



australasian crc for interaction design
designing the user experience

Annual Report to DIISR 2007–08

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Executive Summary

Table 1: Executive Summary

<p>Activities and Achievements</p>	<p>Research Activities and Achievements</p> <ul style="list-style-type: none"> • Prototype Deployments and Trials <p>ACID conducted a number of significant deployments and trials of prototypes emanating from its research programs:</p> <ul style="list-style-type: none"> • Urban Interfaces program: <i>nnub</i>, a community digital noticeboard exploring place-based interaction and communication; and <i>infopoint</i>, a Bluetooth-based information point exploring mobile experiences and interactions, user-generated content and system architectures through the distribution of rich media content to mobile phones. • Digital Media program: <i>jam2jam</i>, a hardware and software suite of generative and collaborative technologies that enable children from four years of age, people with disabilities, youth and adults with limited musical skills to experience ensemble performance and meaningful creative activities; and <i>Oscillating Rhythms</i>, a powerful new generative musical tool to help musicians explore rhythmic space which was selected as the ‘Featured Download’ and ‘Staff Pick’ on the Apple Corporation website and generated significant interest. • Multi-User Environments program: Mobile Learning Kit (MiLK), a location-based game utilising ACID’s underlying Cipher Cities game engine. • Virtual Heritage program: 3Dsee, an output of the ACID Vision project that allows novice and expert users to easily and accurately generate detailed 3D images. <p>For more information on deployment and trial activities, see <i>Key Research Highlights</i> on page 10.</p> <ul style="list-style-type: none"> • New Models of Television Advertising <p>The Beyond: 30 project concluded in August 2008 following three years of close collaboration between academic researchers and industry. The Beyond: 30 project uncovered numerous insights of significance to the advertising and media industries, and the research outputs were adopted by several multinational organisations. For more information on Beyond: 30, see <i>New Models of Television Advertising Program</i> on page 11.</p> <p>Commercialisation Activities and Achievements</p> <ul style="list-style-type: none"> • Sale of Diversionary Therapy Technologies Pty Ltd <p>On 1 July 2008, ACID Services Pty Ltd finalised the sale of its 25 percent shareholding in spin-off company Diversionary Therapy Technologies Pty Ltd.</p> <ul style="list-style-type: none"> • MiLK / Cipher Cities Proto-company <p>The Mobile Learning Kit (MiLK) and Cipher Cities projects entered their commercialisation phase and have been established as a proto-company in preparation for the establishment of commercial agreements. For more information on MiLK and Cipher, see <i>Key Research Highlights</i> on page 10.</p> <ul style="list-style-type: none"> • IP Transfer and Licences <p>ACID negotiated the licensing of the Digital Songlines Engine on a non-exclusive basis to VR Space Pty Ltd, a developer of real-time virtual reality environments.</p> <ul style="list-style-type: none"> • R&D Services <p>ACID continued to handle contract projects for commercial clients through its wholly owned subsidiary, ACID Services Pty Ltd. Clients included a leading international mobile platform developer, an international medical device R&D company and a global medical implant company among others.</p>
<p>Risks and Opportunities</p>	<p>See <i>Table 2: Context and Major Developments</i> on page 2.</p>

Impediments to Success	<p>Some SME partners, due to their own industry environments and financial situations, found themselves unable to make their cash and in-kind contributions over the course of the year. One partner, Auran Technologies Pty Ltd, went into liquidation and officially withdrew in June 2008. Since 30 June 2008, ACID has been advised that Cyberdreaming Pty Ltd has also gone into liquidation and will therefore be obliged to withdraw. Two others, Heritage Properties Pty Ltd and Corporation Builders Pty Ltd, have also indicated that they will withdraw. These partners all effectively ceased to make their agreed contributions during the year, and as a consequence, the CRC lost both their contributions and the industry drivers to elements of the research program.</p> <p>ACID has commenced an active program of engaging industry involvement in the research program through commercial clients through its wholly owned subsidiary, ACID Services Pty Ltd. This effectively bridges the cash contribution gap caused by partner withdrawals. Contracts through ACID Services provide opportunities to engage more closely with industry as a precursor to longer-term engagements.</p>
Other Highlights	<p>VSM07: 13th International Conference on Virtual Systems and Multimedia</p> <p>In September 2007, the annual conference of the Virtual Systems and Multimedia Society came to Australia for the first time after having been held in Xi'an China in 2006, Ghent Belgium in 2005, Ogaki Japan in 2004, and other overseas locations in previous years. The conference was held from Sunday 23 to Wednesday 26 September 2007 at the Creative Industries Precinct in Brisbane, with a special lead-up forum in Sydney on Friday 21 September.</p> <p>VSM07 was hosted by ACID, endorsed by the United Nations through the UNESCO Culture Section, and accepted by Springer for publication as a Tier 1 peer-reviewed conference.</p>

Context and Major Developments

Table 2: Context and Major Developments

Industry Context	<p>The challenges presented to business, government and cultural organisations by shifting digital business practices, rapid urban growth, ageing population, and the need for reductions in resource use and emissions are presenting new opportunities, particularly with respect to social technologies. New technologies that exploit and build social connectedness have the potential to address a range of pressing problems and may contribute to improved national productivity and quality of life. Through its existing body of research into interactive digital technologies, ACID is logically positioned to exploit research opportunities in this space. During 2008–09 ACID will increasingly focus on exploring the potential of social technologies for an Australian context.</p>
Change to CEO	<p>Ms Suzannah Conway was appointed to the role of Chief Executive Officer in February 2008, having previously undertaken the role of General Manager. Ms Conway also undertook the role of acting Executive Director following the resignation of founding CEO and Executive Director Prof Jeff Jones in June 2007.</p>
CRC Program Review	<p>On 28 April, ACID provided a submission to the federal government's National Innovation System Review. The submission made a number of general observations about the CRC experience as it relates to innovation, but also provided insights from ACID's unique vantage point.</p>

National Research Priorities

ACID conducts trans-disciplinary research and development across a number of the National Research Priority (NRP) areas.

