



Workshop on Connected Health: the Safety Perspective

20 March 2013

University of York, Heslington East Campus, UK

The workshop is funded by the LSCITS project and participation is free of charge (including lunch). Places will be offered on a first come first served basis.

<http://www.dependablesos.org/connected-health-the-safety-perspective-workshop>



Abstract

Connected Health encompasses a wide variety of technologies that can improve delivered healthcare both in terms of quality as well as cost. The main philosophy behind this approach is the interaction and collaboration of many systems during the care of a patient.

The systems range from directly applied physiological monitoring (e.g. Body Sensor Networks), general sensing within the environment (e.g. Wireless Sensor Networks), robot surgery, networked medical devices in a hospital setting, and linked health informatics (e.g. electronic health record) and medical devices in general that are part of the delivered healthcare (and healthcare pathway).

Connected health systems can improve the healthcare of acute and recurring conditions, as well as improve the prediction of more sensitive groups, before symptoms. For example, healthcare in the home where devices control or monitor the giving of drugs (e.g. implantable drug delivery systems), check for hazards (e.g. someone having fallen over, slipped into a coma or having forgotten to turn off a cooker), establish behavioural patterns (e.g. to detect early onset of dementia), or for rural areas to avoid costly trips to hospital (e.g. provide a doctor physiological data and allow consultations via video).

Such systems will need to collaborate, albeit having been developed independently (from each other) by different developers and used by different operators. Connected systems will need not only to communicate in a way that they understand each other (i.e. common interfaces), but also to be able to improve healthcare, by offering new capabilities as a System of Systems to health professionals not previously available.

This exacerbates concerns such as safety, security and information governance, and assurance is needed about the dependable operation of connected health systems in terms of these, often interrelated, concerns. The UK NHS recommends safety cases – an argument, supported by evidence explaining why a system is safe – as a means of providing assurance for health IT systems, and the US FDA is requiring safety cases for devices such as infusion pumps. Lessons learnt from early advances in the field can be used to further converge the practice in healthcare systems safety.

The connected health philosophy needs to bring together professionals from the IT, systems engineering and healthcare domains. This is necessary in order to understand how the connected

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systems need to work, how they can improve the quality of the delivered healthcare, and how they can be dependably and safely deployed in day-to-day operations (and existing procedures).

Invited Speakers

A very interesting line-up balancing researchers and practitioners in the field will present their insights in the issues¹.

- Maureen Baker, Clinical Director for Patient Safety, NHS.
- Adrian Stavert-Dobson, Head of Clinical Risk Management at BT Global Services.
- Jon Ward, Sr. Manager, Safety Engineering, Pre-Market Quality at Medtronic.
- Justin Keen, Professor at the University of Leeds, UK.
- Tim Kelly, Professor at the University of York, UK.

For more information about the invited speakers and abstracts please visit the workshop's website.

Panel

A panel session will be held during the workshop. If you are interested in participating in a panel please contact the program committee, also indicating the subject(s) of interest.

Registration

You can register for the event online at the workshop's website. Places will be allocated on a first come first serve basis.

About LSCITS

This EPSRC funded initiative is responsible for coordinating a national network of researchers with the skills and knowledge appropriate to dealing with the problems of current and future LSCITS across their life-cycles. The initiative also has international links with researchers in both industry and academia.

The motivation for the LSCITS initiative is the on-going growth in the size and complexity of information technology (IT) systems. Our ability to develop, maintain and manage such systems is falling behind the growth in their complexity. There is a high risk that we will find ourselves reliant on IT systems that we don't fully understand and that we cannot effectively manage.

The roots of complexity in IT systems are their increasing size; the increasing involvement of many different organisations in their construction and use; and the increasing rate of business and social change that they have to accommodate. To management control complexity, we need better technical tools and methods of system development. We also need a better understanding of the human, social and organisational issues that affect the procurement, development, deployment and use of complex IT systems.

For more information visit: <http://lscits.cs.bris.ac.uk>

¹ Although all speakers have confirmed attendance at the time of writing this leaflet, there is always the possibility of changes. Please consult the website for news and updates.