Information Society
Technologies

COGAIN COMMUNICATION BY GAZE INTERACTION

How to get involved in COGAIN activities

COGAIN is based on the vision that the network will lead to real advances in eye tracking technology and its application for people with disabilities. COGAIN will also lead to mainstream applications that can benefit all and be enjoyed by the general public, too. Usability and comfort are ensured by working closely together with users.

COGAIN
• organises COGAIN conferences for researchers
• updates related news on its webpage
• runs trials with potential users in several countries
• aims to set up a COGAIN foundation for donations
• looks for companies that are interested in co-operation

COGAIN network invites potential users, specialists in AAC, researchers and companies to get in touch. COGAIN interest groups could include all who are interested in working towards greater and more enabling technologies based on eye gaze.
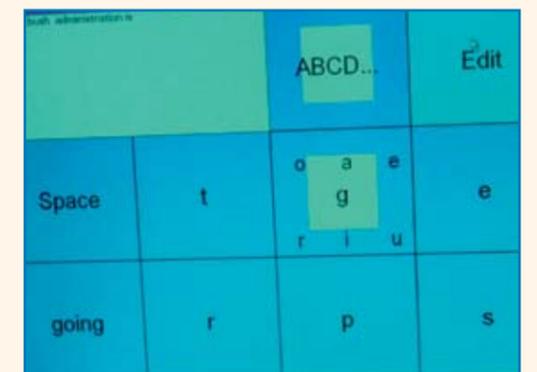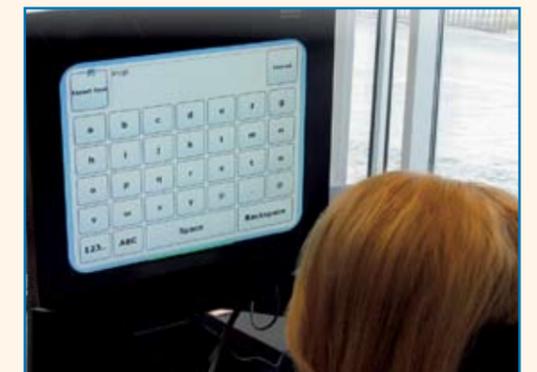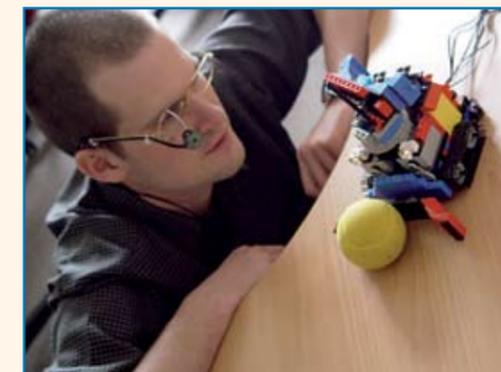
For more information, visit www.cogain.org

COGAIN
COMMUNICATION BY GAZE INTERACTION

More than half a million people in Europe with physical impairments need alternative access to a computer

Communication Improves Quality of Life

Jens Hansen from Denmark was 47 years old when he was diagnosed with Amyotrophic Lateral Sclerosis (ALS). He deteriorated quickly and was soon after dependent on a wheelchair. He lost his physical capabilities and today he can only use his eyes. The doctors gave him 2-5 years to live, so his wife, Birgit Hansen, decided to take leave from her job. "I wanted to take care of Jens myself. There was so much we wanted to do together" she says. After five years with the disease in 2001 Jens chose to get an artificial respirator. Due to this choice he is alive today.

Since then his quality of life has improved. In 2005 he was granted an eye tracking system, which enables him to use the computer for several hours.

Jens uses the computer for about three hours every day. He mails a lot and often writes to his children. He is also involved in the ALS-group in Denmark and in other associations. Jens also reads the news on the computer and checks up on the sports results. He enjoys playing cards and Trivial Pursuit with his wife. "Jens has a lot of photos on the computer, which he loves looking at. He is also fond of keeping up with his daughter's homepage on her stud-farm," says Birgit, confirmed by an upwards look from Jens.

