Monday 28th Nov 2016 from 08.30 to 17.30 at St. Mary’s Church & Conference Centre, Sheffield, S2 4QZ

More information on our website: www.t4i2016.org.uk
Follow us on Twitter: @T4I_RAatE #T4I2016
All abstracts will be published open access and will be available online.

Please visit our website for more information: www.t4i2016.org.uk

We wanted to thank 3rings for sponsoring our pre-event dinner at Kelham Island Brewery with Steak & Ale Pie, Peas and local beer which took place on Sunday 27th November 2016.
Welcome

On behalf of the T4I Board I would like to welcome you to the 2016 T4I (RAatE) Conference. The RAatE Conference ran for over 10 years and I am delighted that we have been able to collaborate with our colleagues at CATCH (University of Sheffield) to deliver a refreshed, dynamic and exciting event.

Reflecting the evolving and innovative ways that well designed, appropriate technology can promote and support independence for disabled people, we have changed the conference name to Technology for Independence (T4I). Our aims remain the same; to focus on service and technological innovations, formal research projects and service based research across the broad spectrum of Assistive Technologies (AT) and present these to a wide range of people working in the field of AT.

I would like to thank all our presenters for submitting such a wide range of excellent papers. This has allowed us to put together a very full and varied programme with something of interest to everyone in our field. A special thanks and a very warm welcome to our plenary speaker Luc de Witte, who was Professor of Technology in Care at both Zuyd University of Applied Science and Maastricht University and recently joined the University of Sheffield.

I hope you find the conference stimulating and useful in your field of work. Please also take the time to visit our exhibitors and finally (if you have any spare time on the day) don’t forget to network with your colleagues!

Simon Fielden,
Chair, T4I Board

When tweeting about the event, please use: #T4I2016
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Detailed information about the talks

When tweeting about the event, please use: #T4I2016

As T4I is intended to be of interest to practitioners as well as innovators, we receive quite different types of abstracts that can qualify for inclusion. Please find below descriptions for the three categories of short articles. The content will be published open access and will be accessible via the T4I website on the day of the conference: www.t4i2016.org.uk.

- **Academic/Research**: contributions that have taken an academic or formal research approach to their work. Usually involving users.
- **Non-research**: an investigatory contribution that hasn’t necessarily followed a formal research approach. E.g. Audit or Service development, Public Involvement.
- **Knowledge Transfer**: knowledge sharing of novel information, resources – such as services or products e.g. could be training, education, awareness.

09.10 - 10.00  Luc de Witte, CATCH, University of Sheffield @CATCHShef

How to close the gap between what is technically possible and practically available?

In his presentation, Luc will talk about the global challenges in the field of assistive technology. Worldwide, the need for AT is growing and the technological possibilities are rapidly increasing. But in the meantime countries tend to minimise the possibilities for people with disabilities to obtain assistive technology through their service delivery systems. These opposing trends create a growing gap between needs and availability of technology. What can be done to close this gap? And what is the responsibility of professionals in AT? These are examples of the questions Luc will address.

Monday, 28th November 2016
10.30 - 10.50 Andrea Kirton, NHS  @AndreaKirton

Simplicity is the Ultimate Sophistication
The authors have observed, complex technological solutions are often explored but the complexity of these solutions may actually become a burden or barrier either to the user or their support network. In these cases, simpler solutions, which may have been overlooked may provide a more effective option.

10.50 - 11.10 Darren Hall, Kings College Hospital NHS Foundation Trust

EyeGaze Case Report
This Case report outlines the reasoning behind the provision of an EyeGaze system and the design of a custom mounting bracket for a client with Motor Neuron Disease (MND). The manufacture of the special bracket is outlined.

11.10 - 11.30 Mark Moseley, Bournemouth University

The use of technology to provide physical interaction experiences for cognitively able young people who have complex physical disabilities
This study aims to develop a tool incorporating an eye gaze controlled robotic arm that provides haptic feedback, to enable young people who have severe physical disabilities and good cognition to experience simulated physical manipulation of objects, and simple play.

11.30 - 12.00 Neil Fitzgerald, Smartbox Ltd.  @Thinksmartbox

Advanced switches and other new developments in access
This presentation will highlight available EMG and head pointing products suitable for computer access. It will also cover advanced features in Grid 3 which can help with Touch access, voice recognition and environment control. Smart box is a commercial supplier of the products described.

12.00 - 12.20 Simon Judge and Nasrin Nasr, Barnsley Assistive Technology Team, Barnsley Hospital  @BarnselyAT

The potential application of EMG as assistive technology: a usability study
The aim of this study is to examine the potential for the use of a new type of EMG sensor in assistive applications with the end goal of developing an EMG switch that can be placed on the market and used by individuals as an assistive control method.

