

Understanding by Capturing

 \sim Simultaneous multi-biosignal sensing by visible light communication \sim

Abstract

By using LEDs and a high-speed camera, we aim to develop an easily expandable sensor-network system. This exhibit shows a new portable system that processes most tasks on a small FPGA. Our network system can gather data in situations where the conventional wireless networks do not work so well. For instance, it can be used to measure detailed biosignal information of athletes playing at one location, and this information can be sent over a high-speed network to physical education instructors at another location, who can then remotely coach the athletes. In addition, our system can be used in group psychophysical experiments. By enabling such new means of study, our research will lead to new insights into, for example, how to quantify realistic communications.





Related works

[1] 河合 遼, 城 圭太, 泉 知倫, 白木 善史, 鎌本 優, "高速カメラによる広帯域光無線通信のための光源追跡ハードウェアの検討,"情報処理学 会第76回全国大会予稿集, 東京電機大学, 2014年3月 [2] 中原 優, 泉 知論, 白木善史, 鎌本 優, 孟 林, "高速カメラによる広帯域光通信の移動体への適用と試作,"2015年電子情報通信学会・総合 大会予稿集, 立命館大学, 2015年3月

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