Augmentation of human strength using wearable robotics

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ABSTRACT

With the target application of aid workers or applications that require heavy manual labour, a compliant exoskeleton was developed based around modular electronic controllers. This system would offer the user a telerobotic master-slave system, and provide force feedback to the master device. This system then allows for force amplification between the wearable master and mounted slave device, reducing the effective weight load on the user whilst still allowing the user to feel the load. A 2DOF example system was built using a modular approach so that the technology can be easily expanded to include more active joints.

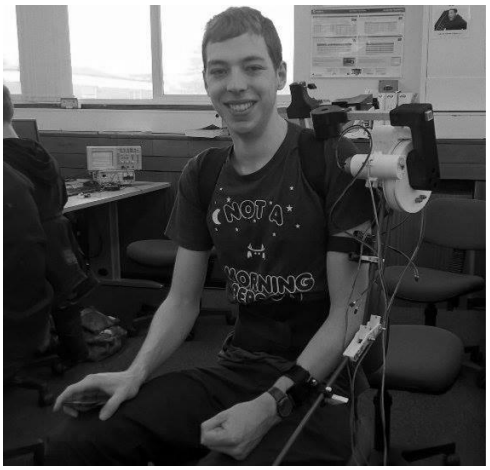

Figure 1. The Wearable Master Device

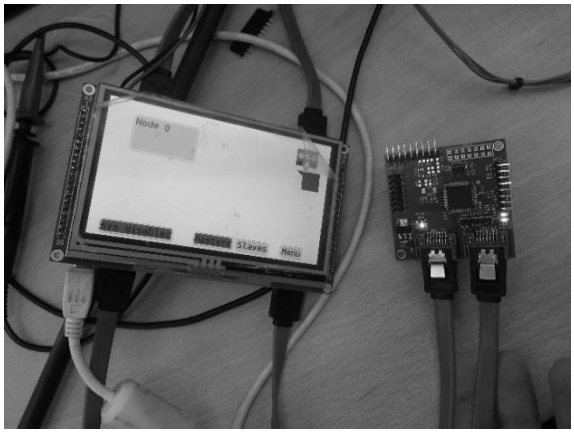

Figure 2. The Coordinator (left) Connected to a Single Master Controller (right)

J Time, Your SCARP paper title, *Proc. 13th School Conf. for Annual Research Projects*, V F Ruiz (Ed), pp. xx–yy, University of Reading, 3rd June 2014.