2nd Conference and National Meeting

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Conference Center
Hotel Divino Amore Casa del Pellegrino
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**Software and web applications,
problems and implications of impaired people.**

Speaker: Massimiliano Martines

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Introduction

ICT education is not of a high standard among people. We can generally say that they use computers only for their needs, without worrying about what is hidden behind some functions. If people used them knowing some PC technical procedures they would avoid some annoying setbacks, that might occur while using the device.

During these last years some special courses have been set up i.e. ECDL, in order to fill this gap. Unfortunately things have not changed.

Schools should play a fundamental role along with teachers in breaking down barriers. Besides, it is very important to enhance students' residual abilities, in order to minimize the learning time gap with their schoolmates. This concept should be applied when teaching the use of the computer because the impaired person must have a knowledge of it before being helpful.

What does technology offer?

Assistive technology for impaired people has improved dramatically over the last ten years. All operative systems (Macintosh, Windows Android, Linux) have developed tools that allow the impaired person to customize his/her desktop so as to be much closer to his/her needs. I will show some features of Microsoft Windows, which is still the most popular OS among PC users.

We have two ways to customize our computer desktop: either by changing the operative system color font, or by using specific assistive technology that allows us to make some changes without tampering with the operative system graphic layout. These types of software are so well integrated with the operative system that they give the impaired person a wide range of customizing options.

All the latest versions of Microsoft Windows make it possible to customize the interface by changing: background, foreground, font colors and windows sizes.

You can also use a magnifier to enlarge screen portions so as to obtain the most comfortable environment, by using the once called "Accessibility" now Ease of Access Center in Windows 7.

