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The Missing Link?
Design for All Elements in ICT Education Fostering eInclusion

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Accessible Information and Communication Technology (ICT) systems and applications are able to offer an important opportunity for social, political and economic engagement.
Additionally, the established principles and practices of Design for All could help to minimise the risk of exclusion of citizens from the information society such as older adults, disabled people, people with low literacy or those not using their first language
But what if the future providers of ICT solutions and applications lack the knowledge of Design for All principles and practices, and the skills to apply that knowledge to support innovation and advancement?

A successful implementation of e-Inclusion policies need widespread understanding of the principles, practicalities, methodologies, strategies and processes of Design for All within ICT educational programmes. ICT goods and services produced following ideal Design for All conditions:

> "*…can be accessed by nearly all potential users without modification or, failing that, should be easy to adapt according to different needs, or should use standardised interfaces that can be accessed by using assistive technology…"* [Keith, Gill, 2008].

The European Commission has committed to promoting eInclusion within the Information Society for the benefit of all citizens: *"ICT has great potential to enhance social inclusion and cohesion by empowering all Europeans to fully participate in and contribute to the economy and society."* [European Commission 2006]
In a second step, this commitment asks for appropriate teaching and training of future ICT professionals and technicians to enable them to design suitable (useful, usable and accessible) ICT products and to have the skills to work and interact with industry and government and with representative user groups.

Former research work already developed, tested and published taxonomies of the core knowledge and skills to enable students of ICT to follow a Design for All approach in their work, for example the EU project IDC-Net.
This taxonomy identified generic aspects of design for all and ICT specific elements. These included awareness, legislation and design guidelines that form the basis of design for all and universal design. Additionally it specified ICT related topics including accessible interaction, accessible content with provision for new paradigms such as ambient intelligence, mobile devices and e-learning.

More recently, Weber and Abascal (2006) stated explicitly that *"there is not enough teaching material available to help students …. learn how to identify which design decisions ... have an impact on a particular group of users."*

This paper will describe activities of the Sixth European Framework Programme IST Coordination Action "Design for All @ eInclusion" to develop curriculum guidelines, resources

and links with industry that support the objective of equality of access to the information society.
It will focus on education and training, the need to identify, track and evaluate Design for All elements embedded in mainstream ICT education and the process of developing practical curriculum guidelines that can be applied at different levels with respect to higher and vocational education and what – not only ICT related – knowledge, strategies and methodologies will have to be kept in mind dealing with the intended target groups and report on the progress of the development of education and training in Design for All in ICT including the results of a European survey presenting a selection of case studies of best practice teaching in this area.

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