



MEDIA RELEASE
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NICTA'S RoboFiddler comes second in the inaugural ARTEMIS Orchestra competition

NICTA, Australia's leading Information Technology and Communications (ICT) research institute, has sponsored a robotic violin player, nicknamed RoboFiddler, which won second place in the inaugural ARTEMIS Orchestra contest.

The contest, which was held in Berlin this week, is based on longstanding European traditions in music and challenges participants to create devices which play real musical instruments with the help of various embedded technologies.

The aim of the ARTEMIS Orchestra competition is to demonstrate the creative capabilities of Embedded Systems to the general public through enabling robots to play musical instruments.

NICTA's entry, the RoboFiddler, has its origins in a project conducted last year by The University of Adelaide mechatronics engineering students Yee Chia, Boon Hong, Chin Lee and Beinjy Lim.

"NICTA is thrilled with the result the team achieved, especially given that the competition attracted entries from leading embedded systems teams across Europe. I think they were a crowd favourite!" said NICTA chief executive officer Dr David Skellern, who was present at the competition.

The RoboFiddler system links a conventional laptop computer to a micro controller that controls both the robotic bow arm and a series of six metal 'fingers' that allow 28 notes to be played across the four strings.

Tunes to be played by the RoboFiddler can be entered on a host computer and downloaded to the microcontroller-based robot.

The central controller communicates with the host, downloading whichever note needs to be played next. It then relays this information to the fingering controller, carefully coordinating all required motions such as fingering, bowing and tilting the main arm.

"It is a complex system because the bow needs to be told not only which string to play, but at what angle and speed to play to ensure a clean sound," University of Adelaide Head of the School of Mechanical Engineering, Professor Colin Hansen said. "The result is not up to orchestra standard, but it is an impressive piece of engineering."

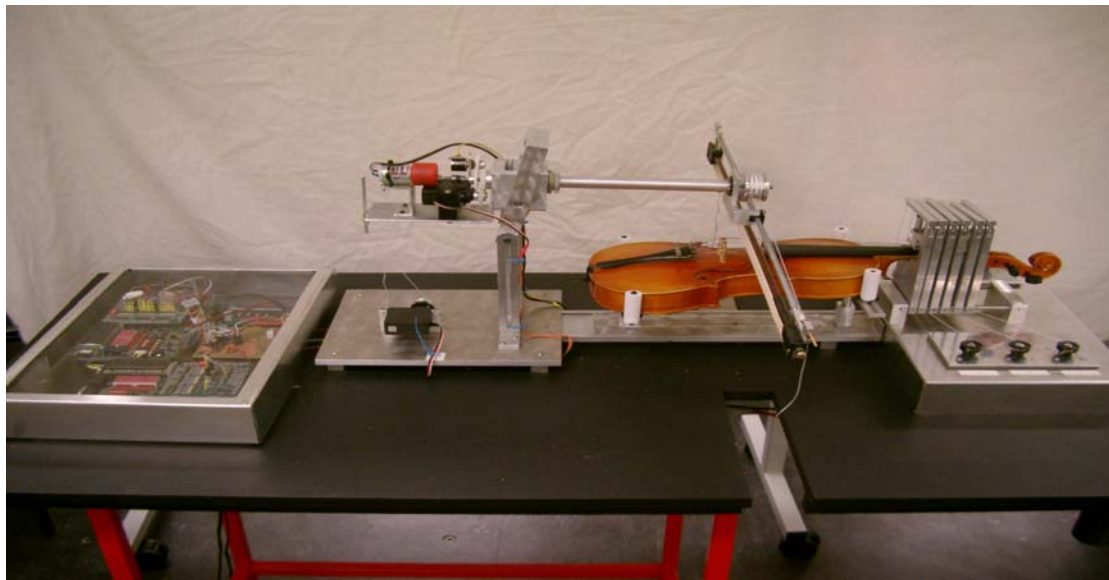
The RoboFiddler performed two pieces during the ARTEMIS competition: the traditional piece *Soldier's Joy*, and the first part of Book 1 of German composer Hans Sitt's *100 Etudes, Op. 32*. These pieces were in the set specified by the competition organisers.

“NICTA is proud to be sponsoring the RoboFiddler team at the University of Adelaide and is thrilled they secured second place at the competition,” NICTA chief technology officer for embedded systems Dr Chris Nicol said.

“This competition will position Australia as a serious partner in the ARTEMIS Embedded systems initiative.”

NICTA thanks Mark Phillips of Automated Test Systems, who created embedded software to tailor the platform for the ARTEMIS contest.

The RoboFiddler team received a trophy and 9000 Euro prize. The winner of the ARTEMIS Orchestra competition was a team from Germany which demonstrated a recorder player with timing that followed a conductor as well as a piano player. The equal second place was taken by a Finnish team that played a flute.



RoboFiddler: A robotic violin player

About NICTA

National ICT Australia (NICTA) is a national research institute with a charter to build Australia's pre-eminent Centre of Excellence for information and communications technology (ICT). NICTA is building capabilities in ICT research, research training and commercialisation in the ICT sector for the generation of national benefit. National ICT Australia is funded by the Australian Government as represented by the Department of Communications, Information Technology and the Arts and the Australian Research Council through *Backing Australia's Ability* and the ICT Centre of Excellence program. NICTA was established and is supported by its members: The Australian Capital Territory Government; The Australian National University; NSW Department of State and Regional Development; and The University of New South Wales. NICTA is also supported by its partners: the University of Sydney; University of Melbourne; the Victorian Government; the Queensland Government; Griffith University; Queensland University of Technology; and Queensland University.

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