The New Era of Technology

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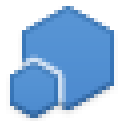
Research Assistant

AT Presentation (youtube.com)

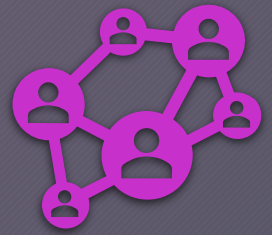


Learning Outcomes

1. Understand the role of assistive technology in enhancing social participation, education, employment, and quality of life
2. Explore the latest advancements in assistive technology, including adaptive gaming, smart home access, and mobile accessibility
3. Evaluate the impact of assistive technology on community discharge and independence at home for individuals post SCI
4. Engage with hands-on demonstrations of assistive technology to gain practical insights into its application and benefits

Assistive technology changes lives - YouTube

Assistive Technology is important for:

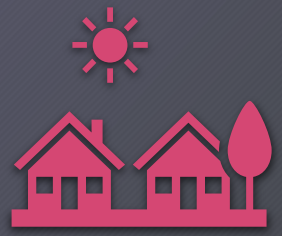


Social participation

Education and employment

Quality of life

Human right



Community participation

… and much more!

Assistive Technology is an umbrella term:

Devices

Services

Strategies

Practices

Definition of Assistive Technology (AT)

Any item, piece of equipment or product system whether acquired off the shelf, modified, or customized that is **used to increase, maintain, or improve functional capabilities of individuals with disabilities.**

Assistive Technology Act (1998, as amended in 2004)

AT Service Delivery Team

Client- centered approach

- Physicians
- Occupational Therapists
- Physical Therapists
- Speech Language Pathologists
- Audiologists
- Case Managers
- Nurses
- Rehabilitation Engineers

Types of Assistive Technology

Computers, Tablets, and Smartphones

Activities of Daily Living

Environmental Adaptations

Learning, Cognition, and Development

Hearing

Mobility, Seating, and Positioning

Recreation, Sports, Leisure, and Hobbies

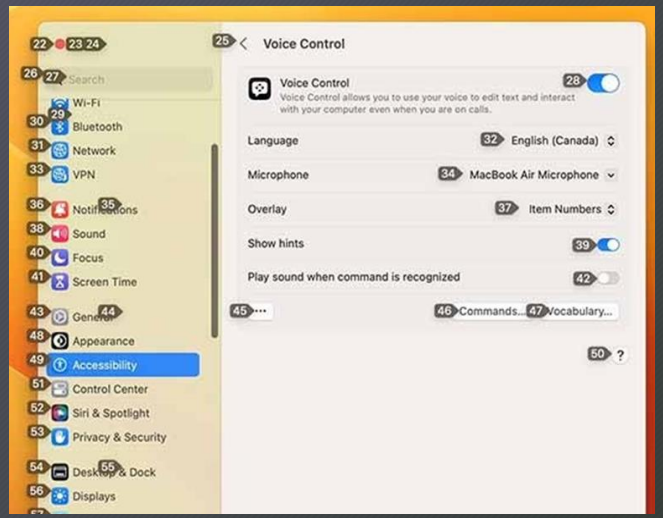
Speech and Communication

Vehicle Modifications and Transportation

Vision

Computer, Tablets, and Smartphones

- Accessibility settings
- Adaptive keyboards & mouse



(3) Quha Zono Gyroscopic Head mouse - YouTube

Introduction to Brad's eye tracking device from @Tobiidynavox (youtube.com)

Environmental Adaptations – Smart Home

So many connected devices!

