

Assistive Products for ICT

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Introduction

Access barriers to ICT

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Capabilities and limitations

- Manipulation
- Vision
- Hearing

Access barriers

- Input devices: keyboard, mouse, touchscreen...
- Output devices: display, speakers, printer...
- Accessories and the environment

Adaptation alternatives

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Adaptation of standard devices

- Tailored modifications

Specific assistive products

- Provide access to standard devices
- Replace standard devices

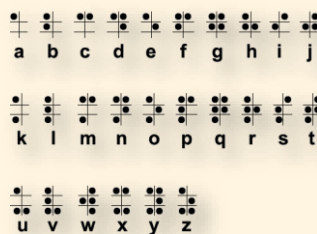
Visual diversity: blindness

Assistive products

Braille displays

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- Transform characters into Braille
 - ▣ Braille coding
- Manufacturers
 - ▣ Papenmeier
 - ▣ Thieman
 - ▣ ECO Braille
 - ▣ ...



Braille displays

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Text to speech (speech synthesis)

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- Transform characters into speech (voice)
- Examples
 - Ciber 232 y 232P
 - Braille'n Speak
 - PC Hablado
 - Soundcard-based



Other assistive products

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- Braille printers (embossers)
- Braille keyboards
- Speech recognition systems
- Screen readers



Visual diversity: low vision

Assistive products

Image magnification

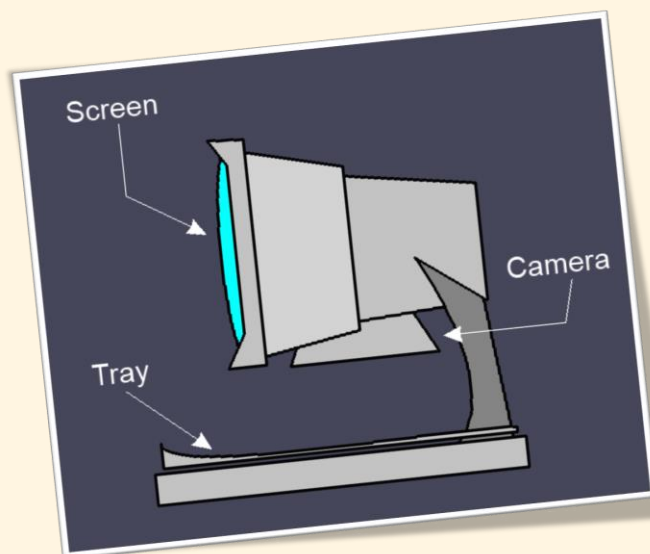
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- Magnifying glasses
- Electronic magnifiers
- Radio-based electronic magnifiers
- Hardware-based magnifiers
- Software-based magnifiers



Electronic magnifier

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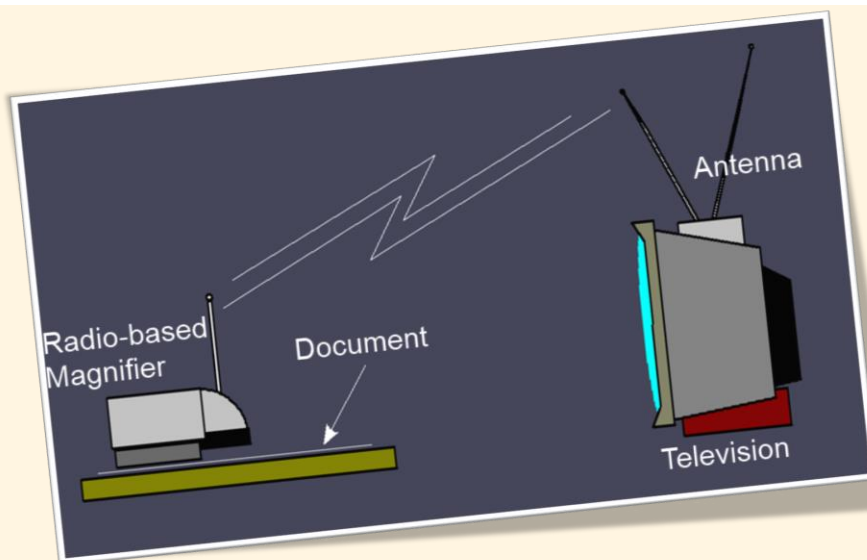
Electronic magnifier

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TV-based electronic magnifier

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TV-based electronic magnifier