ACID's primary contribution to the NRP areas is in frontier technologies for building and transforming Australian industries. All ACID research programs are directly related to the development of transformative new technologies, systems and knowledge.

For example, ACID's research program 1, Smart Living, continues to explore smart metering, e-working and community development within physical neighbourhoods. Aspects of this research touch on consumption of water and electricity, infrastructure development, and urban planning, which fall under the NRP areas of environmental sustainability and promoting and maintaining good health.

ACID continues to contribute to the nation's preventive healthcare research capacity through its confidential work for clients in the medical devices industries. The outcomes of research conducted on these contract projects is fed back into ACID's knowledge base for future projects.

Where possible, given the confidentiality of work conducted on behalf of commercial clients and industry partners, ACID publishes in academic journals and professional magazines, and presents to academic and industry conferences, to share its research output with wider audiences.

Table 3: National Research Priorities and ACID Research

National Research Priorities	CRC Research (%)
AN ENVIRONMENTALLY SUSTAINABLE AUSTRALIA – <i>Transforming the way we use our land, water, mineral and energy resources through a better understanding of environmental systems and using new technologies</i>	
Water – a critical resource	5
Transforming existing industries	10
PROMOTING AND MAINTAINING GOOD HEALTH – <i>Promoting good health and preventing disease, particularly among young and older Australians</i>	
Preventive healthcare	5
Strengthening Australia's social and economic fabric	10
FRONTIER TECHNOLOGIES FOR BUILDING AND TRANSFORMING AUSTRALIAN INDUSTRIES – <i>Stimulating the growth of world-class Australian industries using innovative technologies developed from cutting-edge research</i>	
Breakthrough science	5
Frontier technologies	10
Smart information use	30
Promoting an innovation culture and economy	20

Governance & Management

CRC Program Review

On 28 April, ACID provided a submission to the federal government's National Innovation System Review. The submission made a number of general observations about the CRC experience as it relates to innovation, but also provided insights from ACID's unique vantage point.

Governance Structure

ACID's corporate governance structure comprises the Board of Directors, Audit Committee, and management team.

The wholly owned subsidiary, ACID Services Pty Ltd, has its own governance structure and Board of Directors.

Board of Directors

ACID has a skills-based Board which comprises independent members and participant representatives, plus an independent Chair. The Board sets the strategic direction and establishes the policies that shape ACID's operations, and monitors ACID's financial position, business affairs and research directions.

The Board delegates responsibility for day-to-day activities to the Chief Executive Officer and the management team. Under the ACID constitution, the Chief Executive Officer is a Director.

The Members of the Board of Directors during the 2007–08 year, including indication of private sector representation, are listed in *Table 4: Governing Board Members and Chief Executive Officer*.

The ACID Board met on six occasions during the 2007–08 year. Directors attended as listed in *Table 5: ACID Board Meetings 2007–08* on page 5.

Table 4: Governing Board Members and Chief Executive Officer

Name	Organisation	Position / Role
Dr Terry Cutler	Cutler & Co	Independent Chair until 23 January 2008 Independent Director (Commercialisation) until 23 January 2008
Emeritus Prof Mary O'Kane	O'Kane & Associates	Independent Director (Research) until 11 February 2008* Chair of Audit Committee until 11 February 2008
Mr Michael Begun	CM Capital Investments	Independent Director (Commercialisation)
Mr David Barbagallo	Orchidhouse	Independent Director (Commercialisation) from 29 May 2008
Prof Arun Sharma	Queensland University of Technology	Sponsor Director until 22 August 2007 Alternate Director for Prof Gardiner from 22 August 2007**
Prof David Gardiner	Queensland University of Technology	Alternate Director for Prof Sharma to 3 August 2007 Sponsor Director from 3 August 2007 Acting Chair from 22 February 2008**
Prof Neil Furlong	RMIT University	Director (Research)***
Mr Graham Edelsten	Auran Technologies	Director (Industry) until 17 March 2008
Mr Bill Trestrail	SGL (Silicon Graphics)	Director (Industry) Chair of Audit Committee from 22 February 2008
Mr Brett McDonald	Heritage Properties	Director (Industry)****

Name	Organisation	Position / Role
Dr Katherine Woodthorpe	People & Innovation Corporate Advisors	CRC Visitor
Ms Suzannah Conway	ACID	General Manager until 27 February 2008 Chief Executive Officer from 27 February 2008 Company Secretary until 10 March 2008 Executive Director from 10 March 2008
Ms Amanda Boland-Curran	ACID	Company Secretary from 10 March 2008

Changes to Board Subsequent to Reporting Date

- * Prof O’Kane rejoined the ACID Board of Directors on 1 September 2008, as a Director and Independent Chair.
- ** Prof Gardiner resigned from the ACID Board of Directors on 16 October 2008, at which time Prof Sharma’s appointment as his alternate ceased automatically. QUT appointed Prof Rodney Wissler as its Director on the ACID Board on 23 October 2008; Prof Wissler appointed Prof Sharma as his alternate, effective 23 October 2008.
- *** Prof Furlong resigned from the ACID Board of Directors on 1 September 2008. Prof Susan Rowley of UTS was appointed to the subsequent vacancy, effective 15 October 2008.
- **** Mr McDonald resigned from the ACID Board of Directors on 9 July 2008.

Table 5: ACID Board Meetings 2007–08

Board Member	1 Aug 07	9 Oct 07	23 Nov 07	22 Feb 08	11 Apr 08	29 May 08
Dr Terry Cutler	✓	✓	✓	n/a	n/a	n/a
Emeritus Prof Mary O’Kane	✓	✓	✓	n/a	n/a	n/a
Mr Michael Begun	✓	apology	✓	✓	✓	✓
Mr David Barbagallo	n/a	n/a	n/a	n/a	n/a	✓
Prof Arun Sharma (Alternate Director for Prof Gardiner)	not req’d	not req’d	not req’d	not req’d	not req’d	not req’d
Prof David Gardiner	✓	✓	✓	✓	✓	✓
Prof Neil Furlong	✓	✓	apology	✓	✓	✓
Mr Graham Edelsten	apology	✓	apology	apology	n/a	n/a
Mr Bill Trestrail	apology	apology	✓	✓	✓	✓
Mr Brett McDonald	✓	✓	✓	✓	✓	✓
Dr Katherine Woodthorpe	apology	apology	apology	apology	apology	apology
Ms Suzannah Conway (Director from 10 March 2008)	in attendance	in attendance	in attendance	in attendance	✓	✓

Qualifications and Experience of Directors at 30 June 2008

Michael Begun

CM Capital Investments

Michael Begun has over 25 years' experience in the telecommunications arena in both the US and Australian commercial markets, including developing strategic technologies to facilitate the convergence of the telecommunications and computer industries.

