

SIGGRAPH 2005

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SIGGRAPH 2005, the 32nd International Conference on Computer Graphics and Interactive Techniques, took place in Los Angeles between 31 July and 4 August 2005. There were more than 29,000 attendees and 250 exhibitors at this prestigious event. An important part of the conference included the exhibition that ran over the last three days of the conference. James Perrin from Manchester Computing was invited by SGI Inc. to demonstrate the recently developed fully parallel version of the scientific visualization software AVS/Express using the next generation of SGI graphics hardware.

The Emerging Technologies programme, a part of SIGGRAPH 2005 aimed at 'interacting with digital experiences that move beyond digital tradition, blurring the boundaries between art and science, and transforming social assumptions', saw part of the conference broadcasted over the network in an attempt to reach a broader audience. Broadcast options included Multicast MPEG-2 streams and the Access Grid (next generation of video conferencing). Eleven carefully selected remote locations participated in what happened to be the debut of Access Grid in SIGGRAPH's history. Because of its excellent reputation, Manchester Computing was invited to be one of these selected locations.

A combined Access Grid and stereoscopic visualization facility available at The University of Manchester's

e-Science North West Centre provided the key UK venue. Food and drink were provided for local attendees, whose backgrounds ranged from the arts to sciences. The sessions covered a variety of topics from distributed live performances, to art and media panels, to the highlight of the Emerging Technologies programme: the "AGJuggler" demonstration. Manchester Computing's Manchester Visualization Centre took an active part in this demonstration, in collaboration with Purdue University and presenters at the Los Angeles Convention Center.

AGJuggler is a toolkit for collaborative Virtual Reality (VR). It consists of a set of libraries that provide routines and functions that can be added to existing VR applications in order to have them running in geographically distant Access Grid nodes. The routines offered by the libraries enable them to be Grid-aware, i.e. they can be run collaboratively on any Access Grid node. A typical AGJuggler session uses the Access Grid toolkit to share data and communications between all remote participants. By using the toolkit, each client maintains local information about participants, their status and device data. For communication among participants, AGJuggler does not transmit video frames or geometrical models, but only the data relevant to the users' state, thus using a very low network bandwidth and providing a higher frame rate than alternative approaches. Supported hardware setups range from fully immersive CAVE-like systems with user motion tracking, to PCs equipped with active stereographics capability, or even personal laptops. The Manchester Visualization Centre Access Grid-enabled their passive stereoscopic visualization system in order to join the demonstration, which consisted of a 3D tour through the virtual haunted house of 'Castle Highmoore'.

Large projection systems are often expensive and fixed to a specific location. A portable (luggable) passive stereoscopic visualization facility has now been constructed based on the Geowall design (www.geowall.org) that incorporates the Access Grid. This is available for local or remote installation and hire, and after being demonstrated at this event, was available for viewing at certain conferences and shows during



Figure 1: AGJuggler presenter at the LA Convention Center. Background screen showing AG videos of the remote locations.

September. This construction was funded by the JISC project SAGE, Stereoscopic Access Grid Environment.

The next similar major international events to be made available over the Access Grid are the Fifth Virtual Conference on Genomics and Bioinformatics and SC Global 2005, for which cheese and wine will be provided to encourage attendance at the late sessions. We hope to see you all there.

For more information on these events, please visit http://www.virtualgenomics.org/vcgb/conference_2005.htm and http://sc05.supercomputing.org/programs/sc_global.php.



Figure 2: Manchester Computing's portable passive stereoscopic unit, showing 'intoxication' a 3D art piece by Karen Grainger.

ISC 2005

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This year ISC2005 in Heidelberg celebrated its 20th anniversary. The conference began its life as the Mannheim Supercomputer Seminar in 1986 when it was attended by 80 participants. This year's annual event saw attendance swell to over 650 participants from 30 different countries.

The University of Manchester has held a booth at ISC since 2001. This time I hosted the booth along with Mike Pettipher and James Perrin. It was my first visit to the conference and apparently I was lucky enough to help host a particularly busy year. For the first time in the event's history the organisers had decided to release over 80 exhibition day passes which increased attendance. Over the three days I was able to speak to people from a variety of institutions and organisations including Warsaw University and the Joint Supercomputer Centre in Moscow.

Mike and James attended a number of the conference presentations, including the opening day's keynote presentation "Progress in Supercomputing: the Top Three Breakthroughs of the Last 20 and the Top Three Challenges for the Next 20 Years" given by Horst Simon. James also worked on the booth to demonstrate Reality Grid's computational steering, on-line visualization and check-pointing tools. The evening's Get Together Party included the biggest bowl of ice cream I've ever

seen in my life, all flavours heaped together to form an impressive mountain.

The following day saw the Steve Louis keynote presentation "Peta-scale Computing During Disruptive Times". Visitors continued to peruse the work of Manchester Computing and this day, being the most hectic, passed very quickly. In the evening it was time for the ISC 20th Anniversary Gala Event which took place at the idyllic Castle Neckarbischofsheim, a former bishop's residence. Excellent food and drink was served, including spaetzle, something I'd never had until this my first visit to Germany, it's an alternative to the potato (tiny noodles or dumplings made with flour, eggs, water or milk, salt and sometimes nutmeg) - very nice but think I prefer the trusty spud. The Gala Event was a great opportunity to meet fellow participants in a pleasant location away from the confines of the conference hall.

Wolfgang Gentzsch's keynote speech on the final day entitled "Grid Computing in Research and Business around the World", brought ISC2005 to a close and ended the event's five year association with Heidelberg. Sadly this was the last time the conference will be held in this beautiful part of Germany. Next year it moves to a new home in Dresden and promises even further improvements to what is an already well attended and respected event.