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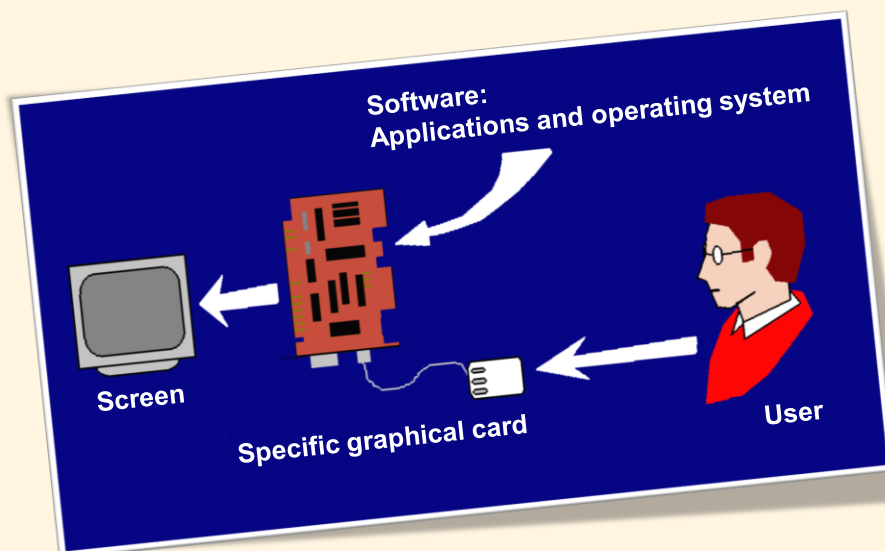
LCD-based electronic magnifier

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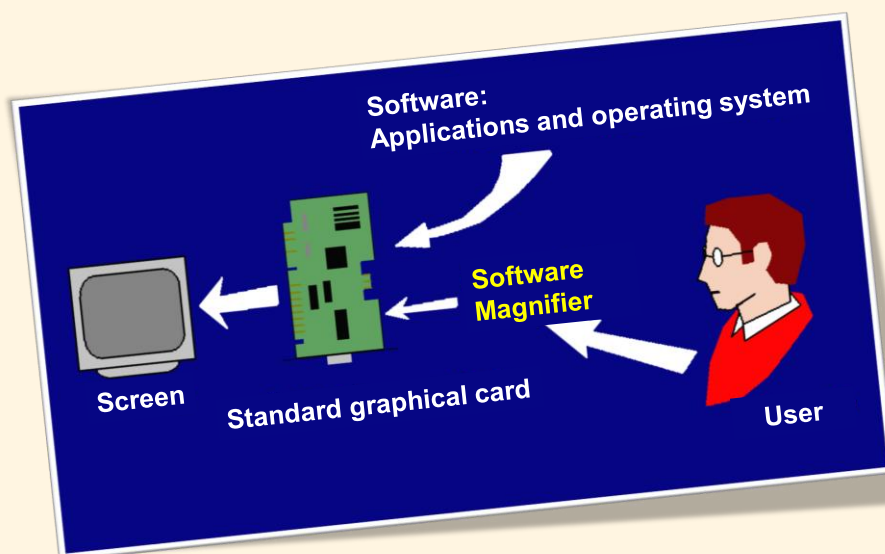
Hardware-based screen magnifier

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Software-based screen magnifier

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Physical diversity: keyboard access

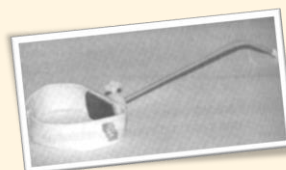
Assistive products

Assistive products for the keyboard

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Head-mounted stick



Head stick with elastic band



Keyguard (keyboard cover)



Mouth stick

Assistive products for the keyboard

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Ergorest (arm rest)



Concept keyboards

Physical diversity: mouse access

Assistive products

Assistive products for the mouse

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Tablet mouse



Wireless mouse



Head-mounted mouse



Joystick mouse



"Trapped" mouse

Assistive products for the mouse

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Touch screen mouse



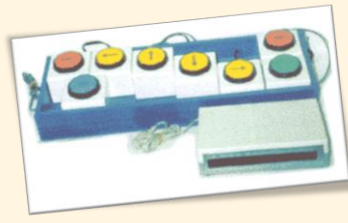
Trackball



Hardware mouse emulator



Pressure-activated mouse



Adapted mouse

Physical diversity: press buttons

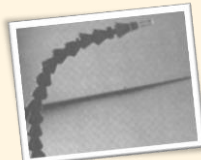
Assistive products

Buttons - switches

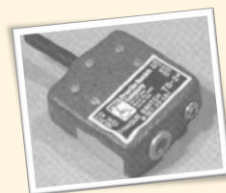
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Pressure



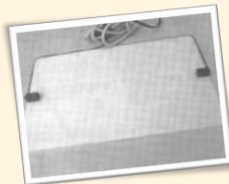
Breathing



Small bars



Muscle sensors



Light beam



Humidity

Buttons - switches

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