He is one of the leading IT&T private equity investors in Australia, and is Co-Founder and Managing Partner of CM Capital Investments, which specialises in life sciences and telecommunications ventures.

Michael co-founded Technology Concepts Inc., which was later acquired by Bell Atlantic Inc. His subsequent work on business development transactions in the Asia Pacific region for Bell Atlantic led to his appointment as founding CEO of Pacific Star, a joint venture between Bell Atlantic and Telecom NZ. Under his stewardship the company grew to annual revenues of \$250m in 3 years. Michael has a BSc in Electrical Engineering from Cornell University, and he is currently a Director of Dilithium Networks Inc., Mantara Inc. and bCODE Pty Ltd.

David Barbagallo

Orchidhouse

Winner of the inaugural 2003 Queensland Pearcey Award for his significant contribution to the State's ICT industry, David Barbagallo brings extensive experience in research and development in IT in Queensland. He is Chair of the Australian Institute for Commercialisation, Microgenx Pty Ltd and Facet Pty Ltd; a Director of Orchidhouse Pty Ltd, a consultancy in strategic planning and performance management of companies; and a Fellow of IC2, an interdisciplinary research unit of the University of Texas at Austin.

Previously, David was Executive Vice President of Solutions Development and Innovation and Market Development at Mincom Ltd, one of Australia's largest software development companies and a leading software solutions and services provider to asset-intensive industries internationally. He was also the founding Chief Executive Officer and Managing Director of the Distributed Systems Technology Centre (DSTC Pty Ltd), during which time DSTC achieved a landmark transaction by generating a commercially successful spin-off from an Australian CRC.

In his earlier career, David was Chief of Staff to the former Premier of Queensland, the Honourable Wayne Goss. During this time he was responsible for IT&T policy in the Queensland Government and oversaw the establishment of the Information Policy Board (IPB) which had responsibility for Government IT standards and policy, and the Information Industries Bureau (IIB) which continues to be responsible for promoting and advancing Queensland's expanding IT industry.

Professor Arun Sharma

Queensland University of Technology

Professor Arun Sharma is the Deputy Vice-Chancellor (Research and Commercialisation) at the Queensland Institute of Technology.

Arun has played a leadership role in the development of Australia's national research capacity in ICT. He was co-founder of NICTA and inaugural director of its Sydney Research Laboratory. Prior to NICTA, he was the Head of the School of Computer Science and Engineering at the University of New South Wales, and played an important role in the establishment of the CRC for Smart Internet Technology. Arun's current advisory roles include the Queensland Premier's Smart State Council and the CSIRO ICT Sector Advisory Committee. His board memberships include Sugar Research Limited, Farmacule Bioindustries Pty Ltd, QUT Innovation and QMI Solutions Pty Ltd.

Professor David Gardiner

Queensland University of Technology

At 30 June 2008, Professor David Gardiner was the Deputy Vice-Chancellor (Academic) at the Queensland Institute of Technology where he is responsible for overseeing QUT's eight faculties and QUT Carseldine. David chairs QUT's Teaching and Learning Committee, sponsors the Teaching and Learning Priority Projects, and oversees academic policies and programs and the Oodgeroo Unit.

David has over 30 years' experience as a Barrister-at-Law for the Supreme and High Courts of Australia. He previously held positions in private law practice and as a senior law officer for the Federal Attorney-General's Department of the Office of the Solicitor-General in Australia. David holds positions on several Boards, including Tissue Therapies Ltd and Farmacule Pty Ltd.

Professor Neil Furlong

RMIT University

At 30 June 2008, Professor Neil Furlong was Pro Vice-Chancellor (Research and Innovation) at RMIT University and convenor of the Australian Technology Network Research group. He is a physical chemist with nearly 30 years' experience as a researcher, research manager and leader.

Neil spent 18 years at CSIRO during which time he achieved the position of Chief Research Scientist/Program Manager leading over 50 researchers across a number of CSIRO Divisions. Neil is a Fellow of the Australian Academy of Technological Sciences and Engineering, a Senior Research Fellow of the University of Melbourne, and Founding Coordinator of the Australia/Japan Collaboration in Colloid Science.

Bill Trestrail

SGI

Bill Trestrail is Vice President of Silicon Graphics (SGI) Asia Pacific, responsible for all operations of SGI in this region. Bill joined SGI in 1995 as ACT State Manager and has held various positions including National Defence Business Unit Manager; National Sales Manager – Corporate & Government; General Manager – Australia and New Zealand; and Area General Manager – Australia, New Zealand and Southern ASEAN.

Before joining SGI, Bill held a number of sales and management roles with Seer Technologies, Informix Software and Australian Consolidated Technologies in Canberra, Sydney and Brisbane. Bill is a Chartered Accountant and holds Board positions with SGI subsidiaries. He is also a member of the Board of the Antarctic Climate and Ecosystems Research Centre.

Brett McDonald

Heritage Properties

Brett McDonald is the Projects Development Manager for Heritage Pacific's Land Development Group, with approximately 3,500 lots currently under development within nine projects. Brett has qualifications in both civil engineering and surveying.

Brett has over 17 years' experience in major projects and infrastructure delivery. He has worked in three states in Australia, and in several overseas countries including the United Kingdom, Indonesia, the United Arab Emirates, Qatar, Saudi Arabia and Oman. Brett is a Director of Sensiful Pty Ltd and of Diversionary Therapy Technologies Pty Ltd.

