MEDIA RELEASE

Adelaide Technology Has the Potential to Revolutionise Post-Operative Care

Thursday 11 May, 2017

An Adelaide-based start-up company is reimagining the possibilities of post-operative monitoring, the Royal Australasian College of Surgeons has been told today at its Annual Scientific Congress (ASC) in Adelaide.

Data Dissect Pty Ltd was formed as a collaboration between data scientists, mathematicians, surgeons, anaesthetists and medical students after discovering a shared interest in developing innovative technological solutions for a range of clinical research problems.

Mr Stefan Court-Kowalski, a final year medical student at the University of Adelaide, today presented the findings of a pilot study into the recovery process of young post-operative patients, jointly conducted with a team of computer scientists lead by Dr Damith Ranasinghe, Director of the Auto-ID Laboratory at the University.

As part of the study children between the ages of 5 and 17 were fitted with a commercially available smart watch. Algorithms were then designed to detect activities such as walking, jumping, playing, and using a smart phone; behaviours that may indicate how well a child is recovering from an operation.

“We noticed a lot of commercially available products had become enormously popular, particularly in areas like the fitness industry,” Mr Court-Kowalski said.

“What struck us was that these devices utilised sophisticated technology, but performed quite basic functions. The medical professionals in our group recognised the benefit this sort of technology could have in our work, particularly in children.

“When children are unwell they often can’t clearly tell you how they are feeling. Also, their physical behaviour often reflects their health status – an unwell child tends to be still and listless, and a well child is active and busy.”

“We took a number of different activities that would generally indicate different points in the recovery process, and asked the question; is it possible to use this technology to capture the relevant motion information needed to assess how well the patient is recovering?”

Mr Court-Kowalski stressed that the purpose of the technology was not to replace the role of the clinician in the post-operative process, but rather to assist them in providing the best possible care to their patients.

“It is in no way about removing the experience and the expertise of clinicians from engaging with their patients. Essentially what it is intended for, is to provide another thread of relevant information for clinicians to utilise as part of their decision making processes.”

While the early clinical trials were promising, the group is now in the process of further developing the information collected by the algorithm, and the manner in which it is collected.

“We’ve already moved forward quite significantly since the trials. One of the things we are exploring is what motions are most relevant in different scenarios, and adapting the technology as necessary.

“For example, the range of motions we would look to observe in a child who has just had their appendix removed would be completely different to the information we would want to see in other clinical scenarios such as recovery after surgery to fix broken bones.”

Media inquiries: Mark Morgan, Policy and Communications Officer
(08) 8219 0922 or 0488 218 009
Dr Tom Cundy, a John Monash Scholar and surgeon-in-training emphasised the group’s perspective towards the future.

“Today, every patient in every hospital in the world wears a simple identification bracelet. At the same time, people in the community are readily purchasing intelligent devices such as fitness bracelets.

“We see a future where the simple hospital identification wrist bracelet is replaced by an intelligent wearable device that communicates live clinical information about recovery after surgery.”