Pennsylvania Assistive Technology Foundation

SCAN ME

Essential Components to Build A Voice Activated Connected Home Set Up

Wi-Fi Router

Smartphone

Smart Speaker

Smart Home Devices

Smart Communications

Environmental Controls

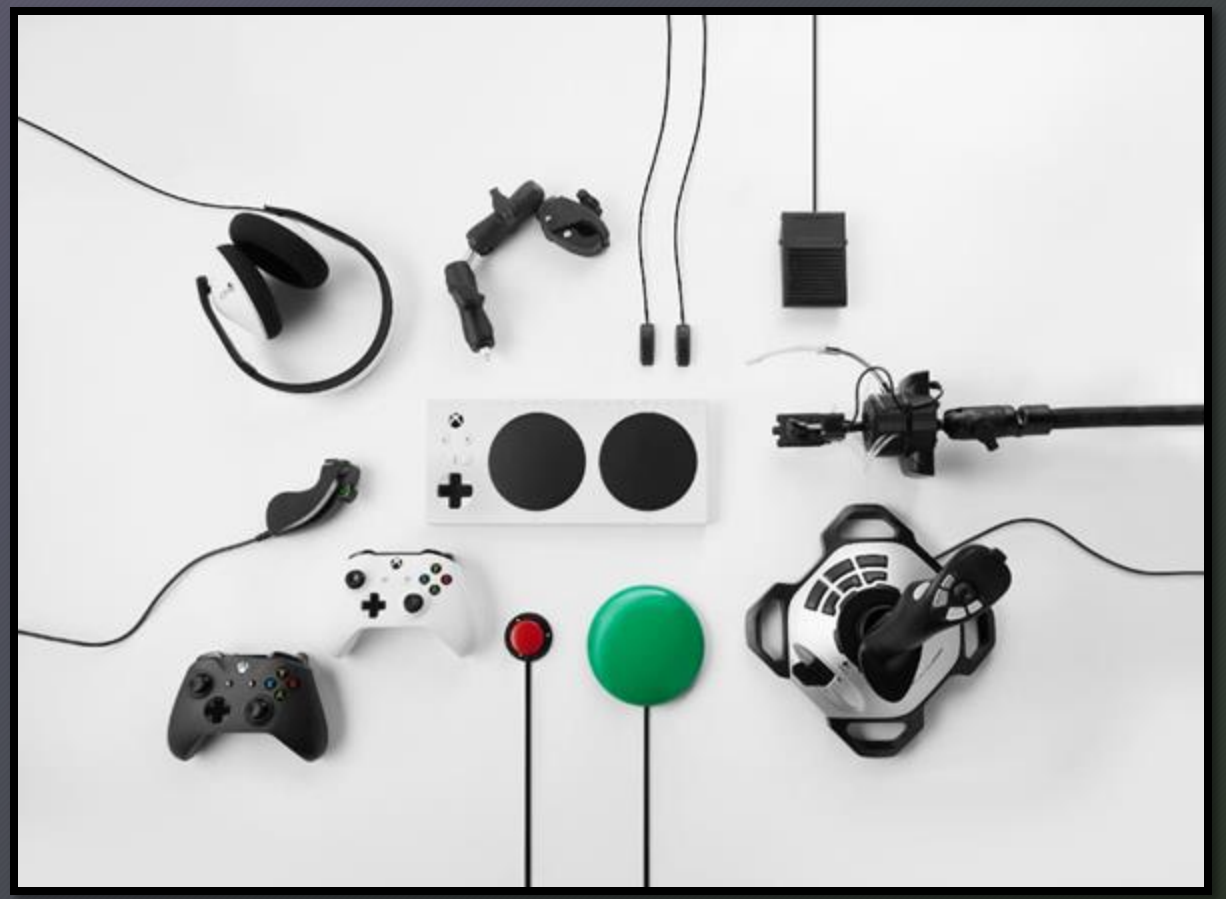
Home Security

THE DOGS ARE A GREAT ALERT SYSTEM, BUT WHO IS AT THE DOOR? WHAT TECH CAN HELP?

Home Management

Entertainment

Xbox Adaptive Controller

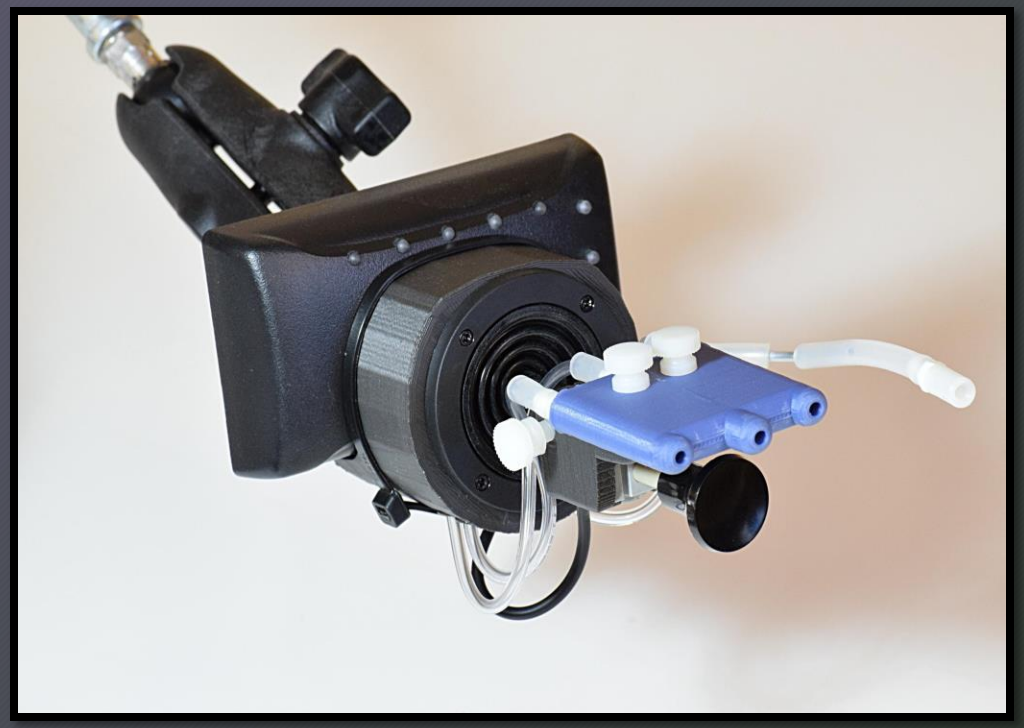


PlayStation Access Controller

- game controller designed specifically for gamers with disabilities
- highly customizable, with various input options such as buttons, joysticks, and touchpads