Dr Katherine Woodthorpe

CRC Visitor

Dr Katherine Woodthorpe is a management adviser and professional company director. She is the ACID CRC Visitor.

Katherine's background is in the business of science and technology, HR and government interaction. She is a consultant to Government instrumentalities on innovation and commercialisation, with significant expertise in developing strategies for rapid growth and commercialisation of technology products and services and in accessing government funding. Katherine is a Fellow of the Australian Institute of Company Directors, and holds a number of Board positions including Chairman of the Antarctic Climate and Ecosystems CRC and Smartprint CRC; Director of Ventracor Limited, Insearch Limited, Environmental Biotechnology CRC, Sustainable Tourism Holdings Pty Ltd, and the Warren Centre (Sydney University). Katherine is a Council Member at the University of Technology, Sydney, and a Member of the CSIRO Flagship Advisory Council.

Suzannah Conway

Australasian CRC for Interaction Design

Suzannah Conway joined ACID in January 2007 as General Manager after many years in senior arts administration positions in the UK and Australia, and was appointed to the role of Chief Executive Officer in February 2008.

With a strong background in music and the performing arts, Suzannah transformed the former Lyric Opera of Queensland, creating Opera Queensland which she headed for seven years. She subsequently ran the Centenary of Federation program for Queensland and was Executive Director of three highly successful annual Brisbane Riverfestivals. Prior to joining ACID, she oversaw the strategic direction of the newly created Museum and Gallery Services Queensland, an amalgamation of the former Regional Galleries Association Queensland and Museums Australia Queensland.

Audit Committee

The Audit Committee, a subcommittee of the ACID Board of Directors, reviews and oversees management processes and assists the Board and company officers in financial reporting, compliance, internal control systems, audit activities, risk management and any other matters referred to it by the Board.

The ACID Audit Committee comprises:

- Bill Trestrail, Audit Committee Chair
- Professor David Gardiner, Acting ACID Chair
- Suzannah Conway, Chief Executive Officer.

Members of the ACID management team are invited to attend Audit Committee meetings as required.

Table 6: Program Leaders as at 30 June 2008

Name	Organisation	Position / Role
Assoc Prof Andrew Brown	Queensland University of Technology	Research Manager <i>and</i> Program Leader, Digital Media
Dr Barbara Adkins	Queensland University of Technology	Education Manager
James Hills	SGL (Silicon Graphics)	Program Leader, Virtual Heritage
Ian MacColl	University of Queensland	Program Leader, Smart Living
Anika Schweda	Murdoch University	Program Leader, New Models of Television Advertising
Jeremy Yuille	RMIT University	Program Leader, Multi-User Environments

Table 7: Changes to Participants

Participant Name	Commonwealth Approval
Auran Technologies Pty Ltd	Withdrew on 30 June 2008 after going into liquidation. A variation to the Commonwealth Agreement will be sought to reflect this withdrawal.

Research Programs

Research Activities and Achievements

Research Programs and Themes

ACID conducts research across five major programs:

- Smart Living (Suburban Communities)
- Digital Media (Creative Communities)
- Multi-User Environments (Virtual Communities)
- Virtual Heritage (Indigenous Communities)
- New Models of Television Advertising (Beyond :30).

As at 30 June 2008, ACID had undertaken over 120 research projects within the five programs.

A number of ACID's research activities use and combine elements of all these programs, in particular the contract work in R&D Services (see *R&D Services* on page 14).

Several commonalities reveal ACID's research strengths:

- social participation and technology – exploring ways to facilitate collaboration, interaction and the development of social capital through technological interventions in communities;
- digital perspectives of the world – helping people better or differently understand their world through digital representations that highlight selected relationships, features or meanings;
- dynamic media creation and application – enhancing creative potential through digital media content creation, manipulation and presentation by developing methods and tools with particular emphasis on automation, generation and adaptation.

ACID has a strong focus on design processes, research processes and evaluation strategies which are applied across all research programs and themes.

The organisation has also developed and identified skills and capacities in:

- understanding social contexts
- identifying problems in interactive experiences
- designing technology-based solutions to human problems
- understanding the potential of digital technologies
- rapid development of software and hardware prototypes
- collaborating in multi-disciplinary teams
- incorporating a refined aesthetic sensibility in work.

ACID's research is characterised by an emphasis on situating research within real-world contexts including electronic entertainment, artistic practice, technology standards formats, community arts, education, business practices, local government, tourism, health services, telecommunications, internet services, community organisations, master-planned communities, digital hardware development, cultural centres, and indigenous communities.

Key Research Highlights

Smart Living Program

In late January 2008, the Urban Interfaces project deployed its *nnub* prototype, a community digital noticeboard exploring place-based interaction and communication, in the Moggill General Store in Brisbane's West. The trial of the initial prototype with a large-screen kiosk and associated community portal is ongoing and continues to produce promising results.

Trials of *infopoint*, a Bluetooth-based information point being developed with Fremantle City Council, commenced in mid-February 2008. Infopoint provides rich media content to tourists' and residents' mobile phones, providing a platform to explore mobile experiences and interactions, user-generated content and system architectures. Further deployments of up to 12 networked infopoints are proposed.

Digital Media Program

Following the 2006 publication by ACID of *Intimate Transactions: art, exhibition and interaction within Distributed Network Environments* (edited by Jillian Hamilton), the *Intimate Transactions* exhibition was awarded a Visions of Australia Touring grant in September 2007 for an eight-date regional tour of Australia throughout 2008-2009. *Intimate Transactions* also represented Australia at the Olympic Arts Festival in Beijing in 2008 as part of 'China International New Media Arts 2008' at the National Art Museum of China.

In February and March 2008, ACID's Network Jamming project hosted a public exhibition of the AV Jam system at Beta_Space in Sydney's Powerhouse Museum. AV Jam uses dynamic music and video technologies that will allow anyone, from novice to expert, to perform live in a virtual ensemble as a DJ or VJ. The Beta_Space is an experimental environment sponsored by ACID and the Creativity and Cognition Studios at the University of Technology Sydney where the public can engage with the latest research in art and technology.