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The customization replicates to the external applications, on the understanding that they respect some programming protocols. (See examples below).
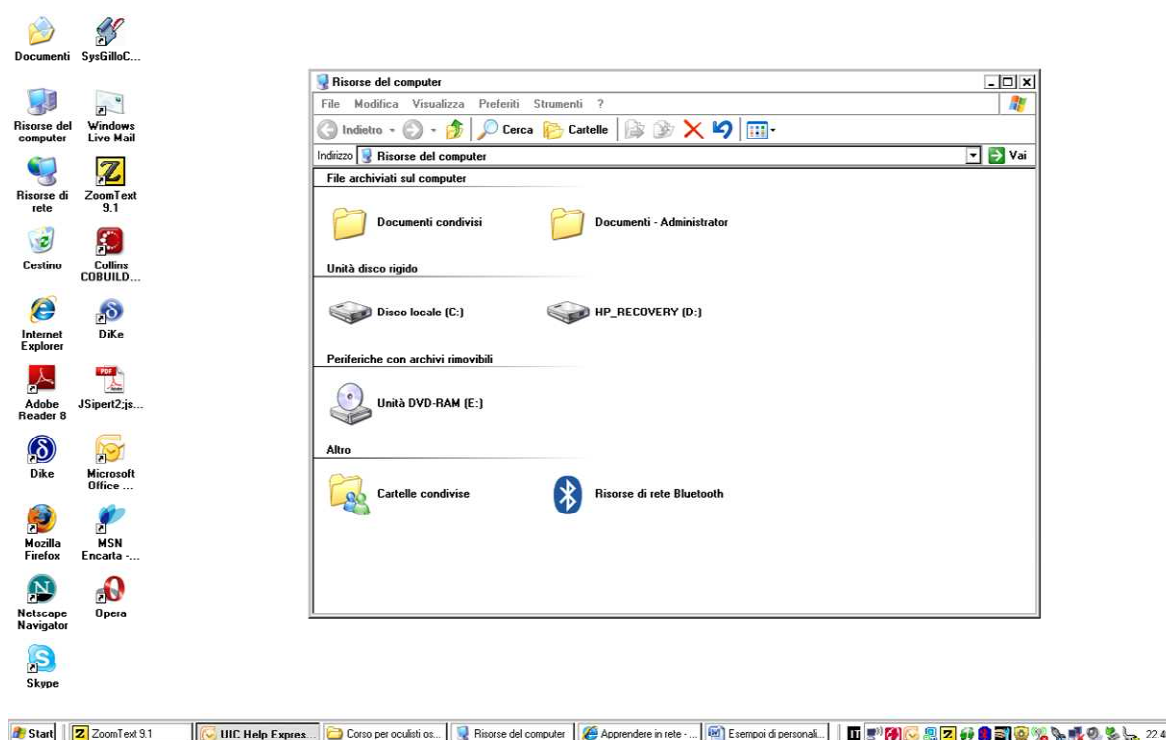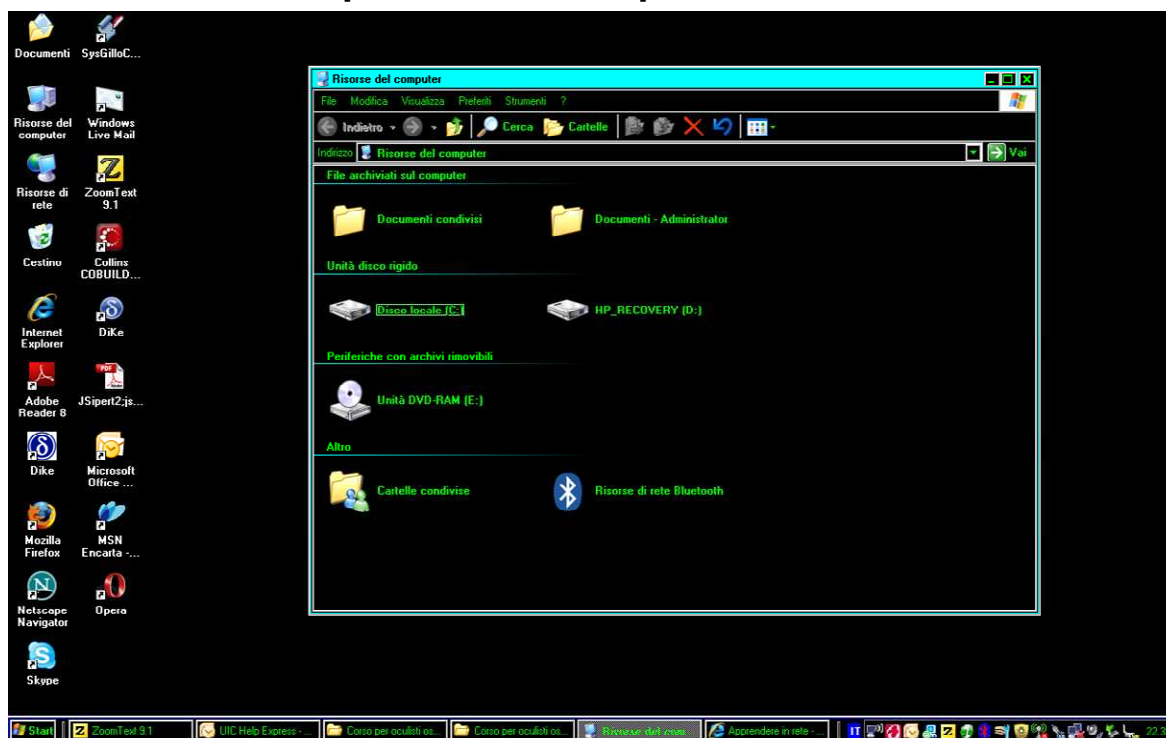
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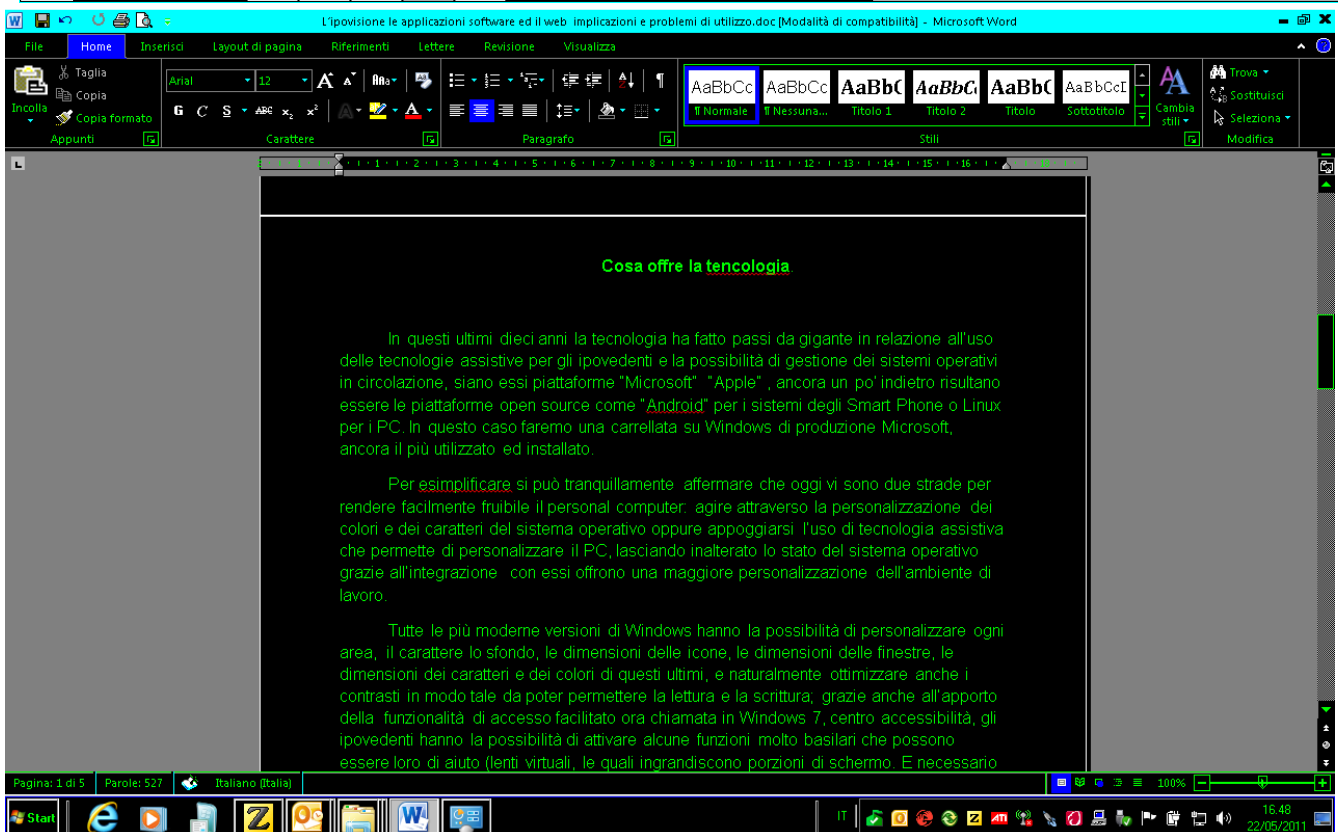