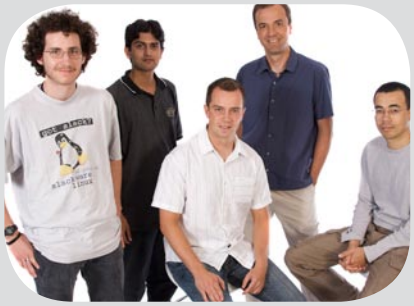
Context Aware Mobility Project (CAMP)

Optimising mobile networks - Taking mobile communications to the next level



At a glance

Today's consumers are making use of a growing range of mobile devices, from smart phones and PDAs to notebook and tablet computers. Each has multiple wireless access options including Wi-Fi, UMTS, GPRS, 3G and Bluetooth.

The best wireless connection option changes depending on where a user happens to be and the task they're undertaking. Selecting and changing from one to another can be complex and time consuming and is best done automatically.

The NICTA CAMP research team has developed a context-aware system that determines the most appropriate connection option at any given time. It allows automatic and seamless switching between different wireless access technologies and services.

The features

- Determines the most appropriate wireless access technology for an individual user, based on an analysis of current and predicted context information
- Predicts future network availability before selecting a wireless access type
- Accounts for multiple parameters including user environment, individual preferences, access policies and past usage patterns
- Statistical machine learning is used to analyse multiple variables and determine the most appropriate real-time option

The benefits

- Removes the complexity of selecting and managing multiple wireless connection technologies
- Minimises user disruptions due to lost wireless connections
- Cost-effective use of available wireless technologies
- Learns from an individual's behaviour over time

The NICTA approach

The NICTA CAMP research team has focused its efforts on combining statistical machine learning techniques with mobile wireless technologies to develop a context-aware communications system.

This world-first development has the potential to change the way users interact with their mobile devices, ensuring they can automatically be connected via the most appropriate wireless link at any given time.

The team has drawn on expertise across multiple technology areas and worked closely with handset and wireless equipment vendors.

The future

- Further development of a distributed framework that can collect and analyse context information from a variety of sources
- Distribution of application programming interfaces (APIs) that allow developers to work with CAMP services, and the widespread deployment of CAMP services across a broad range of mobile devices
- The CAMP team is looking for parties interested in investing in the future development of this technology

NICTA

From imagination to impact

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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 drives 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.

Our work as a world-class research institute and Centre of Excellence in science and innovation brings together many of Australia's and the world's top ICT researchers and provides them with the facilities and support they require, making NICTA's vision a reality.

NICTA's unique approach fosters and develops ICT research. The organisation works closely with both industry and other research institutions to solve problems and make breakthroughs in ICT 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 have a positive impact on Australia's export earnings.

For more information

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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

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