturation using the phone's built-in video camera.



The app analyzes video clips recorded while the patient's fingertip is pressed against the lens of the camera. Just like a standard clinical pulse oximeter, it then captures small changes in light reflected by the pulsing blood in the capillaries, and translates these changes to the actual vital signs by using the same algorithms employed in professional devices.

The results show that the smart phone monitor was as accurate as the traditional devices. When professionally launched, this could become a powerful diagnostic tool which is readily available to both doctors and patients anywhere they are.

Further, they are working on an app for accurate detection of atrial fibrillation from the heart rhythm signal and have started a preliminary clinical study. I think the development of iPhone apps is going in the right direction by making iPhone as "all in one" portable communication as well as basic health diagnosis tool.

Via

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