

iAble® MyTobii System

EYE CONTROLLED VOCAL COMMUNICATOR

- Able® MyTobii is a communication device which, by means of a digital camera and infrared illuminators, permits to eye-control a custom made suite of applications.



WHO IT IS FOR

iAble® MyTobii is suitable for people suffering from tetraparesis or serious upper limbs disabilities and unable to speak. Compensation of head movements gives the system the advantage of a high level stability and makes the device usable even by people suffering from serious dystonic movements.

iAble® MyTobii, moreover, is compatible with specific AAC (Augmentative and Alternative Communication) software with PCS symbols or Bliss, being a valid support for patients with communication problems and operators involved in rehabilitation.



MAIN CHARACTERISTICS

The integration of iAble® software into an eye-tracker device finds its roots in the need for an easy and really efficient interaction paradigm, being able to substitute mouse/keyboard control.

The system allows to:

- Communicate through virtual keyboards and an integrated engine for speech synthesis (LoquendoTTS by Loquendo);
- Manage internet and e-mail;
- Phone (through VoIP technology) and send SMS;
- Read books in electronic format;
- Write texts;
- Save images and texts;
- Remotely control domestic devices like lights, television or other devices through domotic module (X10).



THE EYE-TRACKING COMPANY



breaking the silence

FUNCTIONING

iAble® MyTobii system is composed by a single device in which are integrated the eye tracking system (four infrared illuminators and a camera) a touch-screen and a computer.

The device is based on a technique, the eye tracking, which consists of generating glints on the user's eye surface and calculating gaze direction from the relative position of the pupil compared with the glints.

The algorithm that manages **iAble® MyTobii** eye tracking system is, therefore, based on the image that the camera catches from the user's eye surface and relates the position of the pupil with the glints on the cornea, generated by the four infrared illuminators.

Moreover, through compensatory calculation, the algorithm is able to calculate the gaze position even in presence of head movements.

TECHNICAL SPECIFICATIONS

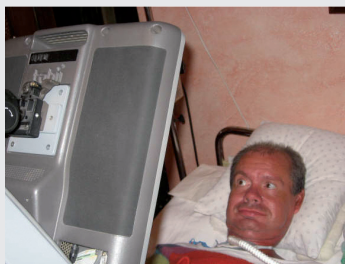
Display	15" touch screen
Weight	5,3 kg
Mobility	Portable
Speakers	Integrated
Freedom of head movement HxWxD	15x30x20 cm
Top head-motion speed	15 cm/sec
Gaze data rate	40 HZ
Accuracy	0,5° (0,5 cm)
Max head movement, compensation error	<1°
Max long term deterioration, compensation error	<1°
Computer	Integrated

USER STORIES

Michele Riva was born on May 1959 in Beinasco (Turin) where he still lives with his family.

The Amyotrophic Lateral Sclerosis diagnosis (May 2000) hasn't impacted his desire to communicate, a goal reached on March 2007 thanks to **iAble® MyTobii** system, a device that has also permitted him to write a book called "Il Ramarro Verde".

In this book, he wrote that on March 2007 he got the eye controlled communicator and it was a great joy to be able to speak, communicate by e-mail with friends and relatives; he didn't think he would have been able to do it again. He also wrote that he could resume old relationships and meet new friends, so he happily changed from a passive to an active life.



AD HOC SOLUTIONS

The eye tracker specialists of SR LABS analyze every situation and suggest the best customized solution considering the users' needs. The experience gained led to the development of two specific versions:

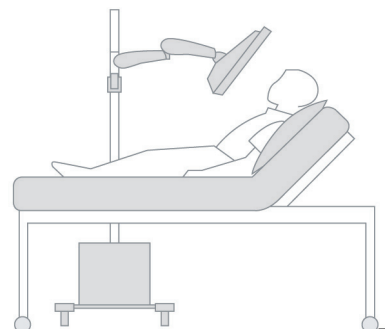
ERGO VERSION

This version includes an adjustable arm to hold the monitor. It is particularly suggested for users who have difficulties to move, especially the trunk and the head, even if they can use the device in a sitting position.



BED VERSION

This version is composed of a specific structure for users who are confined to bed because of serious neuromotor disabilities.



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