QuadStick - Adaptive Gaming

- joystick designed for gamers with quadriplegia
- It can be used with all gaming systems
- Provides sip and puff control



In-Game Accessibility

- Games adding accessibility settings to make easier to play
- Settings related to specific game
- Most games do visual and audio
- Some have extensive settings to make gameplay easier
- The Last of Us 2 Accessibility List

Wheelchair Tech

- LUCI – obstacle avoidance and collision detection system for power wheelchairs
- Used to navigate indoors and outdoors, prevent accidents, and alert the user
- Connected chair & service

Vision

- Screen reading software - converts text to voice or braille output
- Talking watches - announce time and date verbally

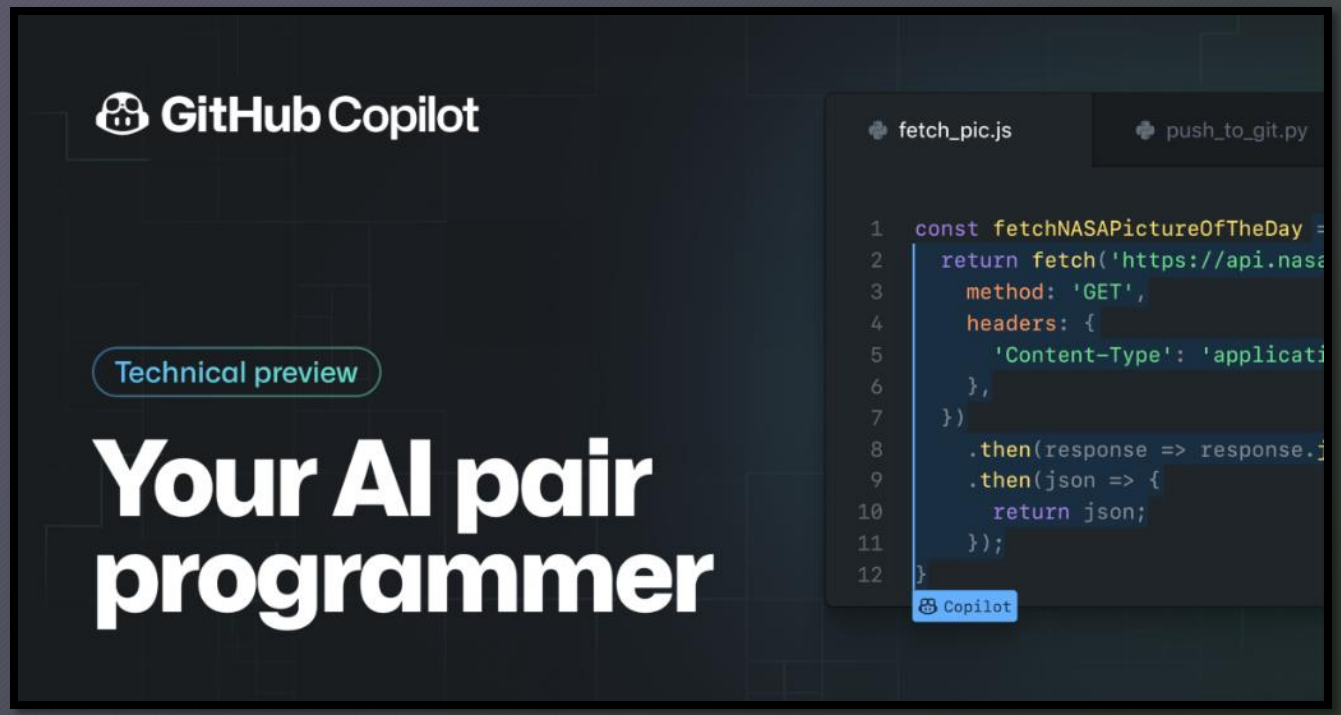
Assistive Robots

Assistive Robotic Arm

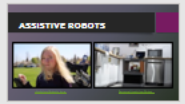
Personal Assistive Robot

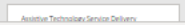
Artificial Intelligence

- AI is considered assistive technology
- Helps coding, drafting, rephrasing
- Plan an accessible trip with Bing AI - Search



Copilot and Accessibility (youtube.com)





