

# Planning for and Using Technology Across a Lifespan

Center for Future Planning

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# Introduction

## Main objectives we will cover:

Understanding the history and types of Assistive Technology

Why it is important to plan for technology across a lifetime

Review the steps that people and their families should take to evaluate any needs that a person has that can be assisted by technology

Describe ways that people with I/DD and their families can work to make sure that people are building their technology skills throughout their lifetime.



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# History of Assistive Technology and Access

“In general.--The term `assistive technology device' means **any item, piece of equipment, or product system**, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a person with a disability.”



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# History of Assistive Technology and Access

But I thought assistive technology all started with iPads?

**No way!**

# History of Assistive Technology and Access

1800's  
Ear Trumpet



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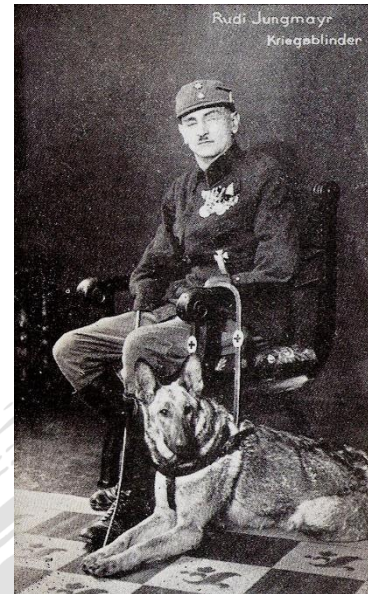
# History of Assistive Technology and Access

Early 1900's

Braille embosser



Guide Dogs



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# History of Assistive Technology and Access

1960's  
Text telephone



# History of Assistive Technology and Access

1980's

Zoom text



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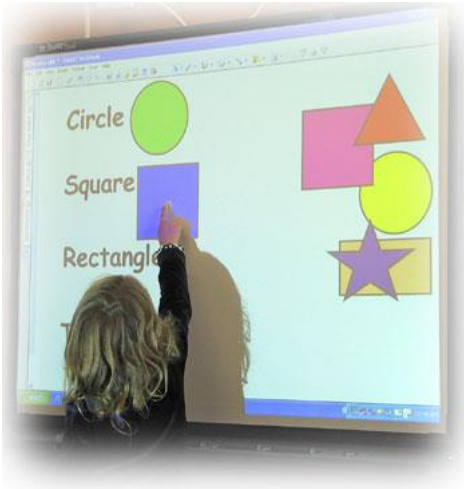
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# History of Assistive Technology and Access

1990s

Smartboard introduced into classrooms



Dragon Dictate for speech recognition



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# History of Assistive Technology and Access

2000's to present day



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# History of Assistive Technology and Access

Assistive Technology can come in many forms

Much of the technology that the general population uses today began as some form of assistive technology or accessible features

People realized that these technologies can be beneficial for everyone and assistive technology is incorporated in various forms that you likely encounter everyday. Examples include: curbs cuts on sidewalks, level handles for doors rather than knobs, use of meaningful icons with text.

**This is called Universal Design.**

“Universal design (close relation to inclusive design) refers to broad-spectrum ideas meant to produce buildings, products and environments that are inherently accessible to older people, people without disabilities, and people with disabilities.”

