Monitoring Multiple Patients with a Head-Worn Display: A Proof-Of-Concept Study in a Clinical Environment

Paul D. Schlosser,1 Tobias Grundgeiger,2 Penelope M. Sanderson,1 Oliver Happel3

1 The University of Queensland, School of ITEE 2 Julius-Maximilians-Universität Würzburg, Institute Human-Computer-Media 3 University Hospital of Würzburg, Department of Anesthesia and Critical Care

In Germany, supervising anaesthesiologists oversee patients in multiple operating rooms, and need to be able to quickly respond to critical events. We developed an application for a head-worn display (HWD)–a small computer screen worn on the head–that shows multiple patients’ vital signs and alarms.

In a clinical proof-of-concept study, 8 anaesthesiologists noticed significantly more patient alarms with the HWD (66.7%) than without (7.1%), P = 0.028. Active ongoing research includes investigating potential applications for similar HWDs in the Australian healthcare system, such as for use by critical care doctors and paramedics in pre-hospital and retrieval environments.