

Stand	Signage	Description
19	SAIL	SAIL integrates multiple information sources to construct a complete picture of events in time and space, facilitating situation awareness for human operators. It uses logical reasoning and ontologies to construct a coherent semantic level representation of the situation that generates automated alerts and can be queried using controlled natural language. Peter.Baumgartner@nicta.com.au
20	SuperCom	Many complex systems consist of simple components organised to achieve an end goal such as electricity supply or the creation of a product on a factory line. Achieving optimal performance requires adequate supervision software to accurately monitor the system and diagnose problems. This Project develops efficient algorithms and tools to improve the quality of service in the targeted areas. Jussi.Rintanen@nicta.com.au
21	Distributed Virtual Worlds Technology	NICTA has developed a breakthrough technology that enables the creation of highly scalable virtual worlds. The technology ensures a large number of users can co-exist in a virtual space without the need to invest in expensive game servers. The distributed network engine uses the concepts of peer-to-peer computing to distribute the data processing to all the users. Santosh.Kulkarni@nicta.com.au
22	InterfereX	Current broadband wireless communication is expensive due to inherent interference which limits range and throughput. InterfereX solves these problems through a number of unique patented techniques in the receiver, thus lowering the total cost of ownership for wireless operators. The goal of the Project is to create a spin-out fabless semiconductor company. Mark.Reed@nicta.com.au
23	GiFi	The 60Ghz Gigabit Wireless Project has developed the world's first gigabit per second integrated millimetre wave transceiver on CMOS. This breakthrough will enable the next generation wireless technology, delivering ten times the wireless data rate of current solutions for one-tenth the cost. NICTA's achievement will make the unwired office and home of the future a reality. Stan.Skafidas@nicta.com.au
24	Elefant	Elefant is an open source software platform for quick prototyping and deploying machine learning algorithms. Elefant includes modules for many common optimisation problems arising in machine learning and inference. The key feature of Elefant is its light-weight component based design. Its design allows reuse of various components within the Elefant framework. Kishor.Gawande@nicta.com.au

NICTA

NICTA is Australia's Information and Communications Technology (ICT) Centre of Excellence and the largest organisation in Australia dedicated to ICT research. Established in 2002, following a competitive bid process, NICTA's goal is to drive innovation through high-quality research, research training and technology transfer.

Our researchers are located in five laboratories located in four cities around Australia: Melbourne, Sydney, Canberra and Brisbane. Working in specialised teams, they are focused on a series of specific research themes and business areas.

NICTA's goal is to become a world-class research institute and Centre of Excellence in science and innovation. By bringing together many of Australia's and the world's top ICT researchers and providing them with the facilities and support they require, NICTA is making this vision a reality.

At the core of these endeavours is NICTA's unique approach to the fostering and development of ICT research. The organisation works closely with both industry and other research institutions to solve problems and make breakthroughs in ICT that can be put to use with real impact.

NICTA's focus on use-inspired research means its projects have direct relevance to the challenges faced by business, government and individuals around the world. The result is breakthrough technologies that provide commercial opportunities and that are having a positive impact on Australia's export earnings.



Our Research Themes:

- Embedded Systems
- Networked Systems
- Making Sense of Data
- Managing Complexity

Our Business Areas:

- Biomedical and Life Sciences
- Environmental Management
- Intelligent Transport Systems
- Mobile Systems and Services
- Safety and Security
- Software Infrastructure