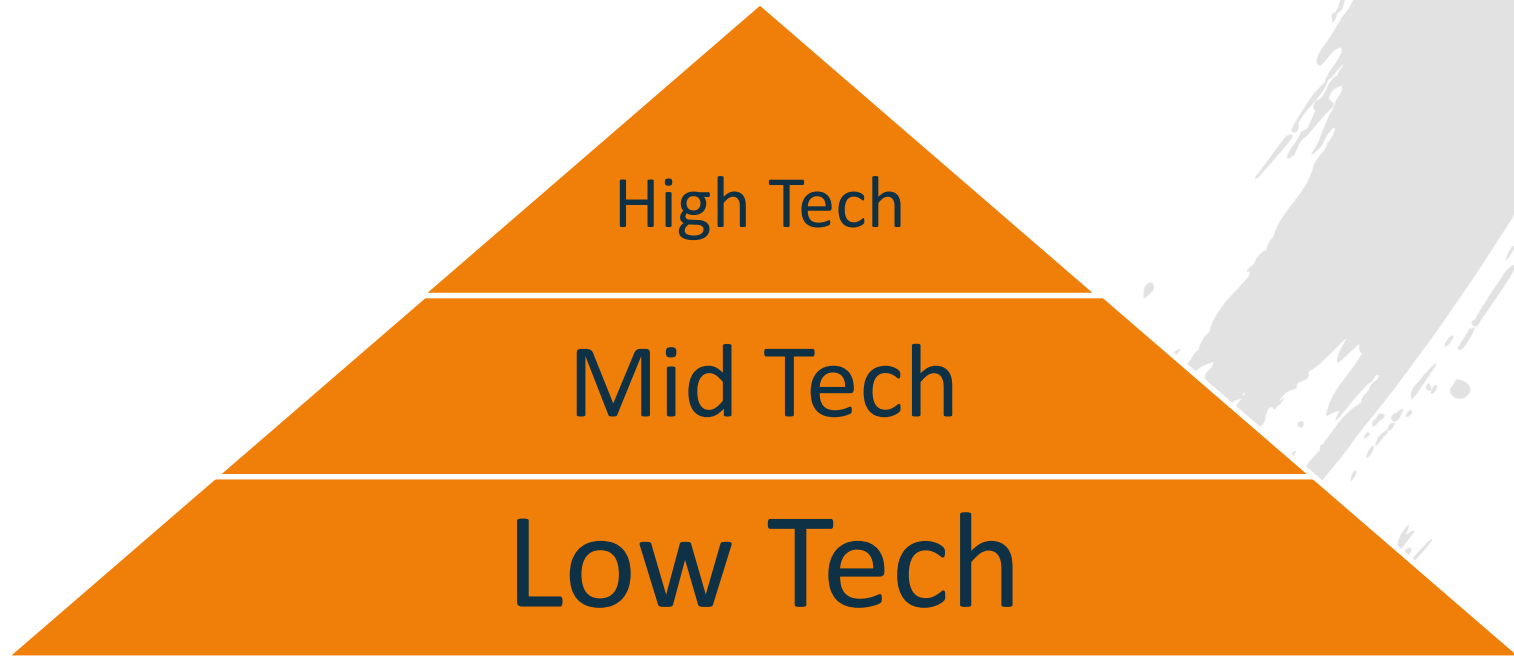
Source: [https://en.wikipedia.org/wiki/Universal\\_design](https://en.wikipedia.org/wiki/Universal_design)



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# Range of Assistive Technology Products



# Range of Assistive Technology Products

## Examples of Low Tech Post-it notes



## Pencil grips



## Graphic organizers



## Picture boards



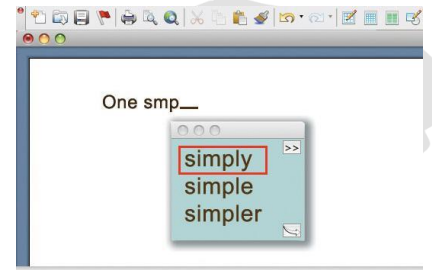
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# Range of Assistive Technology Products

Examples of Mid Tech

Voice Amplifiers

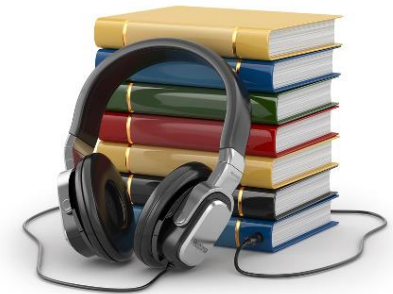


Alternate mouse or keyboard



Word prediction software

Audio books



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# Range of Assistive Technology Products

## Examples of High Tech



Computer

Tablet



Electric Wheelchair

Voice recognition and magnification software



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# Technology across the lifespan

We all use technology - often many different types and for many different reasons across a lifetime. Technology may help people with disabilities at different stages of their life:

Children  
Adolescents  
Young adults  
Middle-aged  
Senior

Tech helps people across different domains of their life:

Organizational skills  
Activities of Daily Living  
Safety  
Reading, writing, mathematics  
Mobility  
Communication



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# Technology across the lifespan

How might tech change over a person's lifetime, as they age?



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# Technology across the lifespan

As a person with I/DD creates a future plan and thinks about each area of future planning, consider any challenges you have

- Is there something you want help to do?
- Is there an area in your life you would like to gain more independence?
- Is there something that could help you achieve a goal?



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# Why It is Important to Plan for Technology Use Across a Lifetime

Planning for the future is about creating a plan to live independently in the community; technology is a tool we use to live as independently as possible. So, using tech well throughout our lives is a critical piece to creating a plan to live independently.

1. Begin by identifying opportunities for independence and any barriers/challenges.
2. Once these opportunities are identified, what do you want the tech to help with?
3. In addition to the technology, what other supports need to be in place?
4. Can the technology help for a short-term goal or a long-term goal?
5. How often should the technology be reexamined to determine if it is still an appropriate tool to support the goal?



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# Obtaining Assistive Technology (AT)

## Consider technology as a support tool.

Think of all the things many of us do with just our cell phones. Connect with others, shop, get reminders, GPS. One device gives you a lot of abilities. Take the device away - lost ability.