Project Leader Dr Steve Dillon took AV Jam's related hardware and software suite, *jam2jam*, on an international roadshow during May, June and July 2008, and established new research and development nodes in Sweden, the United Kingdom and the USA. The activities of these nodes continue to generate new knowledge and understandings, and are being used to inform the ongoing development of the *jam2jam* suite. *Jam2jam* is specifically focused on increasing access to music for children and people with disabilities, and its potential applications for music-based therapy for cancer patients and e-therapy for the treatment of depression are being explored.

In April and May 2008, as part of ACID's work on Adaptive Media, Prof Andrew Brown and Andrew Sorensen exhibited at the VT2: International Digital Arts Projects exhibition at the Queensland University of Technology's Creative Industries Precinct. They exhibited a work called *Quanta*, an interactive (adaptive) audio visual installation that exploits ACID's research into real-time interactive processes that link video and audio data. *Quanta* was a live installation with audio and video data transformation occurring in real-time from within the installation space. Participants were encouraged to engage with a reflection of their own visual and auditory input as a way of providing a more intimate understanding of the particles of light and sound.

One of the outputs of the Adaptive Media project, *Oscillating Rhythms*, was launched in June 2008. *Oscillating Rhythms* is a powerful new generative musical tool for the Mac OS X platform to help musicians explore rhythmic space. It was selected as the 'Featured Download' and 'Staff Pick' on the Apple Corporation website and generated significant interest as a result.

Multi-User Environments

ACID conducted a major participant trial of its Mobile Learning Kit (MiLK), in Adelaide in late November 2007 with the South Australian Department of Education and Children's Services and the Department of Environment & Heritage. Subsequent trials took place across Queensland and in London and New York during the first half of 2008. MiLK utilises the underlying Cipher Cities location-based game engine and allows participants to design event paths that lead players through a location. Questions and hints, sent by SMS to mobile phones, direct players to checkpoints within

the location. The trials generated valuable participant feedback from students and teachers which has been incorporated into the ongoing development of the application toolkit.

Virtual Heritage Program

ACID prepared 3Dsee, an output of the ACID Vision project, for public release. 3Dsee is a set of software applications for the construction of 3D models from images with minimal user interaction. The applications allow for the creation of bump-maps of surfaces from images and high-definition 3D modelling using robust and accurate feature extraction and tracking, and turntable-based calibration. ACID is developing a user base for the tool while also pursuing commercialisation opportunities with virtual world, virtual reality and virtual heritage developers. 3Dsee also has applications for game and movie VFX developers, sports broadcasting and construction design.

New Models of Television Advertising Program

A key feature of the Beyond: 30 project was the close collaboration that took place between academic researchers and industry. The project hosted four international conferences that were well-attended by industry sponsors. Each year, industry partners voted to determine that year's research agenda; ensuring that the research agenda was both relevant and timely. 24 regional briefings (in Sydney, New York, Chicago and London) were hosted throughout the three years of the project where industry sponsors were provided with in-depth reports of the project's latest research findings. Murdoch University's Prof Duane Varan, the project leader, provided over 90 seminars across 25 organisations and 13 cities (four continents) so that a larger community of partner executives could benefit from the key insights growing out of the research. 13 of these seminars were presented to 6 Australian organisations.

13th International Conference for Virtual Systems in Multimedia

ACID hosted VSMM07, the 13th international conference for Virtual Systems in Multimedia, in Brisbane in September 2007. The conference was accepted for academic publication by Springer *Lecture Notes in Computer Science*. Conference planning activities during 2007–08 included building links with industry representatives including SMEs to secure their participation both in the conference as a whole and in the VSMM Industry Session which was held on Monday 24 September.

Presenters and delegates at VSMM07 explored:

- Virtual Heritage and Virtual Cultures
- Virtual Environments and Virtual Experiences
- Applied Technologies and Systems.

Five internationally recognised keynote speakers also presented their views on virtual systems and multimedia.

A total of 140 individual delegates from 18 countries registered for conference sessions.

On the final day of VSMM07, prizes were awarded across a number of categories:

- Queensland Government Industry Prize and Industry Category Best Paper Award — Helen Travers, Ernest Hunter, Julie Gibson, Jonathon Campion: *Pride and Performance: Innovative Multimedia in the Service of Behavioural Health Change in Remote Indigenous Settings*
- Applied Tech Category Best Paper Award — Christian Friedrich: *SmartVolumes - Adaptive Voronoi Power Diagramming for Real-time Volumetric Design Exploration*
- Virtual Environments Category Best Paper Award — Anita Kocsis: *Unravelling Information and Crocheting Meaning: Designing Complex Information for Museum Audiences*

- Virtual Heritage Category Best Paper Award —
Marnie Feneley, Tom Chandler, Nils Gleissenberger, Ben Alexander: *Reconstructing the West Mebon Vishnu: A Marriage of Traditional Artefactual Analysis with Digital 3D Visualization*
- Best Poster Award —
Brian Donovan: *Exceptional Access: Re-presenting Ancient Selinus Virtually*
- Student Bursary Awards —
Changyu Diao: *Interactive High Resolution Texture Mapping for the 3D Models of Cultural Heritage*
Eric Fassbender: *Using a Dance Pad to Navigate through the Virtual Heritage Environment of Macquarie Lighthouse, Sydney*
Jianming Lu: *Knowledge Based Lacuna Detection and Segmentation for Oil Paintings*
Malcolm Pumpa: *Beyond the Map: Issues in the Design of a Virtual 3D Knowledge Space for Aboriginal Knowledge*
Maia Zaharieva: *From Manual to Automated Optical Recognition of Ancient Coins.*

Grants

No new grants were received in 2007–08.

Consultancies

ACID delivered a number of contract consultancies during 2007–08. See *R&D Services* on page 14 for more information.