Monday, 28th November 2016
My Favourite things: The emerging IoT and the impacts that are expected in Social care in the Technology adoption of Multi-Platform AT elements

This presentation will look at the potential impact that the expected 50 billion things connected to the Internet by 2020 could have on social care. Building on experiences gained with the 3rings patented Plug & platform in creating distributed family care. *Chairman of 3rings Care Ltd and named co-inventor of 3rings Plug and Platform patent.*

Developing Effective Intelligent Assistance for the Powered Wheelchair User

This research is working towards developing a pre-production prototype system which can provide a low-cost real-time adjustable and adaptable driving assistance system for powered wheelchair users. Information is being gathered from user joystick input and their driving quality to identify symptoms and make adjustments to the driving assistance system.

Modifications to a Customer Relationship Management (CRM) database system to enable the use of speech recognition software

Adding Accessible Rich Internet Applications (ARIA) HTML elements to web pages enables users to use speech recognition software for data entry and retrieval of information on databases. This in turn minimises the use of the keyboard and mouse which in turn can lead to less repetitive strain injury.

Novel Navigation of an Alternative and Augmentative Communication Device

This single case report summarises an innovative solution used to overcome the access challenges faced by a person with both physical and sensory impairments to use an AAC device. The authors infer issues to be considered more generally for communication aid provision for people in this population.

DrawTalk, an alternative input method for an AAC

Drawing to communicate goes back to the cave man times. An Assistive Technology Professional suggested its use within an Augmentative Alternative Communication aid (AAC). University course students implemented this in an alternative method of user input. The technological image recognition limitations did not allow useful evaluation.
13.30 - 13.40  Abi James and E.A. Draffan, University of Southampton  @EADraffan

Terminology, understanding AT and practice

A workshop explored common challenges to assistive technology practice across a wide range of service providers and AT disciplines. The authors examine whether a lack of common terminology was hindering cross-sector cooperation.

13.50 - 14.10  Steve Lee, OpenDirective Ltd.  @SteveALee

Stepping Stones for people with cognitive disabilities and low digital literacy

The software components presented have been designed to allow people with cognitive disabilities and low digital literacy to easily perform common on-line activities. The components are managed as an open source project to encourage wide contribution and engender innovation. OpenDirective Ltd is dedicated to facilitating open innovation in accessibility and assistive technology.

14.10 - 14.30  Bryan Boyle, School of Computer Science and Statistics, Trinity College Dublin  @Bryanboyle

Designing collaborative virtual environments for children on the Autism Spectrum

This paper outlines the examination of a Collaborative Virtual Environment (CVE) as a computer aided learning tool for children with symptoms typically associated with a diagnosis at the moderate to severe side of the autism spectrum. A CVE was co-designed with children with autism, their parents, teachers and other caregivers.

14.30 - 14.50  Abi James, University of Southampton  @Abijames

STEM Enable: improving STEM accessibility through knowledge sharing

This session will briefly introduce Science, Technology, Engineering and Mathematics (STEM) accessibility issues before considering the potential impact of crowd-sourcing Assistive Technology (AT) knowledge on professional skills and the development of new technologies in other AT fields.

14.50 - 15.10  Emma Broglia, Department of Psychology, University of Sheffield

Therapist experiences of supplementing counselling with guided use of a well-being mobile phone app

This article presents findings from a focus group exploring therapist’s experiences of supplementing counselling with guided use of a well-being app in a student counselling setting. Preliminary findings address the implementation, acceptability, usage, and potential implications described during the therapist focus group.

Monday, 28th November 2016
Personalise, Localise and Globalise: Symbols to enhance independent Communication

This research explored the personal preferences of AAC users and those supporting them, in their need to have localised, cultural and religious symbols, that could be used alongside those already found on communication charts in certain multilingual settings.

Digital Talking Mats: a tool to enhance communication

This presentation will explain the background to Talking Mats and the journey from a low-tech method to a digital tool. The tool is now being used widely with people of all ages and abilities across the world. Talking Mats is a product of the social enterprise Talking Mats Ltd.

A Case report of Technological Aids for Episodic Memory

This presentation describes a single case report where technological aids were used to promote independence of a child with significantly impaired episodic memory. In particular, the presentation looks at novel use of existing technologies in route finding and memory logging.

We will co-host our conference next year with #AAATE2017, see you there:
15.40 - 16.30  Emily Redmond, Tom French, Tinder Foundation @TinderFdn @RedmondEm @MrTomFrench

Disabled people crossing the digital divide: Supporting independence with digital skills in the community

This presentation focuses on research undertaken with community organisations which support disabled people, to find out about the barriers to digital inclusion facing this audience. The research will inform a practical handbook to help such organisations get disabled people online. Tinder Foundation manages the 5,000 strong UK online centres network which supports people to gain digital skills in communities across the country.

16.30 - 17.20  Paul Hewett and Will Wade, Design4Us Lab Ltd/ACE Centre @Paulhewtweet @Willwade

Open Design: a proposed web service to facilitate sharing of hardware and software solutions in assistive technology

A proposal for a web portal will be presented that enables assistive technology projects (both hardware and software), in particular those which are open source, to be collated easily. It enables projects from multiple sources to be searched and located. Design4Us Lab Ltd is a design consultancy operating in the AT field. The ACE centre offers expert services in Augmentative and Alternative Communication and AT.

All abstracts will be published open access and will be available via www.t4i2016.org.uk from 28.11.2016.
Enjoy networking with our exhibitors