"The new eye tracking system is a rather expensive solution, but the computer and the assistive technology is vital for his quality of life – it is his lifeline," his wife points out firmly, with a confirming look from Jens.
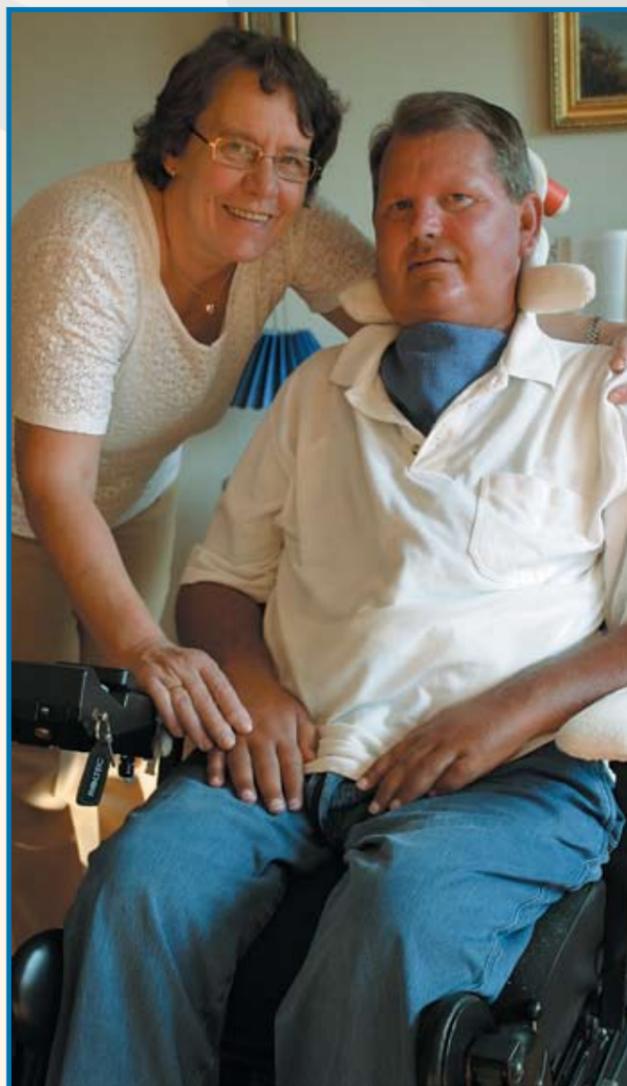
Jens Hansen and his wife Birgit

Jens Hansen in front of his computer using an eye control system and an on-screen keyboard for writing

Eye Control Technology

Different kinds of eye control systems exist on the market. However, at present, there is a great need to improve their functionality and usability. Furthermore, the prices are too high – leaving a lot of people unable to acquire a system.

Most programmes work by moving the cursor with eye movement. An on-screen keyboard is used for writing. The keyboard is shown as a picture on the screen and the user points out the letters with his eyes. The technology behind it all varies from system to system, but the goal is to be able to control any computer software with the movement of the eyes as well as being able to operate other kinds of technology with the eyes, e.g. environmental controls like lights, a television etc.

COGAIN

– works to advance eye tracking technology and applications for people with disabilities. The network strongly involves user communities and makes research results and applications available.

Gaze as the Only Method

Eye control technology is just one of many ways in which even the most disabled users can access the computer. There are many alternative computer input devices for people with disabilities. For some people with disabilities, however, eye control is the only method of independent control of technology or the most effective, efficient and satisfying form of access.

Some of the user groups which may benefit from eye control are people with cerebral palsy, muscular dystrophy, motor neuron disease, multiple scleroses etc. In Europe there are more than 500,000 people with physical impairments in need of alternative input devices.

Network of Excellence

COGAIN is a European Network of Excellence (NoE) that is aimed specifically at enabling fluent and natural communication and access for users with severe disabilities.

The COGAIN consortium includes leading experts, from research groups and companies, in the advancement of this cutting edge technology. More than 100 researchers from more than ten countries are involved in the activities of the Network, and its impact is growing. The COGAIN consortium is supported by two advisory bodies: A Board of User Communities (BUC) and a Board of Industrial Advisors (BIA) in order to ensure the best outcome and take-up of the results.

COGAIN was launched with EU funding in 2004, and its goal is to become self-supporting when the funding ends in 2009.

Michael Donegan, The ACE Centre, trying eye control with a user, Sarah Yeo