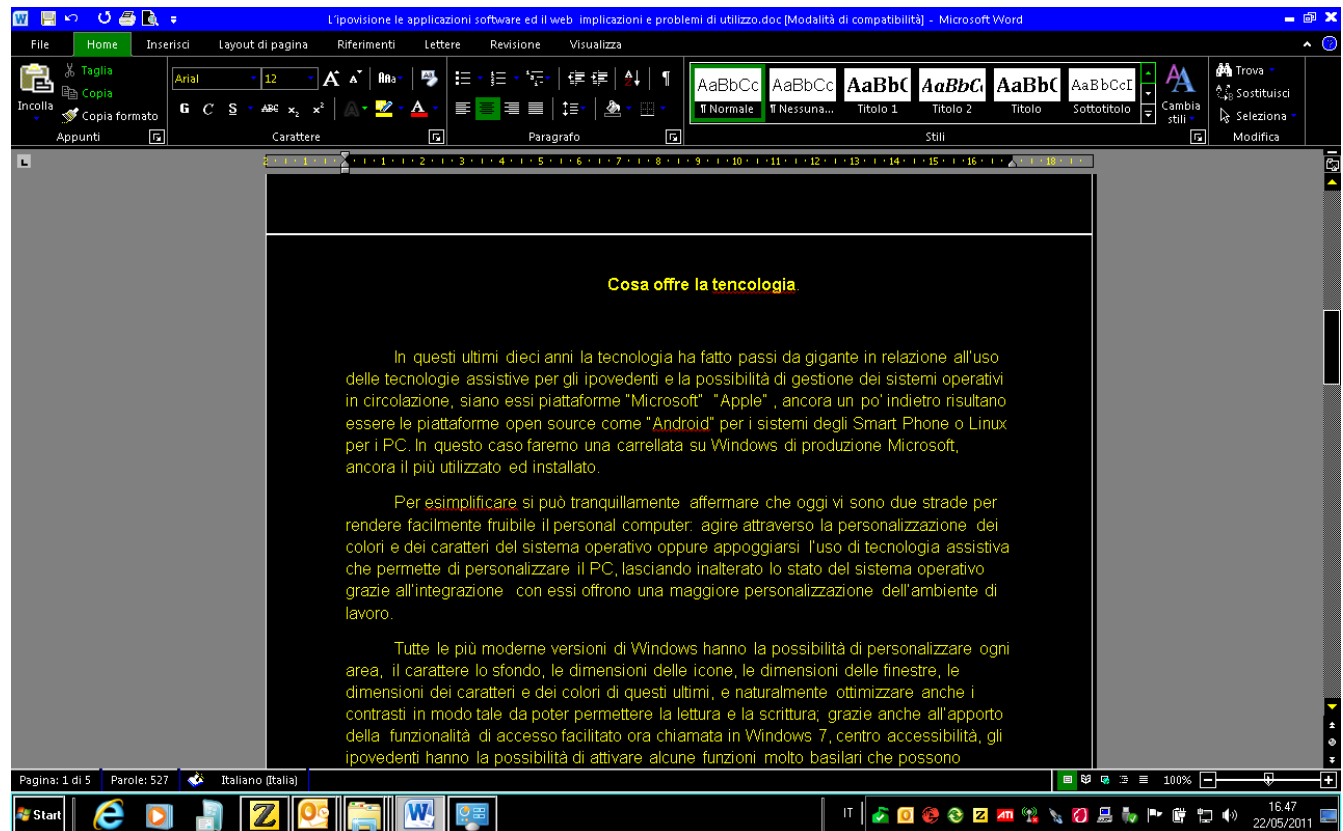Knowing it helps to understand,
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Microsoft Windows:
Examples of desk top customization