You and I know of all the things we couldn't do without our technology. But what we need to find out is - what can the people we support DO WITH technology?? This is the great unknown! When we are supporting people - do we consider how technology could make their lives easier, too? There's a quote by a well-known disability rights activist Judith Heumann - **“For most of us, technology makes things easier. For a person with a disability, it makes things possible.”** Recognizing this is the first step.



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# Obtaining Assistive Technology (AT)

## Identify opportunities for independence (a person's barriers/challenges).

### What do you want the tech to help with?

- Phone: An adapted telephone is needed because I cannot use a standard phone (ex. need someone to dial for me, cannot hear the person on the other end)
- Work: AT is needed to achieve an employment-related goal (ex. remembering steps in a job, staying on schedule, using the computer for work)
- Communication: AT is needed for communication (ex. I use only nonverbal communication or I am difficult to understand if you don't know me very well)
- Activities of Daily Living such as eating, medication reminders (ex. someone reminds me to take meds, difficulty opening a pill strip)
- Reading: Reading Difficulty reading due to disability (ex. could benefit from large print, books on tape, braille)
- Computer access
- Education
- Home safety
- Memory/Cognition
- Hearing
- Vision
- Not sure- general AT exploration - check out State's tech assistance program



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# Obtaining Assistive Technology (AT)

- When is a good time to consider tech?
  - Any time a barrier is identified
  - Times of transition
  - Change in abilities due to illness or injury
  - Aging
  - Annual Person Centered Planning

# Obtaining Assistive Technology (AT)

## What AT services are you eligible for?

Consider what AT services (assessments, training, funding) you may be eligible for based on the area of need and explore these.

Ex. School, Vocational Rehabilitation Department, Library for Blind, etc.

Your state's tech assistance program can help with this.



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# Obtaining Assistive Technology (AT)

## Choose AT and trial the AT

It is important have an AT assessment - **Start with the person not the tech!**

*An iPad is the solution - but wait what was the question???*

For Communication, the assessment should be with a Speech Language Pathologist who specializes in AT/ Augmentative and Alternative Communication (AAC).

Trial AT in the environment where it will be used with input from the team.

Tip: Include DSPs in the entire process from assessment to implementation - they have great input AND need to buy-in from the beginning or implementation will not be successful.



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# Obtaining Assistive Technology (AT)

## Implementation of AT

This step includes obtaining the device (funding, etc.)

The device will need to be configured for the person and the person and their team should be trained.

Tip: Make training videos so when there are changes in support team these can be a great training tool



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# Obtaining Assistive Technology (AT)

## Monitor Progress

Monitor progress and reassess needs over time

Choose a monitoring measure and mechanism.

- Datasheet
- Visits
- IP goals

Tip: One way to build in monitoring mechanism is to integrate into IP goals. Is the AT helping the person achieve their goal?

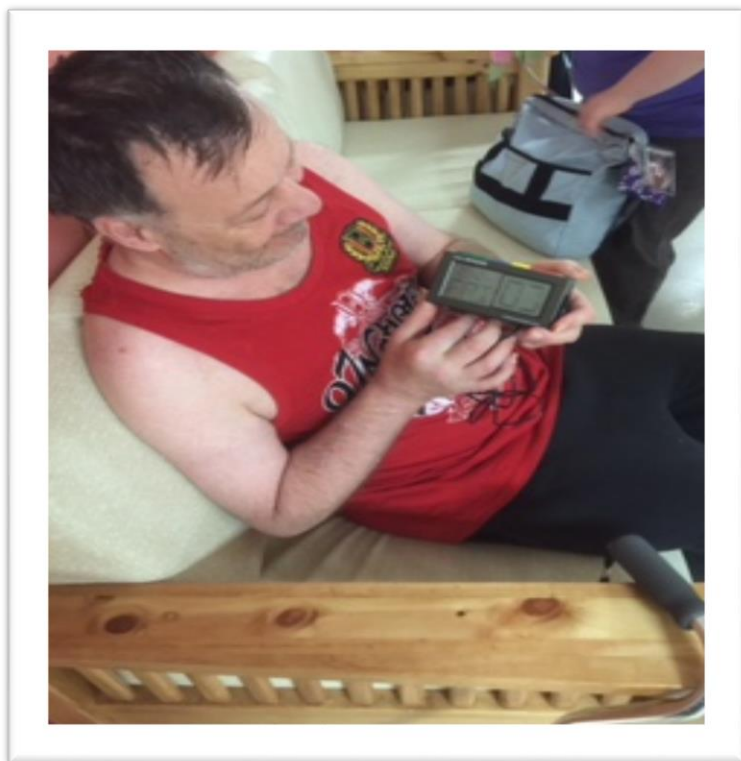
Example: I am calling my sister twice a week using my picture phone



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# Meet Don



Don is not always motivated to wake up and shower for the day. With the talking alarm clock, he hears his girlfriend's voice waking him up every morning, reminding him to wake up and shower so he looks his best for his love! The clock also reminds him to take his medications, and complete household chores.



