

UAB researchers and ONCE pioneer a new Braille keyboard



06.03.2006 **Research** - Researchers from the Universitat Autònoma de Barcelona and the Spanish charity for the blind ONCE (Organización Nacional de Ciegos Españoles) have developed a Braille keyboard for PCs that has some unique features. The keyboard provides more applications for blind people and is particularly useful for scientific texts and musical scores.

The new keyboard, which connects to the PC through the USB port, will make using a computer much easier for blind people who are accustomed to using Braille typewriters, since this is the first Braille keyboard to combine the function and movement keys of a conventional keyboard with eight Braille keys that allow the user to write in any language. Users can also select between a cumulative and a corrective writing mode. In the cumulative mode, the dots of a Braille symbol are indicated by pressing the keys one after another; in the corrective mode, this is done by pressing the necessary keys simultaneously.

The keyboard also provides the possibility to update its features as upgrades to the firmware (internal programmes that control the features) are developed in the future.

This new computer keyboard gives blind people enormous possibilities for working with mathematical formulae and scorewriter programmes. Until now, assistance was required from a sighted person for this kind of task.

The project, which began in March 2004 at the proposal of ONCE, was coordinated by the UAB Department of Microelectronics and Electronic Systems researcher Jordi Roig, who has been visually impaired for three years and is a member of ONCE. Teachers from the UAB School of Engineering and the UAB School of Computer Science in Sabadell participated in the research. The group is currently working on other projects that will enable blind people to work autonomously with technological applications. These projects include developing an automatic conversion tool for websites that are not currently accessible to blind people and creating a touchable screens that raises the information so that it can be felt.