Changes to Future Research Directions

The challenges presented to business, government and cultural organisations by shifting digital business practices, rapid urban growth, ageing population, and the need for reductions in resource use and emissions are presenting new opportunities, particularly with respect to social technologies. New technologies that exploit and build social connectedness have the potential to address a range of pressing problems and may contribute to improved national productivity and quality of life. Through its existing body of research into interactive digital technologies, ACID is logically positioned to exploit research opportunities in this space. During 2008–09 ACID will increasingly focus on exploring the potential of social technologies for an Australian context.

Research Collaborations

External Collaborations

In addition to the collaborations involved in ACID's research programs and R&D Services contracts, ACID participated in a number of external research collaborations during the year.

ACID continued its significant international research collaborations with multinational and international corporate clients through its Program 5 'New Models of Television Advertising' work and its contract R&D Services work. The research conducted in these contract collaborations is not simply design consultancy – it includes breakthrough innovation using practice-based research, applies ACID's foundation research to the needs of external partners and, in turn, feeds new knowledge and industry testing back into the foundation research.

ACID R&D Services continues to take on high-risk research projects with international and Australian commercial clients and industry and utilises these valuable connections to feed new knowledge back into the CRC's underlying research program.

ACID R&D Services also conducted a number of interaction design workshops in September 2007 (South East Asia) and December 2008 (Northern Europe) for one of the world's leading mobile

technology platform developers to test their computer science assumptions and findings using ACID's human-centred design methodologies.

Internal Collaborations

During 2007–08, ACID focused on providing opportunities for researchers within different programs and projects to share expertise and collaborate on specific deliverables.

ACID communicates these projects across the programs, and identify additional opportunities for cross-organisational collaboration, at Quarterly Review meetings and internal showcase events.

ACID held two internal 'Birds of a Feather' workshops in June 2008 on annotation and visualisation respectively. The purpose of the workshops was to create opportunities for researchers to share experiences across projects. More 'Birds of a Feather' workshops will be held in 2008–09.

Commercialisation & Utilisation

Commercialisation & Utilisation Strategies & Activities

ACID Services Pty Ltd

ACID's wholly owned subsidiary, ACID Services Pty Ltd, hosts all commercialisation activities and contract projects, other than activities specifically related to the five major research programs.

R&D Services

Contract projects for commercial clients are handled through ACID Services Pty Ltd and marketed under the title 'ACID R&D Services'.

ACID R&D Services does not compete with consultancies offering, for example, website, product or widget development. Rather, R&D Services projects tend to be in the nature of domain-independent breakthrough innovation using practice-based research, and they must include an element of research risk before ACID will accept the contract. The projects apply ACID's foundation research and transfer ACID's technologies to the needs of external partners and, in turn, feed new knowledge and industry testing back into the foundation research.

Future Pathways for Commercialisation

Pathways for commercial release of ACID's research include the establishment of 'proto-companies' based on significant IP assets and soft-launched within ACID Services Pty Ltd, and the direct on-line release of social software applications to build community and attract commercial interest.

Spin-off Companies

Diversionsary Therapy Technologies Pty Ltd

On 1 July 2008, ACID Services Pty Ltd finalised the sale of its 25 percent shareholding in spin-off company Diversionsary Therapy Technologies Pty Ltd. The spin-off company was established with the specific aim of commercialising the research outcomes and prototypes developed by ACID in its Diversionsary Therapy project. ACID contributed to the establishment of the spin-off by assigning full rights to the project's intellectual property, and the patent and patent application arising from the research, to Diversionsary Therapy Technologies Pty Ltd. Diversionsary Therapy Technologies Pty Ltd now operates independently of ACID and is seeking international investment as part of its growth strategy.

Codocs Pty Ltd

ACID contributed in-kind support and testing platforms for the document collaboration tools which were to be commercialised by Codocs Trading Pty Ltd and Codocs Holdings Pty Ltd. However, market developments such as the emergence of Google Docs reduced the opportunities for new document collaboration tools however, and the Codocs companies were wound up on 27 February 2008.

Intellectual Property Management

IP Management Arrangements

ACID has developed a secure web-based application, the ACID IP Registry, which ensures effective management of all intellectual property assets.

The ACID IP Registry is based on ACID's Yodel platform and comprises a secure website catalogue and associated framework for central registration of IP and other proprietary information including major administrative documents such as contracts, correspondence, project orders and variations;

demonstrators and prototypes; video, audio and graphic resources; code; scripts; patents and trademark information.

The registry is accessible to all ACID researchers over the internet and offers a number of levels of access associated with security and allocated project roles.

Research program managers and project leaders are responsible for uploading IP directly to the system, with compliance reviewed at each quarterly program review.

ACID constantly reviews and revises the processes for use of the ACID IP Registry.

All intellectual property generated within ACID research programs remains the property of ACID; researchers and students are entitled to the copyright in specific expressions of that IP. Intellectual property generated as part of ACID's commercial contract with clients is dealt with on a case-by-case basis.

IP Transfers and Licences

ACID licensed the Digital Songlines Engine on a non-exclusive basis to VR Space Pty Ltd, a developer of real-time virtual reality environment.

Communication Strategy

ACID's communication strategy is prepared on a rolling three-year basis with annual review by the Board. It is underpinned by the ACID Business Plan and the Third-Year Review report.

Each activity within the strategy is designed to directly support the Business Plan. This ensures that all activities are aligned with the organisation's strategic direction, and it allows ACID to allocate scarce resources to priority areas, ensuring those with the greatest potential are resourced appropriately.

The strategy focuses on four key result areas:

- stakeholder relations
- brand building
- internal communication
- communication governance.

Communication activities within the strategy include:

- stakeholder reports and visits
- regular events to highlight ACID research and development for stakeholders, internal audiences, and potential new partners and clients
- case studies and success stories for stakeholders and wider audiences
- the ACID website, annual report, and newsletter
- media releases and features as opportunities arise
- participation in industry trade shows and professional/industry conferences – in addition to academic conferences and journals
- engagement with new audiences through social media and networks.

End-user Involvement and Impact

ACID works closely with its industry partners and university researchers to understand the broad environment in which it operates. The involvement of industry participants means ACID is strongly placed to provide a fully integrated approach to the assessment of industry needs and research opportunities.