From
imagination
to impact



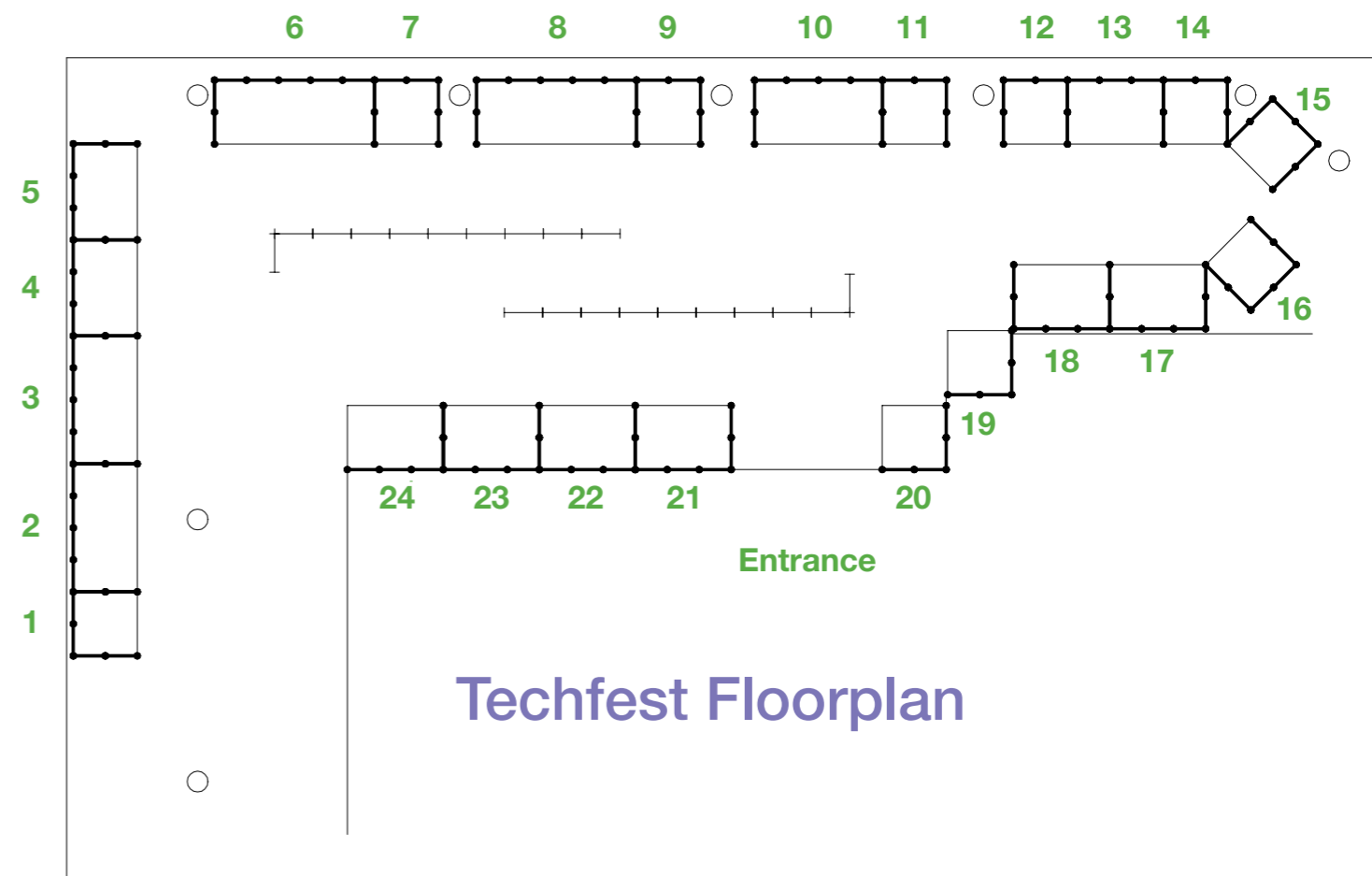
TECHFEST 08



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1	Short Courses	NICTA's Short Course Program offers advanced technical training for industry and research communities in Australia and overseas. NICTA aspires to become one of the leading international providers of quality ICT training. In 2007, NICTA held 33 short courses and 15 free seminars which were attended by more than 1500 people. Anna.Dostovalova@nicta.com.au
2	Water Information Networks	The Water Information Networks (WIN) Project aims to enhance Australia's economic viability through exploitation of information and communication technologies in the water space. WIN has achieved real-time sensing and closed-loop control of water resources across operational spaces at greater than basin scale and in several on-farm environments. Gavin.Thoms@nicta.com.au
3	BANESH	Body Area Networks of Embedded Systems for Humans (BANESH) is a large interdisciplinary multi-lab NICTA Project. BANESH will develop small, smart devices which collect, interpret and transmit biometric data reliably to those who need it in a form they can use, when they need it. Leif.Hanlen@nicta.com.au
4	ArMaTure	ArMaTure is a business process project developing new solutions for users in the financial services industry and in government. The platform will provide methods and tools for process modelling, analysis and execution in a federated industry/organisation landscape, allowing organisations to create, integrate and adapt their complex processes to better respond to new business opportunities. Ross.Jeffery@nicta.com.au
5	Braccetto	Braccetto is a collaborative project in human-machine interaction. It aims to develop sophisticated information sharing technology that can help geographically distributed teams collaborate more effectively. The Project is developing new methods for supporting simultaneous work on software applications between sites in conjunction with tightly linked, high-quality, multi-party telepresence technology. Belinda.Kellar@nicta.com.au
6	STaR	The Smart Transport and Roads (STaR) Project is a research collaboration between NICTA and the NSW Roads and Traffic Authority that will help address national and international traffic management problems. With better information and control systems and decision support capabilities provided by STaR, traffic flows will be improved and traffic controllers will be better able to predict and respond to traffic build-ups, bottlenecks, accidents and incidents. Geoff.Goeldner@nicta.com.au
7	Monitoring Division	Monitoring Division is a spin-out company that provides solutions for network operators and their suppliers to see what is truly happening within their optical networks. The company produces technologies, including software and reference designs, that enable the collection and distribution of real-time knowledge of the health and performance of optical networks. Trevor.Anderson@nicta.com.au
8	SAFE	The Smart Applications for Emergencies (SAFE) Project addresses key elements of the process of predicting, responding to and recovering from a range of natural and man-made disasters. The effects of many disasters can be reduced by having timely and accurate information and services for people who manage the impact of the disaster. Renato.lannella@nicta.com.au
9	AutoMap	AutoMap is focused on implementing and field testing technologies and systems for the automatic creation of digital maps in support of the rapidly growing data requirements of the personal navigation market. Several of the technologies underpinning the Project, including road scene object detection, have been demonstrated and field proven. Lars.Petersson@nicta.com.au
