ITU REGIONAL WORKSHOP ON ICT ACCESSIBILITY FOR PERSONS WITH DISABILITIES FOR AFRICA REGION

ICT Accessibility for Equal Education & Employment Opportunities for Persons with Disabilities

Prof. Licia Sbattella
Dean’s delegate for Disability
Politecnico di Milano - Italy
G3ict Program Committee Member
licia.sbattella@polimi.it
Agenda

- Specific challenges and opportunities for accessible and assistive ICT solutions
- Italian disability laws and regulations for Academia
- MultiChancePoliTeam: existing ICT assistive services and applications
- Advanced applied research on wireless assistive ICTs on campus
Academia for adult life, employment and social responsibility

- Adult life and the ... “professional self”
  - The importance of becoming an expert to exercise specific responsibilities in different social contexts.
  - Different professional profiles: scientific versus humanistic ones

- The Campus is a small but complex and significant social context
  - Where people study, teach, work, cooperate, communicate, research
  - Many persons cooperate with different abilities and disabilities.
  - Everybody can experience autonomous and cooperative dimensions possibly supported by innovative strategies
Academia for adult life, employment and social responsibility

- Academia is a “special land” which allows protected but strategic relationships between:
  - Learning and professional environments (i.e. schools / enterprises)
  - Social and cultural dimensions
  - Private and public contexts, governmental and non-governmental partners

- The applied research can promote
  - ICT accessibility and innovation
  - The analysis of the real impact of ICT and AT and better evaluation of their efficiency
  - The harmony between human and technological strategies
  - A ‘daily’ confidence with ICT and Assistive Technology
At Politecnico di Milano – In Italy

- At Politecnico di Milano: **MultiChancePoliTeam** is the group of specialists which guarantees services to students with disabilities ([www.polimi.it/disabilita](http://www.polimi.it/disabilita))

- In Italy:
  - A **special Law** (number 17/99) guarantees financial supports to organize special services to make the academic life more and more accessible.
  - **Each university receives funds** in relationships to the number of students with disability, the special projects which support them in studying and facing the first employment experiences.
  - **CNUDD groups the Dean’s Delegate for Disability** of each university allowing them coordination, global policies and exchange of innovative strategies.
Special Services: The MultiChancePoliTeam

- The MultiChancePoliTeam guarantees services to the students with disability:
  - A psycho-educational counseling
  - University attendance support (admission test, tutoring, personalized examinations, accessibility to the campus, administrative, accommodation and studying supports)
  - Teaching aids: conditions specifically suited to maximize the benefit of classroom and laboratory work by means of personalized and innovative technological teaching aids (Text To Speech & Automatic Speech Recognition technologies)
Special Services: The MultiChancePoliTeam

- The **MultiChancePoliTeam** guarantees services to the students with disability:
  - Technological aids (HW and SW solutions for personal needs)
  - The Wireless Campus allows a personalized fruition of classrooms and laboratory activities, Internet and local services, ....
  - Distance Learning *(only when strictly needed)*
  - International mobility
Special Services
Multimodal fruition of lectures

- Recording and converting lectures
- Allowing multimodal cooperation
- Creating guide-lines for teachers (to improve multimodal materials and lectures)
- Handling distance learning
Special Services
Natural Language Processing for Dyslexia

- To study a foreign language
- To prepare and use accessible versions of admission tests
- To face language complexity

\[ I_G = 89 - 10 \left( \frac{N_L}{N_P} \right) + 300 \left( \frac{N_F}{N_P} \right) \]

\[ I_{READ} = a \cdot I_G + b \cdot I_C + c \cdot I_T \]
“ICT and Disability”: a new Observatory

- A new Observatory on “ICT and Disability” has been created on 2007
  - The team of experts: computer scientists (ICT Institute) experts on management and a non-governmental partner
  - To monitor the employment (but not only) of people with disabilities
  - To share information on (and promote) innovative ICT
  - To maintain an academic, public and private sectors network
Advanced Applied Research
UBICAMPUS and wireless technology

- To navigate and explore the wireless campus
- To reach a complete accessibility of global and local information (often daily changing)
- To communicate with the other protagonists of the academic life
- To handle emergencies
Advanced Applied Research
ATONOMA-MENTE

Independent Living
- Multimodal Communication
- Domotics and Automation
- Personal Assistance
- Emergency Handling
Results

- Students with disabilities with technical degrees from Politecnico di Milano: **0% unemployment rate** over 7 years
- **First year** of employment **supported by the University** with government funds
- All students, once they have experienced **good assistive technologies keep using it** for their private and professional lives
- Programs help **employers better adapt the work environment** to persons with disabilities
“Digital Accessibility Index for Persons with Disability”

“Toolkit for Policy Makers”