
The ChiCI Group

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Abstract

This paper describes the work, the vision, and the approach of the Child Computer Interaction (ChiCI) group at the University of Central Lancashire in the UK. This group, formed four years ago, has grown to become one of the leaders in its field whilst maintaining a democratic structure, an open mind, and an invigorating message. The paper describes the group's creation, outlines its current activities, and contemplates its future.

Keywords

Children, design, evaluation

ACM Classification Keywords

H.5 INFORMATION INTERFACES AND PRESENTATION

H.5.0 General

Introduction

In 2002, a group of researchers from the University of Central Lancashire, UK (UCLAN) took a trip across to Eindhoven, The Netherlands, for the inaugural Interaction Design and Children (IDC) Conference (then a Workshop). Three of the four were working on PhDs in the area of Child - Computer Interaction [6], the fourth (with a PhD in HCI evaluation) was supervising two of the others. During the workshop, the four from UCLAN made an offer to host the next event, and at that point, the ChiCI (Pronounced 'cheeky'!) group was conceived. These same four subsequently organized

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and ran IDC2003 [2] and over the ensuing years became one of the largest International groups of Child-Computer Interaction researchers.



'The ChiCI group is well established as a leading research group in the area of Child Computer Interaction'
Bid Reviewer

This paper begins with an overview of the group and then introduces the main themes of the group before describing some of the projects that the members are currently engaged in. The paper concludes with some thoughts about the future.

The Group

At the time of writing, the ChiCI group has 16 full members. These comprise ten university teaching staff, one school teacher, two research assistants and three research students. In addition, the ChiCI group welcomes associate members from similar research groups around the globe. Eight of the full members are physically sited together in a specialized lab in the University of Central Lancashire; the remaining full members are located in the Departments of Computing and Technology in the same University. The group supports six PhD students, a specialized MSc course in Child Computer Interaction, and hosts a website (www.chici.org).

Work by the group is deeply rooted in HCI and focuses on the 'positive' nature of technology; this sets it apart from those groups that focus on the social implications and on the 'dark' side of technology (Internet grooming and similar activities). Whilst focusing on interactive technology for children aged around five to eleven, the group is not limited in its scope and does a lot of work with younger children and older teenagers. Members have collaborated with researchers from across Europe and have been visible at all of the major HCI Conferences.

The group enjoys the backing of the Department of Computing. The Head of Department, although a networks man (!) has been extremely generous with Department funds, providing two fully funded research assistants for a year and providing an annual conference and travel budget for the group. The group has been given its own research space which incorporates a dedicated "play lab" for design activities and evaluation studies. The play lab is sited in the ChiCI building and consists of a suite of four networked PCs, a SMART space for tangible and augmented technology exploration and a design corner with child-sized furniture. The lab is equipped with a TV and games console, an Interactive whiteboard and a wireless network that enables WebCam work.

Research carried out by the Group

Research that is supported by the group falls into four broad, overlapping themes: NoTICE, e-literate, GAPS and My -Tech. These themes collectively communicate the 'raison d'etre' of the group which is '*to help children have technologies that are worthy of them; that support playfulness, that are fun to use, and are engaging and exciting.*'

NoTICE (Novel Technologies for Interaction, Communication and Education). Novel technologies are often relatively untested and untried but can offer both opportunities and threats. Technologies that we are particularly interested in include speech and pen based systems for interaction and the use of mobile devices and RFID tagged environments for learning and communication. One area where we have been especially active is in the investigation of recognition based systems (speech and handwriting) for use with

children [8] [5] and we are currently investigating the usability of Gaze Tracking software with children.



'... to help children have technologies that are worthy of them...'

The **e-literate** work focuses on the potential for technology to support children learning language, literacy and culture. As language changes with the use of technologies and as children find new methods to communicate, this work is especially pertinent. Our work in this area includes the use of intelligent systems for reading, pen based computing for writing, text input methods for dyslexic children, and the design of culturally sensitive interfaces. We have built a tablet based handwriting application for children, and are investigating the design of word processing applications with the intention of producing a 'bloat-free' interface for children that they can adapt to suit their needs

One realisation, when the group came into being, was that there was very little written about safe and ethical work with children and technology. Our **GAPS** work is dedicated to the production of Guidelines, Advice, Principles, and Standards. In this respect, members have presented tutorials on evaluation with children at CHI 2004, Nordichi 2004 and IDC2005 and workshops on practice at British HCI2005 and Interact 2005 [3] [4]. The group has published reflective and summary articles in the popular and professional press. We have a particular interest in methods for the evaluation of interfaces, and are currently investigating the proper use of Wizard of Oz methods with children, as well as working on the use of heuristics to evaluate educational software. To communicate our knowledge of working with children, one member is developing a MasterClass on Child Computer Interaction, having earlier presented a short course during a visit to Finland in 2003 and a MasterClass at British HCI2005.

Motivated by the work of Druin [1] and others, the group has long held the belief that children should have a say about their own technologies. The role of children in the design and evaluation of their own products and technologies is investigated within the thematic area of **My - Tech**. This work includes the facilitation of participatory design sessions, and the use of observations and survey methods to evaluate fun and usability. One of the most cited outputs from this work is the fun toolkit [7], used by many in the field for the evaluation of fun with children. Projects in this theme include a study of the efficacy of requirements gathering methods for tangible interfaces and work on the evaluation of tangible interfaces; these studies are being done within the context of a museum interface.

Evaluations, Design Sessions and MESS Days

To support the group's research the group organises many evaluation studies and design sessions. An average year will see around twelve design sessions and fifteen or more evaluation sessions. The group enjoys a special relationship with six local schools; but, as it is not always easy to find time for school visits, and as attendance in schools is often disruptive to the curriculum, the group has an annual MESS (Mad Evaluation Session with Schoolchildren) day when children from local schools visit the labs. A typical MESS day sees around thirty primary children (4 – 11 year old), and thirty secondary school children (aged 11 – 15) visiting the University and moving around several venues evaluating software and taking part in experiments that have been planned by group members. The children gather in a 'Chill Out' room (a PC lab) where they play specially selected games, whilst group members visit the room throughout the session and take small groups to their experiments,

returning them to the 'Chill Out' room after they have done. In this way it is easy for the group to carry out multiple evaluations.



"I had a great day at the MESS event, we played with some really cool stuff and it was fun' Jim, 12,

What Next – Playfulness or Productivity?

Visitors to the lab have been heard to comment on the playfulness of the researchers and the spirit of adventure that the group members share. Some of this is a direct result of the freedom that the group currently has with respect to the research it chooses to carry out. Funded by the institution, the group is almost able to indulge itself when it comes to selection of research themes. As the group becomes more mature (in research group terms) there is pressure to gather external funding which, by its very nature, brings constraints and different performance criteria. At the time of writing, the group has only one large funded project, BEAM (Broadband Enabled Activities for Museums), it is likely that more funded projects will follow.

Another challenge for the group comes from the very nature of the research field in which it participates. It is often documented that HCI is difficult because the technology keeps changing; however CCI is more difficult because the child is also changing! A nine year old today is quite unlike the nine year old of 1995 and will be quite unlike the nine year old of 2015. Research results in Child - Computer Interaction have a short shelf life and care has to be taken to make few assumptions about the homogeneity of the child population.

So, what next? The group aims to be a world leader in Child – Computer Interaction; to influence technological innovators, to educate developers and practitioners, to

stimulate academic discussion and to communicate good practice. In the next few years the group expects to expand further which will have an impact on the management and organisation of the group.

Change is inevitable; the challenge for the ChiCI group is to stay true to its values and to stay forever young!

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