10	L4 - Trustworthy Operating System	The L4 Project suite analyses and enhances the high-performance operating systems kernel L4. The goal is to make L4 the fastest, most reliable, and most secure microkernel on the planet, achieving a truly trustworthy foundation for the rapid assembly of critical embedded and real-time systems. The research is being commercialised in the NICTA spin-out Open Kernel Labs. Gernot.Heiser@nicta.com.au
11	RESA	A prototype RESA tool, which is based on a unique business-driven methodology that captures business goals, strategies and processes in a fully integrated graphical model, is under development. The output is a model of business goals and IT requirements with integrated context models that allows ICT goals and requirements to fit onto a single page. June.Verner@nicta.com.au
12	mContext	The Universal Storage Schemes Project, also known as mContext, enables mobile devices to store more data than they can hold. In particular, it allows XML, text and multimedia information to be stored whilst maintaining low access and update costs for all desired operations, which is essential for devices with limited resources such as mobile phones. Raymond.Wong@nicta.com.au

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13	ATOMIC	ATOMIC (Advanced Technologies for Optimisation and Modelling in Constraints) aims to revolutionise the way organisations optimise their resource usage by separating the modelling of the problem from the solving methodology used, thus allowing flexible, accurate and scalable resource optimisation. Andrew.Verden@nicta.com.au
14	Urban Autonomous Vehicle	NICTA is collaborating with the Australian Centre for Field Robotics within the University of Sydney, the University of Technology Sydney and the University of California at Berkeley to enter the DARPA Urban Challenge Autonomous Vehicle competition. This competition brings together academic, commercial and military teams to build vehicles that drive themselves in light suburban traffic. William.Uther@nicta.com.au
15	Goanna	The Goanna Project is developing a fast, scalable and precise software solution that detects bugs and code vulnerabilities automatically at development time. Goanna merges static analysis and model checking technology into a unique solution that analyses source code without any test cases, providing up to 100% coverage, and leading to notably reduced software development costs. Ralf.Huuck@nicta.com.au
16	SISM	The SISM Project capitalises on opportunities arising from new camera technologies in and beyond the visible spectrum by promoting the research and development on spectral imaging technology for diagnostic instruments and methods towards biosecurity, ecology and agriculture, such as food/plant quality/health control. Antonio.Robles-Kelly@nicta.com.au
17	eGovernment	NICTA's e-Government initiative is creating new technologies to improve the efficiency, effectiveness, agility and responsiveness of government agencies' business processes and IT systems. Field trials have already delivered impact for agencies in quality of service modelling, business process improvement and IT rationalisation. Selected technologies are being prepared for commercialisation which will be delivered through NICTA's commercial partners. Jonathan.Gray@nicta.com.au
18	CAMP	NICTA, in collaboration with Ericsson Research, is developing solutions to fully harness the multitude of connectivity options available to future mobile devices such as cellular, WiMax and WiFi networks. The Project goal is to optimise network utilisation by leverage context information such as user location, preferences, policies and usage patterns. Max.Ott@nicta.com.au



Techfest Floorplan