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# Meet Keith



Keith loves talking to his girlfriend with his hands-free phone! Staff used to hold the phone to his ear or place it on top of a pile of pillows since Keith cannot hold a standard phone to his ear. Now he can chat for hours in privacy, and staff can tend to other duties.



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# Meet Mary Ruth



Mary Ruth is very difficult to understand - but she sure has A LOT to say. Now she has a small wearable NOVA Chat 5 communication device, and she is so happy that she can make people understand her with the push of a button. Here she is announcing herself before going into the men's room to clean it - one of her job duties.



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# Meet Leon



Leon uses this little “voice cue” to remind him to bring his lunch to work, an effective and cheaper alternative than increasing his staff hours at home just for this reminder.



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# Meet Seth



*“Without this AT I would not be able to be as independent as I am today.”*

[Video Link: AT Tour of Seth's Apartment](#)



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Talking Bookplayer - Free through the MD Library for Blind and Physically Handicapped. The library sends Seth books on tape each month and he listens to them with his bookplayer. This is a great service for people who have difficulty reading due to any disability, not just blindness. *“A wonderful way for blind or visually impaired people to read books without strain.”*

Pot watcher - A small glass disc that goes in the pot on the stove and makes noise when the water is boiling to alert the cook. *“Helps me to be able to cook independently”*

Liquid alert - This hangs on the side of a cup/mug and beeps when the cup is almost full. *“Helps me to be able to pour hot liquids like coffee independently”*

Magnifiers - *“Helps when I am in a restaurant or public place where I have to read menus or bus schedules”*

Zoomtext - *“A wonderful computer software for blind and visually impaired people and it helps me to be able to work on the computer independently”*

Tablet- *“Fun way to be able to listen to music and also read books for fun and leisure. I am able to enlarge the text on the tablet to be able to read a lot more efficiently and change the colors”*

Talk back feature on android smartphone - *“Reads whatever I swipe my fingers across so it helps me to find things more quickly”.*

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# General Challenges

While technology is meant to be simple to use, people with disabilities sometimes do not always find that technology is accessible to them

- Challenges in design (person-centered, not a one size fits all)
- Cost
- Awareness of technology resources available in the community
- Skill-building to use less intuitive applications (Digital Natives and Digital Immigrants - Dr. Ofer Zur and Azziz Zur)
- Mobility of the technology (Ex: weight of tool)
- Turnover in staff support
- Shift from caregiving to independence and empowerment with the right tools



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# General Challenges

Tech is constantly changing - it is important for all of us - including people with disabilities to stay on top of technology changes as we age

**Possible resources that will help stay current with ever-changing technology...**

- Classes or training programs
- Chapters of The Arc may have programs and staff to help you
- Assistive Technology blogs, Twitter, Pinterest
- Statewide Technology Assistance Program



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# Challenges for people with I/DD

Talk with the team that supports you about these challenges - make sure to bring up tech as a possibility

- Is there one person on the team who is in charge of looking at different ideas with you?
- Someone who can help you test or learn how to use the different application?
- Finding new tech or a new solution takes patience
- Make sure to give a solution time to work - then evaluate it.
- Sometimes a low-tech solution is best
- Build in time to consider new tech when you update your plan each year. And, build in time to learn about new tech and keep up-to-date with your tech skills



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# Challenges for professionals

- Training people who don't have experience with tech to learn new skills- this includes tech users as well as their support network of family and staff.
- Supporting people to utilize assistive technology tools - encourage them to try new things to achieve a better solution.
- Abandonment is a common challenge with AT users. One in three AT devices are abandoned (lost, lack of training, not set up to meet a persons needs)
- Support professionals, care givers and family members must see the value in the tool as well and support usage.



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# Resources

- Assistive Technology Industry Association- Funding Guide
  - <https://www.atia.org/at-resources/what-is-at/resources-funding-guide/>
- Association of Assistive Technology Act Programs
  - <http://www.ataporg.org>
- Listing of statewide telecommunications equipment distribution programs
  - <http://www.hearingloss.org/sites/default/files/docs/TEDPs.pdf>
- The Arc Baltimore AT Guide
  - <https://www.thearcbaltimore.org/wp-content/uploads/2015/01/2-AT-Guide-For-Teams-Packet.pdf>
- The Arc National's Tech Toolbox and Tech Coaching
  - <https://toolbox.thearc.org/> -search engine for assistive technology
  - <https://tech.thearc.org/> -tech coaching resources (under construction)



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# Questions?

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