Several participants provided opportunities and venues for ACID to demonstrate and/or test its research outputs with real users as early phases of commercialisation or public release.

Table 8: End-user Involvement in ACID Activities

End-user Name	Relationship	Type of Activity and End-user Location	Nature / Scale of Benefits to End-User	Actual or Expected Benefit to End-user
Cyberdreaming Pty Ltd	Supporting Participant Industry Shareholder	Research; Demonstrators; Commercialisation (Brisbane)	Access to research demonstrators, outputs and reports in Indigenous 3D content and interactive programs. Virtual Warrane installation at Customs House Sydney, March to June 07.	Non-exclusive licences being negotiated for use of underlying platforms in cultural heritage management. Long-term shareholder/participant benefit derived from incorporating ACID research in ongoing business.
Australian Centre for the Moving Image	Supporting Participant Industry Shareholder	Research; Demonstration Site; Living Laboratory (Melbourne)	Access to research demonstrators, outputs and reports in low latency over high-speed networks, mobilising local place-based activity by mobile & online technologies, commissioning creative work in co-located facilities.	ACMI provides an environment for ACID to trial new research outputs and engage with new audiences.
HITLabNZ	Supporting Participant Industry Shareholder	Research (New Zealand)	Access to research demonstrators, outputs and reports in augmented reality software and hardware.	Long-term shareholder/participant benefit derived from incorporating ACID research in ongoing business.
Powerhouse Sydney	Client Industry Contact	Research; Demonstration Site; Living Laboratory (Sydney)	Access to research demonstrators, outputs and reports in low latency over high-speed networks, mobilising local place-based activity by mobile & online technologies, commissioning creative work in co-located facilities.	Beta_Space at the Powerhouse Museum is an experimental environment sponsored by ACID and the Creativity and Cognition Studios at UTS where the public can engage with the latest research in art and technology.
B:30 clients (multi-national corporations)	Clients Research Collaborators Industry Contacts	'Beyond :30 Seconds' Research Partners (worldwide)	Research reports generated by ACID research program 5: New Models of Television Advertising	18-month exclusive right to access and use research.

End-user Name	Relationship	Type of Activity and End-user Location	Nature / Scale of Benefits to End-User	Actual or Expected Benefit to End-user
(international mobile platform developer)	Client of ACID Services	Research; Commercialisation; Contract Design Services (Europe & Asia)	Interaction Design Services: Application of human-centred design technologies to testing of computer science assumptions and findings.	Ongoing collaboration and contracts
(international medical device company)	Client of ACID Services	Research; Commercialisation; Contract Design Services (Australia, USA)	Interaction Design Services: Application of human-centred design technologies to testing of computer science assumptions and findings.	Ongoing collaboration and contracts
(global medical implant company)	Client of ACID Services	Research; Commercialisation; Contract Design Services (International)	Interaction Design Services: Application of human-centred design technologies to testing of computer science assumptions and findings.	Ongoing collaboration and contracts
(commercial emergency services organisation)	Client of ACID Services	Research; Contract Design Services	Interaction Design Services: Application of human-centred design technologies to visually represent the client's future goals to external organisations.	Ongoing collaboration and contracts
(education organisation)	Client of ACID Services	Research; Contract Design Services	Interaction Design Services: Heuristic analysis of the client's interactive technologies and technical and interaction recommendations.	Ongoing collaboration and contracts
(government)	Client of ACID Services	Research; Contract Design Services	Interaction Design Services: Design specification for the next generation of collaborative telepresence workstations.	Ongoing collaboration and contracts

Education & Training

Student Involvement

Student Scholarships

ACID maintained existing student scholarship arrangements in 2007–08. A total of three Masters Students and 14 Doctoral students were supported during the period. Nine new scholarship places were filled: three research masters, and six PhD students.

In addition to the 17 current students supported by the ACID scholarship program, 30 student projects (partial or full scholarships) have been completed between 2003 and 2008. ACID has also supported additional students through project placements and research assistant involvements. These are also in the process of being documented in line with the categories of student involvement identified as part of the education program in the commonwealth agreement.

The Commonwealth Agreement stipulated that ACID would support 40 to 50 students through full scholarships, part scholarships and other student involvements. ACID is well placed not only to meet but also to exceed this requirement by June 2010.

Graduate Destinations

Recent Honours Graduates:

- Colleen Morgan is continuing and building on the focus of her honours study by enrolling in a PhD on technological supports for pedagogical relationships required for new literacies.
- Irina Haugane has commenced work, using her insights into interaction design and cultural heritage, as part of the Global Identity Team in the London Office of Amnesty International.

Recent PhD graduates are employed in lecturing and research positions at University of Queensland, and University of Technology, Sydney, participating in national and international research collaborations and conferences.

ACID Education Events

ACID Student Involvement, International Virtual Systems and Multimedia Conference November 2007

ACID students were given an opportunity for significant involvement in the 2007 Virtual Systems and Multimedia Conference 2007, held in Brisbane and hosted by ACID. Students participated as volunteers, attended conference sessions, submitted and presented papers. ACID PhD student Malcolm Pumpa was awarded a student bursary as a result of the very positive peer reviews of his paper on indigenous knowledge and databases. It was accepted for publication in a special themed journal issue published by Springer.

ACID Student Development Program 2008

A number of workshops have been conducted during the period January–July 2008 and are shown in *Table 9: Student Workshops*.

Table 9: Student Workshops

Date	Activity	Location
16 April 2008	ACID education day	Brisbane
28 May 2008	2nd ACID student development seminar	Videoconference

Date	Activity	Location
4 June 2008	ACID Annotation Workshop	Melbourne
18 June 2008	ACID Visualisation Workshop	Brisbane
23 July 2008	3rd ACID student development seminar	Videoconference

The student development seminars focused on supporting students' publication activities. Areas covered included theoretical approaches to the human dimensions of interaction design, approaches to data selection, collection and analysis, and techniques for paper writing.