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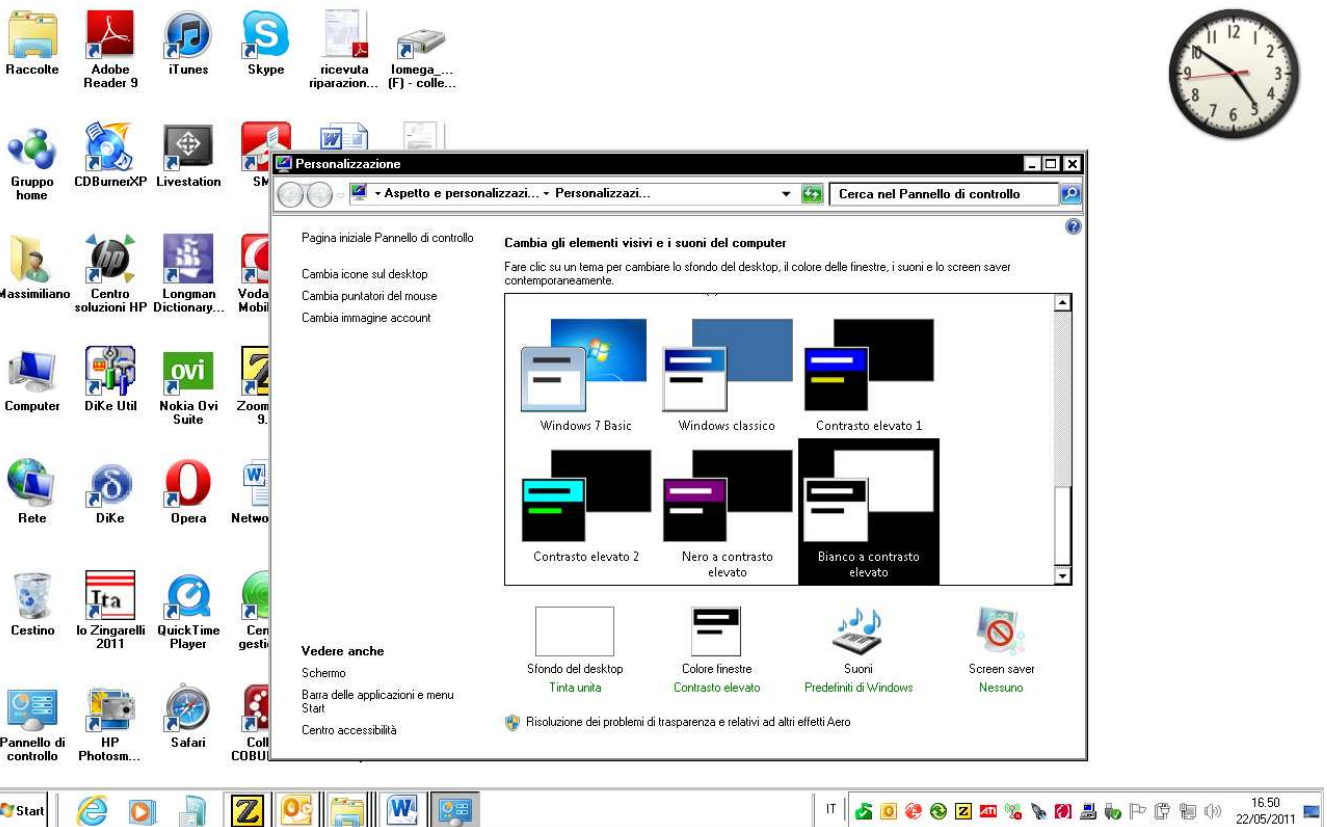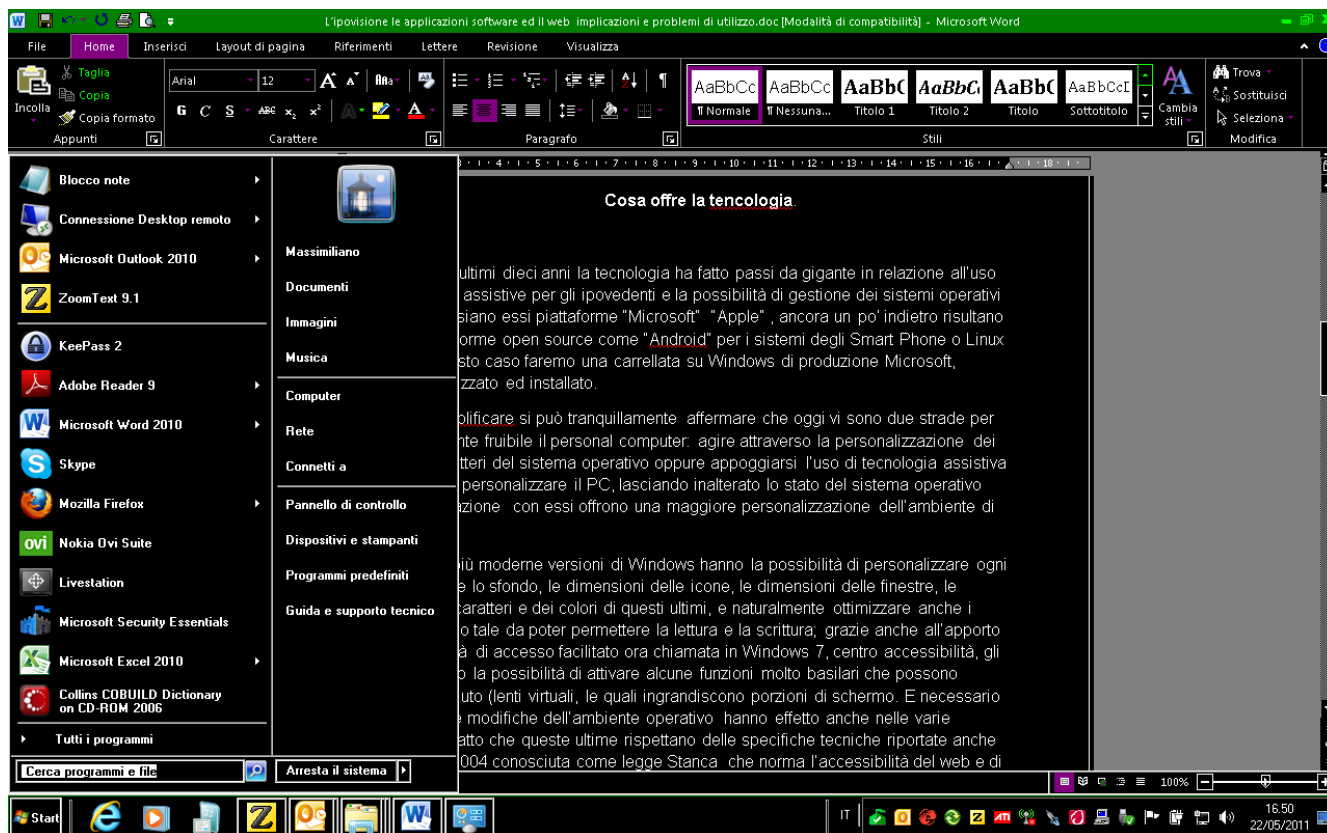problems and implications of impaired people.**

