Report on ACSW
Adelaide, South Australia

Michael JasonSmith

26th February 2003

1   Introduction

I attended three streams of the Australasian Computer Science Week (ACSW) conference, which was held between the 4th and 7th of February. The first, Australasian Computing Education Conference (ACE, Section 2) discussed teaching 'computing' in a tertiary environment. The second stream, the Workshop on Wearable, Invisible, Context-aware, Ambient, Pervasive and Ubiquitous Computing (WICAPUC, Section 3.1) was related to my research area of Human-Computer Interaction (HCI), but was focused on user-interface *technology* rather than user studies. I presented a paper in the final stream that I attended, the Australasian User Interface Conference (AUIC, Section 3.2).

2   Australasian Computing Education Conference

The papers presented at the Australasian Computing Education conference were primarily aimed at discussing how to teach 'computing' to tertiary students, rather than secondary, primary or preschool levels. This was different to the majority of my teaching experience, which has been teaching secondary-school students using the Computer Science Unplugged resources [1].

The problems of providing online content was a theme for many papers. After Solomon presented a paper on the Blackboard content management system [2], which is similar in purpose to WebCT, many at the conference expressed the opinion that commercial content management systems are not suited to computing courses. However, there is a need for content management systems as 54% of University courses have online content [3].

de Raadt et al. presented the results of a survey that asked the 39 Australian universities what language was taught in first-year [4]. Table 1 summarises the results. Java is the most widely taught language; it is arguable which was the second most widely taught as C and C++ can be considered one language, which would be more widely taught than VisualBasic (21% compared to 19%). It is also interesting to note that more than 51% of first-year programing courses teach procedural programing, rather than object orientated programing, as both C++ and VisualBasic were used to teach procedural programming, and the object-oriented aspects of the languages were not used.

Language	Percentage of Courses
Java	43%
Visual Basic	19%
C++	15%
Haskell	9%
C	6%
Eiffel	3%
Delphi	2%
Ada	2%
JBase	1%

Table 1: Programing language use in Australian first-year computer science courses.

Groupwork is an effective way to teach computing, according Drury, Kay[1] and Losberg [5]. Learning is improved, products are of higher quality, students sometimes acquire a social support group, and acquire generic groupwork skills. Drury et al. had an excellent suggestion on how to deal with laziness or cheating in groupwork: tie the groupwork mark to the individuated work, so if a student does not get over a threshold-mark in the exam the groupwork mark does not count toward the student's final grade. I feel that this system could be successfully adopted by the Computer Science department at Canterbury.

3 User Interfaces

User interface papers Acsw were split into two streams that ran consecutively. The Workshop on Wearable, Invisible, Context-aware, Ambient, Pervasive and Ubiquitous Computing (Wicapuc, Section 3.1) was focused on new interface technology, while the Australasian User Interface Conference (Auic, Section 3.2) was concerned with more 'traditional' user-interface research.

The distinction between Wicapuc and Auic was not clear to myself or many other delegates, who often did not know of the existence of the Wicapuc stream until they arrived at Acsw. However, at a planning session for Auic 04[2] it was decided to merge Wicapuc with Auic.

3.1 Workshop on Wearable, Invisible, Context-aware, Ambient, Pervasive and Ubiquitous Computing

On the whole I was unimpressed with the papers presented at as the focus was on the technology behind the interface, rather than looking at the user's needs. That said, the technological problems that are being overcome are considerable. For example, the Dsto iRoom is being developed to sense where the user is looking, what gestures are being made, and what the user is saying [6]. The difficulty of this task is emphasized by the complexity of the middleware component system that Scholz et al. presented. The user interface components for

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[1] Judy Kay presented seminar on 'Scrutable Personalisation' to the Cosc Department during 2002.

[2] Dr. Cockburn will be Program Chair for Auic 04.

tracking gestures, gaze and speech are research projects in their own right, and I estimate that it will be a considerable number of years before we see a usable iRoom.

Part of WICAPUC was held at the Mawson Lakes campus of the University of South Australia. There, an augmented reality system was presented that allowed the user to visualise the placement of playground equipment while mobile. The technology is limited at the moment, but I do see a time where location-aware computers will become common.

3.2   Australasian User Interface Conference

There were two types of papers presented at AUIC: the first were similar to those presented at WICAPUC, while the second presented the results of interface-studies. However, Brereton et al. presented one of the most interesting papers, which bridged this gap [7]. Their research into gesture-input lead them to creating a taxonomy of different types of gestures. They identified five different types of gestures: command, preparatory, placeholding, shared tool and workspace, and mirroring. This research is part of the development of a gesture interface that uses seven accelerometers attached to a ring.

I particularly enjoyed Biddle's presentation of Barr's paper on icon types, which was based on earlier work in semiotics [8]. Barr et al. identified three types of icons: iconic signs which resemble the object, an indexical sign which represents the object by causation, and symbolic sign which is associated with an object through convention. Hopefully this work will lead to some design guidelines for icons that can be applied across interfaces.

I was not particular happy with my own History List presentation [9], due to a combination of nerves, my argumentative nature, and a propensity to not think before speaking. Others said thought my presentation went very well, but I will need to work on the latter two problems regardless. Hopefully nerves will lessen with experience.

4   Summary

The greatest benefit of going to ACSW was talking to others in my research area. I was surprised at how many had read my paper before my presentation and thought it was interesting! Also, discussing my thesis with others from outside Canterbury was very useful.

I would like to thank the Department for providing funds that allowed me to travel to Adelaide and present my paper.

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