In addition to this, ongoing contact has occurred with seven students who have sought support in writing papers for submission to OZCHI 2008, in the form of feedback on paper drafts. As a result, at least seven ACID students have submitted papers to OZCHI and strong presence and participation on the part of the students is envisaged at the conference in December 2008. Recently we have learned that five students have had their papers accepted at OZCHI. The education program is assisting the students to attend the conference and present their research.

Students were also strongly represented in the cross ACID workshops on Annotation and Visualisation research. These workshops brought students and researchers together from across all ACID nodes to share and review approaches and recent developments in these key areas of interaction design.

ACID Prize

ACID sponsored the 2007 ACID Prize for Tangible Media, for graduating students in the QUT Bachelor of Communication Design. The prize was awarded on the criteria of highest academic grade and most thorough resolution. The 2007 ACID Prize for Tangible Media was awarded to two winners:

- *Doodlecles* by James Kim, John Vuong, Debbie Chin, Wills Chang and Leighton Li
- *Virtuoso's Quest* by Mike Montague, Dave Curro, Jack Lee and Jeremy Prendergast.

In addition to the ACID Prize, two commendations were awarded:

- *Entropy* by Peter Riesz, Craig Stewart, Sam Jones and Zac Fitzwalter
- *Zen Joo* by Shih-Yin Yeh, Takeshi Osaki and Sen Chieh Hsu.

Future Plans

In the 2008–09 year, to accommodate the relatively short remaining life of the CRC, ACID will complement the existing Education Program with an internship program for shorter term placements with a specific focus on industry involvement.

Performance Measures

Table 10: Progress on Performance Measures

Performance Measure	2006–07 Progress / Achievement	2007–08 Progress / Achievement
CRC Program Objective 1: Enhance the contribution of long-term scientific and technological research and innovation to Australia's sustainable economic and social development		
<i>Centre Objective 1.1: Multidisciplinary research that leverages existing R&D programs through a strong network of participants.</i>		
Research outputs will be in excess of 20 processes, methods, patents and publications from multi-disciplinary teams working across multiple nodes.	67	51
<i>Centre Objective 1.2: Demonstrate new interactive content, and hardware and software prototypes in user-driven context for the creative industries sector.</i>		
Develop in excess of 20 prototypes for products in content, hardware and software as defined by user feedback and input.	37	49 (cumulative)
<i>Centre Objective 1.3: Deploy R&D to enterprise development through the creation of flexible, transferable and reproducible processes for commercialisation.</i>		
Up to \$3M in income achieved through licences, spin-offs, consulting and other income generation mechanisms.	\$258,000	\$462,000
CRC Program Objective 2: Enhance the transfer of research outputs into commercial or other outcomes of economic, environmental or social benefit to Australia		
<i>Centre Objective 2.1: New partnerships and beneficial linkages, strengthening R&D efforts of industry partners.</i>		
Industry participants will receive in excess of 20 prototypes providing commercialisation opportunities for products in content, hardware and software.	27	39 (cumulative)
<i>Centre Objective 2.2: Development of new communities of interest for groups such as Aborigines, the aged and children through research programs and themes, such as Virtual Heritage and Community Network.</i>		
Development of multiple, practical strategies for relating technical innovation to community development.	Continued work in existing community affiliations	Continued work in existing community affiliations
<i>Centre Objective 2.3: Develop research for national and international companies through an SME Consortium configured to provide R&D services.</i>		
SME consortium of over 12 industry partners which will attract 1–2 research/production contracts per year.	Consortium in place; research in train	Focus on attracting new members through ACID Services' commercial arrangements
CRC Program Objective 3: To enhance the value to Australia of graduate researchers		
<i>Centre Objective 3.1: Delivery of a critical mass of new research talent into an emerging industry.</i>		
40–50 post-graduate students, working collaboratively in cross-disciplinary, cross-institutional, international projects, with options to participate in CRC-sponsored online education and training courses. Integrate undergraduate students.	No new scholarships offered in 2006–07; 21 ongoing from previous years	Completed
<i>Centre Objective 3.2: Industry–university exchange opportunities for post-graduate students.</i>		
Establishment of a post-graduate supervision program providing 40–50 exchange opportunities with CRC industry participants and affiliates.	Completed	Completed
<i>Centre Objective 3.3: Enhancement of existing education programs in interaction design across vocational, undergraduate and post-graduate programs.</i>		
Up to 30 short courses developed from research output and taught to both internal and external clients.	5	31

Performance Measure	2006–07 Progress / Achievement	2007–08 Progress / Achievement
CRC Program Objective 4: Enhance collaboration among researchers, between researchers and industry or other users, and to improve efficiency in the use of intellectual and other research resources		
<i>Centre Objective 4.1: Research programs are designed to benefit from the multiple competencies that reside in the Centre partners.</i>		
Project proposals must demonstrate at least two university partners working in a multi-disciplinary, multi-nodal capacity.	Completed	Completed
<i>Centre Objective 4.2: Research is designed to respond to user needs.</i>		
Project proposals must demonstrate user input and at least one industry participant.	Completed	Completed
<i>Centre Objective 4.3: Whenever practical, international collaborators are involved in projects to enhance the global perspective.</i>		
In excess of three projects will have international research involvement. The education program involves three international partners working collaboratively on one project per year.	3	8

Glossary of Terms

ACID	Australasian CRC for Interaction Design Pty Ltd
ACID Services Pty Ltd	Wholly-owned subsidiary of ACID
CEO	Chief Executive Officer
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Diversionary Therapy	Methods of therapy that aim to divert the patient’s attention from the area of treatment
GM	General Manager
ICT	Information and Communications Technologies
IP	Intellectual Property
IT&T	Information Technology and Telecommunications
NICTA	National ICT Australia
NZ	New Zealand
OzCHI	Annual conference for the Computer-Human Interaction Special Interest Group of the Human Factors and Ergonomics Society of Australia
Qld	Queensland
QUT	Queensland University of Technology
R&D	Research and Development
RMIT	RMIT University, Melbourne
SME	Small to Medium Enterprise
UTS	University of Technology, Sydney
UQ	University of Queensland
VSMM	Virtual Systems and Multimedia
3D	Three dimensional