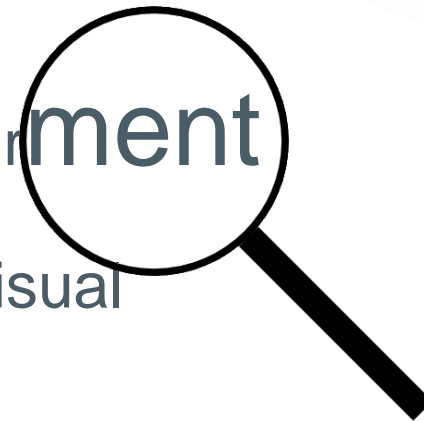# 9th IARIA CONFERENCE - 28th May, 2024 BARCELONA

Digital Magnifying Systems, Voice-Based and AI Tools for Inclusion in Education and Everyday Life

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Introduction

➢ People with slight visual impairness

➢ Compensation with glasses or contact lenses

➢ Compensation of severe visual impairment

➢ Our topic is „digital tools for severe visual impaired and blind people"

Introducing myself

➢ Come from Gießen near by
   Frankfurt, Germany

➢ Young city with 94K citizens
   (42K Students)

➢ Work for Technical University
   of Middlehessen

➢ BliZ – Center for blind and
   visual impaired students

➢ Since 2005 Senior Adviser at BliZ

A few eye deseases

Aids for severe visual impaired people 1/2

➤ **Digital Video Magnifying Systems for objects and printed templates**

Desktop/Mobile Video Magnifiyer and Video Magnifier using PC / Notebook Display

➤ **Magnification Software for PC's or Mobile devices (Smartphone / Tablet)**

Build-in Operating System / Commercial Magnification-Software

➤ **Optical magnification aids**

Monoculars, magnifying glasses or Telescope

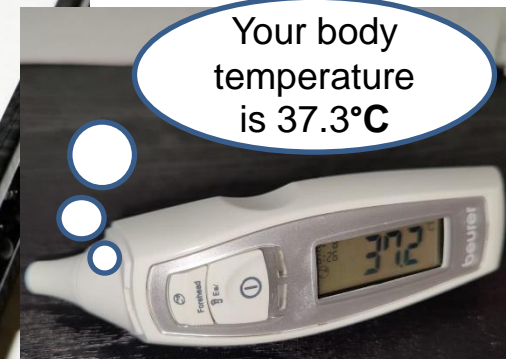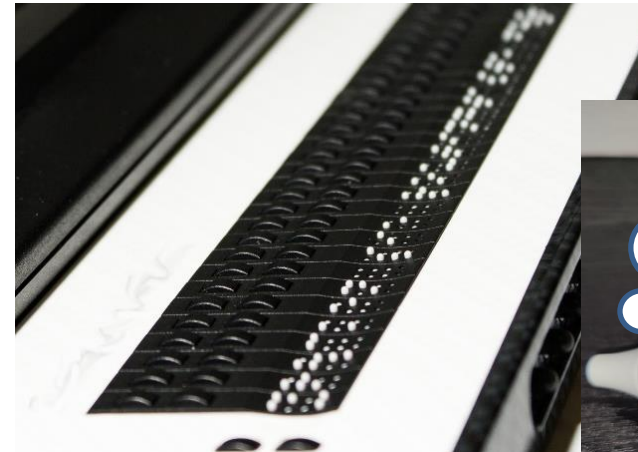# Aids for visual impaired People 2/2 (picture examples)

Aids for fully blind people 1/2

➢ **The white cane** for mobility

➢ **Braille on paper print** to read books and skripts

➢ **Braille display/braille Tablet** for using with Computer

➢ **Screenreader** to read texts on Computers by synthetic voice

➢ **Voice recorders** to take notes

➢ **Items with Voice-Output** to use everyday life

Aids for fully blind people 2/2 (picture examples)

AI in aids for blind and severe visual impaired people

➢ **WeWalk a smart cane with obstacle detection and navigation with voice output**

  ➢ warns the user of a collision with an object using vibration

  ➢ navigates to a bus stop and says which bus will arrive next

  ➢ lets the user know when the desired bus stop has been reached

➢ **Smart glasses - OrCam**

  ➢ can read texts to the user by using synthetic voice output

  ➢ recognize and communicate saved faces – who is coming to me?

  ➢ identify colours and banknotes the contents of a packaged product

AI in aids for blind an visual impaired people

Conclusion

➤ Technological progress has brought about many new devices in electronic aids

➤ Made people's lives easier

➤ Researches provide new lifechanging tools

➤ That means more hope for blind and visual impaired people

Thank you
for your attention
and
enjoy our Workshops

Contact

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