Sparkling Science >
Science linking with School
School linking with Science

Research Project

01.09.2009 – 31.07.2011

Intelligent Mobile Motion Advisor

Development of technological methods and their practical use for supporting the individual physical fitness of adolescents in school and leisure time sport

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Austrian Federal Ministry of Science
and Research

BMWF

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Basic Information about Sparkling Science

Sparkling Science is a research program of the Federal Ministry of Science and Research (BMWF) which started in 2007 and adopts an unconventional way in the promotion of young scientists that is unique in Europe.

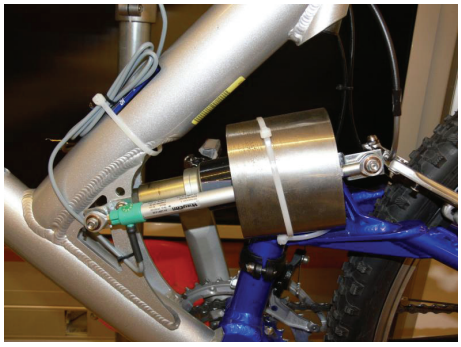
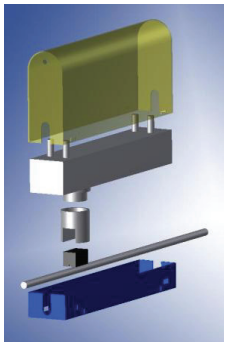
The specific characteristic of the program: so far 168* projects (94 of them have already been completed) scientists work side by side with young people in current scientific research projects: Sparkling Science supports big research projects and supported from 2007 until 2010 also smaller school research projects.

In the 114 big research projects (42 have already been completed) the young colleagues take an active part and work independently on parts of the research projects. As junior colleagues they introduce important suggestions into the research approach. They collaborate in the conception and conducting of investigations, conduct polls, collect data, interpret these together with the researchers and present the results at schools, universities and even at scientific conferences.

In a second initiative within the Sparkling Science program the BMWF awarded grants to smaller projects that were submitted and conducted not by the involved research institutions, but by the schools, who designed and lead the projects themselves. In these projects, too, schoolchildren worked closely together with researchers, supporting state-of-the-art research activities and contributing to the results.

Both sides of the program is/were open to a broad thematic spectrum. Research is carried out on all sorts of different topics: from mechatronics and molecular biology to migration research, from acoustics and biometrics to literature research.

* Status quo: January 2012


One Example out of 168

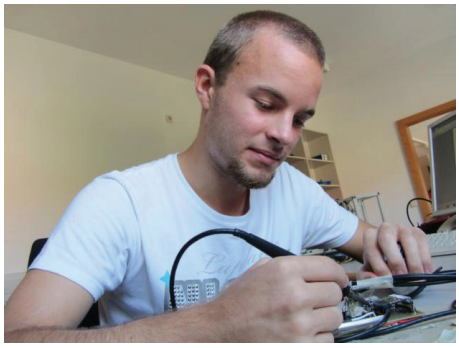
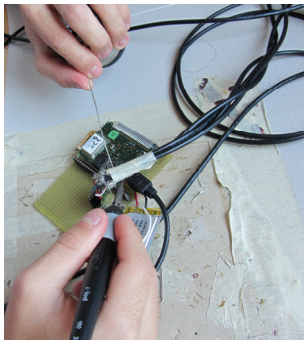
Intelligent Mobile Motion Advisor

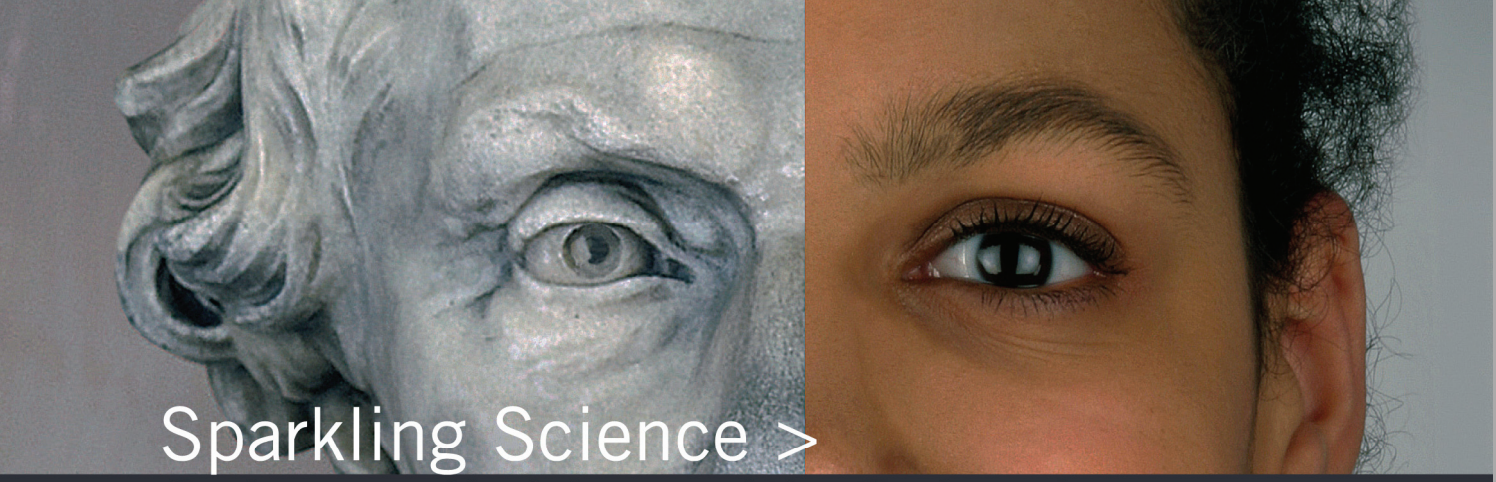
Physical activities during infancy and adolescence are well suited in order to prevent health hazards like obesity. Because of little motivation for an active lifestyle the challenge arises to attract physical exercises to young people. The aim of the project “Mobile Motion Advisor” was to assist and motivate pupils during their sportive activities through modern technologies (sensors, mobile devices, Internet).

The intention of any mobile motion assistance is to support athletes (leisure time and competitive sport) in their training. A mobile device gathers biomechanical and/or physiological parameter values on the spot and sends it to a server component for further analyses. The classification of the data and generation of (immediate) feedback is based on expert knowledge (sport scientists) and can be adapted sports specifically.

In cooperation with pupils and teachers of the partner schools relevant parameters for selected sports were specified. Next, hard- and software components for data acquisition and transmission were jointly developed. Web interfaces provided appropriate feedback information for the users. Groups of pupils then evaluated the acceptance of the developed system.

The project involved the school partners in research and development activities, and offered an efficient knowledge transfer by applying theoretical fundaments, e.g. from electronics, computer science, biomechanics/biophysics, in practice.

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