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Assistive technology

The main task of a magnifier is that to minimize or cancel the barriers between the user and the operative system. These PC magnifiers try to create the most comfortable environment, in relation to the impaired person's needs. Not only do they magnify the text, but they also improve the quality of the reading by applying special techniques to enhance the font clearness, or by allowing the user to customize the foreground. Besides they adjust clearness, contrast and color aberrations. The impaired person can use different magnifying options: by activating virtual lens or lines and screen portions. And let's not forget the possibility for him/her to customize the pointer color and size and add localizers that help the user to keep track of the text he/she is reading. These software applications also have screen reader modules, allowing the impaired person to read long readings without straining his/her sight. Here some web sites in which you can acquire more information.

http://www.aisquared.com/index.cfm
http://www.subvisionmilano.com/new/index.php
http://www.tiflosystem.it/
http://www.freedomscientific.com
http://www.gwmicro.com
http://www.yourdolphin.com/productdetail.asp?id=3
http://www.yourdolphin.com/productdetail.asp?id=4

Application managing problems

Some software applications, unlike the ones that are used for office productivity installed in our personal computers, are not always accessible to assistive technologies, and so do not support the OS font color and background customization, as they do not comply with the accessibility protocols. Because of this, impaired people can't use them. The same thing happens with web based software, which rarely respects both the international accessibility protocols and

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the Italian law (04/2004). We have another software category, which gives impaired people very serious usage problems; these applications are specifically designed to manage unconventional processes, within companies, schools, banks or any other organization which offers services.

Impaired people experience a lot of difficulties when using this software and its functionalities. For example when keying in data or reading the results of some queries, they can't see or locate them since layout is very complicated, so the information required is often hidden amongst objects or highlighted by low contrast color.

Talking about the web applications, the situation is quite varied. As we said before not everybody respects the accessibility protocols, so impaired people find it very difficult to use the application. The main difficulties are to be found in the very small fonts, which can't be customized or enlarged through client settings. Sometimes it is even difficult to manage them through assistive technology.

It's very difficult to key in data for the impaired person, as the space of the various fields are very small, or the background colors have low contrast. Sometimes the impaired person is not aware of the popup window warnings, as they are not so easy to be located. Consequently he/she doesn't know how to react or what to do and risks taking the wrong decision in response to a system request.

What to say in the end?

Assistive technology can't solve all the accessibility issues that impaired people experience, so looking for a compromise is essential. On the other hand we have to deal with the limits of embedded tools that we find in operative systems. Here we can cite the most important: the basic feature of desktop foreground and background color customization. The assistive technologies have some negative connotations, such as the high purchasing price, and sometimes a complicated procedure of settings.

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As we said before, both software client application and web based software are not so accessible, due to both cultural aspects and technical issue.

The National Committee OSI (The Internet Site Observatory) of the Italian Union for the Blind and Visually Impaired - ONLUS I joined in 2000 has been training to face this problem by enhancing awareness among staff and technicians of public and private companies. This mission goes on; we will try to bring out future inaccessibility issues that might arise from new applications.

We can honestly say that if everyone works together, the impaired person included, (in school, work and relationships) these problems will easily be solved and we are also bound to get a positive psychological effect.

If you want more information about accessibility and impaired people, you can click on the following web site: http://www.uiciechi.it/osi/ipovisione.asp.