

Conference Report for Human Centric Computing Languages and Environments (HCC) 2002

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HCC'02 was located in Arlington, Virginia, which is just west of Washington DC. To save on accommodation costs I stayed at a backpackers in DC, and took the Metro (underground light rail system) to the conference venue every morning (the India House was US\$17 per night, while the Hilton was US\$120 per night).

The only downside of the trip was that my luggage turned up two days late. The conference was excellent.

Keynote Presentations

There were three invited speakers: Ben Bederson, Randy Pausch, and Clayton Lewis.

Ben Bederson opened the conference examining user interfaces' support for flow. Flow is a psychological concept which is characteristic of optimal experience at a task, similar to being in the "zone" when playing games, and is the opposite of writer's block. He explained the five necessary factors of flow, looked at interface techniques that disrupt those factors and gave demos of software to support flow. It was a very good talk, and a great start to the conference.

Randy Pausch started the second day with a demonstration of Alice. Alice was originally developed to make 3D programming easy, and user-tests show they succeeded. Alice has two differences from most 3D programming environments: they speak the users language and avoid syntax problems in a textual language.

To speak the users language, Alice users do not use an absolute X,Y,Z coordinate system—they

use FORWARD-BACK, UP-DOWN, LEFT-RIGHT keywords with a relative coordinate system (same as x,y,z but with reference to the current 3D object rather than to an arbitrary point) to make 3D programming easy.

To avoid syntax errors, Alice users program using syntax directed drag and drop programming in a similar manner to my own system, Mulspreen. It was very encouraging to see another product using similar ideas to avoid syntax errors in a textual domain.

Clayton Lewis closed the conference by telling us that we, as HCI researchers, have solved the goals HCI set out to do. We know how to build usable systems, how to test them, and how to deploy the systems. He argued that writing code is no longer the problem, but understanding the problem is the problem—as HCI researchers we should (or must) concentrate on meaningful problems: problems that will benefit society and gave, as an example, his research on building computational devices to help cognitively challenged people interact with our world normally.

Papers

Many papers at the conference were related to my research. The most memorable of these were by John Payne, Chris Hancock and Mihial Tudoreanu.

John Payne presented a paper that I had cited in my paper at the same conference. He described and demoed his programming system for children

called Hands. The language used by Hands was developed by examining the types of programming constructs children use when they are describing program behaviour using pencil and paper. The major feature Payne adds is to use aggregate functions (e.g. select all the blue roses) rather than forcing the children to use loops. In his study, children could perform more programming tasks when using aggregate functions were present in a programming language.

Chris Hancock presented his paper immediately after me. He described and demoed Flogo. Flogo is a structured concurrent programming language to describe robot behaviour. The interesting feature of Flogo is that users can expand methods inline, which gives good context and probably helps understand recursion. He did not present an evaluation of Flogo.

Mihail Tudoreanu et al presented an evaluation of an algorithm visualisation tool. His evaluation found that his tool helped algorithm understanding. This result is important for my research.

My Presentation

My presentation was on the first day. It went well, despite mild jet-lag. A number of people referred to me as “the Mulspreen guy” during the rest of the conference, so if nothing else, the talk was memorable.

Questions asked related to the “liveliness” of Mulspreen (can you edit the program languages while the environment is running...yes), mapping program constructs of different levels of abstraction, and why I thought the two languages would help (more a clarification).

One comment after the presentation was that 8–12 year olds do not have the abstract thought capabilities necessary to construct interesting programs. This concerned me until John Payne’s talk. John Payne’s experiment involved 10 year old children constructing interesting programs.

People

Conferences are not just about papers: the people there are important as well. Here is a brief description of some people in the field who I chatted with... and what I chatted about (if I can remember, and in no particular order):

Alan Blackwell is a lecturer at Cambridge University. He presented two papers at the conference. Alan argued (informally at dinner one night) that any HCI researcher who understands formal notations should use formal notations whenever they have a chance.

Ben Shneiderman is at the University of Maryland, and does a lot of research into direct manipulation. He is coming to Canterbury University in February, so was wanting to know what he could do here.

John Payne is the author of Hands, which has influenced my English-like programming language.

John Hosking is from Auckland University, where HCC will be held next year.

Margret Burnett is a professor from Oregon State University. She does a lot of work on spreadsheet user interfaces, and has a spreadsheet system called Forms/3. She was on the same flight as me from Washington to Chicago and we talked for a while before and after the flight.

As well as many other people. Unfortunately Steven Reiss (from Brown University) gave his talk in a parallel session to mine, and I could not find him later. Steven Reiss is the author of Garden, an extensible multiple language programming environment.

Conclusion

It was a very good conference that I enjoyed thoroughly and would like to attend next year. Fortunately, next year the conference is in Auckland, so plane fares will be significantly cheaper.