ARTIFICIAL INTELLIGENCE

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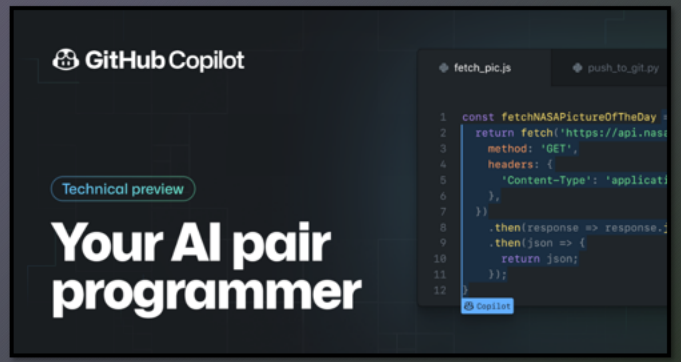

Artificial intelligence, or AI, is a rapidly developing field with enormous potential for assistive technology. AI systems can learn, adapt, and improve over time, allowing them to provide personalized support and assistance to individuals with disabilities. One of the key benefits of AI as assistive technology is its ability to process and understand large amounts of data. This allows AI systems to recognize patterns and make predictions, providing users with timely and relevant information and support. For example, an AI-powered personal assistant could learn a user's habits and preferences, and provide reminders and suggestions to help them manage their daily routine.

AI can also be used to develop advanced speech recognition and natural language processing capabilities. This can be particularly valuable for individuals with speech or communication impairments, allowing them to interact with technology using their voice or other input methods. In addition, AI can be used to develop advanced computer vision and object recognition systems. These can be used to support individuals with visual impairments, allowing them to navigate their environment and interact with the world around them.

A great example would be this presentation. AI can be used to help create PowerPoints by suggesting design layouts, providing relevant images, and even generating text based on the topic. This can save time and effort, allowing the user to focus on the content and message of the presentation.

Copilot

I can chat, respond to questions, and help you draft this presentation.

Here are some things you can try...

- Create a presentation...
- Create presentation from file...
- Add a slide about...

write a quick speaking point about how AI can be used to help create powerpoints

This response isn't based on the presentation: AI can be used to help create PowerPoints by suggesting design layouts, providing relevant images, and even generating text based on the topic. This can save time and effort, allowing the user to focus on the content and message of the presentation.

Copy

AI-generated content may be incorrect

Ask questions and work with this presentation

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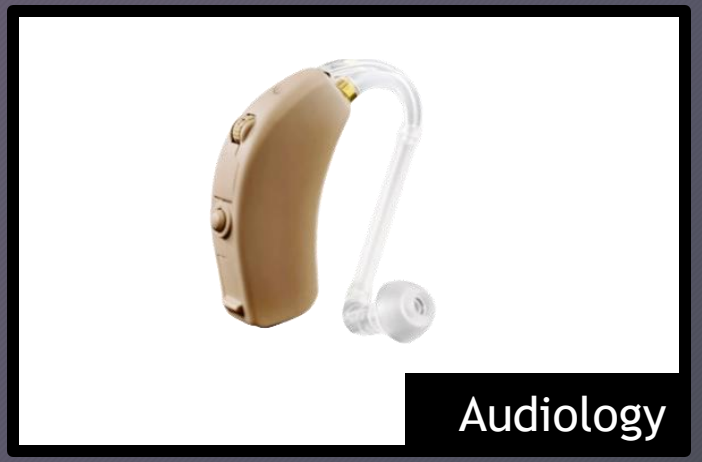
Assistive Technology Services

UPMC – Center for Assistive Technology (CAT)

Seating and mobility

Augmentative Alternative Communication (AAC)



Audiology

Rehabilitation Engineering

Assist+ Open House

Come celebrate the opening of Assist+!

Join us for an open house to introduce Assist+, a new initiative to improve access, education, and resources for assistive technology across UPMC. Experience interactive demos, including adaptive gaming and cooking, and discover life-enhancing products that can help overcome everyday challenges. Our assistive technology experts will be on hand to provide detailed information on products, funding options, grants, and resources. This event is open to anyone, so come and explore the possibilities with Assist+.

For more information, email assistplus@upmc.edu or scan the QR code.

Date/Time

Tuesday, May 21st
from 10:30am to 12pm

UPMC

Location

Mercy Pavilion
1622 Locust Street
Pittsburgh, PA 15219

RSVP

Pitt Programs & Research

- Adaptive Driving Program
  - Forbes Tower 6th floor
- Wireless RERC on Smart Home Tech
  - Dpt. Rehabilitation Science & Technology

Smart Tech for Paralysis Study

Alternative Funding & Referrals

- Pennsylvania Assistive Technology Foundation (PATF)
- Achieva
- Office of Vocational Rehabilitation (OVR)
- Waiver programs

Questions

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